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Exploring the relationship between Nature connectedness and food-related behaviours: findings from a cross-sectional survey of Irish consumers

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The global food system is the primary driver of biodiversity loss[1] and the source of a third of greenhouse gas emissions[2]. Physical and psychological connectedness to nature are associated with improved health and sustainability-related outcomes, including increased pro-environmental behaviours and values[3]. Nature connectedness refers to a person's belief about the extent to which they are part of nature and include nature as part of their identity[3]. Higher levels of nature connectedness have been associated with increased fruit and vegetable intake and the consumption of a more diverse diet[4].

This study aimed to assess the relationship between nature connectedness and food-related behaviours amongst Irish consumers.

A cross-sectional online survey was created to assess the attitudes, awareness, and behaviours of Irish consumers regarding the link between nature and food. Nature connectedness was assessed using the validated Nature Connection Index (NCI) scale [6]. The online survey assessed foodrelated behaviours regarding food waste, the purchasing of local, seasonal, and organic food, and the frequency of consumption of a variety of food groups. Covariate-adjusted general linear models and regression analyses were used to assess relationships between NCI scores and food-related behaviours. Analyses were adjusted for age, level of educational attainment, and employment status.

The survey was completed by 400 participants (74% female, age range = 18-92 years, Median age = 46 ± 31). The median NCI score for the total population was 86 (IQR ± 27). NCI score was positively associated with increased purchasing of organic foods ($B = 0.312$, $p<0.001$), seasonal foods ($B = 0.155$, $p = 0.021$) and foods produced in Ireland ($B = 0.158$, $p = 0.012$). NCI score displayed an inverse relationship with the frequency of consuming beef ($\beta = -0.136$, $p = 0.010$), pork ($\beta = -0.118$, $p = 0.027$) and lamb/mutton ($\beta = -0.133$, $p = 0.011$). There were positive associations between NCI score and frequency of consuming legumes ($\beta = 0.147$, $p = 0.004$), green leafy vegetables ($\beta = 0.195$, $p<0.001$) and fruits of the Solanaceae family (tomatoes, peppers, aubergine) ($\beta = 0.121$, $p = 0.022$). NCI score also displayed a positive relationship with the frequency of reducing household food waste ($\beta = 0.218$, $p<0.001$) and choosing food with minimal packaging ($\beta = 0.238$, $p<0.001$).

This study highlights a positive relationship between nature-connectedness and more sustainable, nature-positive food behaviours amongst Irish consumers. The results of this study indicate that increasing the public's nature connectedness and time spent in nature may help to foster more healthy and sustainable food-related behaviours to contribute to reducing the detrimental impact of the current food system on nature and the climate.

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