RESEARCH REPORT:

The impact of technology on work/life balance

The impact of technology on work life balance and wellbeing

Introduction

The concept of work/life balance is changing rapidly: Work and home life are no longer two separate entities, placing competing demands on our resources but remaining distinct in terms of time and location (e.g. Duxbury & Smart, 2011). Instead, the term 'work/life merge' has been coined recently in popular culture to describe the dissolving of boundaries between our work and home lives. This 'merging' of worlds has been made possible by the arrival of mobile technologies and portable WiFi, particularly over the last 20 years, so work can be completed away from the office and we can maintain contact with our home lives even during a busy working day (Golden & Geisler, 2007; Shumate and Fulk, 2004).

In order to facilitate this transition in working patterns, it is important to identify the impact of these changes on workers and research has emerged over the last 2 decades which has started to elucidate this field. On reviewing the available research it immediately becomes apparent that using mobile technologies can offer both advantages and disadvantages to workers. A key advantage that emerges consistently is the flexibility mobile technology can offer, allowing workers to regulate the pace, location and time of day in which they conduct their work (Hill et al., 1996; Hill et al., 2001; Towers et al., 2006; and Middleton, 2008). Linked to this is the increased ability to accommodate work and fun into their lives (Towers et al., 2006) and being able to work longer before their job starts to encroach on their home lives (Hill et al., 1998). A further advantage perceived by workers is the potential for greater productivity and efficiency that using technology offers (Hill et al., 1998; Towers et al., 2006), and connected to this is the perceived benefit that technology facilitates access to colleagues when away from the office (Towers et al., 2006). Furthermore, one large survey of workers in the IT industry identified higher morale amongst staff (Hill et al., 1998) and the ability to manipulate impressions of employers by appearing to be 'dedicated' by being ever available (Bolino, 1999).

Numerous disadvantages have also been cited. Towers et al. (2006) identified that technology use can lead to increased expectations from employers and colleagues, as well as an increase in workload, and a sense of 'never being off duty'. The negative impact on family life has also been recognised, specifically that technology can lengthen the working day, encroaching on family life (Hill et al, 1996; Towers et al., 2006) and leading to conflict with family members (Middleton, 2008). A 2001 National Work, Family and Lifestyle survey identified that 50% of respondents believed mobile technology was increasing their stress levels, putting them at risk of developing mental health problems and taking time off work, and in connection with this, Green (2002) contributed the finding that employees' belief that they are being monitored by their employers via technology is sufficient for them to behave as if they are being monitored, increasing further stress levels. It may

be telling that the impact of technology on work/life balance specifically emerges as equivocal in one research study (Hill et al., 1998), was cited as a benefit by only 14% of respondents in another survey (Towers et al., 2006), and perceived as a factor allowing workers to improve their ability to balance their lives, until usage exceeds 3 hours, at which point it has a negative effect on work/life balance (Makinson et al., 2012).

Some researchers have also started to elucidate on which factors influence whether technology is beneficial or not to workers. Prasopoulou and Pouloudi (2006) identified that if an organisation has an expectation that employees should be available 24 hours a day, this generates more challenges for the worker, and an inability to separate work and home time can be problematic. This ability to segment these areas of life has been found to be essential for recovery time and wellbeing, and therefore stress prevention, for workers (Park et al., 2011). Demographic factors, such as age and gender, require further investigation in order to identify the impact these have on use and perceptions of mobile technology.

The research to date indicates that using mobile technology has as many advantages as it does disadvantages, and the impact on work/life balance remains unclear. Given the pervasiveness of use and potential for a detrimental impact on mental health, there is a need to identify how to obtain the most benefit from mobile technology without incurring the harmful impact. There is also a need to examine users' perceptions regularly as this is such a rapidly developing area, and practice, perceptions and impact do not therefore remain static. This leads us to the current study, which aims to identify the impact of mobile technology on work/life balance, and specifically aims to describe current usage within the population, the advantages and disadvantages of technology use as perceived by our population, and the impact of age and gender on usage and work/life balance.

