International Journal of Home Economics

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Publication in IJHE provides wide exposure to journal articles and adds to the professional literature base of our field. Theoretical papers, literature reviews, and a wide range of genres along with research papers are invited for publication in the journal. As editor, I strongly encourage submissions to the journal.

Papers in this journal comprise research and theoretical papers. The research paper written by Gwendolyn Hustvedt and Marsha Dickson provides a unique insight into the attitudes of older consumers towards organic cotton. The findings potentially provide product developers and retailers with insights about meeting the needs of older consumers interested in green purchases. Also in the consumer education field, Vuokka Jarva takes the reader to the world of consumer policy, with a thematic analysis of European strategy documents. Sue McGregor continues to open the theoretical lenses by which we view the world, providing theoretical insights into the quantum holomovement principle and the connections with the home economics profession. The final article is also contributed by Sue McGregor, who explores transdisciplinary methodology for the field.

As always, the articles have undergone rigorous, double-blind review, and are adding to the professional literature base of the field.

Please do not forget the IFHE XXII World Congress focusing on Global Wellbeing in Melbourne, Australia 16-21 July 2012. For more information, visit http://www.ifhe2012.org/

Donna Pendergast, PhD
Editor, IJHE
Sustainable fashion and the older consumer: Attitudes towards organic cotton

Gwendolyn Hustvedt, Marsha A. Dickson
Texas State University, University of Delaware

Abstract
The purpose of this study is to improve understanding of organic apparel consumption by focusing on the older consumer. Data were collected with a mail survey of US health and natural foods consumers. Analysis of variance found that older consumers did not have significantly different levels of green self-identity, skepticism towards environmental purchase claims or intention to search for or purchase organic cotton apparel when compared with younger consumers. Further analysis of attitudes toward organic apparel purchases finds that support of organic farming and pro-environmental companies is significantly more important to consumers over 65 than to younger (under 45) consumers. Older consumers also value paying more for organic apparel more than younger consumers even thought they report significantly more difficulty in finding organic cotton products. However, the outcome of receiving health benefits or peace of mind from an organic apparel purchase was not more significantly important to any specific age group. The results of this study suggest that older US consumers are an important market for sustainable fashion products but that marketing to older consumers should focus on the broader societal benefits of organic cotton purchases rather than personal benefits.

Key words: Organic, Elderly Consumers, Apparel, Sustainability

Introduction
An important focus point for individuals in developed countries interested in increasing global sustainability has been their role as “green” consumers. Green consumerism is seen by many as one way to use market forces to reduce the environmental impact of global consumption. A significant and successful part of the “green” market has been the market for organically grown agricultural products.

What motivates the organic consumer? The reasons may be varied. Despite the environmental benefits related to organic agriculture, a vast majority (93%) of organic food consumers surveyed are motivated by “health reasons” (i.e. pesticide poisoning) while a minority (30%) cite environmental concern as a reason for organic food purchase (Hutchins & Greenhalgh, 1997). However, another survey of organic food consumers revealed that many have concerns about farming production processes that are broader than pesticide use (Conner, 2004). Many respondents stated they were opposed to corporate-based food production and were interested in supporting “sustainable” agriculture. With demographic shifts and the concentration of wealth, the mature consumer (45+) in more developed regions (i.e., US/Canada and the EU) have enormous power in the market place, including the market for organic products. Understanding the attitudes of the mature consumer toward organic
farming and organic products is therefore an important part of continuing to build the market for organic products.

The market for organic apparel products in the US has grown by fits and starts. Prior to the release of the United States Department of Agriculture (USDA) standard for organic certification in the early 2000s, several brands tried organic cotton product lines with varying and limited success (Imhoff, 1995). Along with the dynamic growth of the organic food industry, the market for organic apparel products has also grown steadily. According to the Organic Trade Association (OTA), a group of US organic producers, manufacturers and retailers, in 2009 organic fibre sales (mainly organic cotton) in the United States reached $521 million, a growth of 10% over the previous year (OTA, 2011). Organic cotton products are now available at a wide variety of retailers in the US, from Nike to Wal-Mart.

### Organic Consumers

Previous research has extensively examined the demographics and motivations of organic food consumer and found that, other than possessing higher levels of education, they are presently not much different from the general population in terms of their demographics (Dimitri & Oberholtzer, 2009). An early meta-analysis of 128 studies of environmental behaviour found no significant relationship between any of the socio-demographics variables and environmental behaviour (Hines, Hungerford, & Tomera, 1987). According to Allen and Kovach (2000), organic food purchasing and consumption is “a paradigmatic case of green consumerism” (p. 222). Looking at a more recent meta-analysis of research on “green” consumers we see that that because environmental concern, and “green” consumption (such as organic food consumption), has become commonplace in Western cultures, socio-demographics may predict levels of environmental knowledge or attitudes, but they do not predict actual “green” behaviour for developed-world consumers (Diamantopoulos, Schlegelmilch, Sinkovics, & Bohlen, 2002). To many, this suggests that efforts to increase sustainable consumer behaviour do not need to take demographic differences into consideration. However, this previous research did not examine the consumption of organic fashion, and fashion consumption may be influenced by demographics, especially age.

### Older Fashion Consumers

Fashion is not food (or recycling cans) and the development and marketing of fashion products is significantly different than food product development and marketing. Researchers in food product development bemoan that “eating preferences and habits’ slow rate of change, together with the consequent consumer aversion to too much novelty in food, constitute a barrier” to constantly introducing new food products (Costa & Jongen, 2006). Fashion products are also tied to the expression of self-identity (Stone, 1962) and even where groups of fashion consumers may purchase almost identical products, an understanding of their needs and motivations is important to develop and market the products successfully. The mature fashion consumer has been studied over the years, as each generational cohort ages, in order to understand the needs of this powerful consumer group. A meta-study of consumers over 65 found that older US apparel consumers are less price sensitive and more fashion conscious than other adult fashion consumers, while spending the same amount (Tongren, 2005). Fashion is important to older women for a variety of reasons; one study
found that fashion involvement increased self-esteem by boosting social participation (Joung & Miller, 2006). Differences between fashion consumers are not limited to spending power and the purpose of shopping. Older consumers are often shopping for different products. For example, a comparison of younger (under 25) and older (over 65) fashion consumers found that the pantsuit is more fashionable to older consumers (Nam et al., 2007). Older consumers are also looking for products with different attributes than those important to younger consumers. The desire for high quality, comfort and good fit was an important difference between baby boomer (40-59) and older (60+) consumers, on the one hand, and younger consumers (under 40), on the other hand, in a study of consumers of fair trade apparel (Littrell, Ma, & Halepete, 2005). A qualitative study of 20 American women over 65 confirmed previous research that found older fashion consumers desire more than high-quality products that fit well, they also desire product that are fashionable (Thomas & Peters, 2009). This study adds however that all these attributes are important to older consumers because, just like younger consumers, their self-identity is strongly connected to fashion (Thomas & Peters, 2009).

