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Stress Related Issues Due to Too Much Technology: Effects on Working Professionals

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Abstract

The purpose of this exploratory study was to determine stress related issues on working professionals within a retail organization and Information Communication Technology (ICT). This type of stress is known as "technostress." Employees within four job levels; entry, middle, management and upper management were surveyed to learn what types of Information Communication Technologies they use in the workplace and what kinds of stress they experience because of these technologies (Brod, 1984; Ayyagari, Grover, and Purvis, 2011). Previous studies have shown that information communication technologies may be related to stress, but the specific kinds of stress related issues have not been fully researched. The purpose of this study was to examine the relationship between technology and stress and to find out what the stress related issues are, to what extent does "technostress" affect our personal lives and overall to gain a better understanding of the consequences of too much technology use. Findings suggest "Techno-insecurity" (individuals who feel insecure in their level of understanding of information communication technologies) is not supported… the opposite of this condition was found, 73% agreed or strongly agreed they have adequate skills to understand the technology they are using. Thirty-eight percent of the respondents almost always feel anxiety when they do not have their cell phone on their person, and 58% always check their cell phone the instant they get an alert for an incoming text or email. It was also found that "blurring boundaries" exist between the work-home environments. Overall, results corroborate that the phenomenon known as "technostress" exists.

Key words: information, communication, technologies, ""technostress"", stress related issues, working professionals

Statement of the Problem

Academic literature and popular press suggest information communication technologies are responsible for increased stress levels in individuals, known as ""technostress"" (Ayyagari, Grover, and Purvis, 2011). Information communication technologies involve cell phones, pagers, BlackBerry's®, laptops, Internet, voicemails, instant messaging, videoconferencing, teleconferencing and other work specific technologies.

The term "technostress" was coined in 1984 by clinical psychologist Craig Brod, who described it as a modern disease caused by one's inability to cope or deal with information communication technologies in a healthy manner. Stress in the workplace is recognized as contributing to a litany of health and quality-of-life issues that could have far reaching consequences (Wikipedia, 2012).

Technology gives us tremendous freedom to do business globally, where people can potentially be reached anywhere and anytime and feel the need to be constantly connected. The regular work-day is extended, office work is done at all sorts of hours, and it is almost impossible to "cut away". While constant connectivity via new technologies might have benefits for some, it also comes at the cost of blurring work-home boundaries by providing increased access to work and to individuals. Constant connectivity provided by information communication technologies invades on the personal space of individuals and creates the challenge of managing a work life balance.

Are working professionals struggling with a work life balance? What are the specific stress related issues they are experiencing due to the increased use of information communication technologies at work and in their lives? Overall, do information communication technologies affect their personal life in a negative way? These are the questions sought to find answers to.

Review of Related Literature

Many studies have been done on "technostress" and the contributing factors. Monideepa Tarafdar, Qiang Tu, T.S. Ragu-Nathan, and Bhanu S. Ragu-Nathan, authors of the journal article *Crossing to the Dark Side: Examining Creators, Outcomes, and Inhibitors of "technostress"* (2011) state that emerging information systems (IS) for work are affecting professional users.

Their study focused on data collected from IS users (N = 233) from two U.S. firms, and they sought to explain why "technostress" is created, how it varies across individuals and what its adverse consequences are. About 80% of the respondents in this particular study felt that workplace IS has made their work more stressful through higher technology-use.

These authors stated that users experience "technostress" due to information overload, IS invasion of personal life, inability to deal with uncertainty and complexity of IS, and a sense of insecurity due to rapid advances in IS ."technostress" may significantly reduce job satisfaction, commitment, innovation, and productivity. Users can quickly and easily access information, work from anywhere, and share information and insights with colleagues in real time. But these technologies can make them feel compulsive about being connected, forced to respond to work-related information in real time, trapped in almost habitual multitasking and left with little time to spend on sustained thinking and creative analysis. These latter outcomes constitute the phenomenon of "technostress."

