



The less you know, the better you'll sleep – Perceived job insecurity in the Internet age



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ABSTRACT

By applying theories from different fields of study in the labor market context, we investigated the effect of Internet use and digital uses on perceived job insecurity during the years 2003–2012. Our study is based on data from nationwide Annual Social Surveys of the CBS in Israel, drawing on a representative sample of 45,988 employed respondents. Our findings show that Internet use negatively correlated with job insecurity, but the effect of Internet use on the dependent variable decreased over this period. Internet use was found to be more effective for decreasing job insecurity among weaker social groups: Arabs and people from low socio-economic strata. In other words, Internet use promotes weaker social groups and can serve as a channel for decreasing job insecurity. However, our findings also show that seeking information and social media use were positively correlated with perceived job insecurity, attributable to the negative-positive asymmetry forming the individual's sense of economic pessimism.

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1. Introduction

Information and Communication Technologies (ICT) continue to exert a growing impact on the economic future of organizations, workers, and families. Technological advances have forced companies to become more globally competitive and afforded them resources to do so (Kalleberg, 2009). The diffusion of modern technologies in borderless trade markets makes the economies of Western countries more productive, and has translated into absolute increases in living standards and real disposable incomes. However, while the Western economy as a whole tends to benefit from globalization and ICT diffusion, it is not always a win-win situation for employees (Hacker, 2006; Michel, Bernstein, & Allegretto, 2007; Scheve & Slaughter, 2004). International migration and rising trade with low-wage developing countries increase concerns of job loss. Native workers from developed countries now fear that employers will lower their wages and benefits in order to compete. The globalization economy, facilitated by the information technology revolution, has increased the process of outsourcing and international competition (Kalleberg, 2009). Processes of globalization and ICT diffusion may create new vulnerabilities for workers, and so damage some groups more than others in terms of

job insecurity or even job loss (Walter, 2015).

Many studies have found that situations of uncertainty with anticipation of sudden job loss can be stress-inducing, traumatic, and life-disrupting (De Witte, 1999; Greenhalgh & Rosenblatt, 2010), and may lead to negative personal and organizational consequences (Cheng & Chan, 2008; Sverke, Hellgren, & Näswall, 2002). Specifically, in two meta-analyses (Cheng & Chan, 2008; Sverke et al., 2002), job insecurity was negatively related to well-being, in general, and to outcomes such as employee psychological health and physical health, job satisfaction, job performance, trust, job involvement, and organizational commitment, in particular. Creating insecurity for many people, may have demographic (timing of marriage and children, number of children), social (e.g., family, community), and political (e.g., stability, democratization) outcomes (Kalleberg, 2009).

Scholars mention important socio-economic, psychological, organizational and labor market variables correlated with job insecurity (De Bustillo & De Pedraza, 2010; Keim, Landis, Pierce, & Earnest, 2014; Krause, Obschonka, & Silbereisen, 2015; Näswall & De Witte, 2003). However the effect of Internet use on job insecurity has not yet received proper attention.

The current research will examine the correlation between Internet use and perceived job insecurity during the past decade in the unique Israeli context. Israeli society offers an ideal social context for research on the consequences of technology adoption on labor market processes. First, during the past decade, Israeli society

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has experienced a dramatic ICT diffusion (Lissitsa & Chachashvili-Bolotin, 2014, 2015; Lissitsa & Lev-On, 2014). Second, Israeli society is characterized by wide economic and educational gaps along national (between Jews and Arabs) and ethnic (between Jewish immigrants and non-immigrant population) lines (Ben-Rafael, 2001; Peres & Ben-Rafael, 2006; Lissitsa & Peres, 2011).

The article begins with a description of Internet adoption and use. Then the literature regarding job insecurity will be discussed. Afterwards, the theoretical background integrating Internet use and job insecurity will be presented and summarized into research questions and hypotheses. Research data and method of analysis will be followed by a discussion of the findings and conclusions, as well as study limitations and future directions of research.

2. Literature review

2.1. Internet access and digital uses

In the 1990s the traditional focus of Internet literature was mainly on infrastructural access. This access-oriented thinking centered on questions pertaining to ownership, availability, affordability and other issues of infrastructure. Furthermore, researchers argued that the division between information “haves” and “have-nots” is not binary, but rather gradated and based on different degrees of access to information technology (DiMaggio & Hargittai, 2001; Hargittai, 2003; Jin & Cheng, 2008). Recent research has favored a progressive marginalization of the access element (the so-called first level digital divide), with the focus shifting to how individuals interact with the Internet (Guerrieri & Bentivegna, 2011; Warschauer, 2003); i.e., the second level digital divide.

The research literature differentiates between digital uses on the basis of potential benefits. **Human capital-enhancing** uses (visiting web sites for national and international news, presidential election issues, health and financial information, government services, and product information) (Hargittai & Hinnant, 2008) may assist individual mobility and career advancement (Lissitsa, 2015a; Bakker & de Vreese, 2011; DiMaggio & Hargittai, 2001; Lissitsa & Peres, 2011; Rahim, Pawanteh & Salman, 2011).

Social capital-enhancing digital uses refer to the ability to communicate with other people by e-mail and social media (Lissitsa & Chachashvili-Bolotin, 2014, 2015). Social media create a platform for communication among a dynamic consortium of people utilizing social network sites, forums, discussion groups and blogs in a manner that enables individuals with common interests to interact continually and to promote different types of benefits (Boyd & Ellison, 2007; Haenlein & Kaplan, 2010).