As explained in the literature review of a recent dissertation on the “invisible mature female consumer,” there is a substantial gap in the apparel research literature on the fashion needs of older consumers. Mohylsky (2011) conducted a qualitative study with 22 American women over 50 and found that among the concerns these women had about the apparel being marketed to them were that the industry saw them as “matronly, motherly, and frumpy” (p. 94), that it was hard to find clothing that flattered their body but that wasn’t “too old looking” (p. 94) and that the choices available to them were not the “beautiful apparel that was well constructed and made from unique and quality fabric” that they desired to purchase (Mohylsky, 2011, p. 95). The participants in this study expressed confusion about who was buying the clothing being marketed to the mature female consumer, since they were looking for flattering stylish clothes and what was on offer in stores marketing to them was more likely to be a “watered down” version of the style trends (Mohylsky, 2011, p. 99). The concern expressed by the women in this study, that the industry had a preconceived image of how older consumers should look, aligns with the results of a study of fashion merchandising students and their opinion of the appropriate colours for older women (Hedge & Hustvedt, 2011). This study found that students rated the same colours as appropriate for the older woman target market that they had previously selected as “passive,” “inconspicuous” and “delicate” and that these were the same colours (low-saturation neutrals) that pose a perception difficulty for the eye as it ages.

Perhaps because the body of research on the older apparel consumer is small, it does not yet include much exploration of the older organic apparel consumer. A survey of San Francisco consumers found that while organic food consumers tended to be younger, age did not predict willingness to pay for organic apparel products (Wang, 2007). Lin (2009) conducted an intercept survey of 420 Hawaiians, 14% of whom were over the age of 45, to explore the market for organic cotton products in Hawaii. The study found a relationship between the preference for organic food products and organic cotton products and that consumers who preferred organic cotton were more concerned about the environment than those who preferred conventional cotton products. Like Wang (2007), he also found that the preference of Hawaiian consumers for organic cotton over conventional cotton was unrelated to age (Lin,
Neither of these studies included details on differences in attitudes toward organic apparel purchases or organic product attributes based on age group and both studies included relatively few consumers over 65.

Previous research has found that consumers who find organic cotton content salient are motivated by their beliefs about the beneficial outcomes of the purchase, including the outcome of “improving my health or the health of my family” (Hustvedt & Dickson, 2009). Consumers in the segment that used organic cotton content to form their purchase intentions had positive attitudes toward organic and sustainable agriculture and were more concerned about the impact of clothing production on the environment than other consumers. They also preferred to “buy locally” and had a strong self-identity as environmental, organic, and socially responsible consumers (Hustvedt & Dickson, 2009).

The needs of the older fashion consumer have not been adequately explored but they do represent a segment of all markets that is growing in significance. According to the US National Institute on Aging (NIA), the increased lifespan of consumers in almost all countries around the world, with the exception of some parts of Latin America and Africa, means that between 2005 and 2030 there will be a 104% increase in the number of people over the age of 65 (NIA, 2007). In developing countries this increase will be even more rapid as the number of people over 65 will increase by 140% by 2030 (NIA, 2007). The market segment represented by consumers over 65 poses a striking level of wealth in developed countries such as the US. For example, Americans over 65 have an average net worth of more than $130,00 and together with consumers over 55 they comprise a segment that represents 40% of consumer demand in the US (Branchik, 2010).

The purpose of this study was to explore the attitudes of older American consumers toward organic cotton. If organic fashion products are to gain the same level of market acceptance as organic food products, they must appeal to consumers of all ages. Given the buying power of this growing demographic segment, the older apparel consumer should not be left out of consideration. However, because older fashion consumers have been shown to have age-specific fashion concerns, understanding the goals and attitudes of the older consumer toward their organic apparel purchases is important in the sustainable fashion product development process.

**Method**

The survey was mailed to 2,905 health and natural food consumers, randomly selected from a national mailing list database firm. This sample was chosen because of the potential connection between interest in health and natural food consumption and organic apparel consumption, given that both are types of “green” consumer behaviour. The sample of adults (18 years or older) was stratified by state population to ensure full national representation. The design and mailing of the 12-page booklet followed the recommendations of Dillman in terms of format and follow up contact (Dillman, 2000).

The first portion of the questionnaire contained a conjoint task designed to elicit consumer evaluations of apparel product attributes relevant to the purchase of organic cotton apparel. Conjoint and cluster analysis were used to create two market segments based on the use of...
The second section of the survey contained a variety of measures for psychological variables related to sustainability (environmental, organic or socially responsible consumer behaviour, skepticism) as well as behavioural intentions. The analysis of these first two sections is outlined in a previous publication (Hustvedt & Dickson, 2009).

The survey also included 22 items measuring behavioural beliefs and outcome evaluations related to the behavioural beliefs. The behavioural beliefs, covering a wide range of issues related to ethical/environmental consumerism, were measured by asking respondents to rate their agreement (on a 7-point Likert scale) that selected outcomes would result from their purchase of an organic cotton apparel product. The outcome evaluations were measured by asking respondents to rate the importance (1 = very unimportant to 7 = very important) “How important is each of the following to you?” for each of the outcomes suggested in the behavioural beliefs. The final section of the questionnaire included demographic items such as age, gender, household income, education level and number of children at home.

The instrument was shared with industry professionals to determine face validity for any items that had been developed or adapted for this particular study, including the behavioural beliefs and outcomes associated with organic cotton apparel purchases. After receiving approval from the Institutional Review Board for Human Subjects, the instrument was also pre-tested with groups of university students to determine the reliability of the measures included in the instrument and to fine tune the instrument for ease of use by the survey respondents.