These authors were the originators of the five "technostress" creating conditions. One is "Techno-overload" which describes situations where use of IS forces professionals to work more and work faster; trying to do more in less time, and experiencing tension and anxiety. Second is "Techno-invasion" which describes situations where professionals can potentially be reached anywhere and anytime and feel the need to be constantly connected. The regular workday extends into family hours including vacations. Due to this kind of continual connectivity, individuals feel

attached to these technologies and experience intrusion on their time and space. Therefore, they experience frustration and stress.

Thirdly is "Techno-complexity" which describes situations where the complexity associated with IS forces professionals to spend time and effort in learning and understanding how to use new applications. Users can find the variety of applications and functions intimidating and difficult to understand, and consequently feel stressed. The fourth is "Techno-insecurity" which emerges in situations where users feel threatened about losing their jobs to other people who have a better understanding of new IS. It is common to find newer, often younger, recruits who come equipped with a higher comfort level. Existing professionals may thus feel insecure or cynical about IS, leading to tension and stress.

Lastly is "Techno-uncertainty" which refers to contexts where continuing changes and upgrades to IS do not give professionals a chance to develop a base of experience for a particular application or system. They find this unsettling because their knowledge becomes rapidly obsolete. Although they may initially be enthusiastic about learning new applications and technologies, constant requirements for refreshing and updating eventually create frustration and anxiety.

These findings were collected from structured interviews and surveys. Survey questions described potential stressful situations in the context of computer use. All items were measured on a five point Likert scale.

Overall, the authors findings of the five "technostress" creating conditions are often referred to in other studies and have become the basis of "technostress" research.

In the journal article, *Email as a Source and Symbol of Stress* authors Barley, Meyerson and Grobal (2010) review the increasing volume of email and other technological communications that are regarded as a growing source of stress in people's lives. Research suggests that this new

media provides people additional flexibility and control by enabling them to communicate anywhere at any time. However, the authors' research builds theory that unravels this contradiction. Instead, email and other forms of communication led people to feel overwhelmed and unable to cope with the stress.

The authors specifically ask how email and other communication technologies contribute to the stress people experience. The authors explain their "study examines whether and how communication technologies evoke feelings of stress among users…and to build theory about the relationship between communication technologies and people's experience of stress in daily life" (Barley, Meyerson & Grobal, 2011). Murrary & Rostis's study (as cited in Barley, Grobal, & Meyerson, 2011) state that email, cell phones, pagers and other mobile devices cause stress because they make it easier for work to spill into times and places formerly reserved for family and self.

Within *Email as a Source and Symbol of Stress* data was collected from employees from October 2001 to March 2002 (N = 79) from an international engineering company. Participants were from three departments to represent different tasks and responsibilities. Quantitative data was collected through communication logs and surveys. Also, they completed a brief questionnaire that asked demographic questions, what kind of communication devices they used and included items that assessed the level of stress they experienced and their capacity to cope with the demands of work.

Qualitative data was collected through interviews when logs were completed. Of the 79 respondents 40 diverse members were interviewed. Authors designed an interview of open ended questions that did not include specific questions about stress or overload. For example, "tell me how you think about using email" often triggered emotional responses about overload.

Data was analyzed and measured based on 3 dependent variables (time worked, overload, and coping), 2 independent variables (number of events that occurred during the two logged days and the total time spent on those events) and demographic variables. Results showed that respondents spent 34% of their communication time in a combination of meetings and encounters. E-mail accounted for another 31%. Phone calls and teleconferences accounted for 16% and 14%, respectively, with the remaining 5% of their communication time allocated across the use of pagers, voicemail, videoconferences, and instant messaging technologies.

The results concurred with other research that the more email one handles the longer they work and the more overloaded they feel. However, the authors data contradicts literatures assumption that the relationship between email and stress is based on the amount of time spent working. The author's analysis suggests email is related to stress regardless of how much time people work (Barley, Meyerson & Grobal, 2011).

As mentioned by the authors, the study was completed in 2002, before BlackBerrys® were widely used. The mix of media used today is different and more advanced; therefore a more recent study may reveal more adverse results. Also, this study collected data from employees of an engineering firm; samples drawn from other industries might reveal different results as well.

