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Research report

Values, attitudes, and frequency of meat consumption. Predicting meat-reduced diet in Australians ☆

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ABSTRACT

Reduced consumption of meat, particularly red meat, is associated with numerous health benefits. While past research has examined demographic and cognitive correlates of meat-related diet identity and meat consumption behaviour, the predictive influence of personal values on meat-consumption attitudes and behaviour, as well as gender differences therein, has not been explicitly examined, nor has past research focusing on 'meat' generally addressed 'white meat' and 'fish/seafood' as distinct categories of interest. Two hundred and two Australians (59.9% female, 39.1% male, 1% unknown), aged 18 to 91 years ($M = 31.42$, $SD = 16.18$), completed an online questionnaire including the Schwartz Values Survey, and measures of diet identity, attitude towards reduced consumption of each of red meat, white meat, and fish/seafood, as well as self-reported estimates of frequency of consumption of each meat type. Results showed that higher valuing of Universalism predicted more positive attitudes towards reducing, and less frequent consumption of, each of red meat, white meat, and fish/seafood, while higher Power predicted less positive attitudes towards reducing, and more frequent consumption of, these meats. Higher Security predicted less positive attitudes towards reducing, and more frequent consumption, of white meat and fish/seafood, while Conformity produced this latter effect for fish/seafood only. Despite men valuing Power more highly than women, women valuing Universalism more highly than men, and men eating red meat more frequently than women, gender was not a significant moderator of the value–attitude–behaviour mediations described, suggesting that gender's effects on meat consumption may not be robust once entered into a multivariate model of MRD attitudes and behaviour. Results support past findings associating Universalism, Power, and Security values with meat-eating preferences, and extend these findings by articulating how these values relate specifically to different types of meat.

Introduction

Meat-reduced diets (MRDs) limit the frequency, type, and/or portion of meat in one's average diet. MRDs are inclusive of a continuum of diet practices including low-meat/plant-based diets (e.g., the Mediterranean diet), forms of semi-vegetarianism and 'flexitarianism', and pescetarianism, lacto-ovo-vegetarianism, and veganism (Beardsworth & Keil, 1991, Clifton, 2013; Ruby, 2012). MRDs are correlated with decreased consumption of harmful levels of animal fats, and increased consumption of protective foods such as fruit, vegetables, legumes, nuts/seeds, and, for some MRDs, fish protein and oils (Cade, Burly, Greenwood, & the UK Women's Cohort Study Steering Group, 2004; Clifton, 2013). As such, balanced MRDs have numerous positive health implications, and are associated with further protective health behaviours such as reduced alcohol and tobacco consumption (American Dietetic Association, 2003; Apostolopoulou, Michalakis, Miras, Hatzitolios, & Savopoulos, 2012; Barnard, Katcher, Jenkins, Cohen, & Turner-McGrievy, 2009; de Lorgeril et al., 1996; McEvoy, Temple, & Woodside, 2012; Phillips, 2005; Rees et al., 2013; Sofi, Abbate, Gensini, & Casini, 2010; Stitcher, Smith, & Davidson, 2010). However, despite the health benefits associated with eating less meat, individuals' beliefs about the ethicality and healthfulness of meat (including consumption of quantity or type) can vary (e.g., Beardsworth & Bryman, 1999; Beardsworth et al., 2002; Dyett, Sabaté, Haddad, Rajaram, & Shavlik, 2013), influencing whether or not they are motivated to engage in MRD. Given the health benefits of MRDs, determining the fundamental influences on MRD adoption and practice is an important contribution to health and well-being research.

Common motivations for MRD in Western samples include ethical concerns for animal rights, welfare, and suffering, and personal health concerns. The environmental impact of meat production, spiritual purity, and disgust at the sensory properties of meat are less common

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motivations (Dyett et al., 2013; Fessler, Arguello, Mekdara, & Macias, 2003; Forestell, Spaeth, & Kane, 2012; Fox & Ward, 2008; Rothgerber, 2014; Rozin, Markwith, & Stoess, 1997; Ruby, 2012). While nutrition knowledge does not differ between animal welfare and health oriented vegetarians, animal welfare focused vegetarians have been found to hold stronger convictions about their diet, to exhibit greater dietary restriction, and to remain vegetarian longer than do health vegetarians (Hoffman, Stallings, Bessinger, & Brooks, 2013; Ruby, 2012). These two primary motivations towards MRD suggest different value priorities, with health orientation being self-focused and animal welfare orientation being other-focused (Fox & Ward, 2008). Understanding how values explain these motivations and associated attitudes and behaviours may offer insight into how health advocates can more effectively encourage balanced and maintainable MRDs in individuals who could benefit from the diet's health outcomes.

The values–attitude–behaviour connection

Personal values are trans-situational goals or motivations that inform attitudes, and are expressed through behaviours (Bardi & Schwartz, 2003; Rohan, 2000; Rokeach, 1973). Attitudes are affective evaluations of psychological objects, such as people, institutions, actions, and abstract concepts, and are situation-specific (Ajzen & Gilbert Cote, 2008; Fishbein & Ajzen, 1975; Rohan, 2000). While one's attitude towards a psychological object can change from situation to situation, depending on the additional contextual factors of the situation, the values influencing one's attitude generally do not (Rohan, 2000). Values are considered fundamental to and more stable than attitudes, and so may be more consistent cognitive predictors of MRD behaviour than are attitudes. Homer and Kahle's (1988) cognitive hierarchy model (CHM) suggests a hierarchical relationship between cognitions and behaviour, where abstract values influence midrange attitudes, leading to specific behaviours (Homer & Kahle, 1988; Milfont, Duckitt, & Wagner, 2010). This model has been successfully applied to explore environmental sustainability and purchasing practices (e.g., Grunert & Juhl, 1995; McFarlane & Boxall, 2000; Milfont et al., 2010), and may be useful in explaining value-driven motivations relevant to MRD.