Results

The number of returned questionnaires that were at least partially complete was 422 out of 2846 questionnaires that were delivered (response rate of 14.9%). Of the 422 questionnaires, 377 (89.3%) were used to create the organic cotton user segments and were also used for the analysis presented here. This response rate was not as high as those suggested as possible (30%) by Dillman in his book on survey administration (Dillman, 2000). At the very least, the poor response rate may be due to the timing of the survey, as the holiday season would not be a convenient time for respondents to complete a lengthy survey.

Nonresponse and Incomplete Questionnaires

Analysis was conducted to determine if any implications about non-respondents could be gleaned from the survey. Of the returned surveys 136 (5%) were completely blank or blank except for comments. Participants were instructed to return blank surveys to indicate confidentially that they were not interested in participating in the survey and should be removed from the mailing list. Comments included on the blank surveys mainly suggested that the respondents were not interested in the subject of organic cotton or did not feel themselves qualified to participate for some reason.

As suggested by Dillman (2000), an analysis was conducted to compare the first and second wave of respondents in terms of several socio-demographic and psychographic variables in order to better understand the non-respondents. Analysis of Variance (ANOVA) confirmed the
first wave of respondents were significantly more educated than the second wave. This suggests that the topic or format of the survey may have been slightly more appealing to respondents with more education. Chi-square analysis of gender between the two waves suggests that the non-respondents were significantly more male than the respondents. This was not surprising considering the topic of the study was apparel, thus the men who received the study were probably less interested in the topic.

U.S. Health and Natural Foods Consumer Profile

The demographics of survey respondents are summarized in Table 1. Although the random sample purchased included any health and natural foods consumers over the age of 18, the age of the study participants ranged from 25 to 90. When broken down into categories, the majority of respondents fell in the 45 to 64-year age category and the number of respondents over the age of 65 was larger than those under the age of 45.

A comparison of the demographics of the survey respondents with the demographics of the US population shows respondents were somewhat older (M= 57 years) than the general population. Approximately 49% of Americans 18 and older were 45 years old and older (U.S. Census Bureau, 2004). When broken down into categories the largest age group in the general population was under 24, with 24 to 44 being the next largest.

The gender of respondents was fairly evenly divided between male (47.9%) and female (49.8%) with 2.4% of respondents declining to specify gender. The percentage of female respondents was similar to the US average of 51.1% in 2004. A majority (77.0%) of respondents did not have children under the age of 18 living in their home. This was somewhat higher than the general population (64.8%) but may be explained by the greater number of older respondents, likely past the age at which they have children living at home.

More than half of respondents did not report having completed a baccalaureate degree. Less than one percent reported not completing high school, while 19% reported high school as their highest level of education completed. Of the approximately 43% of respondents who completed a college degree, 59% had been engaged in graduate education at some point, with 17% of overall respondents reporting a completed graduate degree. The level of education reported by respondents was higher than the national average. Only 27 percent of the general population have completed a bachelor’s degree or higher, compared to 43 percent of the sample. Conversely, fewer people in the sample reported a high school diploma as their highest degree (19.2%) compared to 29.5 percent of the general population. Respondents reported receiving a graduate degree at a rate (17.2%) nearly twice the national average (9.9%).

Fourteen percent of respondents declined to answer the questions about income. Of the 361 respondents who answered the question, 35% reported a total before tax household income of $49,000 or less and 17 % reported a total before tax household income of $100,000 and over. Only 7 respondents (1.9% of all respondents) reported an annual household income of less than $25,000 in 2004. The largest single income category was those respondents reporting a 2004 annual household income of $25,000-$49,000. Far fewer of the respondents in the study reported an income lower than $50,000 (34.9%) than in the general population (55%).
percentage of respondents reporting incomes over $100,000 (16.6%) was very similar to the national average (15%). If the respondents who did not report income are excluded, the percentage of respondents reporting an annual pre-tax income above $50,000 was around 14% higher than the national average (45.1%).

### Table 1  Overall demographic characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>$f$</th>
<th>% frequency</th>
<th>US General Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>405</td>
<td>94.9</td>
<td></td>
</tr>
<tr>
<td>24 and under</td>
<td>0</td>
<td>0.0</td>
<td>34.8</td>
</tr>
<tr>
<td>25 to 44</td>
<td>71</td>
<td>16.8</td>
<td>28.8</td>
</tr>
<tr>
<td>45 to 64</td>
<td>220</td>
<td>52.1</td>
<td>24.5</td>
</tr>
<tr>
<td>65 and over</td>
<td>114</td>
<td>27.0</td>
<td>12.0</td>
</tr>
<tr>
<td>Gender</td>
<td>412</td>
<td>97.6</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>202</td>
<td>47.9</td>
<td>48.9</td>
</tr>
<tr>
<td>Female</td>
<td>210</td>
<td>49.8</td>
<td>51.1</td>
</tr>
<tr>
<td>Education</td>
<td>411</td>
<td>96.5</td>
<td></td>
</tr>
<tr>
<td>Less than 9th grade</td>
<td>3</td>
<td>0.7</td>
<td>6.3</td>
</tr>
<tr>
<td>Completed high school (grades 9 through 12)</td>
<td>81</td>
<td>19.2</td>
<td>39.3</td>
</tr>
<tr>
<td>1-3 years technical, vocational, or college</td>
<td>145</td>
<td>34.4</td>
<td>27.4</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>74</td>
<td>17.5</td>
<td>17.2</td>
</tr>
<tr>
<td>Some graduate work</td>
<td>35</td>
<td>8.3</td>
<td></td>
</tr>
<tr>
<td>Completed graduate degree</td>
<td>73</td>
<td>17.3</td>
<td>9.9</td>
</tr>
<tr>
<td>Percent high school graduate or higher</td>
<td>408</td>
<td>96.7</td>
<td>83.9</td>
</tr>
<tr>
<td>Percent bachelor’s degree or higher</td>
<td>182</td>
<td>43.1</td>
<td>27.0</td>
</tr>
<tr>
<td>Children under the age of 18</td>
<td>412</td>
<td>97.6</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>325</td>
<td>77.0</td>
<td>64.8</td>
</tr>
<tr>
<td>Yes</td>
<td>87</td>
<td>20.6</td>
<td>35.2</td>
</tr>
<tr>
<td>Income</td>
<td>361</td>
<td>85.5</td>
<td></td>
</tr>
<tr>
<td>Less than $10,000</td>
<td>7</td>
<td>1.7</td>
<td>8.9</td>
</tr>
<tr>
<td>$10,000 to $24,999</td>
<td>40</td>
<td>9.5</td>
<td>18.6</td>
</tr>
<tr>
<td>$25,000 to $49,999</td>
<td>100</td>
<td>23.7</td>
<td>27.5</td>
</tr>
<tr>
<td>$50,000 to $74,999</td>
<td>89</td>
<td>21.1</td>
<td>19.0</td>
</tr>
<tr>
<td>$75,000 to $99,000</td>
<td>55</td>
<td>13.0</td>
<td>11.1</td>
</tr>
<tr>
<td>$100,000 and over</td>
<td>70</td>
<td>16.6</td>
<td>15.0</td>
</tr>
</tbody>
</table>