Methodology

An online survey was developed and cascaded via social media, specifically Twitter, Linkedin and Facebook, in September and October 2014. Participants were social media users, aged 18+, who completed the survey online via a Survey Monkey link. Statistical analysis was conducted using Microsoft Excel 2007.

Results

A total of 235 individuals completed the survey.

Age (years)	%	number
18-34	27.90	65
35-54	54.94	128
55+	17.17	40
Gender (female)	%	number
	78.02	181
Employment status	%	number
Full time	72.34	170
Part time	20.00	47
Not currently employed	2.97	7
Self employed	2.97	7
Student	0.85	2
Retired	0.85	2
Dependents (yes)	%	number
	50.21	117

Table 1 Demographic data

Demographic characteristics
The demographic characteristics are displayed in Table 1. The typical respondent was aged 35-54, female, in full-time employment with dependents. Respondents were also asked to indicate their profession and these indicated the sample was drawn from a wide range of professional backgrounds, including IT, teaching, law, marketing, finance, accountancy and psychology.

Use of technology – devices used

Participants were asked which technological devices they used; the most frequently reported technological device was the mobile phone (95.9%), followed by the laptop (72.4%), the desktop (67.4%) and the tablet (52.9%), as outlined in Figure 1.
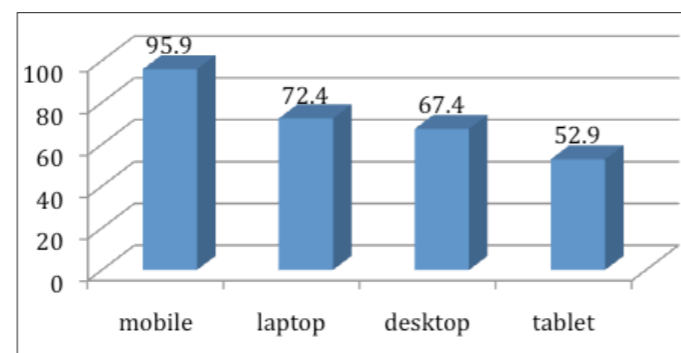

Figure 1 Technological devices used by respondents

Participants were asked how long they spent on

technological devices for work purposes outside of work hours and social purposes while at work. The results show that the largest percentage of respondents (33.94%) spend 1-2 hours working on mobile devices outside of work hours, and a similar number spend no time at all and more than 3 hours a day on technological devices (12.22% and 12.67%, respectively). In terms of social use while at work, by far the largest percentage of participants (50.91%) spend less than an hour on their mobile devices for social purposes while at work. 85% of respondents use their devices for social purposes at work at some point during the day. The results are outlined in Table 2.

Use of technology – pervasiveness of work message checking

Participants were asked whether they checked work messages in various different situations to identify the pervasiveness of mobile technology use for work purposes outside of work situations, see Table 3.

The most commonly cited situations for checking work messages were first thing in the morning (93.96%), in the evenings (89.44%) and on days off (81.99%).

Of the situations suggested, respondents were least likely to check messages during meals (19.46%).

Use of technology - advantages and disadvantages

Participants were asked to rate whether they agreed with, disagreed with or were undecided about a number of statements. Nearly half of the respondents (48.36%) disagreed that technology means they can't switch off from work. More than half of the respondents agree that mobile technology allows flexible working that helps stress levels (52.59%), while 42.72% disagree that it has a negative impact on their lives. Just over half (52.34%) of respondents disagreed that they feel

Situation	Yes (%)
In the evenings	89.44
On days off *	81.99
On holiday	52.17
First thing in the morning	93.96
During social events	30.20
During meals	19.46
In bed/overnight **	28.19

*Significant association with gender, p=.026
** Significant association with age, p=.03

Table 3 Situations in which mobile devices are used

anxious if they can't access work messages. Just over half of the respondents (50.23%) agreed that maintaining social contact helps reduce stress levels at work. Over 63% disagreed that they find it difficult to control the number of hours they spend on their mobile devices for work purposes. The largest number of people disagreed (44.17%) that they would like employers to take steps to prevent them over-using technology. The majority of respondents (59.44%) are happy with their work/life balance. These findings are outlined in Table 4.