2.2. Job insecurity

‘Job insecurity’ is the perception of being threatened by job loss (Mohr, 2000) and may be defined as “jeopardy to the job generally and to its features specifically, as well as powerlessness to resist the threat” (Greenhalgh & Rosenblatt, 2010). Job insecurity implies *uncertainty about the future* because the employee does not know whether he will retain or lose his current job and whether another job should be sought. This is in contrast with a dismissed employee who knows for certain that the job is lost and therefore can prepare for the future. Scholars also mention the *involuntary nature of job insecurity*, which implies the gap between what people wish (certainty about future employment and desired continuity) and what they actually get (the threat of losing the job) (Flint, Bartley, Shelton, & Sacker, 2013).

Job insecurity is a *subjective experience*, the result of a person’s perception and interpretation of the actual job environment. However, scholars agree that job insecurity in general is a

subjective threat deriving from an objective threat (De Bustillo & De Pedraza, 2010).

Job insecurity decreases with schooling (Hellgren & Sverke, 2003; Keim et al., 2014), is negatively correlated with occupational prestige (Fullerton & Wallace, 2007), and varies very little according to gender (women worry more than men) (Emberland & Rundmo, 2010; Mauno & Kinnunen, 2002). However, the findings about the impact of age on job insecurity are ambiguous. Researchers have reported both negative effects (Roskies & Louis-Guerin, 1990), positive impact (Cheng & Chan, 2008), insignificant correlations (Kinnunen & Nätti, 1994), or a curvilinear relation (Fullerton & Wallace, 2007). In very high wage positions the impact of age could be insecurity-enhancing (De Bustillo & De Pedraza, 2010). However, socio-demographic variables collectively explain only a small part of sample variation in job insecurity (Debus, König, & Kleinmann, 2014; De Bustillo & De Pedraza, 2010; Elman & O’Rand, 2002).

2.3. Theoretical background and hypotheses

2.3.1. Human capital theory

Human capital theory suggests that an individual’s human capital, reflected in their qualifications, knowledge, skills, and experience are likely to increase earnings or productivity (Becker, 1993) and reduce the perceived job insecurity (Elman & O’Rand, 2002). Until recently, a good initial education and occupational achievement were market advantages that protected workers from job insecurity and potential downward occupational mobility. This may no longer be the case today: scholars found that Internet adoption and use are a necessary attribute that gives job seekers a foothold in the labour market.

Hypothesis 1. Internet use will be negatively associated with perceived job insecurity.

The digital environment providing people with easier means for obtaining information may facilitate self-learning and supply new tools for optimizing the formal education (Lin, 2001). Therefore, based on human capital theory, the following hypothesis may be formulated.

Hypothesis 2. Internet use for study will be negatively associated with perceived job insecurity.

2.3.2. Diffusion of innovation theory and Maximally maintained inequality hypothesis

Generally, during the diffusion of new technologies, opportunities are allegedly created for at all economic levels, but, in fact, not all workers are exposed to opportunity to enrich their human capital; such opportunities usually exclude low-skilled, minority, and older workers (Brown, 1990; Constantine & Neumark, 1996; Osterman, 1995). However, according to the diffusion of innovation theory, over time new technologies adopted by the early and late majority (see Rogers, 1995) and its distinguishing ability is declining. Accordingly we can formulate our third research hypothesis:

Hypothesis 3. The effect of Internet use on job insecurity will decline over the time.

In order to formulate a hypothesis regarding the effect of Internet use among different social groups we apply the Maximally Maintained Inequality (MMI) hypothesis. Although the MMI hypothesis was developed in order to explain class-based inequality in education, its logic can also be applied to other dimensions of inequality, such as job insecurity. The classical MMI hypothesis (Raftery and Hout’s, 1993) is a compelling theoretical statement regarding the effects of educational expansion on inequality in educational

attainment among various social strata. It claims that inequalities are maintained as long as privileged groups have not reached the saturation point in a given educational level. Only when the privileged stratum reaches saturation at a given level of education will further expansion of that level reduce inequality and students from lower social strata may take advantage of new educational opportunities. In terms of the MMI hypothesis, in the initial stages of Internet diffusion mainly the high-skill social groups benefited more from this new resource, compared to the less privileged groups. But after the privileged group reached the saturation point, the lower social strata could utilize this resource more effectively. In our context, after reaching the saturation point in Internet adoption and use among employees from higher social strata, it will be more useful for reducing job insecurity for employees from lower social strata.

Based on the MMI argument and Rogers' diffusion of innovation theory, we can assume:

Hypothesis 4. Internet use will be more beneficial for lower social groups (ethnic minorities, people from low socio-economic background) in terms of job insecurity, compared to more privileged social groups.

2.3.3. Uncertainty reduction theory

The current research used Uncertainty Reduction Theory (URT) (Berger & Calabrese, 1975) to help understand the effect of online information on job insecurity as an uncertain situation. This theory was originally developed to explain initial communication interactions between strangers. Central to its claim is the assumption that an individual's primary goal in initial communication is to increase predictability and decrease uncertainty of one's own behaviors and the behaviors of others. To reduce uncertainty, individuals strategically select from several information-seeking strategies: interactive (direct contact), active (seeking information from other people without direct contact), and passive (observation in the natural environment) (Berger, 1987). In time, theorists began to broaden URT's scope of application to explain uncertainty in interpersonal communication in general as opposed to solely in initial interaction (Bylund, Peterson, & Cameron, 2012).

