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Exploring the Relationship between IT Use and Wellbeing

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Completed Research Paper

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Abstract

This study explores the relationship between use of tablet PCs in daily life and individuals' perceptions of wellbeing. Our results indicate that the number of features used and the degree to which different features are used directly influence individuals' subjective wellbeing and exert indirect effects on physical wellbeing. These findings suggest that more research is needed to advance understanding of the phenomenon. Developing understanding of these relationships could facilitate efforts to engage people meaningfully with IT and support improvements in wellbeing for individuals, social groups, and society.

Keywords: Extended use; Extent of use; subjective wellbeing; physical wellbeing

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Introduction

Research focusing on IT adoption and diffusion outside of organizational contexts is not new (e.g., Venkatesh and Brown 2001, Brown and Venkatesh 2005). Yet, opportunities exist to explore new avenues in this research domain. For example, what personal and social benefits may arise after use of an IT has become infused into a person's social and personal routines outside the workplace? In particular, what role (if any) does IT play in determining a person's subjective wellbeing ("cognitive and affective evaluation of his or her own life" (Deiner et al. 2002, p. 187) and physical (i.e., feeling healthy) wellbeing? We pose these questions because wellbeing is widely acknowledged as an outcome of fully participating in the normal, normatively prescribed, activities of the societies in which they live (Silver 2007). In today's world, it has become almost impossible to do so without IT (Fredette et al. 2012). This suggests a link between IT use and wellbeing.

Specifically, as individuals adopt and leverage IT across all aspects of their daily lives, IT has become bound up in maintaining the networks of relationships and roles in which people participate (Carter and Grover 2015), leading us to wonder if a person's cognitive and affective evaluations of his/her own life and health are related to using IT. To explore this potential, this study examines how the use of a specific technology impacts subjective and physical wellbeing. Specifically, this study begins with the following research question: *What, if any, is the relationship between IT use and individuals' perceptions of their own wellbeing?*

The rest of the paper unfolds as follows: First, we discuss the importance of wellbeing to achieving individual, organizational, and societal outcomes. Next, we situate our study in the extant information systems (IS) literature. Then, we present and empirically test exploratory hypotheses about the potential relationships between IT use and subjective and physical wellbeing. The paper concludes with a discussion of findings, limitations, and suggestions for future research.

Background and Research Model

The Importance of Wellbeing

Wellbeing has been conceptualized as comprising five essential elements: (1) positive emotions; (2) engagement (or flow); (3) positive relationships; (4) a sense of meaning, and (5) accomplishment (or achievement) (Seligman 2012). As a condition pertaining to the individual, subjective wellbeing has been associated with many individual, organizational, and social benefits (De Neve et al. 2013). At the individual and organizational level, people who express higher wellbeing are more likely to remain with employing organizations, have fewer sickness absences, better safety records and, in general, are more productive than unhappy employees (Diener and Seligman 2004; Harter et al. 2002; Oswald et al. 2013). Additionally, studies indicate that employees with higher levels of psychological health are more committed to their work, resulting in better customer outcomes and performance (Bevan 2010; Rucci et al. 1998). Consequently, to paraphrase Diener and Seligman (2004, p. 11): "Policies aimed at [promoting wellbeing] make sense because they increase economic productivity and profitability. When the workplace is properly structured to increase wellbeing, profits will likely rise."

Wellbeing is also associated with positive social outcomes. Prior work finds that happier people are more inclined to trust others and to contribute to their communities (Diener and Seligman 2004; Priller and Schupp 2011). In turn, "people prosper in neighborhoods and societies where people trust one another and are mutually helpful" (Diener and Seligman 2004, p. 4). Research suggests that communities with high rates of trust, volunteer activity, and club membership have higher wellbeing and lower suicide rates than communities where these characteristics are low (Helliwell 2003; Putnam 2000).

Together, these studies indicate that wellbeing (while being influenced by factors such as income, social networks, education, etc. (Diener and Seligman 2004)) can also be a driver of positive outcomes. As such, it is important for researchers and policy makers to understand (and to be able to measure the efficacy of) mechanisms aimed at promoting wellbeing. In an increasingly digital world, information technologies, which are intertwined in normal, everyday activities of life, are likely to have a place in such endeavors.

