

## **Consumption | Individual communication**

IC - (20826) - NEW PATHS OF UNDERSTANDING ELECTRICITY USE BEHAVIOUR IN ENERGY-EFFICIENT BUILDINGS

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### **Background and objectives**

Energy use behaviour is a complex issue and multiple perspectives are needed to fully understand it. It is difficult to define the most effective strategies or behaviours that reduce energy use in residential environment (Casado et al., 2015) despite efforts put on energy-efficient design and technologies. This study focuses on cognitive processes on electricity use behaviour in energy-efficient multifamily buildings. The aims are (1) to validate a new instrument using Self-determination theory (SDT; Ryan & Deci, 1985) and (2) to explore the psychological factors for electricity saving behaviour.

### **Process and methods (for empirical research)**

An instrument comprising of 18 items of motivation of electricity saving behaviour along with four questions regarding electricity use behaviour were distributed via post to individuals (N=887) living in energy-efficient buildings in southern Sweden. The buildings were built between the years 2016 – 2020 in accordance with the energy performance building regulations in Sweden.

### **Main results (or main arguments in the case of critical reviews)**

The result will give a deeper understanding of motivational factors related to electricity use behaviour in energy-efficient buildings. The individuals' reasons and rationales in engaging electricity saving behaviour will be examined in relation to their sense of self-determination. It is expected that autonomous motivation will contribute to electricity saving behaviour to a greater extent than controlled motivation.

### **Implications for research and practice/policy | Importance and originality of the contribution**

This study will contribute to the theoretical knowledge of energy use behaviour while exploring the role of autonomous and controlled motivation in electricity saving behaviour. Understanding cognitive processes of electricity saving behaviour will contribute to defining new strategies and designing new technologies to reduce excessive electricity use. This study extends previous research on energy-saving behaviour by employing SDT to explore motivational factors in an energy-efficient multifamily buildings setting.

**Palavras-chave : energy use, motivation, energy-efficient buildings, Self-determination theory, electricity saving behaviour**