Three of the four authors of *Crossing to the Dark Side: Examining Creators, Outcomes, and Inhibitors of "technostress"* (2011), Monideepa Tarafdar, Qiang Tu, T.S. Ragu-Nathan collaborated before in the article *Impact of "technostress" on End-User Satisfaction and Performance* (2010), they further studied organizational use of information and communications technologies (ICT) and how they are increasingly resulting in negative cognitions in individuals, such as information overload and interruptions. This phenomenon is also known as "technostress".

The objective of this paper was to understand the negative effects of "technostress" and secondly to identify mechanisms that can lessen these effects.

The authors' research supported previous studies that "technostress" is a result of application multitasking, constant connectivity and information overload. What is the potential effect of these negative cognitions? The blurring of work home boundaries leads to decreased job satisfaction which leads to poor decision making and overall poor performance at work.

Strains due to "technostress" can be *psychological* or *behavioral.* Psychological strains are emotional reactions to stressor conditions and include, among others, dissatisfaction with the job, depression, and negative self-evaluation. Behavioral strains include reduced productivity, increased turnover and absenteeism, and poor task performance (Tarafdar et al., 2010).

The authors tested "technostress" creators, end-user satisfaction, and end-user performance in a survey with employees at a government firm (N = 233). Results from these surveys supported their hypothesis as results were found to be significant at the 0.05 level. Their findings showed that further to reducing job satisfaction, organizational commitment, job productivity, and increasing role stress, factors that create "technostress" negatively affect ICT users' satisfaction with the applications and systems they use and inhibit their ability to use them for productive and innovative tasks. That is, not only does "technostress" have adverse behavioral and psychological outcomes but it also has negative outcomes in the end-user computing domain.

Contemporary workers heavily use communication information technologies (CIT; e.g., e-mails, mobile phones) at work and home. However, little research has investigated the effects of CIT use on work-family interference. Based on boundary theory Park and Jex (2011) studied employees' boundary creation around CIT use as a potential means to reduce psychological work-family interference. Based on the data from office workers (N = 281), results supported that boundary creation around CIT use… mediated the relationships between individual factors and

psychological work-family interference. The findings suggested that maintaining work and home domains by creating more boundaries around CIT use can be beneficial for employees' psychological work-family interference.

In Park and Jex's (2011) article *Work Home Boundary Management Using Communication and Information Technology*, the authors describe how advancements in communication and information technologies (CIT; e.g., smart phones, mobile Internet access) have enabled workers to be connected to work and family regardless of their physical locations, which has served to blur the boundaries between work and family/home domains. Prevalent use of CIT, however, has been both praised and criticized for blurring these work and family boundaries. An advantage of CIT use includes employees' increased ability to coordinate their work and family roles, such as a working parent caring for a sick child at home while simultaneously working through use of CIT.

On the other hand, employees can experience greater work and family distractions due to frequent use of CIT to perform work-related roles at home and family-related roles at work. van Steenbergen, Ellemers, & Mooijaart's study (as cited in Park and Jex, 2011) stated, frequent psychological work-family distraction/interference has been shown to be related to various strains including emotional exhaustion, depressive symptoms, and per Cardenas, Major, & Bernas (as cited in Park and Jex, 2011), both low life and low job satisfaction.

The authors aim was to fill the research gap by exploring boundary creation around CIT use as a potential mechanism linking individual differences (work-home segmentation preferences, role identifications) to psychological work-family interference. Additionally, they sought to provide practical insights for employees and employers who hope to reduce the stress associated with psychological work-family interference under the highly blurred work-home boundaries.

Park and Jex's (2011) boundary theory suggests that individuals construct physical, temporal, or psychological boundaries between work and family to manage multiple roles in their lives.

According to the theory, people segment or integrate the two domains by using strategies and practices. Segmentation refers to keeping aspects of work and family separate from each other, whereas integration refers to merging and blending the aspects of the two domains. As technology is deeply rooted in our daily lives, individuals may develop their own rules or strategies for using CIT for cross-role enactment (e.g., working at home using computers, planning family vacations at work browsing the Internet).