IS Research and Wellbeing

Developing an understanding of IT's role in enabling wellbeing could facilitate efforts to engage people meaningfully with IT to support improvements in areas such as education, employment, health, innovation, and social relationships. Thus, we conducted a review of IS literature to evaluate the current state of IS research in this domain.

Our review indicated that some IS research has explored wellbeing in the workplace. For example, researchers have examined relationships between job involvement of IS professionals and quality of work life (Igbaria et al. 1994); impacts of information quality (Joshi and Rai 2000) and system implementation (Morris and Venkatesh 2010) on job satisfaction, or factors influencing technostress (Ayyagari et al. 2011). However, a general lack of research attention in this area presents an interesting opportunity to explore new questions that are pertinent to organizational concerns.

Outside the workplace, IT for development research has examined the relationship between perceptions of IT or IT use—for example, satisfaction (Hun Choi et al. 2007; Techatassanasoontorn and Tanvisuth 2008; Techatassanasoontorn and Tanvisuth 2010), importance of IT (Anwar and Johanson 2015), or IT capabilities (Hatakka et al. 2014)) and perceived quality of life. These studies, which are highly context-specific, have yielded ambiguous results. Some have found a weak association at best (Kivunike et al. 2011; Kottemann and Boyer-Wright 2009). For instance, Kivunike et al's (2011) study of rural communities in Uganda found that respondents ranked making friends and social networking as more important than social, economic, or political purposes of IT use. Others have found that IT use could impact development by empowering individuals through increasing their knowledge of legal rights, expanding their capabilities, and/or by improving their ability to generate income (Anwar and Johanson 2015; Hatakka et al. 2014). To illustrate, in a qualitative study focusing on blind entrepreneurs in Indonesia, Anwar and Johanson (2015) reported that participants' viewed mobile phones as a means of expanding their personal capabilities, which subsequently enabled them to choose better lives. Such ambiguous findings highlight the need to advance understanding of the relationship between IT use and wellbeing, since the latter is an important goal of development efforts.

Finally, recent works have focused on the "dark side" of IT use (Tarafdar et al. 2015). These works highlight potentially negative impacts of IT on wellbeing via other factors, e.g., addiction (e.g, Turel and Serenko 2012, Turel et al. 2011, Turel 2014), stress (Maier et al. 2014, Maier et al. 2015), and envy (Krasnova et al. 2015). Still, relatively little is known about the relationship between *IT use and individuals' perceptions of their own wellbeing*. Specifically, subjective and physical wellbeing as outcomes of actual IT use have yet to be evaluated. To that end, we developed a set of exploratory hypotheses to test this potential.

Exploratory Hypotheses

With increasing pervasiveness of mobile technologies, such as smartphones and tablet devices, interacting with IT is no longer confined to the workplace. As IT becomes intertwined with all aspects of daily life, new expectations are being created for how, when, and where people perform various roles and maintain their social networks (Carter and Grover 2015). More importantly, IT has become critical to fully participating in the normal, normatively prescribed, activities of many societies (Fredette et al. 2012). Given that wellbeing is an outcome of such participation, In light of this, it seems reasonable to consider IT as a source of individuals' subjective and physical wellbeing. Moreover, given that the essential elements of wellbeing (i.e., positive emotions, engagement, positive relationships, meaning, and achievement) transcend specific roles, relationships, and situations, we believe that infusion of IT into personal and social routines—represented here by the number of IT features used (i.e., *extended use*; Saga and Zmud 1994) and the degree to which different IT features are used (i.e., *extent of use*; Lucas Jr and

Spitler 1999)—will be positively related with individuals' subjective and physical wellbeing. Formally stated:

H1a: Extended use will be positively related to subjective wellbeing.

H1b: Extent of use will be positively related to subjective wellbeing.

H2a: Extended use will be positively related to perceived physical wellbeing.

H2b: Extent of use will be positively related to perceived physical wellbeing.

Studies have shown that subjective wellbeing positively influences health, lowering risks of illness, disease, and injury, speeding up recovery and increasing longevity (Lyubomirsky et al. 2005; Russ et al. 2012; Steptoe et al. 2005). Consistent with prior findings, we propose that subjective wellbeing will be positively related to perceived physical wellbeing. Formally stated:

H3: Subjective wellbeing will be positively related to perceived physical wellbeing

Finally, since the effects of IT use on health are only likely to manifest when individuals experience subjective wellbeing as a long-term outcome of use, we propose that subjective wellbeing fully mediates the effects of IT use on physical wellbeing. Formally stated:

H4: Subjective wellbeing will fully mediate the relationships between IT use (a. extended and b. extent) and perceived physical wellbeing.