The traditional strategies, which were targeted for reducing uncertainty in initial communication interactions, became less appropriate for reducing uncertainty in a general context. Given the increasing amount of information available online, Ramirez, Walther, Burgoon, and Sunnafrank (2002) forwarded a fourth uncertainty reduction strategy to account for technological advances and affordances enabled by Computer Mediating Communication (CMC). This strategy was labeled *extractive information seeking* and can be also used for reducing uncertainty regarding more general situations. Information obtained via extractive strategies which reflect a novel form of information as compared to information obtained via interactive, active, or passive strategies was found as had similar effects on uncertainty reduction (Carr & Walther, 2014). Online information is expected to have attributional effects on uncertainty reduction. The Internet may uniquely and naturally reveal both positive and negative valence information predicting future situations in the labour market.

Positive and negative information may respectively enhance or degrade one's impression about perspectives on continuing in the current working place vs job loss. Therefore, in order to access the effect of online communication or information seeking on perceived job insecurity the data on the positive or negative character of this information is needed. Our data do not allow us to distinguish between negative and positive information, therefore we may formulate the following research question:

RQ: What are the effects of online information seeking and communication through social media on perceived job insecurity?

3. Methods

3.1. Source of data

Every year, Israel's Central Bureau of Statistics (CBS) conducts a cross-sectional social study using different respondents. The data used in this study were collected in the CBS studies of 2003 through 2012. The social survey questionnaire used by the CBS is composed of two main parts. The first is a core questionnaire of about 100 items covering the main areas of life such as socio-demographic characteristics of household members, economic situation, employment, and skills such as studies, languages, courses, computer and Internet use and so on. The second is an in-depth module devoted to one or two different topics each year. To obtain data for the surveys, CBS interviewers conducted hour-long face to face interviews in the field between January and December of each year. The interviews were conducted in Hebrew, Russian, and Arabic according to the language used in the household.

3.2. Population and sampling method

The pool population for the survey includes permanent non-institutional residents of Israel aged 20 and older, as well as those residing in immigrant absorption centers, student dormitories, independent living projects for the elderly, and other non-custodial institutions. New immigrants must have resided in Israel for at least six months to be included in the survey population.

The CBS sample numbers about 7500 persons each year, representing about 4.5 million people in the 20 and over age bracket. The response rate was around 80%. Groups were defined on the basis of three combined demographic variables: population groups (Israeli-born Jews, immigrants, and Arabs), age, and gender. The size of each design group was to be proportional to its size in the population. The social survey samples are based on random selection and the sampling method enables generalization of the results to the entire Israeli population.

From our total sample, which combined interviews made over 10 years, 45,988 respondents were filtered. They were employed, self-employed or members of a cooperative or kibbutz during the period of the study.

3.3. Variables

3.3.1. Dependent variable

Perceived job insecurity was measured by the following item: "In your opinion, is there a suspicion that you will lose your job in the coming year?" The scale was 1 - not concerned at all, 2 - slightly concerned, 3 - greatly concerned, and 4 - extremely concerned.

3.3.2. Independent variables

Using the internet in the preceding three months (during 2003–2012) was measured by the following item: "During the last three months, have you made use of the internet, including e-mail?" Internet access was coded as 1 for those who used and 0 for non-users.

Digital uses were measured by the following items: "Did you use a computer during the last three months for the following purposes: seeking information; study; obtaining services online from government offices; e-mail; discussion groups and communications, e.g., chat rooms, forums, Messenger, Skype, Facebook?" In each item, users were coded as 1 and non-users as 0. The descriptive statistics of the independent variables are presented in Appendix A.

3.3.3. Control variables

Wave of data collection was coded on a scale of 0–9, where 2003 = 0, 2012 = 9.

Ethnicity was measured by two dichotomous variables: Arabs and immigrants (those who immigrated to Israel after 1989). Veteran Jews (born in Israel or immigrated before 1989) were the comparison group.

Gender was coded 1 for men and 0 for women.

Age was measured in five-year categories. This variable was transformed into a continuous variable using the midpoint of each group.

Religiosity was measured on a scale of 1–4: 1–Not religious, secular; 2 – Traditional; 3 – Religious, 4 – Very religious.

Area of residence was coded 1 for center residents (Jerusalem, Tel-Aviv, and Central region) and 0 for periphery residents (North, Haifa, South, Judea, and Samaria).

Education was measured by highest diploma received by the respondent. This variable was transformed into three dichotomous variables: Matriculation eligibility, Non-academic tertiary education and Academic tertiary education. The comparison group was Elementary and Secondary education.

Income level was measured by the item: What was your gross salary last month, before deductions, from all places of work? During the 10 years of survey, the income categories were updated by the CIS in line with the salary changes over time. Considering these updates our income variable was transformed into a continuous variable using the midpoint of each group and divided by 1000.

Occupational prestige was coded as follows: 1. Unskilled workers; 2. Skilled workers in industry and agriculture; 3 – Agents, sales workers and service workers; 4 – Clerical workers; 5 – Managers; 6 – Associate professionals and technicians; 7 – Academic professionals.

Weekly working hours were measured as a continuous variable.

Years working at the current workplace were measured as a continuous variable.

Hebrew language proficiency. The question put to respondents was: What is the level of your knowledge of the Hebrew language in speech, reading and writing? The scale used was 1–very good, 2–good, 3–moderate, 4–weak, 5–don’t know at all. A combined index was calculated for reading, writing, and speaking skills in Hebrew and measured on a scale of 1–5 (1–Not at all, 5–Very well), based on the average of these three language skills. Cronbach Alpha for Proficiency in Hebrew language was 0.95.

4. Results

The findings regarding Internet access and perceived job insecurity will first be presented, followed by the application of a multivariate analysis in order to predict our dependent variables.

4.1. Descriptive findings

4.1.1. Internet access over time

Fig. 1 shows the percentage of Internet use among the employed population over time.