For this study the target sample was full-time employees (N = 281) working in an office setting to prevent any contaminating factors, such as working from home or away from the office. A survey was created to measure preference for segmenting work from family and to identify the CIT they use and for what purpose.

Results support the notion that people with a stronger segmentation preference are likely to create more boundaries around CIT use for cross-role involvement (impermeable boundaries), which in turn was associated with less frequent experiences of psychological work-family interference. These findings suggest that people with a segmentation strategy are less likely to experience psychological work-family interference. Individuals who experience the stress associated with frequent work-family distractions may desire to create more boundaries around CIT use.

As rapid advancements in CIT are expected to continue to blur the work and home domains, work-home boundary management using CIT becomes an ever more prominent issue for employees, employers, and researchers. Park and Jex (2011) hope their study can be regarded as a preliminary step in exploring the role of one's technological boundary work in reducing dysfunctional cross-role interruptions.

Ayyagari, Grover & Purvis (2011) in their article *Technostress: Technological Antecedents and Implications*, state it is imperative for individuals to constantly engage with information communication technologies in order to get work accomplished. Despite the influence of stress on health costs and productivity, it is not very clear which characteristics of ICTs create stress. Their research proposed that certain technology characteristics—like usability, intrusiveness and dynamism are related to stressors (work overload, role ambiguity, and invasion of privacy, work–home conflict, and job insecurity).

Data from working professionals (N =661) was obtained through surveys and selected interviews and was then analyzed. The results clearly suggest the prevalence of "technostress" and work overload and role ambiguity were found to be the two most dominant stressors, whereas intrusive technology characteristics were found to be the dominant predictors of stressors.

The results indicated that approximately 35% of the strain is explained by the proposed stressors described above. 28% of the variance in work–home conflict was explained by technology "presenteeism." In the context of this present study, the authors defined "presenteeism" as the degree to which the technology enables users to be reachable. These findings support the arguments that constant connectivity provided by ICTs encroaches on the personal space of individuals. In the present networked world, the results indicate that it is a challenge to maintain a work–life balance. Technology characteristics from usability features (usefulness, complexity, and reliability), dynamic feature (pace of change), and intrusive features (presenteeism) were proposed as antecedents to work overload. The findings suggest that 42.6% of variance in work overload is explained by these factors.

There are some very interesting statements within this article, such as; consider the use of mobile e-mail devices like BlackBerrys® and iPhones®. Initial enthusiasm in having anywhere e-mail and expected productivity gains have driven the exponential growth in these devices.

However, BlackBerrys® are now referred to as "CrackBerrys" in popular literature and even initial academic research on the use of these devices identifies that there can be unintended consequences like stress and antisocial behavior (Ayyagari, Grover & Purvis, 2011).

Another interesting point is that Globalization and the fierce competitive nature of business has created lean organizations with cultures that reward people who work exceptionally hard, spend longer hours at work, and are connected to the organization 24/7 via ICT. (Ayyagari, Grover & Purvis, 2011).

Overall, the results of this study confirmed previous research that "technostress" is real and open up new avenues for research by highlighting the incidence of "technostress" in organizations and possible interventions to alleviate it. Ayyagari, Grover & Purvis (2011) imply that further studies are needed to gain a better understanding of the consequences of technology use as the issue of stress *due* to ICTs has not received much attention.

Method

Stress and frustration are commonly found in previous studies, but the specific stress related issues have not been identified. As Tarafdar et al., (2010) stated, understanding these negative aspects is an important step in managing them but research is scarce. Ayyagari, Grover & Purvis (2011) mentioned that the issue of stress *due* to ICTs has not received much attention. Overall, researchers imply that further studies are needed to gain a better understanding of the consequences of technology use.

Therefore, the main purpose of this study was to identify these stress related issues in working professionals. Using SurveyBuilder.com as the tool to collect data an online questionnaire consisting of 30 questions was developed. Of the 30 questions 5 were demographic to collect qualitative data such as gender, age, college degree, job level and married or not married. The

balance consisted of 25 questions pertaining to the topic and 5 of these were not mandatory open ended questions; these provided opportunity for the subject to provide additional feedback.