Our research model is shown in Figure 1.

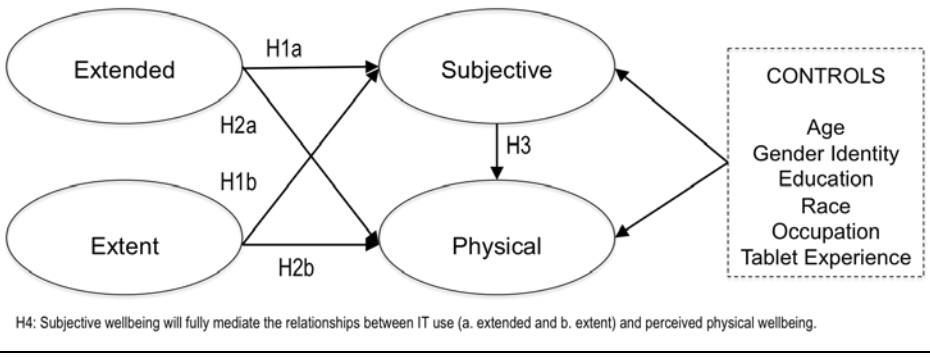

Figure 1. The Research Model

Research Method

We used tablets (e.g., Apple iPad, Microsoft Surface, among others) as the technological context for examining our research question, "What, if any, is the relationship between IT use and individuals' perceptions of their own wellbeing?" As of January 2014, 42% of American adults owned one of these devices (Zickuhr and Rainie 2014), which is indicative of their widespread popularity. Importantly, the tablet embodies four technology characteristics that promote feature use behaviors (Carter and Grover 2015). These are: (1) functionality — i.e., the set of uses to which a technology can be applied; (2) malleability — i.e., the ability to support a wide range of everyday practices without requiring technical customization (Richter and Riemer 2013); (3) bandwidth — i.e., the ability to communicate a variety of information (Burke and Chidambaram 1999), and (4) mobility — i.e., the capacity to move between locations without losing connectivity (Nickerson 2008). Once a tablet is adopted and used, these technology characteristics have the ability to support and enable individuals in a variety of ways.

Greater functionality increases personal resources that can be applied across social situations (Carter and Grover 2015). Malleability facilitates adaptation as individuals gain experience and find opportunities to

use IT within their daily lives (Richter and Riemer 2013). Higher bandwidth makes it possible to communicate large amounts, and many types, of information (Burke and Chidambaram 1999). Mobility helps reinforce social ties through providing portals to other people and places (Turkle 2011). Because tablets have high functionality, malleability, bandwidth, and mobility, these devices can be used across a broader range of contexts, making tablets particularly suitable for addressing our research question.

Data Collection

A cross-sectional, web-based survey was used to test our exploratory hypotheses. Subjects were asked about their use of tablets, as well as questions relating to their subjective and physical wellbeing. Because perceptions of wellbeing may be affected by socioeconomic factors (Diener and Seligman 2004), we restricted our population of interest to currently employed individuals. Further, since we were interested in IT use in everyday life, we wanted to hear from individuals that use tablets in the personal space, as well as in the workplace. Screening questions were developed to ensure that respondents matched our target sample frame. To have sufficient power to detect small effects, a sample of at least 481 individuals from our sampling frame was required (Cohen 1992).

Consistent with other IS studies (Ayyagari et al. 2011; Roberts and Grover 2012), we used a market research company to recruit and administer the online survey to a representative sample of tablet users. 980 individuals accessed the online survey. Of these, 500 individuals matched the target sample frame and completed the survey. 174 individuals did not fully complete the survey and 306 were disqualified for either not meeting the screening criteria or failing quality checks embedded within the survey.

Measures were either newly developed (e.g., extended use and extent of use) or adapted (e.g., subjective and physical wellbeing) based on existing scales (see Appendix A; Table A1). Items measuring subjective and physical wellbeing were taken from the "PERMA profiler" (Butler and Kern 2013), which asks individuals about their emotions, engagement, relationships, sense of meaning, accomplishment, and happiness. By combining these items into an index, one has a sense of subjective wellbeing for an individual (Butler and Kern 2013). The PERMA profiler also contains separate items to measure individuals' perceptions of physical wellbeing.