* From US Census Bureau, 2004

Finally, because the sample was stratified by state population, the geographic distribution of the respondents was also examined. The numbers of responses from each geographic region were compared to the number of responses that would be expected based on the number of surveys sent to the region. Fewer responses than expected were received from the northeast (-3.91%) and the South (-1.79%), while more responses than expected came from the Northwest (2.27%) including Alaska, and the Southwest (2.40%) including Hawaii.
Organic Cotton Apparel Market Segments

The survey included a conjoint task designed to measure the salience of various credence attributes (percentage of organic cotton, eco-friendly processing claims, and social responsibility labelling) on consumer likelihood of purchasing organic cotton apparel products. Based on the results of this conjoint task, participants were grouped using cluster analysis into two groups: purchasers who found organic content salient and purchasers who did not (Hustvedt & Dickson, 2009). While this previous study found that these segments of organic cotton users were significantly different in terms of their attitudes, an ANOVA here found that there was no significant difference, in terms of demographic characteristics, between participants who found organic content important for their purchase decision and those who did not consider organic content when choosing a product in the conjoint task (see Table 2).

Table 2  One-way analysis of variance for effects of cluster membership on demographic variables

<table>
<thead>
<tr>
<th>Variable and Source</th>
<th>Df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>1</td>
<td>290.73</td>
<td>290.73</td>
<td>1.58</td>
<td>n.s.</td>
</tr>
<tr>
<td>Within groups</td>
<td>359</td>
<td>66006.03</td>
<td>183.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>1</td>
<td>5.52</td>
<td>5.52</td>
<td>2.97</td>
<td>n.s.</td>
</tr>
<tr>
<td>Within groups</td>
<td>363</td>
<td>673.98</td>
<td>1.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children in the home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>1</td>
<td>0.01</td>
<td>0.01</td>
<td>0.03</td>
<td>n.s.</td>
</tr>
<tr>
<td>Within groups</td>
<td>364</td>
<td>61.37</td>
<td>0.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>1</td>
<td>1.59</td>
<td>1.59</td>
<td>0.88</td>
<td>n.s.</td>
</tr>
<tr>
<td>Within groups</td>
<td>321</td>
<td>576.21</td>
<td>1.80</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

n.s. means not significant

Age Differences in Psychographics and Behavioural Intention

An ANOVA, conducted using a number of psychographic variables, found that the general attitudes or behavioural intentions of older health and natural foods consumers do not differ significantly from those who are younger based on these six variables (see Table 3). (A discussion of the development of the first five variables can be found in Hustvedt & Dickson, 2009.)
The first variable, Environmental Attitudes, measures agreement that organic agriculture is good for the environment and that sustainable agriculture is important. A second variable, Clothing Attitudes, measures agreement that respondents would buy organic or fair trade clothing with the aim of supporting organic farming. Sustainable Self-Identity is a measure of respondents’ self-identification as socially responsible, organic or environmental consumers. Participants were asked about the likelihood that they would purchase organic clothing the next time they went shopping for apparel. This variable was called Search Intention to capture the idea that finding organic apparel to complete this intention might require a search. The Purchase Intention measured the participant’s likelihood of purchasing organic clothing if they happened to find it the next time they went shopping for apparel.

Table 3  One-way analysis of variance for effects of age groups on psychographic and behavioural intention variables

<table>
<thead>
<tr>
<th>Variable and Source</th>
<th>Df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Attitudes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>0.21</td>
<td>0.11</td>
<td>0.15</td>
<td>n.s.</td>
</tr>
<tr>
<td>Within groups</td>
<td>354</td>
<td>245.82</td>
<td>0.69</td>
<td></td>
<td>n.s.</td>
</tr>
<tr>
<td>Clothing Attitudes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>2.66</td>
<td>1.33</td>
<td>0.81</td>
<td>n.s.</td>
</tr>
<tr>
<td>Within groups</td>
<td>355</td>
<td>580.32</td>
<td>1.64</td>
<td></td>
<td>n.s.</td>
</tr>
<tr>
<td>Sustainable Self-Identity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>2.01</td>
<td>1.00</td>
<td>0.95</td>
<td>n.s.</td>
</tr>
<tr>
<td>Within groups</td>
<td>357</td>
<td>303.43</td>
<td>0.85</td>
<td></td>
<td>n.s.</td>
</tr>
<tr>
<td>Search Intention</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>4.41</td>
<td>2.204</td>
<td>1.019</td>
<td>n.s.</td>
</tr>
<tr>
<td>Within groups</td>
<td>356</td>
<td>770.08</td>
<td>2.163</td>
<td></td>
<td>n.s.</td>
</tr>
<tr>
<td>Purchase Intention</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>1.80</td>
<td>0.901</td>
<td>0.56</td>
<td>n.s.</td>
</tr>
<tr>
<td>Within groups</td>
<td>356</td>
<td>578.39</td>
<td>1.625</td>
<td></td>
<td>n.s.</td>
</tr>
<tr>
<td>Scepticism</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>0.98</td>
<td>0.49</td>
<td>0.80</td>
<td>n.s.</td>
</tr>
<tr>
<td>Within groups</td>
<td>355</td>
<td>217.11</td>
<td>0.61</td>
<td></td>
<td>n.s.</td>
</tr>
</tbody>
</table>

n.s. means not significant
Scepticism of Environmental Product Claims

The psychographics of the sample also included a 5-item measure of scepticism based on the work of Mohr, Eroglu, and Ellen (1998) who developed and tested a measure of consumer scepticism toward environmental claims in marketing communications.

Their measure included four items measured on 7-point Likert-type scale with good reliability ($\alpha = .79$). One item in their scale, “Because environmental claims are exaggerated, consumers would be better off if such claims on package labels or in advertising were eliminated” was considered double barrelled. For this reason, it was split into two items; “Environmental claims on product labels or advertising are exaggerated” and “Consumers would be better off if environmental claims on product labels or in advertising were eliminated.” Their items were modified by changing “package labels” to a more general “product labels.”