Items in the questionnaire used a five-point Likert scale to determine the subjects technological skills, kinds of technology used in the workplace and the overall work-home balance. Scales were measured by 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, and 5=Strongly Agree. Another version of a Likert-type scale was used to determine what the subjects experience due to the use of technology. This scale was measured by 1=Never, 2=Rarely, 3=Every once in a while, 4=Sometimes, and 5=Almost always. There were 4 yes and no questions and 2 questions asked the subject to check all that applied. Scattered within were the 5 open ended questions.

Sample

The sample was selected following the same approach as Ayyagari, Grover & Purvis (2011), whereas "to truly understand the impact of ICTs on individuals in work settings, key attributes of the population should be individuals who work full-time and use ICTs." Therefore, the population selected should be the working adult population who are business users of ICTs. However, unlike Ayyagari, Grover & Purvis (2011) this study's target population was focused on working professionals within a retail organization and the data consisted of responses from individuals (N = 52).

Timeframe, data collection and analysis

With the consent of the selected retail company, employees across 4 job levels in numerous departments were selected. The selected individuals were sent an email that mentioned my position as a graduate MBA student at Johnson & Wales University, the purpose of the study

and expected timeframe to complete the questionnaire. The email contained a survey hyperlink asking for their participation and opinion on the topic. Participation was strictly voluntary and a guarantee was made that their responses were both anonymous, confidential and that their job or the company could not be identified.

A total of 113 individuals received this email, and within 1 week 58 (51%) responded to the questionnaire. Of the 58 responses, 6 (5%) respondents did not finish the questionnaire, and therefore were excluded from the study. After removing these questionnaires, the final adjusted response rate of valid questionnaires was 52 (46%).

Analysis

Data on Surveybuilder.com was broken down into pie charts, bar graphs, and overall percentages. Open ended responses were in the form of a list that was easy to read. Out of the 52 valid surveys 46% were middle level positions, 40% management, 10% entry and 4% were top management. 71% were female and 29% male with 37% of the population ranging between the ages of 30-40 years of age, 29% between the ages of 20-30, 27% between the ages of 40-50 and a mere 7% between the ages of 50-60. The final demographic results showed 56% were married and 94% had a college degree.

Data collection was focused on working individuals and 100% of the respondents work full time and 94% normally work more than 40 hours a week. All respondents (100%) own information communication technologies (ICTs) such as cell phones, pagers, BlackBerrys®, laptops etc. and 98% confirmed that they use all the following ICTs at work; email, voicemail, instant messaging, video conferencing, teleconferencing, and Internet.

One of the five "technostress" creating conditions developed by Tarafdar et al., (2011), "Techno-insecurity" describe individuals who feel insecure in their level of understanding of information communication technologies. This study found individuals who are the opposite of

this condition, 44% agree they have adequate skills to understand the technology they are using, 29% strongly agree, 17% were neutral whereas only 10% disagreed.

The data collected pertaining to the subject helped concur with previous studies that technology causes stress, frustration and anxiety in full time professionals. Data supports that individuals are attached and dependent on technology. 38% of respondents almost always feel anxiety when they do not have their cell phone on them, 37% sometimes feel anxiety and the balance were neutral. 58% always check their cell phone the instant they get an alert for an incoming text or email etc., 33% were sometimes and 9% every once in a while.

To further support other studies 52% strongly agreed with the statement that information communication technologies allow people to be contacted anywhere at any time and that this constant connectivity might have benefits for some, but comes at the cost of blurring boundaries between work-home. Another 38% agreed with this statement, 2% were neutral and only 8% disagreed. Respondents who agreed with this statement had the opportunity with an open ended question to state why they agreed. Table 1 shows some of the responses.

Table 1

Respondents who agreed to the statement: while constant connectivity might have benefits for some, it also comes at the cost of blurring boundaries between work-home.

