

Expectations and attitude of Australian consumers toward blended- hybrid meat and poultry products

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Objectives: Blended/hybrid meat products bridge the gap between conventional and plant-based meat products, providing novel strategies for consumers to reduce meat consumption. Consumers' acceptance/expectations are key factors determining market success for food products (Guiné et al., 2020). The aim was to explore Australian consumers' perceptions and expectations of blended meat and poultry products.

Materials and Methods: A qualitative research method was used (Mena et al., 2020). Twelve consumers (21-45 years old, 4 females, 8 males, all self-identified as meat-eaters) were interviewed using 'model' samples on an empty mapping diagram in two facilitated sessions which were conducted and recorded via Zoom. The interview began with general questions about blended meat products, such as familiarity, willingness to eat and buy, eating occasions, and expected benefits to participants. Subsequently, participants were given a definition of blended meat and the example used was a blended beef burger patty. Participants were then shown a sheet of paper, with a coordinate axis drawn on it, where unhealthy-healthy was the x-axis and undesirable-desirable was the y-axis; unwrapped beef mince was placed in the center as a baseline. Nineteen samples, with different descriptions, were placed sequentially on the mapping axes according to participants' comments. Burgers and chicken nuggets were chosen as meal-based and snack-based formats, respectively, for blended meat and poultry products. There were thirteen products for the beef burger samples including one conventional beef burger, blended beef burgers with four ingredient descriptors ("veggies", "legumes", "sustainable- plant-protein-alternatives", "micro-algae") and eight nutrition content claims including "high-in-dietary-fiber", "no-trans-fat", "Low-saturated-fat", "lowcholesterol", "high- protein", "no-GMO", "no-MSG" and "one-serving-veggies-per-burger". For the chicken nuggets, there was one whole chicken breast, one conventional chicken nugget, and four blended nuggets with ingredient descriptors "sustainable-plant-protein-alternatives" and "micro-algae", and nutritional labels "no-trans-fat" and "high- dietary-fi- ber." After each session, the research team reviewed the transcripts, discussed important observations, reviewed answers and the mapping diagram were generated and validated.

Results: Most participants had never heard of blended meat. Once blended meat was explained, participants said texture-taste-flavour should be the same as 'pure' meat as meat is considered very tasty. Health and sustainability were two main reasons reported for choosing blended meat. Mapping results revealed that blended beef burgers with descriptions of "veggies", "legumes", "high-protein", "high-fiber", "no-trans-fat", "low-saturated-fat", "low-cholesterol", and "one-serving-veggies-per-burger" were mapped to healthy and desirable quadrant. Consumers also recognized the healthiness of micro-algae but were concerned about the taste. Participants considered conventional beef burgers unhealthy and undesirable because of the perception of ultra-processing. They viewed blended beef burgers made with "sustainable-plant-basedprotein- alternatives" as unhealthy and undesirable, they doubted the sustainability claim for plant proteins and considered it to be a marketing tactic. Consumers expressed concern about the expensive price of blended meat but were willing to pay a higher price if the products are high quality, as well as their high processing features. Except for the chicken breast, all chicken nugget samples were perceived to be unhealthy. Chicken nuggets are a typical indulgent snack for enjoyment. Adding plant-based and nutritional-claims for blended chicken nuggets did not increase consumer appeal.

Discussion: Health and sustainability are the main reasons people choose blended meat, along with taste (Profeta et al., 2021, Lang, 2020). In addition, consumers prefer natural ingredients to processed ones, especially for emerging foods. The perception is that natural foods are healthier and more environmentally friendly due to health, wellness and sustainability concerns. Additionally, in our study, nutritional content claims such as "no trans-fat", "low saturated fat", and "low cholesterol" were considered valuable at- tributes of blended beef products, but not blended poultry products. Australian consumers reacted positively to blended burgers as a meal rather than blended chicken nuggets as a snack. Burgers are made to be accompanied by a bread roll, vegetables, and sauc- es, unlike chicken nuggets, which are always eaten alone. Our results suggest that there is potential for meat processors to launch blended beef burgers, which contain vegetables and legumes, due to their popularity and market acceptance.

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