During principal components analysis of the measure of scepticism, all five of the items loaded onto a single factor with a factor loading over .5 (see Table 4). Reliability analysis suggested that the five items reliably measure a single underlying concept based on the Cronbach’s alpha of .72. The mean for the resulting variable was 3.83 (SD= .78) on a 7-point Likert scale, indicating that, on average, respondents neither agreed nor disagreed with statements about the credibility of environmental product claims. An ANOVA also showed that the means for Scepticism did not differ significantly between the age groups (see Table 3).

Table 4  Principal components analysis of scepticism

<table>
<thead>
<tr>
<th>Variable</th>
<th>Item</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scepticism</td>
<td>I do not believe most environmental claims made on product labels or in advertising</td>
<td>0.84</td>
</tr>
<tr>
<td></td>
<td>Most environmental claims on product labels or in advertising are intended to mislead rather than inform consumers</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>Environmental claims made on product labels or in advertising are exaggerated</td>
<td>0.64</td>
</tr>
<tr>
<td></td>
<td>Most environmental claims made on product labels or in advertising are true$^a$</td>
<td>0.62</td>
</tr>
<tr>
<td></td>
<td>Consumers would be better off if environmental claims on product labels or in advertising were eliminated</td>
<td>0.54</td>
</tr>
</tbody>
</table>

$^a$ reverse coded
Age Differences in Attitudes Toward Organic Cotton

An ANOVA was also conducted using all 22 of the behavioural beliefs and outcome evaluations to determine if the attitudes of older health and natural foods consumers differ from those who are younger. A number of the behavioural beliefs and outcome evaluations of consumers in the oldest age category were significantly stronger than those of younger consumers (see Table 5).

Table 5  One-way analysis of variance for effects of age groups on behavioural beliefs and importance of outcome

<table>
<thead>
<tr>
<th>Items</th>
<th>Behavioural Beliefs</th>
<th>Importance of Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Df</td>
<td>SS</td>
</tr>
<tr>
<td>Fair price for producers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>18.25</td>
</tr>
<tr>
<td>Within groups</td>
<td>339</td>
<td>707.46</td>
</tr>
<tr>
<td>More retailers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>1.33</td>
</tr>
<tr>
<td>Within groups</td>
<td>337</td>
<td>457.42</td>
</tr>
<tr>
<td>Expensive product</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>14.59</td>
</tr>
<tr>
<td>Within groups</td>
<td>337</td>
<td>708.18</td>
</tr>
<tr>
<td>Reduction in pesticides</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>6.61</td>
</tr>
<tr>
<td>Within groups</td>
<td>336</td>
<td>641.06</td>
</tr>
<tr>
<td>Peace of mind</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>6.74</td>
</tr>
<tr>
<td>Within groups</td>
<td>338</td>
<td>802.84</td>
</tr>
<tr>
<td>Health of family</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>15.43</td>
</tr>
<tr>
<td>Within groups</td>
<td>338</td>
<td>758.46</td>
</tr>
<tr>
<td>Product availability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>21.68</td>
</tr>
<tr>
<td>Within groups</td>
<td>331</td>
<td>633.77</td>
</tr>
<tr>
<td>Supporting producers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>4.74</td>
</tr>
<tr>
<td>Within groups</td>
<td>334</td>
<td>508.88</td>
</tr>
<tr>
<td>Supporting pro-environmental companies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>13.61</td>
</tr>
<tr>
<td>Within groups</td>
<td>335</td>
<td>553.59</td>
</tr>
<tr>
<td>Supporting organic farming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>10.72</td>
</tr>
<tr>
<td>Within groups</td>
<td>337</td>
<td>437.46</td>
</tr>
<tr>
<td>Quality product</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>2.72</td>
</tr>
<tr>
<td>Within groups</td>
<td>336</td>
<td>517.69</td>
</tr>
</tbody>
</table>

* p<.05  ** p<.01  *** p<.001
Post-hoc analysis (Tukey's) was conducted to determine if the differences between age groups were significant under more stringent tests (see Table 6).

### Table 6  Mean scores on organic purchase outcomes as a function of age group

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>25-44</th>
<th>45-64</th>
<th>65 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Mean</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>behavioural belief's</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fair price for organic cotton producers</td>
<td>61</td>
<td>4.97a</td>
<td>1.44</td>
</tr>
<tr>
<td>Purchasing a product which is not readily available</td>
<td>60</td>
<td>4.07a</td>
<td>1.40</td>
</tr>
<tr>
<td>Supporting pro-environmental companies</td>
<td>61</td>
<td>5.40a</td>
<td>1.44</td>
</tr>
<tr>
<td>Supporting organic farming</td>
<td>61</td>
<td>5.69ab</td>
<td>1.26</td>
</tr>
<tr>
<td>importance of outcome</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchasing a product which is more expensive</td>
<td>61</td>
<td>3.79a</td>
<td>1.98</td>
</tr>
<tr>
<td>Supporting organic cotton producers</td>
<td>63</td>
<td>4.98a</td>
<td>1.69</td>
</tr>
<tr>
<td>Supporting pro-environmental companies</td>
<td>63</td>
<td>5.02a</td>
<td>1.05</td>
</tr>
<tr>
<td>Supporting organic farming</td>
<td>63</td>
<td>5.46a</td>
<td>1.02</td>
</tr>
</tbody>
</table>

Note: Means in a row sharing subscripts are not significantly different at the .05 level based on Tukey’s post hoc test.

### Discussion and Conclusions

This study suggests that while older health and natural foods consumers in the US are not dissimilar to younger consumers in many aspects, there are also some differences based on age, and both the similarities and differences are important to discuss. The results of the analysis of the demographic data show that the respondents in the study were older, more highly educated and better off financially than the typical American consumer. This agrees with previous research that suggests that the population of consumers interested in health and natural food is more highly educated than other consumers (Dimitri & Oberholtzer, 2009). Analysis of the geographic distribution of returned surveys (based a geographically representative mailing list) suggest that interest in health and natural foods may be more prevalent in the western half of the United States.