Fig. 1 shows that Internet use among the employed population rose from 50.7% in 2003 to 83.2% in 2012 (an increase of 32.5 percentage points). However, the growth rate declined during the past decade (from 9.3% in 2003 to 0.5% in 2012), as the working population approached the saturation point.

4.1.2. Perceived job insecurity and rate of unemployment over time

Fig. 2 shows the average of perceived job insecurity (scale 1–4) and rate of unemployment during the past decade.

Fig. 2 shows that the rate of unemployment decreased over

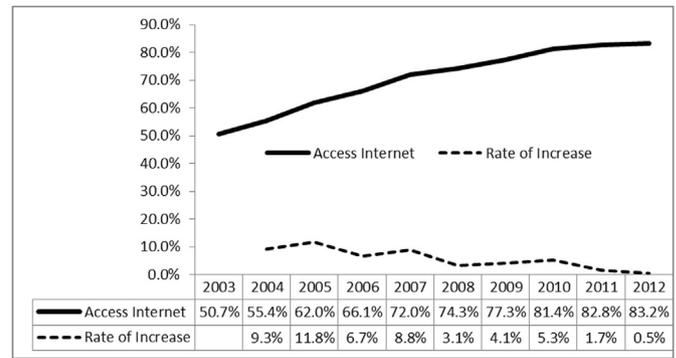


Fig. 1. Internet access among the employed population over time.

time: from 13.25% in 2003 to 6.85% in 2012 (Bank of Israel, 2015), despite an increase in the unemployment rate in Israel in 2008–2009 as a consequence of the global financial crisis during that period. The trends of perceived job insecurity accurately reflect the trend of unemployment rate during the decade. Perceived job insecurity decreased over time from 1.72 in 2003 to 1.49 in 2012 (except for the financial crisis period in Israel) and was relatively low (on average less than 2 on a scale of 1–4).

4.2. Multivariate analysis

4.2.1. Predicting perceived job insecurity over time

For a better understanding of the effect of Internet use on perceived job insecurity over time a linear regression was applied in three stages. In the first stage we added all control variables: wave of data collection, demographics, socio-economic background and work characteristics. In the second stage, Internet use in the preceding three months was added. In the third stage we examined the interaction between Internet use and wave of data collection, as well as all possible interactions between Internet use and control variables; only significant interactions were presented in our final regression model. We also examined all possible interactions between wave of data collection and control variables, but none were found to be significant.

The findings show that perceived job insecurity decreased over time (see Table 1 Model 1). Men, Arabs, and respondents with Elementary and Secondary education reported higher perceived job insecurity. Those with lower Hebrew proficiency, income, and years working at the current work place experienced higher job insecurity. In contrast, higher age and weekly work hours resulted in higher job insecurity. It should be noted that Internet users reported lower levels of perceived job insecurity, compared to non-

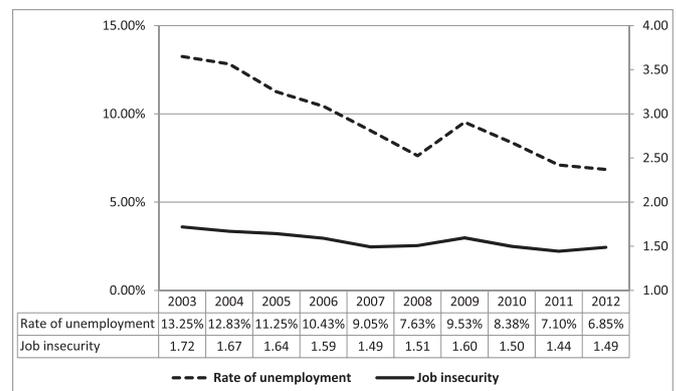


Fig. 2. Job insecurity (scale 1–4) and rate of unemployment, 2003–2012.

users (see Model 2). However, a significant positive interactional effect (see Model 3) between wave of data collection and Internet usage indicated that the effect of Internet use on job insecurity weakened over time.

Our findings show significant positive interactional effects between Internet use and personal income on job insecurity, i.e., the effect of Internet adoption on perceived job insecurity was stronger among respondents with lower income levels. In addition, it was found that Internet use has a stronger effect on reducing perceived job insecurity among Arabs, compared to veteran Jews.

The effects of family status, child number, locality, religiosity and occupational prestige on the perceived job insecurity were insignificant. In addition, there were no significant differences between immigrants and veteran Jews.

It should be noted that socio-demographic variables and ICT adoption explained only 6% of variance for job insecurity. In other words, even within the same groups, people differed in how they perceived the threat of losing their job. These findings are in line with the research literature (De Bustillo & De Pedraza, 2010; Debus et al., 2014). A possible explanation is that perceived job insecurity may be affected by changes in employment status in the employee's immediate private and organizational circles as well as by differences in personal perceptions of the macro-economic situation, environmental factors, and person-specific variables (Debus et al., 2014).

4.2.2. Predicting perceived job insecurity among internet users

For examining the effect of digital uses on the perceived job insecurity the linear regression model was applied among Internet users. In the first stage we added all control variables, whereas in the second stage digital variables were added. In the third stage we examined all possible interactional effects between digital variables and control variables, as well as all possible interactions between the wave of the data collection and independent and control variables, but none were found to be significant.

