



The Society of
Light and Lighting

Opinion: Your part in the next tracking revolution

A range of devices exist that follow the minutiae of our everyday lives. Our heart rates, steps and calories burned can all be logged, whether sleeping, running, cycling, sat at work or simply taking it easy. Once logged, these can be transferred digitally and analysed in a myriad of helpful, or sometimes quite bizarre, charts. Dosimeters or light-logging wearables in the form of electronic watches and badges now exist so that individuals as well as researchers can generate data about exposures to light and ultraviolet radiation. What follows is a personal opinion.

An important question to consider is accuracy. A number of articles, guidance documents and standards describe what should be measured in research into photobiology, and how it should be reported. It is important to realise that exposure to light and ultraviolet radiation has several different effects on health. The effects can be beneficial or harmful and the range of effects relate to exposures to both the eyes and the skin. Some are better understood than others. At least two or more factors have to be balanced to make a reasonable decision about how much time should be spent outdoors and indoors, and what lighting to use at different times of the day. These choices will also depend on the location, including latitude and climate, and the time of year.

Look at all of the personal exposure data produced by a wearable light-logger, and you may feel encouraged to worry about your own health and well-being. That is why the data were collected, but what does it all mean? An increasing number of research

groups are using dosimetry technology and studying the health of the users.

Apart from attributing blame for our poor health to our exposures to light, or lack thereof, another reason to collect exposure data is to understand how to intervene and change the outcomes as efficiently as possible. For instance, what can be done to improve skin health or help with the regulation of circadian rhythms?

It is in this respect that trackers highlight the power of another class of intervention. In the first wave of the wearables revolution, access to data from trackers has already encouraged countless millions to pursue exercise targets and supported them in their objectives to get and stay active. Yes, at times, the science seems to have been left behind, but the enormous change in behaviour has been positive, reflecting the power of giving information back to people.

The commercial success of activity trackers have already inspired interactive light loggers for non-visual effects and even satellite-based apps looking at UV-A from the sun (where the wearable is the phone, and actually hidden in your pocket or handbag). In the next decade, it will be seen how widely this type of tracking will be adopted, and what decisions people will make based on all of the data – and ultimately whether this will be a second wave in the wearables revolution. What is already clear is that people like to make their own choices.

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