To capture extended and extent of use, the authors identified a list of ways in which all tablets could be used. A 5-point Likert scale (where 1 = not all during the past six weeks; 5 = very many times, during the past six weeks, and "Not Used" = never on a tablet) was used to measure extent of use. Extended use was measured using a simple count of all the ways in which a respondent had ever used a tablet. To rule out potential confounds in subsequent data analysis, control variables, which included age, gender identity, level of education, occupation, race, and tablet experience, were also collected.

Data Analysis

As shown in Table 1, the sample contained approximately similar numbers of male and female respondents, with nearly 85% of the respondents being 22-54 years old, and 64% having at least a Bachelor's degree.

The research model was evaluated using SmartPLS 2.0.M3 (Ringle et al. 2005). In the IS domain, partial least squares (PLS) path modeling techniques have been recommended when the primary purpose is to explore relationships between predictors and outcomes, and to test path-specific hypotheses, rather than to confirm the plausibility of a theory-based structural model (Gefen et al. 2000). Since our model is exploratory and contains single indicator measures of IT use and wellbeing, PLS is an appropriate technique for conducting preliminary tests and allows for good approximations of the relationships identified in this study.

Table 1. Demographics of Respondents

Variable	Value	Freq.	%	Variable	Value	Freq.	%
Gender Identity	1: Man	222	44.4	*Occup-ation*	1: Professional and technical workers	166	33.2
	2: Woman	274	54.8		2: Executive and managerial workers	95	19.0
	3: Transgender	3	0.6		3: Administrative, administrative support, and clerical workers	102	20.4
	4: Do not identify as man, woman, or transgender	0	0.0		4: Marketing and sales workers	27	5.4
	5: Prefer not to answer	1	0.2		5: Service, sport, and recreation workers	15	3.0
Age	1: 19-21 years old	5	1.0		6: Mechanics, installers, and repairers	7	1.4
	2: 22-34 years old	202	40.4		7: Workers in transport and communication occupations	5	1.0
	3: 35-44 years old	120	24.0		8: Craftsmen, production-process, and construction workers	23	4.6
	4: 45-54 years old	101	20.2		9: Farmers, fisherman, hunters, loggers, and related workers	0	0.0
	5: 55-64 years old	63	12.6		10: Miners, quarrymen, and related workers	0	0.0
	6: 65-74 years old	9	1.8		11: Workers not classified elsewhere	60	12.0
Education	1: Less than high school	2	0.4	*Race*	1: White or Caucasian	422	84.4
	2: High school	53	10.6		2: Black or African American	31	6.2
	3: Some college	70	14.0		3: American Indian or Alaska Native	2	0.4
	4: Associate's degree	55	11.0		4: Asian	29	5.8
	5: Bachelor's degree	215	43.0		5: Native Hawaiian or Other Pacific Islander	0	0.0
	6: Master's degree	80	16.0		6: Other race	11	2.2
	7: Doctorate or professional	25	5.0		7: I prefer not to respond	5	1.0
					Total Subjects		*500*

Since this was a cross-sectional survey, Harman's single-factor test was performed to examine the potential for common method bias. No single factor accounted for more than 30% of the variance, well under the recommended guideline that no single factor should account for more than half of the variance.

Given that all measures were indices, traditional approaches for validating reflective constructs did not apply. We assessed the reliabilities of the indices measuring subjective and physical wellbeing, which had Cronbach's alphas of 0.91 and 0.93 respectively. Table 2 shows the correlations among the constructs (AVEs are not reported since each construct represents an index). Our sample provided sufficient statistical power to detect even a small effect size and heuristics aided our interpretation of the correlation coefficients. Cohen (1988) suggested that a correlation of 0.50 is strong, 0.30 is moderate, and 0.10 is weak. Values below these thresholds are typically viewed as having no effect. All correlations among the study variables were 0.10 or higher suggesting relationships between IT use and wellbeing.