The findings show (see Table 2, Model 1) that men, Arabs, respondents without matriculation certificate, and those who live in

the center reported higher perceived job insecurity. Those with lower child number, level of income, and years working at their current work place experienced higher perceived job insecurity. In contrast, higher age and weekly working hours resulted in higher job insecurity. Seeking information and social media use correlated positively with perceived job insecurity (see Model 2). In contrast, the effect of Internet use for study was insignificant. The effects of family status, religiosity, and occupational prestige were also insignificant. There were no significant differences between immigrants and veteran Jews in perceived job insecurity.

Table 2

Perceived job insecurity during 2003–2012 among Internet users – linear regression findings.

	Model 1		Model 2	
	B	Beta	B	Beta
(Constant)	1.73**		1.66**	
The wave of data collection	-0.01**	-0.06	-0.02**	-0.06
Gender (Males = 1)	0.10**	0.07	0.10**	0.07
Immigrants	-0.01	0.00	-0.01	0.00
Arabs	0.10**	0.04	0.11**	0.04
Age	0.00**	0.07	0.00**	0.07
Family status (Married = 1)	-0.01	-0.01	-0.01	-0.01
Child number	-0.01**	-0.03	-0.01**	-0.03
Locality (Center residents = 1)	0.02*	0.02	0.02*	0.02
Religiosity	0.01	0.01	0.01*	0.01
Matriculation eligibility	-0.08**	-0.05	-0.08**	-0.05
Non academic	-0.01	-0.01	-0.01	-0.01
Academic	-0.02	-0.01	-0.02	-0.01
Hebrew proficiency	-0.02*	-0.02	-0.02*	-0.02
Personal income from work	-0.01**	-0.10	-0.01**	-0.10
Years at current workplace	-0.06**	-0.14	-0.05**	-0.13
Weekly working hours	0.01*	0.02	0.01*	0.02
Occupational prestige	0.00	-0.01	0.00	-0.01
Internet use for studies			-0.01	-0.01
Seeking information			0.07**	0.02
Social media			0.02*	0.02
R ²	0.041		0.042	
R ² change	0.041**		0.001**	

*p < .05; **p < .01.

Table 1

Perceived job insecurity during 2003–2012 among total sample – linear regression findings.

	Model 1		Model 2		Model 3	
	B	Beta	B	Beta	B	Beta
(Constant)	1.96**		1.97**		2.04**	
The wave of data collection	-0.02**	-0.07	-0.02**	-0.07	-0.03**	-0.12
Gender (Males = 1)	0.10**	0.07	0.10**	0.07	0.11**	0.07
Immigrants	-0.03	-0.01	-0.03	-0.01	-0.03	-0.01
Arabs	0.15**	0.06	0.15**	0.06	0.23**	0.09
Age	0.00**	0.05	0.00**	0.04	0.00**	0.05
Family status (Married = 1)	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Child number	0.00	-0.01	0.00	-0.01	-0.01	-0.01
Locality (Center residents = 1)	0.02	0.01	0.02	0.01	0.02	0.01
Religiosity	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Matriculation eligibility	-0.09**	-0.05	-0.08**	-0.04	-0.08**	-0.04
Non academic	-0.03*	-0.02	-0.03*	-0.01	-0.02	-0.01
Academic	-0.04*	-0.02	-0.03	-0.02	-0.03	-0.02
Hebrew proficiency	-0.04**	-0.05	-0.04**	-0.04	-0.03**	-0.04
Personal income from work	-0.02**	-0.10	-0.01**	-0.10	-0.03**	-0.23
Years at current workplace	-0.05**	-0.13	-0.05**	-0.13	-0.05**	-0.12
Weekly working hours	0.01*	0.02	0.01*	0.02	0.01**	0.02
Occupational prestige	0.00	-0.01	0.00	-0.01	0.00	-0.01
Internet usage (users = 1)			-0.03**	-0.02	-0.18**	-0.10
Internet usage * wave of data collection					0.02**	0.08
Internet usage * Arabs					-0.13**	-0.04
Internet usage * personal income					0.02**	0.15
R ²	0.053		0.054		0.057	
R ² change	0.053**		0.001**		0.003**	

*p < .05; **p < .01.

As with the first regression, the independent variables included in the regression model explained only the small percentage of variance for job insecurity.

5. Discussion

The current study investigated the effect of Internet adoption on perceived job insecurity during the past decade (2003–2012) among a large sample of employed Israelis. As far as we know, our study is the first to examine the impact of ICT adoption and use on the *subjective* aspect of job loss, applying theories from different fields of study in the labor market context.

Our basic findings showed a low level of perceived job insecurity which decreased over time. In line with [hypothesis 1](#), based on human capital theory, Internet use negatively correlated with perceived job insecurity. Therefore, Internet use constitutes an important part of human capital which may increase the value of the employee, thereby reducing perceived job insecurity. However, in line with [hypothesis 3](#), based on diffusion of innovation theory, the effect of Internet use on perceived job insecurity decreased over time. We can speculate that the weakening of the Internet effect on job insecurity may be explained by the relatively high level of internet penetration among those segments of the population that are likely to adopt the technology, and the fact that it is approaching saturation point. This development makes Internet adoption a more difficult variable to employ for differentiating levels of job insecurity than when Internet use was relatively rare.

