

Product Design for Recyclable Domestic Waste Separation Based on Empathy Theory

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ABSTRACT: Carbon neutrality is a major global practice of green, low-carbon and sustainable development, and China is actively promoting the construction of "carbon peak, carbon neutrality" and "waste-free cities" during the 14th Five-Year Plan, which is an important initiative to realise the great rejuvenation of the Chinese nation and enhance China's international status. This is an important measure for realising the great rejuvenation of the Chinese nation and enhancing China's international status. **OBJECTIVE:** In this context, it is especially important to reduce the amount of domestic waste and damage from the origin, and to design and develop the recyclable domestic waste separation products in line with China's green environmental protection and ecology. On the basis of the research and development of the existing recyclable domestic waste separation products, the empathy theory of user's emotional appeal is set as an innovative research path, Combined with the innovative design of integrating brainwave music into the garbage disposal process, it emphasizes customizing brainwave music that can stimulate users' positive emotional reactions during the garbage sorting process, thereby creating an auditory environment that enhances users' sense of happiness and satisfaction to trigger users Positive emotions about waste sorting, which can effectively solve the problem of domestic waste separation, and make a positive role in the green environmental protection, raw material recycling, and improve the user's sense of experience. **METHODS:** Based on the empathy theory of psychology, the relationship model between empathy theory and the design of recyclable domestic waste separation products is constructed under the theoretical framework of cognitive empathy and emotional empathy. Through the research methods of "self-administered structured questionnaire" and "before-and-after comparison questionnaire", we analyse the data in the parameters of satisfaction survey, feasibility analysis, product effectiveness, etc., to prove the necessity and feasibility of the product design, and put forward the path plan of the device product in the design thinking and management planning. **RESULTS:** Innovative design research based on empathy theory and brainwave music integrated into garbage sorting products can highly meet user needs and has been widely recognized. in order to adapt to and promote the development of China's "carbon neutral", to promote the green environmental protection empowered by the benign economic cycle of development, put forward the feasibility of designing product solutions.

KEY WORDS: domestic waste separation, brainwave music [U+FF0C] waste separation and disposal, domestic waste separation design, empathy theory