I feel as though I am never out of work since I have a work blackberry. It is assumed workers look at their blackberry after hours and should respond at night, early morning and weekends. It is almost a competition among coworkers for who works harder by showing you are working afterhours.
Even if you don't respond to something you know that you received it and it can eat away at you if you haven't responded so you can check it off your list. Everybody wants to be responsive.
There is a sense of urgency that comes with people being able to reach you at all hours of the day/night. It prevents the home from being a place of escape, a safe space.
Having my work phone on all the time, I feel that I am on call 24/7. Even if I put it in my bag or out of the room, I am constantly making sure that I don't have an urgent email. For instance, at dinner one night my husband and I were discussing our day and in the middle of him talking I actually caught myself... pick up my phone and check email.

In addition 42% of respondents agreed and 10% strongly agreed with the statement that their significant others get frustrated with them for doing work at home. This provided another opportunity for respondents with an open ended question to state why they agreed. Table 2 shows some of the responses.

Table 2

Respondents who agreed to the statement: Does your significant other ever get frustrated with you because you are spending time at home doing work?

This is becoming a big problem. I just got married and it is hard to build a marriage while working days/nights/ and weekends.
Yes, at night I come home, walk the dog, eat dinner and open up the laptop to work for another few hours before I sleep. It isn't very fun to be around me at night because I am focused on work during weekdays. I have let work take over my personal life too much but it's almost expected in the work place.
General irritation when its dinner and I am on my blackberry...
He finds it annoying if I am on the phone yet he is guilty of the exact same thing.

Another invasion of the work-home balance is when taking a vacation. Do you enjoy the vacation or do you remain connected to work? 23% of respondents check email sometimes, whereas 21% almost always check email when on vacation, 21% every once in a while and the balance were rarely or never. Overall, 36% of respondents agree or strongly agree that the constant connectivity due to information communication technologies affect their personal life in a negative way. 35% were neutral towards this statement and the balance disagreed.

Several respondents who agreed with this statement stated why in another open ended question that was provided on the questionnaire. Table 3 shows some of the responses.

Table 3

Respondents who agreed to the statement: Does the constant connectivity due to information communication technologies ever affect your personal life in a negative way?

Even in social situations, occasionally will look down at my phone when texting someone and see that if I have e-mails I will start to read and respond to them.

Less time with family because I find myself on the laptop instead of with kids.

There are many times where I have had to decline dinners and date nights with the hubby due work.

We need to disconnect at some point and just enjoy life.

Technology has become a large part of our lives and the constant connectivity drives people to work faster and longer. 38% of respondents rarely take time away from their desks to enjoy a walk outside in order to clear their heads and 33% try to every once in a while. Only 12% sometimes get outside, 9% always do and 8% never do.

This lack of relaxation from technology is causing stress related issues. But what are these specific issues? Michaelene Conner (2012), author of the periodical *"technostress", A Sign of the Times*, stated that "The American Institute of Stress had released a growing body of evidence indicating that personal stress levels have risen significantly over the past two decades. Stress has invaded our lives on a physiological, sociological and psychological level…These Stressors turned out to be the very devices that we are told will make our lives more efficient and easier. These techno time-savers create unexpected mental and physical consequences."

Within this article the author goes on to list several symptoms of technological stressors such as feelings of memory loss, impatience with others, lessened ability to relax, headaches, stomach discomfort, back pain, increased heart rate and difficulty sleeping. However, the author does not provide any evidence to prove if these symptoms are true results of technological stress.

Several journal articles that I researched did not provide actual findings to support the stress related issues that they mentioned. Therefore, I took these symptoms and created questions to see if my subjects actually experience them and in addition, what else are they experiencing?

Subjects were asked if they ever feel emotionally and physically exhausted after a long day at work and 58% agreed, 31% strongly agreed, 6% were neutral and 6% did not agree. The symptoms provided by Michaelene Conner (2012) were listed to the subjects and they could check all that applied. Table 4 shows the results.