Higher perceived job insecurity was found among weaker social groups: Arabs, people from lower socio-economic strata, elder respondents, and employees with low Hebrew proficiency. In light of the negative association between job insecurity and well-being, life satisfaction, physical and mental health ([Cheng, Chen, Chen, & Chiang, 2005](#); [De Witte, 1999](#); [Ferrie, Shipley, Newman, Stansfeld, & Marmot, 2005](#); [Hellgren & Sverke, 2003](#)), these groups experienced an additional disadvantage. At this point, inequality in job security between different population groups intersected with the digital divide, in which all these weaker groups were also found to be disadvantaged ([Lissitsa, 2015a, 2015b](#); [Lissitsa & Chachashvili-Bolotin, 2014, 2015](#)). The significant interactional effects between Internet use and belonging to the weaker groups (Arabs and people with low income) show that Internet use leads to a reduction of national and socio-economic gaps in job insecurity in line with our hypothesis. These findings agree with the logic of MMI theory which was originally formulated for the educational field and applied in the current research to the labor market context. When the privileged social groups reached the saturation point in Internet use, the weaker socio-economic groups – Arabs and people with lower income – benefit more from its adoption, compared to privileged social groups in terms of reducing job insecurity. In other words, Internet use, which is associated with the first-level digital divide, assists weaker social groups and can serve as a channel for decreasing their job insecurity. However, we did not find the significant interactional effect between these background variables and digital uses. The possible explanation is that in digital uses, which are associated with the second-level digital divide, the privileged groups have not reached their saturation point. Therefore, in this stage of technology diffusion the effect of digital uses on the perceived job insecurity is similar between stronger and weaker social groups.

However, a deeper understanding of the effects of digital uses on perceived job insecurity among Internet users reveals a more complex picture. Our findings show that seeking information and social media use were positively correlated with perceived job insecurity. These findings may be explained by the asymmetrical negative-positive heuristic, “Bad is stronger than good” ([Baumeister, Bratslavsky, & Finkenauer, 2001](#), p. 323); i.e., individuals tend to

weigh negative information more heavily than positive information when forming their overall impression. As for social media, negative information and negative chatting about job loss are more ‘marketable’ than their positive counterparts as they are more eye-catching, add drama, stimulate interest, and are easy to understand ([Dierkens, 1991](#); [Lengauer, Esser, & Berganza, 2011](#)). People are used to expecting “bad news” from the media ([Meijer, 2010](#)) and public response to negative media framing is much stronger than to positive framing ([Levy, 2003](#)) and promotes economic pessimism ([Hetsroni, Sheaffer, Zion, & Rosenboim, 2014](#)). Accordingly, based on our findings we may assume that seeking information and social media use reduce uncertainty, but increase job insecurity.

An alternative explanation may be found in the inverse direction of the correlation between seeking information, social media use, and subjective job insecurity. Those who feel insecure and anxious about continued employment in their current workplace surf the Internet and communicate with their social networks to obtain useful information for a deeper understanding of the labour market situation.

In contrast to [hypothesis 2](#), based on the human capital theory, our findings show insignificant correlation between Internet use for study and perceived job insecurity. One possible explanation is the fact that our data do not allow us to distinguish whether internet use for study is related or unrelated to the current job field. One may speculate that Internet use for study related to the job field may increase the human capital relevant for the job and in this way increase job security, whereas study in unrelated fields may divert and hurt productivity in the current job, in this way increasing job insecurity. We recommend clarification of this point in future research.

6. Conclusions

Our important finding is a negative correlation between Internet use and job insecurity. However, the effect of Internet use on the dependent variable decreased over the decade. Internet use was found to be more effective for decreasing job insecurity among weaker social groups: Arabs and people from low socio-economic strata. Our findings on the association between Internet use and various digital uses and perceived job insecurity are very important because of the crucial personal and organizational consequences of job insecurity ([Cheng & Chan, 2008](#); [De Cuyper, Van der Heijden, & De Witte, 2011](#); [Silla, De Cuyper, Gracia, Peiró, & De Witte, 2009](#)). Moreover, in contrast to other powerful factors impacting perceived job insecurity (objective economic situation, personal perceptions, occurrences in the employee’s immediate private and organizational circle, personal traits, etc.) this factor can be altered with relative ease, if digital literacy becomes an important goal in the national agenda.

7. Study limitations and recommendations for future research

Limitations of the study were imposed by the limitations of the CBS social survey database. The social survey has a repeated cross-sectional design and does not allow us to examine causality between Internet use and digital uses and perceived job insecurity. We recommend conducting longitudinal research to address this point. Our dependent variable, perceived job insecurity, was measured by only one item. Future research should measure multiple items of job insecurity.

Our findings show the positive effect of seeking information and social media use on perceived job insecurity. Our quantitative data do not allow us to formulate an unequivocal explanation of these effects. We recommend conducting qualitative research that focuses on digital content that may create such an effect on job insecurity.

Appendix A. Digital uses among total sample and Internet users over time.

		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
For study	Total sample	22.9%	24.1%	22.8%	25.6%	30.6%	30.9%	36.7%	33.3%	36.9%	33.2%
	Internet users	39.5%	37.6%	34.4%	37.0%	41.1%	40.2%	46.1%	40.1%	43.8%	39.3%
Seeking information	Total sample	47.3%	55.0%	58.5%	63.5%	67.6%	70.5%	74.3%	78.5%	79.5%	80.1%
	Internet users	92.3%	94.8%	94.5%	95.2%	93.1%	94.6%	95.6%	95.8%	95.4%	95.7%
Social media	Total sample	10.6%	12.8%	15.1%	17.6%	28.6%	32.6%	40.0%	45.5%	49.8%	55.7%
	Internet users	20.6%	22.1%	24.4%	26.4%	39.4%	43.7%	51.5%	55.5%	59.8%	66.6%