Other studies have found that the US organic food consumer is no longer much different from the general population in terms of their demographics (Dimitri & Oberholtzer, 2009). The ANOVA of segments by demographics confirms the previous research that suggests that the purchase of organic products, including organic apparel, does not depend on variables like age or education and may be only weakly related to income. The lack of differences in the intention to search for or purchase organic apparel between the age groups dismisses any
preconception that the interest of the elderly consumer in sustainable fashion is any different than that of the younger consumer. Older consumers are not less likely than younger consumers to be concerned about the environmental impact of their apparel purchase or to consider themselves sustainable consumers. They are equally likely to be supportive of organic agriculture and organic cotton producers. A very important outcome of this study is to reinforce the idea that sustainable fashion is not just for the young.

However, while different segments of consumers may possess similar general attitudes or engage in similar behaviour, they may be consuming to meet different needs (physical or psychological). Previous research has found that consumers who find organic cotton content salient are motivated by their beliefs about the beneficial outcomes of the purchase, including the outcome of “improving my health or the health of my family” (Hustvedt & Dickson, 2009). The analysis conducted here suggests that elderly consumers (65 and over) are not more likely than those younger to believe that the purchase of organic cotton leads to health benefits. The elderly health and natural foods consumers are more likely to believe that purchasing organic cotton products results in a fair price for organic cotton producers, which may reflect a trust in ability of the supply chain to deliver price premiums to producers. The neutrality of scepticism toward environmental product claims for the overall sample also contributes to the idea that trust/scepticism is currently not an important issue in the marketing of organic apparel products.

Based on the significantly higher behavioural belief that organic apparel is not readily available, the elderly consumer may be having more difficulty than the young consumer (under 44) in finding organic cotton apparel products. Fashion products are more often targeted at younger consumers while, as previous research on the mature female apparel consumer suggests, older (45-64) and elderly consumers are marketed “watered down” versions of trends in the fashion cycle (Mohylsky, 2011). It may be that sustainable fashion is considered by retailers to be “too fashionable” to be suitable for the older consumer and for this reason, the producers of apparel marketed to mature apparel consumers have been slow to adopt organics for their products.

The significantly higher importance to the older and elderly consumer of the outcome of purchasing expensive products is possibly due to quality connotations of price. The interest of the older and elderly consumers in this study in purchasing higher priced products agrees with Mohylsky’s (2011) study of mature female consumers, which found that these consumers desire garment details such as quality fabrics and good construction. The perceived lack of availability of organic products and interest in purchasing expensive products means retailers are missing a good opportunity to target a potentially lucrative segment of consumers. For example, would higher priced, higher quality organic cotton products styled with the shapes, cuts and silhouettes that are more appealing to the elderly consumer be more profitable than the lower quality products (such as t-shirts) more typically produced with organic fibres?

Previous research has also found that supporting organic farming in general was more important to consumers than supporting organic cotton farmers in particular or supporting pro-environmental apparel companies or retailers of organic products. The analysis here finds that while this more general support is true of younger consumers, these elderly consumers...
feel it is important to support organic cotton production and pro-environmental companies, not just organic farming. However, the elderly consumers are significantly more likely to believe that purchasing an organic cotton product results in support for pro-environmental companies. This, like their belief that the purchase results in fair prices for farmers, may indicate a level of optimism about the impact of their purchase on the supply chain.

The main contribution of this study, along with the creation of a demographic profile of American health and natural foods consumers, is an exploration of the attitudes toward organic cotton among consumers over 45. Most surprising is the indication that health benefits are not the distinguishing purchase outcome of importance to the older consumers included in this sample. Rather, supporting organic cotton production, pro-environmental companies and organic farming in general were outcomes of organic apparel purchases that were more important to the elderly consumer than to the younger consumer in this examination of US health and natural foods consumers.

There are naturally limitations in the application of this research. Firstly, the low response rate of the mail survey means that there is much that cannot be assumed about the attitudes of the health and natural foods consumers from which the sample was drawn. As the non-response bias analysis suggested, those who participated in the study were more likely to be females or those with higher levels of education, which suggests that the participants were either more interested in apparel shopping, more interested in organic agriculture and/or had more leisure time to complete a survey. This potential bias must be considered when applying the results of this study. Finally, because the sample was limited to consumers in the U.S., there will naturally be limitations when applying the results of this research to consumers in other markets. Research would need to be conducted to determine if older consumers in markets like the EU, which have, for example, well developed eco-labelling for fashion not available in the US, have different motivations for purchasing organic apparel. Additionally, research on organic apparel should be expanded to include consumers in developing countries, given that they are the source of much of the world’s organic cotton supply.

Despite these limitations, this study demonstrates the importance of examining a marketing issue like organic products or fashion consumption with a home economics approach. Research that considers the needs and motivations of underrepresented groups of consumers, like older fashion consumers, from an interdisciplinary perspective is the hallmark of a discipline focused on improving quality of life for everyone, regardless of their apparent value to the supply chain. The results of this study provide guidance for product developers and retailers seeking to meet the “green” purchasing needs of older consumers.

**Biography**

Gwendolyn Hustvedt (Ph.D. Kansas State University, 2006) is an Assistant Professor of Textiles at Texas State University-San Marcos. Her research focuses on the lifestyle of health and sustainability (LOHAS) consumer. She is a member of the IFHE Household Technology & Sustainability Committee as well as Educators for Socially Responsible Apparel Business (ESRAB).
Marsha A. Dickson (Ph.D. Iowa State University, 1994) is a Professor and Chairperson of the Department of Fashion and Apparel Studies at University of Delaware. Her areas of research include: Social responsibility in the apparel, textile, and footwear industries, global apparel production and marketing, and consumer product evaluation and decision making. She is the author of two books on social responsibility in the apparel industry and a member of the board of directors of the Fair Labor Association. She is also the founder of Educators for Socially Responsible Apparel Business (ESRAB).

References


Consumer Education for Futures

Vuokko Jarva

University of Helsinki

Abstract

This paper provides insights into the current situation of consumer education, with a focus on the thematic analysis of European strategy documents. The challenging context for consumers, along with consumer education in the 21st Century, are considered. Finally, futures education and consumer education strategies are explored through this analysis of selected relevant documents.

Introduction

Change in the consumption environment has accelerated during the past two decades. The main part of this change has been the improvement and increase of consumption options and thus freedom of choice. Simultaneously, the gap between the rich and the poor has deepened, even within affluent societies. In addition, this affluence and what some regard as the reckless exploitation of the natural resources has endangered the human species and even all living beings. So today the consumption environment is deeply contradictory in both the real external world and the minds of ordinary consumers as conscious people. However the necessary change in consumption modes cannot be reached without strongly futures-oriented consumer education with an emphasis on consumption ethics. Consciousness of the focal role of ordinary consumers, especially in highly industrialized or quickly industrializing countries, has not yet reached critical mass among educators and educational policies.