To determine the significance of the results as well as calculate standard errors (needed for mediation testing), we used bootstrapping in PLS 2.0. For the number of samples, we used a conservative approach (i.e., twice the sample size), but also found similar results when using more recent recommendations when we performed bootstrapping with 5,000 resamples of the data (Hair et al. 2014).

Table 2. Reliability and Correlations					
	Cronbach's Alpha	1	2	3	4
1. Extended Use	n/a	1			
2. Extent of Use	n/a	0.44***	1		
3. Subjective Wellbeing	0.91	0.16**	0.30***	1	
4. Physical Wellbeing	0.93	0.10*	0.23***	0.52***	1

* = p < 0.05; ** = p < 0.01; *** = p < 0.001

Results

We tested our hypotheses using a causal step approach (Baron and Kenny 1986). First, we tested a model (Model 1) that excluded the relationship between subjective and physical wellbeing. This established direct relationships between IT use (extended and extent of use) and wellbeing (subjective and physical), supporting hypotheses 1a, 1b, 2a, and 2b. For Hypotheses 1a and 1b, extended use ($\beta = 0.167$, $p < .01$) and extent of use ($\beta = 0.356$, $p < .01$) exerted significant influences on subjective wellbeing. For Hypotheses 2a and 2b, extended use ($\beta = 0.076$, $p < .05$) and extent of use ($\beta = 0.207$, $p < .01$) demonstrated positive, significant relationships with perceived physical wellbeing. Model 1 explained 16.2% of the variance in subjective wellbeing and 8.2% of the variance in perceived physical wellbeing.

Having established direct relationships between the independent variables (extended and extent of use), the mediator variable (subjective wellbeing), and the ultimate dependent variable (physical wellbeing), we tested the full model (Model 2), which included the relationship between subjective wellbeing and physical wellbeing. For Hypothesis 3, subjective wellbeing ($\beta = 0.505$, $p < .01$) demonstrated a positive, significant relationship with perceived physical wellbeing. The direct relationships between the IT use variables and physical wellbeing became non-significant when subjective wellbeing was introduced as a mediator. Model 2 explained 16.2% of the variance in subjective wellbeing and 29.6% of the variance in physical wellbeing. Separate Sobel tests examined if subjective wellbeing was mediating the relationship between Extended Use and Physical Wellbeing and Extent of Use and Physical Wellbeing. Both Sobel tests were significant ($p < 0.01$ for extended use and extent of use) suggesting Subject Wellbeing is significantly mediating each relationship. Thus, hypothesis 4 was also supported. The results of Model 1 and Model 2 are shown in Table 3. Significant relationships in the full model are shown in Figure 2.

Table 3. Model Results				
	Model 1		Model 2	
	Subjective Wellbeing	Physical Wellbeing	Subjective Wellbeing	Physical Wellbeing
Extended Use	0.167**	0.076*	0.167**	-0.008
Extent of Use	0.356**	0.207**	0.356**	-0.027
Wellbeing	n/a	n/a	n/a	0.505**
Age	-0.025	-0.114*	-0.025	-0.101*
Gender	-0.047	-0.037	-0.047	-0.013
Education	-0.020	0.061	-0.020	0.071
Race	-0.028	0.016	-0.028	0.03
Occupation	-0.033	-0.046	-0.033	-0.029
Tablet Experience	-0.026	-0.054	-0.026	-0.041
R^2	16.2%	8.2%	16.2%	29.6%

* = p < 0.05; ** = p < 0.01

While age had an inverse relationship with physical wellbeing, no other control variable was significantly related to either subjective or physical wellbeing. Education's lack of effect contrasts with prior research (Diener and Seligman 2004) but could be explained by the relatively high education level of respondents. It is also possible that other indicators of socioeconomic status, such as income, material goods, power and/or social networks, mediate the effects of occupation, race, education, and gender identity.