References

- Bakker, T. P., & de Vreese, C. H. (2011). Good news for the future? Young people, Internet use, and political participation. *Communication Research*, 38(4), 451–470.
- Bank of Israel. (2015, December 29). *Series database*. Retrieved from Bank of Israel <http://www.boi.org.il/he/DataAndStatistics/Pages/Series.aspx>.
- Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology*, 5, 232–370.
- Becker, G. (1993). *Human capital: A theoretical and empirical analysis with special reference to education* (3rd ed.). Chicago, IL: The University of Chicago Press.
- Ben-Rafael, E. (2001). *Jewish identities: The answers of the Sages of Israel to Ben-Gurion*. Hebrew: Sde Boker: Merkaz le-moreshet Ben-Gurion and the Ben-Gurion University Press.
- Berger, C. R., & Calabrese, R. J. (1975). Some explorations in initial interaction and beyond: toward a developmental theory of interpersonal communication. *Human Communication Research*, 1, 99–112.
- Berger, C. R. (1987). Communicating under uncertainty. In M. E. Roloff, & G. R. Miller (Eds.), *Interpersonal processes* (pp. 39–62). Newbury Park, CA: Sage.
- Boyd, D. M., & Ellison, N. B. (2007). Social network sites: definition, history and scholarship. *Journal of Computer-Mediated Communication*, 13, 210–230.
- Brown, C. (1990). Empirical evidence on private training. *Research in Labor Economics*, 11, 97–113.
- Bylund, C. L., Peterson, E. B., & Cameron, K. A. (2012). A practitioner's guide to interpersonal communication theory: an overview and exploration of selected theories. *Patient Education and Counseling*, 87(3), 261–267.
- Carr, C. T., & Walther, J. B. (2014). Increasing attributional certainty via social media: learning about others one bit at a time. *Journal of Computer-Mediated Communication*, 19(4), 922–937.
- Cheng, G. H. L., & Chan, D. K. S. (2008). Who suffers more from job insecurity? A meta-analytic review. *Applied Psychology-an International Review*, 57(2), 272–303.
- Cheng, Y., Chen, C. W., Chen, C. J., & Chiang, T. L. (2005). Job insecurity and its association with health among employees in the Taiwanese general population. *Social Science & Medicine*, 61(1), 41–52.
- Constantine, J., & Neumark, D. (1996). Training and growth of wage inequality. *Industrial Relations*, 35, 491–510.
- De Bustillo, R. M., & De Pedraza, P. (2010). Determinants of job insecurity in five European countries. *European Journal of Industrial Relations*, 16(1), 5–20.
- De Cuyper, N., Van der Heijden, B. I., & De Witte, H. (2011). Associations between perceived employability, employee well-being, and its contribution to organizational success: a matter of psychological contracts? *The International Journal of Human Resource Management*, 22(07), 1486–1503.
- De Witte, H. (1999). Job insecurity and psychological well-being: review of the literature and exploration of some unresolved issues. *European Journal of Work and Organizational Psychology*, 8(2), 155–177.
- Debus, M. E., König, C. J., & Kleinmann, M. (2014). The building blocks of job insecurity: the impact of environmental and person related variables on job insecurity perceptions. *Journal of Occupational and Organizational Psychology*, 87(2), 329–351.
- Dierkens, N. (1991). Information asymmetry and equity issues. *Journal of Financial and Quantitative Analysis*, 26, 181–199.
- DiMaggio, P., & Hargittai, E. (2001). *From the digital divide to digital inequality: Studying Internet use as penetration increase*. Working Paper 15. Princeton University. Center for Arts and Cultural Policy Studies.
- Elman, C., & O'Rand, A. M. (2002). Perceived job insecurity and entry into work-related education and training among adult workers. *Social Science Research*, 31, 49–76.
- Emberland, J. S., & Rundmo, T. (2010). Implications of job insecurity perceptions and job insecurity responses for psychological well-being, turnover intentions and reported risk behavior. *Safety Science*, 48, 452–459.
- Ferrie, J. E., Shipley, M. J., Newman, K., Stansfeld, S. A., & Marmot, M. (2005). Self-reported job insecurity and health in the Whitehall II study: potential explanations of the relationship. *Social Science & Medicine*, 60(7), 1593–1602.
- Flint, E., Bartley, M., Shelton, N., & Sacker, A. (2013). Do labour market status transitions predict changes in psychological well-being? *Journal of Epidemiology and Community Health*, 67(9), 796–802.
- Fullerton, A. S., & Wallace, M. (2007). Traversing the flexible turn: US workers' perceptions of job security, 1977–2002. *Social Science Research*, 36, 201–221.
- Greenhalgh, L., & Rosenblatt, Z. (2010). Evolution of research on job insecurity. *International Studies of Management & Organization*, 40, 6–19.
- Guerrieri, P., & Bentivegna, S. (2011). *The economic impact of digital technologies. Measuring inclusion and diffusion in Europe* (Cheltenham, UK).
- Hacker, J. (2006). *The great risk shift*. New York: Oxford University Press.
- Haenlein, M., & Kaplan, M. (2010). Users of the world, unite! the challenges and opportunities of social media. *Business Horizons*, 53(1), 59–68.
- Hargittai, E., & Hinnant, A. (2008). Digital inequality: differences in young adults' use of the internet. *Communication Research*, 35(5), 602–621.
- Hargittai, E. (2003). Informed web surfing: the social context of user sophistication. In P. Howard, & S. Jones (Eds.), *Society online: The internet in context* (pp. 254–272). Beverly Hills, CA: Sage Publications.
- Hellgren, J., & Sverke, M. (2003). Does job insecurity lead to impaired well-being or vice versa? Estimation of cross-lagged. *Journal of Organizational Behavior*, 24, 215–236.
- Hetsroni, A., Sheaffer, Z., Zion, U. B., & Rosenboim, M. (2014). Economic expectations, optimistic bias, and television viewing during economic recession a cultivation study. *Communication Research*, 41(2), 180–207.
- Jin, J., & Cheng, P. (2008). Measuring digital divide: the exploration in Macao. *Observatorio Journal*, 14(1), 23–39.
- Kalleberg, A. L. (2009). Precarious work, insecure workers: employment relations in transition. *American Sociological Review*, 74(1), 1–22.
- Keim, A. C., Landis, R. S., Pierce, C. A., & Earnest, D. R. (2014). Why do employees worry about their jobs? A meta-analytic review of predictors of job insecurity. *Journal of Occupational Health Psychology*, 19(3), 269–290.
- Kinnunen, U., & Nätti, J. (1994). Job insecurity in Finland: antecedents and consequences. *European Work and Organizational Behavior*, 4, 297–321.
- Krause, A., Obschonka, M., & Silbereisen, R. K. (2015). Perceived new demands associated with socioeconomic change: a challenge to job security? *Time & Society*, 1–29.
- Lengauer, G., Esser, F., & Berganza, R. (2011). Negativity in political news: a review of concepts, operationalizations and key findings. *Journalism*, 13(2), 179–202.
- Levy, J. S. (2003). Applications of prospect theory to political science. *Synthese*, 135(2), 215–241.
- Lin, N. (2001). *Social capital: A theory of social structure and action*. New York: Cambridge University Press.
- Lissitsa, S. (2015a). Digital use as a mechanism to accrue economic capital: a Bourdieusian perspective. *Innovation: The European Journal of Social Science Research*, 28(4), 464–482.
- Lissitsa, S. (2015b). Patterns of digital uses among Israeli Arabs-between citizenship in modern society and traditional cultural roots. *Asian Journal of Communication*, 25(5), 447–464.
- Lissitsa, S., & Chachashvili-Bolotin, S. (2014). Use of the Internet in capital enhancing ways-ethnic differences in Israel and the role of language proficiency. *International Journal of Internet Science*, 9(1), 9–30.
- Lissitsa, S., & Chachashvili-Bolotin, S. (2015). Does the wind of change blow in late adulthood? Adoption of ICT by senior citizens during the past decade. *Poetics*, 52, 44–63.
- Lissitsa, S., & Lev-On. (2014). Gaps close, gaps open: a repeated cross-sectional study of the scope and determinants of the ethnic digital divide. *International Journal of Electronic Governance*, 7(1), 56–71.
- Lissitsa, S., & Peres, Y. (2011). Criteria of sociocultural adjustment: the case of the Russian Community in Israel since 1989. *International Journal of Intercultural Relations*, 35(2), 205–212.
- Mauno, S., & Kinnunen, U. (2002). Perceived job insecurity among dual-earner couples: do its antecedents vary according to gender, economic sector and the measure used? *Journal of Occupational and Organizational Psychology*, 75, 295–314.
- Meijer, C. I. (2010). Democratizing journalism? Realizing the citizen's agenda. *Journalism Studies*, 11, 327–342.
- Michel, L., Bernstein, J., & Allegretto, S. (2007). The state of working America, 2006/2007. *Economic Policy Institute*, 181–190.
- Mohr, G. B. (2000). The changing significance of different stressors after the announcement of bankruptcy: a longitudinal investigation with special emphasis on job insecurity. *Journal of Organizational Behavior*, 21, 337–359.
- Näswall, K., & De Witte, H. (2003). Who feels insecure in Europe. Predicting job