Globalization means in the economy the intertwining of the world economy into one single system with tight internal dependency. As households have become more dependent on the world economy, they are increasingly threatened by unfavourable changes, even in faraway locations. The walls of home have become permeable and the household more vulnerable. The consumption of youngsters and children is influenced by many factors outside the family, such as peer groups, media, brands, fashion and the fan-culture. Children learn very early to use the newest technology - often earlier than the adults of the family - and they do not have the capability to understand all the risks associated with it. New media like wireless phones and the Internet enable instant and secret economic activities. The economic consequences of a bargain may be revealed to the ratepayer only when the bill arrives. Commercial influence has new modes, often difficult to trace (Barber, 2007).

The development in wealthy societies has been away from production to bought commodities and services. This has given many households an opportunity to increase consumption from scarce to modest and even affluent. This means an increase in the freedom of choice and the transfer of emphasis of consumption from necessities to fulfilment of desires. Instead of sparing, households take on debt, and even become excessively indebted. At the same time, the old, class-based consumption models have degraded into myriads of small group and
individual styles. The emphasis has moved from long-range satisfaction to instant gratification.

A counterweight to these trends is the movement of sustainable consumption in which long-range consequences and ecological, economic and socio-cultural sustainability is emphasized. The old frugality is no longer enough, but immaterial consumption, more or less efficiency and harmony with natural processes is needed. The harmony with nature in production and consumption has been called ecomodernization by Joseph Huber (1995). The consumer’s concern for his or her welfare and that of family members is a natural basis of consumption. The connection between one’s own consumption and worldwide welfare is not self-evident. Consumer education is needed. Consumer education at its best empowers people.

The famous economist, John Kenneth Galbraith, had already named in the 1960s the wealthy, mainly Western societies as societies of affluence. The problem in these societies is no longer the lack of utilities, but that there is too much of nearly everything (Galbraith, 1965). A level of wealth was reached on which desires and interests had more to say in consumer choices than needs. Mika Pantzar (2000) even speaks about the invention of needs. Sociologist Kai Ilmonen (2007, p. 71) describes felicitously the complicated situation of a consumer.

The cycle of consumption begins in the market where the role of the consumer is as a chooser. From the viewpoint of a household, buying is not the only way to obtain commodities. They can be presents, they can be borrowed or produced by household work, they can even be stolen. Ilmonen also includes bought services in the category of commodity. The next role of a consumer is as a user. Commodities can be used for several functions: they can be worn, processed or used as utensils. Ilmonen has distinguished the use of commodities as expressing status and taste, in which case the consumer is a communicator. The consumer as producer/consumption worker is the fourth role, which the consumer takes when he or she processes bought raw materials in domestic production (Ilmonen, 2007, p. 70). Ilmonen does not specifically mention the removal of commodities from the household as waste. However, it has become very important because of concern about what is released into nature. Recycling and waste processing become increasingly important.

The relationships between economy, social issues, and ethics in the household have been studied by Brown and Paolucci (1979; Turkki 1999). They state that production of services that have a clear social goal is typical of the activity of the household. The ethical dimension is nearly always based on values. Activities serving material goals have complex connections with psychological, socio-cultural and even political factors. These connections interweave tight bonds between the social, ethical and economical in households.

According to the classic scholar of economic anthropology, Karl Polanyi (1968), economy is the use of natural resources for a livelihood. In present complicated societies, the relationship between economy and livelihood is not as simple. Consumers have more complicated motives of consumption, but the basic economic tasks of the household are today as before: 1. offer maintenance and shelter for its members, 2. create safety and continuity and 3. strive towards the welfare of the members. A household is a care economy institution.
In the global system, institutions of economy, private sector (sector 1), public sector (sector 2), non-governmental organizations (sector 3) and households form an interdependent net. Changes in any part of the economic system influence all the actors. When the functions and goals of economic institutions are different, they often lead to conflicts. In these conflicts households represent the moral economy standpoint. Basically, the household is an economic institution with the strongest emphasis on people’s survival and welfare. Even if an individual strives in consumption for his or her own benefit, many economists agree that this ambition has deep-rooted social functions as well. The household is a basic economic institution to sustain man’s livelihood. This function has remained while the household community has been transformed from extended family to nuclear family and further into rainbow families and several other modes. This function remains even in single-person households.

All of the changes described above force consumers to invest their resources more in the control of the household economy, anticipation and planning as well as division of domestic work among members. Bargaining of commodities requires many skills, but the bargaining of services requires new skills. It is no longer enough to evaluate the price-quality relationship, rather, the whole lifecycle of commodities has to be traced. The bargaining of services requires consumer to be able to evaluate the skills being bargained and adds administrative work to household chores. The educational system is challenged to teach these things more extensively and effectively to consumers.

### Table 1  Current challenges and consumer education functions

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Consumer education functions: Advancing futures consciousness, and promoting welfare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planetary threats to living beings</td>
<td>• Enhancing positive motivation, &lt;br&gt;• Systems thinking and life-cycle consciousness</td>
</tr>
<tr>
<td>Dependency on world economy</td>
<td>• Critical alertness, &lt;br&gt;• Capability to evaluate events in different parts of the world economy</td>
</tr>
<tr>
<td>Management of affluence</td>
<td>• Goal consciousness, &lt;br&gt;• Knowledge of consumer legislation and policies</td>
</tr>
<tr>
<td>Inequality</td>
<td>• Ethical motivation and consciousness</td>
</tr>
<tr>
<td>Media and other new technology</td>
<td>• Media literacy, &lt;br&gt;• Technology alertness and critical evaluation</td>
</tr>
</tbody>
</table>

### Goals of Consumer Education in the 21st Century

In the beginning of the 21st century, several projects for the development of consumer education were financed by public money in Europe. The background of consumer education is consumer policy, and many central international institutions have paid attention to consumer education. The General Assembly of the United Nations accepted general guidelines for consumer education in 1985, in which governments are presumed to establish programs of consumer education. The Ministers Council of European Union issued a statement in 1986 requiring that consumer education be included in the curriculum of basic education. Furthermore in the Amsterdam pact 1997, consumer education was included in the rights of the consumers, which the member states are obliged to fulfil (Consumer Education in the Nordic Countries 2000 p. 9; Consumer citizenship education 2005, s. 15-16)
This article is an analysis of the focal European proposals and materials for consumer education. The following abbreviations are used in this text:


- **DOLCETA**, pages continually updated (DOLCETA). Parts: Consumer Education for Teachers > Introduction to Consumer Education > Aims and Objectives of Consumer Education.


