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Social representations of fish and seafood among midlife rural adults: Benefits, risks, and involvement

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ABSTRACT

Food policy is embedded within the context of a risk society where there are collective anxieties about risk and uncertainty. One type of shared knowledge structure created through social, economic, and political communication related to health risks and benefits is social representations. To examine social representations of fish and seafood, semi-structured interviews were conducted with 31 adults ages 50–70 in rural New York State. Interview transcripts were analyzed for individual and shared social representations using open coding. Most participants held numerous social representations describing the health effects of eating fish. The social representations included five domains: intrinsic fish components, fish contaminants, fish as protein, health effects of fish, and types of fish. Nearly everyone discussed core representations of heart health, fish being good for you, and mercury exposure. Participants often held conflicting representations and incorporated conflicting representations in their eating routines. While individuals held similar sets of social representations, their involvement with the social representations varied. Four patterns of involvement with social representations of fish and seafood included: evangelists, safeguarded, oblivious, and risk managers. Social representations and individual patterns of involvement with shared sets of social representations is a unique approach to examining food and health that acknowledges the complexity of the topic as a policy issue as well as the process of knowledge transfer from the expert realm to the broader public in a risk society.

1. Introduction

Food is embedded within social contexts and food policies are part of changing historical eras. Contemporary modern Western cultures are seen as “risk societies” (Beck, 1992; Giddens and Pierson, 1998; Rosa et al., 2014), where people are preoccupied with and insecure about conflicting hazards and safety. Risk societies include contradictory ideas, anxiousness, and opposing behaviors that make the development, implementation, and acceptance of policy complex and dynamic (Robbins, 2007). A source of angst for many citizens in risk societies is the consumption of fish and other aquatic seafood including crustaceans like shrimp and mollusks like clams. The present study sought to relate the complexity of consumers’ shared knowledge structures to food choices by understanding the breadth of health-related social representations about fish and seafood and how consumers were involved with fish and seafood. Social representations theory offers an important perspective for food policy (Elcheroth et al., 2011) that can illuminate shared understandings of specific topics like food where health risks and benefits are negotiated and managed. Risk societies must handle the gains and costs of food production and consumption for citizens,

communities, and the environment.

In a risk society, complexity is seen in the intertwining of physical, environmental, economic, political, and social risks (Rosa et al., 2014). Fish (and seafood), as an economically, politically, and nutritionally important trade commodity common to many diets, provides a lens into a contested food about which conflicting views are common. Many policy and health groups have proposed and promoted recommended intakes of fish and/or seafood. However, despite widely acknowledged health benefits, there are also potential risks associated with eating fish and seafood promulgated by many groups. Developing effective future policies and guidelines depends on (1) valid, reliable, and current scientific knowledge about fish nutrient content and toxicology, and (2) understanding how people currently think about, negotiate, and manage existing health knowledge and guidelines about fish and seafood.

Positive health benefits of fish and seafood are widely recognized. Fish is a major source of omega-3 fatty acids, specifically eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Optimal ratios of omega-3 fatty acids are important for cardiovascular and neurological health (Kris-Etherton et al., 2002; Zhang et al., 2015). A recent

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meta-analysis found decreased mortality among those who consumed 60 g or more of fish per day (Zhao et al., 2016). In addition, fish is often recognized as a part of healthful dietary patterns such as the Mediterranean diet (Willett et al., 1995).

Negative health risks from eating fish and seafood include many problematic concerns. Foodborne illnesses, like ciguatera infections or paralytic seafood poisoning, are a risk to fish and seafood consumers. Low levels of contaminants such as dioxins (FAO/WHO, 2010) and methylmercury are found in fish and seafood (Agency for Toxic Substances and Disease Registry, 1999). Exposure to these contaminants at high levels, such as through industrial accidents or long-term occupational exposure, leads to negative health outcomes. Dioxin has been linked to cancer and changes in immune and endocrine function (FAO/WHO, 2010). In adults, high intake of methylmercury has the potential to lead to neurological impairment, kidney damage, and reproductive impairment through damaging sperm or a fetus (Agency for Toxic Substances and Disease Registry, 1999).

Policy-making bodies like the World Health Organization (WHO) encourage nations to develop a detailed understanding of the risks and benefits of the fish and seafood items consumed by their residents, and to then effectively communicate both benefits and strategies for risk management (FAO/WHO, 2010). These guidelines have the intent of promoting health by decreasing chronic disease burden and minimizing exposure to harmful environmental pollutants. The 2015–2020 United States Dietary Guidelines recommend eating 8 or more ounces of seafood per week for adults, focusing on including a variety of lower mercury species for those who consume more than the minimum recommendation (2015–2020 Dietary Guidelines for Americans, 2015). In contrast, within the United States, individual state agencies have issued restrictive fish consumption advisories ranging from eating “up to four meals per month” to “DON’T EAT” focusing on fish from specific local water bodies (NYSDOH, 2015). Such opposing benefit and risk guidelines occur within risk societies already apprehensive about fish and seafood.

