



Mental Workload, Multitasking, & the Impact of Email Distraction

Does the accessibility of emails and pop up messages help or hinder our productivity and wellbeing? Are we really getting more done now? How does the fact that we expect immediate responses, and likewise can feel obliged to respond immediately, impact our peace of mind?

It's time to consider how we can use technology to suit our needs and capabilities, rather than be controlled by it.

The field of ergonomics is concerned with the interactions between humans and elements of a system, in order to optimize human wellbeing and overall system performance.

Humans have a limited information processing capacity. Although we are able to maintain an awareness of our environment beyond what we focus we have difficulty directing our attention to two simultaneous tasks, particularly if they involve a high mental workload or involve the same mental processing resources. What we refer to as 'multitasking' is often actually task switching. Attending to an interruption such as an email requires us to take our minds off our primary task, process the new email and then decide how or when to respond, before going back to the first task.

Measuring the impact of disruptions is not easy. Some research has shown a decrease in primary task performance due to a lag in resuming work at the prior rate, while other research shows that people compensate by working faster but less thoroughly, which in turn bears the added cost of increased stress, frustration, time pressure and effort. This cost is not trivial, as stress is more than just a response. It involves a dynamic interaction between the person and the environmental pressures, impacting the brain's attention capabilities. Stress, if it produces worry, can act as a secondary task competing with limited mental resources. Additionally, if stress becomes anxiety, it decreases the influence of goal-directed (top down) attentional systems and increases the influence of stimulus driven (bottom up) attentional systems-that is, we are increasingly responsive to what is in front of us, regardless of its relevance, rather than focussing on completing our primary task. This system can become a reinforcing loop: the more we respond to stimuli such as email pop-ups, the more difficult it becomes to complete our primary task, thus exacerbating the stress response and further causing our attention to be driven by what's in front of us rather than focussing on what needs to be done to complete our primary goal.

Researchers at a large American organization looked at the effects of cutting workers off from their email. They found that employees reacted well: they stayed connected through face-to-face meetings and telephone calls, they focused on tasks for longer, and reported they could spend time doing work that needed to get done. Employees also reported less stress and had lower stress indicators. Employees spent "significantly more time carrying out meta work, that is, activities not connected with any single project but associated with managing them all".



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We are not saying that email should be abolished, but instead that we need to examine the matter seriously for the sake of both productivity and wellbeing. Individual differences (need for structure vs. flexibility) and work situations (overloaded vs. bored) will mean that a one-size-fits-all solution is neither possible nor wise as we strive for optimal system and human performance in the workplace.

At present, reflect on your own work style and needs. Can you read emails in batches according to your concentration needs? For example, try turning off email pop-ups and instead check your inbox every hour. Consider taking an Email Etiquette or Outlook course offered through UBC's [MOST Courses](#) or [Continuing Studies](#) to learn how you can use the system's tools to your advantage. How will you optimize your performance and wellbeing today?



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