Table 4

Subjects stress related issues compared to Michaelene Conner's list from "technostress", A Sign of the Times

Memory Loss	Strongly disagree	2%
	Disagree	8%
	Neutral	15%
	Agree	58%
	Strongly agree	17%
Impatience with others	Strongly disagree	0%
	Disagree	6%
	Neutral	10%
	Agree	71%
	Strongly agree	13%
Lessened ability to relax	Strongly disagree	2%
	Disagree	23%
	Neutral	27%
	Agree	33%
	Strongly agree	15%
Difficulty sleeping	Strongly disagree	4%
	Disagree	27%
	Neutral	27%
	Agree	25%
	Strongly agree	17%
Stomach discomfort	38%	
Back pain	42%	
Increased heart rate	55%	

Headaches	69%

The results support the symptoms given by Michaelene Conner (2012), with 75% experiencing memory loss, 84% experiencing impatience, 48% having a lessened ability to relax and 42% having difficulty sleeping at night. In addition to headaches, stomach discomfort and back pain I proposed 2 more symptoms that the respondents could choose from. Results indicated that 42% of respondents suffer from neck pain and 13% have elbow pain. From the above symptoms 6% selected that they experience none of these.

In addition to these symptoms I created another category and gave the respondents 5 more symptoms to choose from, again they could check all that applied. Table 5 shows these results.

Table 5

Due to "technostress" have you ever developed any of the following nervous habits?

Excessive scratching	10%
Break out in hives	8%
Over eating	33%
Cannot eat	23%

From the above symptoms 52% selected none of the above. Those that did not experience any of the above symptoms were asked what, if anything, they do experience. I also asked respondents to provide any additional comments regarding "technostress", whether it is something they personally experience or have witnessed. Table 6 shows these final results.

Table 6

Additional stress related issues due to "technostress"

We have no cellular service at our home because of our rural location. I have witnessed a friend unable to relax at my home and choose to end her visit early because she was not able to use her smartphone to text her boyfriend. Instead of enjoying the break from connectivity, my friend became more stressed from the lack of it.
I twirl my hair and drink a ton of water
Bite my fingernails
Shaky hands when stressed
Not a habit but I am exhausted, no energy or time for exercise or other things I used to enjoy.
I don't take the time to eat breakfast and I eat lunch at my desk so I can get more work done.
Severe teeth grinding
Being fidgety
Tired eyes

From the results shown in Table 6 there were several comments for nail biting, hair twirling and remarks about not getting enough exercise. Only one respondent stated that they do not experience any more or less stress due to technology and one other stated the interesting question, "is this a real thing? Technology (emails and phones) affecting my back/stomach/elbow/neck?"

Summary, Conclusions, and Recommendations

The results of this study help to support the fact that there is a phenomenon known as "technostress" and it is causing stress related issues. My study is a step in identifying the specific stress related issues and their impact on people's lives.

Obviously in order for this exploratory research to gain statistical significance a larger sample will need to be surveyed. As the sole researcher I was limited to an organization that I had access to and I only had 3 months to research, 2 weeks of which were spent creating a survey and obtaining data.

This study was an overall look at stress related issues, however; this study could be extended to examine the results by gender and age. Also, if time allowed I would have revised my questionnaire to include questions that would ask the respondents for their recommendations on how "technostress" could be reduced. The results indicate levels of stress but what can we do about it? There are many articles that discuss this and how it is up to us to slow down and evaluate what we need to do but there is no significant data. I recommend further research to include finding ways to alleviate the stress.

Font (2011), author of the article *It's a mad mad mad mad world*, states that "we text. We tweet. We chat. We e-mail. We blog. We post. We search. We update. We upload. We download. We video. We feed. We click. We surf. But do we ever stop? There is no question that we are more connected – personally and professionally – than our ancestors might have dreamed possible…But when does continuous access to a good thing become too much?"

This study helps prove that "too much of a good thing" can cause stress related issues. It is obvious that constant connectivity carries over into our personal lives. I hope my results contribute to emerging literature to deepen our understanding so we can find a way to lessen the amount of stress in our lives and find ways to prevent information communication technologies from running our lives.

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