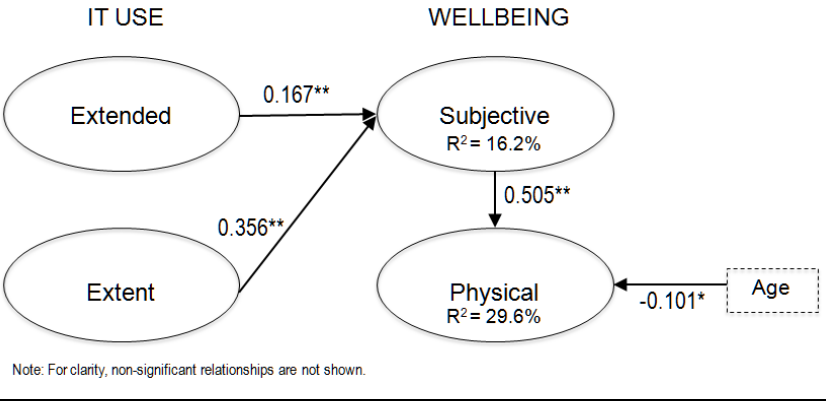

Figure 2. Significant Relationships Found in the Full Model (Model 2)

* = p < 0.05; ** = p < 0.01

Discussion

Our results indicate that extended use and extent of use exert direct effects on subjective wellbeing, which in turn influences individuals' perceptions of their physical wellbeing. Compared to the control variables, the variance explained by extended use and extent of use is quite high, suggesting that, unlike occupation, race, education, and gender identity, the effects of IT use are not mediated by other factors. This supports the view that in today's digital world, IT has become a direct enabler of subjective wellbeing.

While there have been ambiguous findings in research on IT and development, where quantitative studies often fail, and qualitative studies often find, a significant relationship between perceptions of IT and wellbeing, our quantitative study found a significant relationship between actual IT use and wellbeing. These findings may be helpful to researchers concerned with questions such as, does providing individuals with better or more technology access lead to improved outcomes for the social groups in which those individuals participate? Although the answer to this question is complex, prior work shows that happier people are more inclined to trust and to contribute to their communities (Diener and Seligman 2004). Though providing access to IT, in itself, does not ensure social benefits, promoting meaningful IT use among individuals could, in turn, lead to beneficial outcomes for the group or community in which they participate. Additionally, within for-profit organizations, higher wellbeing has been associated with higher performance, better customer service, and higher productivity (Bevan 2010; Rucci et al. 1998). Thus, for example, implementing technologies and IT policies aimed at providing flexibility in when, where, and how people work could promote happiness among employees and lead to higher profits for organizations.

As boundaries between personal and professional use of IT become increasingly blurred, researchers may also wish to consider how wellbeing arising from IT use in the personal space influences employees' feelings of technostress and/or attitudes toward new systems implementations in the workplace. Does the degree of infusion (in terms of feature use) into social and personal routines always provide benefits to the user and/or employing organizations, or are the effects non-linear? Future research may also explore whether individual effects differ from social effects. The current study takes a positive perspective on the relationship between IT use and wellbeing. However, one could argue that even if an individual profits from tablet usage (for example) within a society of networked table users, this does not necessarily imply that the same individual would not have been as happy, or even happier, without a tablet in a pre-tablet society. More importantly, if individual wellbeing is tied to networked IT, arguably a lack of participation could detach people from social relations and institutions, negatively affecting their wellbeing. Moving

forward, research is needed that addresses both positive and negative implications of the relationships uncovered here, since the unwitting marginalization of those who do not participate (as expected) in IT use may offset any positive gains from a new technology

Limitations and Future Research

Limitations of this study should be acknowledged, since these are helpful in identifying opportunities for future research. First, while the amount of variance explained in subjective wellbeing is relatively small (i.e., R^2 = 16.2%), there is value in these findings. Cohen (1988) emphasized that while heuristics aid interpretation of effects sizes, these are not firm rules by which to evaluate research but must be considered in conjunction with the research context. In the current research, the variance explained was uncovered in an exploratory study, which investigated IT use as a determinant. Our findings may stimulate further research in this area and may encourage other studies that explore IT use as a means to something, rather than as an end in its own right.

Second, while tablet experience was not significant as a control variable, there is potential to examine more in-depth questions related to this topic. For example, this study examined tablet use by individuals in their personal and work lives but did not make any distinction between use in different contexts. Future studies may wish to explore whether experience and contexts of use interact to influence wellbeing.