Impact of age and gender

Chi square analyses were conducted to identify whether there were relationships between the demographic factors of age and gender and time spent on mobile technology, pervasiveness of message checking and perceived advantages and disadvantages of mobile technology. These have been identified within Tables 1-3 with the use of asterisks. There were 5 significant associations.

These were with **age** and:

- time spent on social technology, in that 18-34 year olds were more frequent users and the 35-54 age group spent less time.
- checking work messages in bed/overnight, in that the 18-34 and 55+ age groups are more

Number of hours	The use of technologies for work purposes outside of work hours (%)	The use of technologies for social purposes while at work (%) *
0	12.22	15.00
<1	27.15	50.91
1-2	33.94	21.36
2-3	14.03	6.36
3+	12.67	6.82

Table 2 Time spent on technological devices each day

Question	Agree (%)	Undecided (%)	Disagree (%)
Because of technology, I find it hard to switch off from work when I am at home or out with friends/family *	38.97	12.68	48.36
Using technology to stay connected to work out with my working hours has a negative impact on my life	35.68	21.60	42.72
Technology allows me to work more flexibly which has a positive effect on my stress levels	52.59	26.76	20.66
I feel anxious when I cannot access technology to check messages for work purposes	35.05	12.62	52.34
Using technology for social contact during the working day helps me cope better with pressures at work **	50.23	16.43	33.33
I find it difficult to control the amount of time I spend using technology for work purposes out with my working hours	27.27	9.09	63.64
I would like my employer to take measures to prevent the over-use of technology for work purposes	30.58	25.24	44.17
Overall, I am happy with my work/life balance at the moment	59.44	11.79	28.78

* Significant association with age, p=.03   **Significant association with age, p=.0005

Table 4 Advantages and disadvantages of mobile technology use

likely than 35-54s to check in this situation
- finding it hard to switch off, with the 35-54 age group finding it hardest to switch off
- social contact being a stress reliever at work, in that18-34s are much more likely than older age groups to find this beneficial.

and **gender** and:

- checking work messages on days off and gender, in that more women than men will check their work messages on days off.

Qualitative statements

Additional comments were requested from the respondents with the hope of elucidating further the results obtained. These comments reflected both advantages and disadvantages. One respondent highlighted that the ability to work flexibly was 'of more value than anything else' about their employment - and would mean more to them than a '£5k wage increase'. Another indicated that it's not the technology that leads to problems but 'personal attitudes and self control'. Furthermore, one respondent stated unequivocally that 'being able to work remotely' had actually 'enabled a greater work/life balance'. Conversely, three respondents also highlighted that they had recognised the negative impact of using technological devices beyond their working hours had had on them, and had taken

steps to change these practices, with positive effects. Two further respondents had been forced to stop checking emails for practical reasons and had also found this to be beneficial. One disadvantage, identified by 2 respondents, was that there are 'raised expectations of response times', and this can put pressure on people.

Discussion

This study aimed to identify the impact of mobile technology on work/life balance, and specifically aimed to describe current usage within the population, the advantages and disadvantages of technology use as perceived by our population, and the impact of age and gender on usage and work/life balance. The survey found that the use of mobile technologies, for both work and social purposes, was widespread, in terms of both number of hours and situation. In terms of advantages and disadvantages of mobile use, the respondents generally leaned towards there being more pros than cons, although this was not unequivocal. Specifically, more disagreed than agreed that technology does not allow them to switch off from work, that it has a negative impact on their life, that they feel anxious if they can't check work messages, that they find it difficult to control the number of hours spent on mobile devices and that they would

like their employer to take steps to prevent them over-using technology. Additionally, more agreed than disagreed that the flexibility of mobile use allows them to manage their stress levels, that social contact helps to reduce stress levels while at work and that they are happy with their work/life balance at present. Thus, although our sample reported high frequency use of mobile technology for work and social purposes, this generally seemed to have a positive impact on work/life balance and wellbeing. In terms of the impact of age and gender, 5 significant associations were identified. Herein, each of these areas will be discussed in further detail.

