Sensing Tomorrow

Curious Taste for Cultivated Diversity amongst Adolescents in the Swedish Arctic

Environmental sustainability and human diets are tightly linked. During the last few decades, the diversity in human diets has declined, marginalizing the importance of local, traditional, and wild foods in many parts of the world. Further, the global food system is the primary cause of biodiversity loss (Willet et al. 2019). In a transition towards a more sustainable food system, there is a need to highlight local crop varieties. Local crop varieties that have not been subjected to modern breeding programs are commonly referred to as landraces. They generally possess intra-species genetic variations and contribute to the cultivated diversity, which is valuable in creating resilient food systems. Moreover, it is suggested that landraces can offer a unique range of flavors (Westling 2022). The food generally provided by modern agriculture tends to be uniform and does not offer great sensory variation. Yet, sensory variation through cultivated diversity is relevant to allow for culinary utility, thus offering gastronomic potential (Westling 2022). The variety of culinary and sensory experiences, combined with the social and physiological circumstances in which these take place, are important factors in the process of establishing eating habits and preferences during childhood (Reverdy 2011).

The present dissertation project takes place in the Swedish Arctic and aims to investigate how a transition towards sustainable food choices can be facilitated amongst adolescents in this area. This will be addressed through use, and co-creation, of activities that stimulate the exploration and expression of sensory experiences, using a local variety of barley as the case.

In the Swedish Arctic, barley, *Hordeum vulgare*, is a common crop that has been of historical importance for the local food supply. Today, it is mainly grown as animal fodder. The landrace variety named *Acanthus* has its origin in Västerbotten in the north of Sweden. It is currently not commercially produced, but enhanced consumption and production of it could contribute to local food system resilience in the Swedish Arctic. This implies, however, that its sensory properties, such as flavors and textures, might be unfamiliar and have to become appreciated.

Previous research indicates that amongst younger children, creative sense-stimulating interaction with food can contribute to enhanced curiosity for novel food. Sensory education through the methods of *Sapere* and*Classes du Goût* are examples of this (Reverdy 2011). Another example is a study that suggests engagement of children, aged 8–13, in sensory evaluations to explore intraspecific biodiversity in tomatoes, to formulate their own sensory research questions about tomatoes, and conduct experiments to test their hypothesis (Alfonso et al. 2021). The results showed increased liking and willingness to try tomato. The authors suggest this to derive from the experimental process in which the children engaged with the tomatoes using all their senses, as well as from the practical engagements in evaluating the tomatoes and the participation in the act of planning and conducting experiments.

Research concerning the use of food-related sensory engagements amongst older children and adolescents is scarce, and research that involves adolescents as participants in designing activities for sensory engagement and curiosity seems to be absent.

Fig. 1. Sensing smell. Photo: Hilde Weiser 2019.

For this research, it is valuable to explore what happens in the moment of sensory engagement (see Fig. 1 for an example of a moment for sensory engagement), to understand its role in allowing for sensory curiosity and what significance this could have for adolescents' food choices. Research in the field of design has used co-design process and explorative lab sessions to explore experiences of structure and texture through all the senses (Akner-Koler & Ranjbar 2016). This emphasized haptic and tactile perceptions and allowed the senses to attend to different qualities of the mate-

rial. Similarly, self-awareness of the body as well as of the sensations is a central aspect in the methods of sensory education through *Classes du Goût* (Reverdy 2011).

To address the main aim of this project, four partial studies are planned to be conducted. The first study will compile previous research in a literature review focusing on current practices and outcomes of food related participatory processes with adolescents. Secondly and thirdly, sensory evaluations of different preparations of *Acanthus* are planned to be done with a panel of adolescents, while simultaneously conducting observations focusing on their sensory engagements. Through this, sensory descriptions for, liking of, and perceptions about, different preparations of *Acanthus* can be obtained. Additionally, it can allow for an exploration of the meaning and expression of sensory curiosity through sensory engagement. These studies seek to investigate sensory engagements and sensory curiosity as contributing factors to sustainable food choices. In the last study, the sensory evaluations will be further developed into sensory activities co-designed with adolescents. This aspires to add the aspect of participation, embodiment, and agency to the exploration of sensory curiosity and sensory engagement, in order to further understand how this can impact sustainable food choices.

Developing concepts together with adolescents to encourage curiosity for foods that support local food system resilience can be an important contribution to the strive for a sustainable food system in the Swedish Arctic.

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