Third, this study focused on employed adults and controlled for certain factors like age, gender identity, education, and occupation. The PERMA instrument is robust in that it was not influenced by these control variables. To ensure that the independent variables were not suppressing the impact of the control variables, we ran the model with only the control variables as predictors of subjective and physical wellbeing. The only significant predictor was age, which had an inverse relationship with physical wellbeing, consistent with the full model. In all, the control variables only explained only 1.2% of the variance for subjective wellbeing and 3.5% of the variance for physical wellbeing. However, it is possible that these results may have been different if we had included retirees or unemployed individuals in our sample, which suggests another area for further research. Additionally, while this study found a direct link between IT use and subjective wellbeing, we cannot rule out that other factors could have influenced the results. In the future, researchers may consider the role of alternate indicators of socioeconomic status, such as income, material goods, power and/or social networks.

Fourth, recent work suggests that IT use fosters individuals' self-identification with IT (referred to as IT identity (Carter and Grover 2015)). When people are able to act in accordance with the identities they claim, their views of themselves are confirmed, which promotes a positive sense of self. This implies that the relationship between IT use and wellbeing may be partially mediated by a person's so-called IT identity. Further, incorporating IT identity in models of wellbeing, whether in the workplace, in IT for development contexts, or more generally, could offer more nuanced understanding of the relationship between IT and wellbeing. For example, researchers may wish to investigate feedback effects that are likely to exist between IT use, IT identity, and subjective wellbeing.

Finally, given this study's rich measurement of extended and extent of use, we aim to analyze the data in more interesting and complex ways. For example, by performing a cluster analysis, we could see if there are certain functionalities that offer affordances that may explain the interesting relationships between individuals' use of tablets, their subjective wellbeing and feeling healthy.

Conclusion

Wellbeing is an important phenomenon associated with many individual, organizational, and social benefits. As IT becomes increasingly embedded in all aspects of everyday life, it seems reasonable to consider what role, if any, IT use plays in influencing a person's evaluations of his/her subjective and physical wellbeing. To that end, this study explores the relationship between use of IT in individuals' daily lives and their perceptions of wellbeing. Results of this exploratory study indicate that extended use and extent of use directly influence individuals' subjective wellbeing and exert indirect effects on physical wellbeing. More research is needed to advance understanding of the phenomenon. Developing understanding of these relationships could facilitate efforts to engage people meaningfully with IT and support improvements in wellbeing for individuals and society.

Appendix A: Items measuring Extended and Extent of Use

Table A.1 provides items used to measure subjective wellbeing, physical wellbeing, extended use and extent of use. The authors developed the list of functionalities to examine the full range of features available on a tablet device.

Table A.1. Measurement Items

Construct	Items
Subjective Wellbeing (PERMA)	How much of the time do you feel you are making progress towards accomplishing your goals?
	How often do you become absorbed in what you are doing?
	In general, how often do you feel joyful?
	How often do you achieve the important goals you have set for yourself?
	In general, how often do you feel positive?
	How often are you able to handle your responsibilities?
	How often do you lose track of time while doing something you enjoy?
	To what extent do you feel loved?
	To what extent do you generally feel you have a sense of direction in your life?
	How satisfied are you with your personal relationships?
	In general, to what extent do you feel contented?
	Taking all things together, how happy would you say you are?
Physical Wellbeing (Health)	In general, how would you say your health is?
	How satisfied are you with your current physical health?
	Compared to others of your same age and sex, how is your health?
Extended Use: Count of all the ways in which a respondent has ever used a tablet device *Extent of Use:* Sum of the degree to which the respondent has used a tablet device within the past six weeks.	To create or manipulate digital images
	For creating presentations
	For creating or editing audio and video
	To play digital music files
	To play single-player games
	To play networked games over the Internet or a LAN
	To read newspapers or magazines
	To look up reference information
	To browse for general information
	To listen to sound recordings
	To buy or sell things online
	For internet banking services or paying bills online
	To send or receive email
	For instant messaging /chat
	To maintain your own profile on a social networking site
	To read other people's comments on a social networking site
	To respond to other people's comments on a social networking site
	To download podcasts
	To publish podcasts

	To download and/or share MP3 files
	To share photographs
	To make voice calls
	To make VoIP calls (e.g. Skype)
	For web-conferencing
	For sharing documents/files with others
	To maintain your profile on a professional networking site (e.g. LinkedIn)
	To access others on a professional networking site (e.g. LinkedIn)
	To maintain your own blog or vlog
	To read other people's blogs or vlogs
	To comment on blogs or vlogs
	To contribute to the development of a wiki
	As an address book
	As a diary
	As a personal organizer or calendar
	For location-based services, such as getting directions

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