A range of health, non-profit, and consumer organizations have also developed position statements or guidelines suggesting how much or what types of fish consumers should eat. For example, the American Psychiatric Association supports intake of omega-3 fatty acids from fish and seafood as a safe and somewhat effective intervention for some mental health conditions (Freeman et al., 2006). Environmental organizations emphasize caution in terms of contaminant exposure, recommending lower intake that is focused on high omega-3 fish species (e.g. Boyle, 2015). The ecological status of fisheries and sustainability also adds another dimension that may be incorporated into consumer understandings of what fish are best to eat (Oken et al., 2012). As food systems evolve and knowledge about nutrition, production methods, water quality, and ecosystems expands within plural societies, continued development and revision of fish consumption guidelines will undoubtedly occur with varied input from stakeholder and scientific advisory groups engaging with each other within risk societies (Rosa et al., 2014).

Position statements about nutrition written by governments and organizations, however, are often not what the general public reads or hears. These policy messages are regularly condensed and presented to the public in multiple and conflicting ways via advertisements, print or television news media, or through social media platforms (Greiner et al., 2010). Press releases from non-profit organizations may receive substantial news coverage (e.g. St. Fleur, 2015). Furthermore, health messages about fish intake are complex, with recommendations about minimum frequency to achieve health benefits, maximum frequency to avoid health risks, specific target populations, best and worst species to eat for different reasons, and recommendations for preparation methods (Oken et al., 2012). Elements of this information can conflict, depending on the interpretation and presentation of the material, producing uncertainty and unease among consumers. For example, midlife adults who are not likely to be pregnant or breastfeeding but who may

be at risk of cardiovascular disease are not the target of recommendations to limit fish consumption due to potential risks to fetal and infant brain development. However, media coverage about mercury in fish often leaves the specific target population recommendation buried in the text and not explicitly highlighted. Currently, it is not clear how people represent these complex, conflicting, and changing ideas about fish and seafood as individuals and groups.

Social representation theory describes a set of shared and personal ideas in social groups that orients “actions and social relations” (Abric, 2001). Social representations are shared and personal thoughts, ideas, images, and knowledge created through social communication (Marková, 2015). Social representations held widely across a social group form a central “core” while those less commonly held are “peripheral” elements (Abric, 2001). Conflicting representations can be held by the same individual or group at the same point in time. Two processes are involved in the dynamics of how representations are formed: anchoring and objectification (Moscovici, 2001). Anchoring refers to a process by which new ideas are related to known concepts, while objectification is a process by which new ideas are developed and made concrete (Augoustinos et al., 2014).

An important segment of the population to study in order to understand fish and seafood representations is midlife adults. Their cohort has historically experienced the rising anxiety of risk societies, proliferation of policies, programs, and guidelines, and the development of fish risks and benefits during their lives. Midlife adults also provide unique insights about conflicting health-related messages about fish and seafood because they are exposed to warnings about consuming fish targeted at pregnant and breastfeeding women even though those warnings do not apply to them in midlife. Also, rural populations offer a diversity of ideas, some being locally-focused and others more cosmopolitan in their exposure to risk information. Additionally, the food systems in rural areas are often poorly supplied with fish in retail groceries while also offering greater access to home or locally caught fish and seafood. These considerations suggest that studying rural midlife adults may offer diverse perspectives about fish and seafood.

To investigate consumers’ social representations of health effects of fish and seafood consumption, we studied people who ate fish and seafood. The three main aims of the study were (1) to examine midlife rural adults’ shared and personal social representations of the health benefits and health risks of eating fish and seafood in their daily lives in a risk society, (2) to understand how the processes of objectification and anchoring were occurring for key social representations related to fish and seafood and (3) to relate how these consumers managed their involvement in those representations in relation to routine fish and seafood food choice.

2. Methods

2.1. Setting and participants

Participants were recruited from three rural counties in New York State, USA, via ads, flyers, community listservs, group meetings, and word-of-mouth between July 2014 and March 2015. New York State is a large northeastern state with diverse geography. Each county selected for this study is classified as non-metropolitan, with an urban population of less than 20,000 people (United States Department of Agriculture, 2013). Each county has several small towns, including the county seat (capital), and substantial outlying populations. A variety of housing options is available in each county, from single-household homes on farms to subsidized senior apartments. There are multiple supermarkets, and additional grocery options such as superstores or discount chains selling food in all three locations. All three counties have access to waterways for fishing; two counties have lakes that are among the cleanest in the state. New York State provides information about fish consumption advisories to individuals when they purchase a fishing license as well as online.

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