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Green office to help researchers understand how nature improves your health

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Researchers at Nottingham Trent University (NTU) are investigating how indoor plants may improve the health and wellbeing of office workers.

A team of biophilia experts have developed a ‘green’ office with more than 20 plants and a green wall in order to monitor whether, and in what ways, people working among greenery develop improved health.

Participants will have their heart rate and blood pressure monitored while working in the green office, and this will be compared to their measurements while working in a separate office space which features no plants.

The project is led by Professor Emeritus Derek Clements-Croome, who is also a visiting professor at NTU from University of Reading, with Dr Yangang Xing, an associate professor at NTU, and Dr Tatsuya Matsuoka, a visiting scholar at NTU from Shimizu, Japan.

Dr Matsuoka said: “While it’s commonly believed that being surrounded by nature is good for your health and wellbeing, we’re keen to design a methodology which can prove whether or not this is the case in an office environment.

“When you consider how many people work in offices around the world – whether onsite or from a home office – the implications for people’s wellbeing could be considerable.

“And with increasing interest in healthier work environments, our findings could help shape how offices of

the future are designed and maintained for long-term health benefits."

The study is taking place until December this year and will result in published research which will be open for the public to read free of charge.

The chosen plants are selected based on related research carried out by the North American Space Agency (NASA) for their air-filtering abilities, primarily for their capacity to remove volatile organic compounds (VOCs).

They include tall plants such as the kentia palm, barrier plants like the sansevieria, as well as snake plants, monsteras, the Dracaena Janet Craig and more.

A series of short tests of 30 minutes per participant will take place this summer before 24 hour tests will take place later in the year for a more detailed analysis.

Participants will wear Google Fitbit 6s to monitor their blood pressure and heart rate and be asked a series of questions about their experience of working in both environments.

Their wellbeing outside of the office, including quality of sleep, will also be monitored as part of the later study.

Dr Matsuoka is working at NTU for a period of 12 months before he returns to the Institute of Technology at Shimizu Corporation in Japan.

The plant scaping was done in collaboration with the Benholm Group, a company in Falkirk which specialises in interior plant scaping to support biophilic design.

Research supervisor Professor Clements-Croome said: "We are connected to nature and it affects us deeply in many ways physically and mentally. At a fundamental level, nature makes an impact on the brain and hence decision-making."

Research supervisor Dr Yangang Xing, of NTU's School of Architecture, Design and the Built Environment, said: "Biophilic design may not only support employee wellbeing but could also enhance productivity and job satisfaction over time.

"We hope that this study will pave the way for further international collaborative research into optimising inclusive biophilic design and will inform better designed work places to support human health, well-being, and contribute to one-planet health over time."