Use of technology – time spent on mobile technology

The results indicated that only a minority of workers use mobile technology for more than 3 hours a day (12.67%), the threshold at which previous research indicated mobile usage starts to have a negative impact on work/life balance (Makinson et al., 2012). So this may be an indication that users are able to regulate effectively their use of mobile technology to ensure it remains at a level where the pros still outweigh the cons. It has also been pointed out in previous research that while daily remote mobile usage can sound excessive, it is possible that these individuals would otherwise still be in their place of work, or taking work home in another format, so mobile technology may just facilitate working in their chosen location if they are going to work anyway (Bailyn, 1988).

The figures around the use of mobile technology for social purposes at work do indicate that the vast majority (85%) do use this function at some point during the day, although given the most commonly cited number of hours is less than one, it is very possible this is on breaks. A small proportion (13.18%) did report accessing social media for over 2 hours of the working day, but the survey did not ascertain the proportion of the working day this would be, so it is difficult to make any judgement as to how much this would interfere with the work role. Additionally, given our survey also identified that just over 50% of the respondents reported that maintaining social contact while at work helps reduce stress levels, the use of social media in the working day may be a worthwhile trade-off for employers if it could be a measure for managing stress and all the potential harmful consequences for both employee and employer. Interestingly, there was a significant association between age and the perception of the usefulness of social media as a stress reliever at work, in that the younger age group (18-34) was more likely than the older groups to agree that this would be of benefit. This was also borne out in the younger age group's use of social media, which was found to be higher than the older age groups. This finding would perhaps reflect

common wisdom on age and social media use, but also reinforces that the impact of technology use is not globally positive or negative and is likely to be multi-factorial and therefore something that each individual needs to judge for themselves.

Use of technology – pervasiveness of work message checking

This part of the survey allowed us to obtain an indication of how widespread the use of mobile technology for work purposes is in the individual's typical day. The results were quite surprising, in that the pervasiveness of use across a range of situations, from days off (81.99%) to holiday (52.17%) was quite considerable. The lowest yielding category was during meals and even so, a fifth of respondents reported doing this. Park et al (2011) found that workers need to segment their work and home lives in order to recover, thereby managing stress levels, but our survey indicated that a large range of 'home' activities could be subject to work interruptions. However, despite this pervasiveness and therefore lack of segmentation, our survey indicated that the majority (59.44%) of respondents were happy with their work/life balance so this does not reflect a need for more 'recovery' time.

There were significant associations between the pervasiveness of use and the demographic factors of age and gender. In terms of age, the younger (18-34) and older (55+) age groups were more likely than the middle age group (35-54) to check messages overnight or in bed. Additionally, women were more likely than men to check work messages on their days off. However, these practices did not then go on to be associated with an increase in stress levels, so while there may be differences in use, these did not seem to be associated with harmful outcomes. Additionally, it was apparent that there were more factors in the survey that were *not* affected by gender or age than those that were, so the impact of these demographic factors is worth considering but may be part of a more complex, individualistic picture.

Use of technology - advantages and disadvantages

Previous research (e.g. Hill et al, 1996; Towers et al., 2006; Middleton, 2008) indicated a range of negative perceptions and consequences of mobile use, but this was not fully borne out in our research. Notably, almost 60% of respondents were happy with their life/work balance, despite using mobile technology for a high number of hours, and in a wide range of situations, outside of working hours. As with previous findings, the flexibility offered

by mobile technologies was a major plus for our sample (Hill et al., 1996; Hill et al., 2001; Towers et al., 2006; and Middleton, 2008). There was one significant association with age, specifically, the 35-54 age group appear to find it harder to 'switch off' from technology than the other groups. Interestingly, this age group was *less* likely to check messages in bed or overnight and spent *less* time on social media than the other age groups, so this inability to switch off is unlikely to be due to over-use, but to other factors.

Although the findings were not unequivocal and there were clearly some respondents who have found the advent of mobile technology use to be a factor in increasing stress, there was a definite trend towards finding it be more useful than harmful. This trend may be an artefact of our sample, as respondents were recruited through social media so are clearly regular users of technology and this regular use would indicate that technology is viewed as beneficial to their wellbeing. Our sample could also be particularly good at self-regulation and using technology to their advantage. However, it could also be an indication of a general changing trend in perceptions of technology use: Perhaps this technology has been available and accessible for long enough that individuals have learned how to best use it to their advantage. This was reflected in the qualitative statements that indicated some respondents had previously experienced high stress levels due to over-use and had now taken steps themselves to remedy this, with positive outcomes.