Schwartz's (1992) theory of universal values complements the CHM by reinforcing the mediating role of attitudes between values and behaviour. Schwartz (1992, p. 4) defines values as "concepts or beliefs, pertaining to desirable end states or behaviours, transcendent of specific situations, guiding selection or evaluation of behaviour and events, and. . .ordered by relative importance". Values, as trans-situational goals, are ranked by relative importance to the individual and motivate ideal behaviours.

Ten universal values are theorised by Schwartz. These values – Self-direction, Stimulation, Hedonism, Achievement, Power, Security, Conformity, Tradition, Benevolence, and Universalism – fall within two higher-order and orthogonally opposed value dimensions, Openness to Change-Conservation, and Self-Enhancement-Self-Transcendence (see Fig. 1; for a complete description of each universal value, refer to Schwartz, 1994; Schwartz et al., 2012). Despite the extensive application of Schwartz' model to other areas of values research in psychology, and the high cross-cultural validity and reliability of its measures (Schwartz, 1992; Schwartz et al., 2001), the theory of universal values has been used to only a limited extent in MRD research to explain relationships between values and diet identity, attitudes, and behaviour.

Past research on values, attitudes, and meat-reduced diet behaviour

An overall assessment of the empirical literature relating Schwartz' values to MRD attitudes and behaviour suggests that people who are motivated to engage in MRD are likely to value

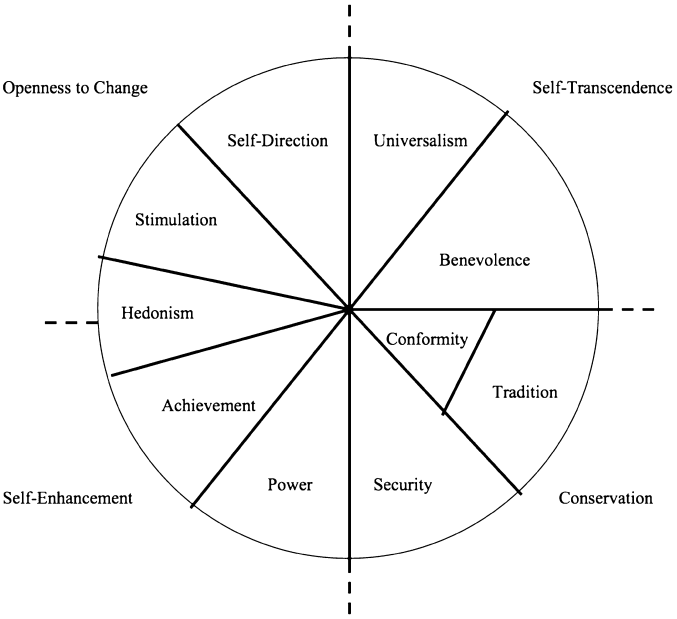

Fig. 1. Model of the theoretical structure of universal values. Reproduced from Schwartz et al., 2001

Universalism (Lea & Worsley, 2001; Ruby, Heine, Kamble, Cheng, & Waddar, 2013), and be sympathetic to Self-Transcendence and Openness to Change values generally (Allen & Ng, 2003; Lindeman & Sirelius, 2001; Ruby et al., 2013). Conversely, those preferring red meat, with its symbolism of masculinity and social dominance (e.g., Allen, Wilson, Ng, & Dunne, 2000; Rozin, Hormes, Faith, & Wansink, 2012; Ruby & Heine, 2011), are likely to hold higher Self-Enhancement values (especially Power) and Conservation values (such as Security), as well as lower Universalism values (Allen & Ng, 2003). However, past research has not addressed how these values (particularly Power and its associations of symbolic masculinity) might relate to consumption of white meat and fish/seafood. Consumer attitudes and behaviours with a health orientation, be they MRD-related or not, also appear to be influenced by Conservation values, particularly Security (Aertsens, Verbeke, Mondelaers, & van Huylenbroeck, 2009; Lee, Lusk, Mirosa, & Oey, 2014; Lindeman & Sirelius, 2001), although 'purity' oriented health concerns are associated with Universalism rather than Security (Brunsø, Scholderer, & Grunert, 2004; Dreezens, Martijn, Tenbült, Kok, & de Vries, 2005). Conservation values thus appear to be associated with both attitudes for and against consumption of types of food, depending on the individual's beliefs about the healthfulness of that food. However, the relationship between Conservation and food preference, particularly in the case of meat, remains unclear.

Gender differences between value priorities in a general context have been investigated cross-culturally as well as in Australia to some extent, with research suggesting that women tend to prioritise Self-Transcendence (and perhaps Achievement) values, while men prioritise Self-Enhancement and Openness to Change values, with Conservation values equally important to each gender (e.g., Feather, 2004; Schwartz & Rubel, 2005). However, these differences are quite small, explaining less variance between genders than age or cultural/socialisation factors. Furthermore, research by Prince-Gibson and Schwartz (1998) failed to find a significant difference between values by gender, weakening the reliability of previous studies.

However, gender has proven to be a key variable determining beliefs, attitudes, and behaviour regarding MRDs, particularly forms of vegetarianism (Ruby, 2012). Western women eat less meat than do men (Beardsworth & Bryman, 1999; Beardsworth et al., 2002),