- insecurity from background variables. *Economic and Industrial Democracy*, 24(2), 189–215.
- Osterman, P. (1995). Skill, training, and work organization in American establishments. *Industrial Relations*, 34, 125–146.
- Peres, Y., & Ben-Rafael, E. (2006). *Cleavages in Israeli society*. Tel-Aviv: Am Oved. (Hebrew).
- Raftery, A. E., & Hout, M. (1993). Maximally maintained inequality: expansion, reform, and opportunity in Irish education, 1921–75. *Sociology of Education*, 41–62.
- Rahim, S. A., Pawanteh, L., & Salman, A. (2011). Digital inclusion: the way forward for equality in a multiethnic society. *The Innovation Journal: The Public Sector Innovation Journal*, 16(3). Article 11.
- Ramirez, A., Jr., Walther, J. B., Burgoon, J. K., & Sunnafrank, M. (2002). Information-seeking strategies, uncertainty, and computer-mediated communication: toward a conceptual model. *Human Communication Research*, 28, 213–228.
- Rogers, E. M. (1995). *Diffusion of innovations* (4th ed.). New York: Free Press.
- Roskies, E., & Louis-Guerin, C. (1990). Job insecurity in managers: antecedents and consequences. *Journal of Organizational Behaviour*, 11(5), 345–359.
- Scheve, K., & Slaughter, M. J. (2004). Economic insecurity and the globalization of production. *American Journal of Political Science*, 48(4), 662–674.
- Silla, I., De Cuyper, N., Gracia, F. J., Peiró, J. M., & De Witte, H. (2009). Job insecurity and well-being: moderation by employability. *Journal of Happiness Studies*, 10(6), 739–751.
- Sverke, M., Hellgren, J., & Näswall, K. (2002). No security: a metaanalysis and review of job insecurity and its consequences. *Journal of Occupational Health Psychology*, 7, 242–264.
- Walter, S. (2015). Globalization and the demand-side of politics: how globalization shapes labor market risk perceptions and policy preferences. *Political Science Research and Methods*, 1–26.
- Warschauer, M. (2003). *Technology and social inclusion. Rethinking the digital divide*. Cambridge, MA: MIT Press.