It is also apparent that the perception of control over usage could be a significant factor in mediating the impact of technology on wellbeing. Our survey found that the majority of respondents did not find it difficult to control their technology use themselves, the majority also did not want employers to limit their technology use, and over half did not feel anxious when not able to check work messages. Also, over half of respondents reported the flexibility that technology allows is actually good for their stress levels. These findings indicate the perception of control over usage is important, and most individuals feel able to manage to regulate usage themselves. This control being taken away by an employer setting limits would actually potentially cause more stress to workers. This was further indicated in the qualitative statements, one of which stated 'self control' to be the significant factor determining whether technology causes difficulties for the individual. These findings were borne out in research by Prasopoulou and Pouloudi (2006) which found that if employers expected constant availability, this causes more problems for workers. Conversely, and as found here, if the individual can control their availability and access themselves,

it can be of benefit. These findings have been reflected in the workplace recently, with Yahoo employees feeling aggrieved when told to stop working remotely with the use of mobile technology: Individuals would prefer to make this choice themselves and use the technology as and when it suits them, allowing them to work flexibly rather than to fit in with an employer's working practices. So perhaps the impact of mobile technology is mediated by the perception of control and this should be the focus when considering workers' wellbeing, rather than how and when the technology is used.

Limitations

There were several limitations to the current research. First, the findings were based on associations, so no causal links can be inferred. Additionally, as previously mentioned, the respondents were self-selecting users of social media and therefore potentially more likely to have a positive perception of technology and its uses. The sample also had a female bias, and male views may not therefore be fully represented. The survey did not identify whether the hours spent on mobile technology outside of normal working hours would otherwise have been spent in the workplace, or bringing other work home, and therefore this is just a change to working practices, or whether this was additional work and the mobile technology was facilitating over-working. Likewise with social media use while at work; it may be possible that across the course of a long working day, a few hours of social media use has little impact on productivity, but our survey did not ascertain the actual proportion of work time spent off work tasks.

Future research

These results would benefit from replication via another survey with a sample representing both genders equally, establishing the *proportion* of the working day spent on social media, and identifying how the worker would be spending their time outside of working hours if not working remotely (i.e. in the office/taking other work home/enjoying free time). It would also be interesting to investigate further the hypothesis emerging from this research that the perception of control is a mediating factor in whether mobile technology is viewed primarily positively or negatively, perhaps using experimental approach or further surveying. Additionally, it was interesting to discover that the 35-54 age group experienced more difficulties in 'switching off' from technology, but actually seemed to use mobile technologies *less* than the other age groups, so further elucidation on the other factors causing this would be merited. Furthermore, it would

be fascinating to explore the concept of work/life balance in further detail: specifically, has the concept of work/life 'balance' become outdated, and are we instead looking at a work/life 'merge', and if so, what does this resemble and to whom is it relevant? The use of technology means working and social practices are constantly evolving and it is important that research reflects these changes.

Conclusions

Our research found that the use of mobile technology for both work and social purposes is widespread and pervasive, and for our sample at least, the use of technology, and the flexibility it offers, is generally viewed positively in terms of work/life balance and wellbeing. Social media use at work was perceived as a stress-reliever, particularly amongst the younger age group, and employers may benefit from considering this as a potential stress management tool, given that some respondents clearly have found the advent of technology to be a cause of stress in the past. It emerged from our research that a perception of having control over technology use is a potential mediator of whether it is viewed primarily as a positive or a negative. There were some gender and age-related associations but these were not found across the board and possibly hint again towards there being a number of factors which affect whether a person goes on to experience technology as stress-inducing or relieving Overall, it does not appear beneficial to expect everyone to use technology in the same way, so either expecting everyone to use it and be available at all times or banning its use in or out of work would not be conducive to an effective work/life balance. Instead, individuals benefit more from discovering how best to make it work for them.

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