These documents deal with general education from children to adults. In addition to these, the analysis covers a document of the Consumer Citizenship Network, which concerns academic level education:


I will first analyse the general principles and the emphasis each has, and will then map the themes and content areas of the documents. Finally I will compare the principles presented for consumer education to the view presented in futures education.

**The role of a consumer and the goal of consumer education**

All the documents studied here emphasize strongly the individuality of a consumer. The goal is a consumer who is autonomous, conscious, responsible and skilled. The objective of consumer education is indicated by the following quote:

> “Consumer citizenship education encompasses attitudes, knowledge and skills connected to functioning in today’s society. It is responsibility learning which aims to contribute to the individual’s ability to manage his own life as well as participating in the stewardship of the global society’s collective life.” CCN2005 (p. 11).

NORDEST2009 (p. 19), which is the latest of these documents, states the following:

> “Consumer education today should provide citizens with the tools and skills to have an influence. It should be re-evaluated in the light of contemporary challenges.” A CCN report (2005, p. 12) also emphasizes global solidarity.

In the documents, there is evidence of temporal development from a passive victim-consumer who is supported in his/her coping, to an active consumer citizen. Consumer citizenship, historically a central theme in the European concept of consumer (Trentmann, 2008), is
specifically emphasized in the CCN2005 report. Victoria Thoresen defines this citizenship in the introduction as:

“A consumer citizen is an individual who makes choices based on ethical, social, economic and ecological considerations. The consumer citizen actively contributes to the maintenance of just and sustainable development by caring and acting responsibly on family, national and global levels” (Thoresen, 2005, p. 7).

DOLCETA specifies:

“It is generally agreed that there is an urgent need to develop, strengthen and spread sustainable approaches and actions across the world. This requires a process of social change that affects all individuals and in which all individuals need to participate. O’Donoghue and Cusack (2008) stated that one of the aims of ESD is: “To empower individuals to actively participate in shaping an ecologically sustainable, economically efficient and socially just environment, while remaining mindful of the interconnectedness between the local and global dimensions.”

Consumer citizenship is a new concept in the European discussion on consumer education, which has been developed in the Consumer Citizenship Network and has been adopted, for example, in DOLCETA. This concept is a combination of two concepts of the consumer and the citizen. The consumer concept has shifted from a concept of a weak victim consumer to emphasize an active person, whose everyday decisions and consumption actions influence not only the market, but the whole society, and even the whole globe. The concept of consumer citizenship implies an ethical obligation: he/she is expected to adhere to the commitments as a citizen and to strive towards the common good according to the principles of sustainable development, but at the same time not forgetting his/her own rights.

The consumer concept is acquiring new content now, when even nature itself is considered as to be a kind of producer. Even a person living outside the monetary system is understood as a consumer in the sense that he/she consumes natural resources. This position reflects a return to the concept of substantive economy proposed by Karl Polanyi:

"The substantive meaning stems, in brief, from man’s patent dependence for his livelihood upon nature and his fellows. He survives by virtue of an institutional interaction between himself and his natural surroundings. That process is the economy, which supplies him with the means of satisfying this material wants” (Polanyi, 1977, p. 20)

The citizen in this combined concept also has new content. Instead of the official citizenship of a state, it refers to an unofficial, experienced citizenship of the global community. Consumer citizenship is understood in the reports as a sought after identity, an ideal, towards which consumer education is obliged to strive.

The coping of a consumer is dealt with in NORDEST2009 broadly as concerning life conduct. This is an extension when compared to the earlier NORDIC2000 report, which covers only the
activity as consumer. NORDIC2000 parallels the caretaking of the family with responsibility for one’s own life, fulfilling societal obligations and taking care of the environment. The other, later reports emphasize sustainable development, which was originally proposed in the Our Common Future report (1987). Usually the term is used in connection with ecological sustainability, but it covers both social, economic and cultural sustainability as well. Care for the family is given special emphasis in the NORDEST2009 report (pp. 26 - 27), and it is discussed in terms of management and participation in a household economy. In addition DOLCETA highlights the importance of the consumer from the point of view of the functioning of the market.

Principles, themes and substance areas

The analysis of the definitions of the role of a consumer and functions of consumer education already shows that a shift has occurred in the emphasis during the first years of the 21st century. Table 1 presents the analysis of the contents of the documents, dividing them into principles/themes and substance areas. Some measure of specification and restructure has occurred, compared to the earliest document, the NORDIC2000 report. NORDIC2000 provided only a general critical evaluation of the everyday skills in relation to sustainable development and to the ethical principles of the lifestyle.

The common goals in the later reports are:

- capability for activity in harmony with sustainable development, even sustainable consumption,
- ability to evaluate commercial influence as well as obtain and handle information (specially media literacy), and
- consciousness and capability to utilize regulations concerning consumers’ rights.

The definition of principles is more extensive and detailed in CCN2005, because the purpose of it is to educate not only capable consumer citizens, but specialists of consumer citizenship as well.

An interesting detail is that NORDEST raises issues of the management and participation in the household economy as one of the focal substance areas. This deviates from the other documents. Activity as a consumer and the control of household economy is an essential part of coping and striving for welfare. Moreover if this basis collapses, there are severe consequences for the members of the household and the family. The economy of a household is, more clearly than any other economic institution, a care economy institution.

The relationship between the economy and the social factors in the household has been studied by the home economists Brown and Paolucci (1979, pp. 40 - 47; Turkki, 1999, pp. 12 - 18). They state that it is characteristic of the activity of a household to produce services that are explicitly social-goal oriented. Household economy serves the members of the household and the household community by producing welfare, which does not require economic utility.
Recently households have begun to be seen as active agents who influence the entire society (Richarz, 1998). To indicate this, efforts have been made to develop means for the economic circle of the household, which partly functions outside the monetary economy, to become visible. These include developing a measure of the monetary value of household work. According to such measures, the value of the household has been found to cover 25 - 60 percent of the GDP in different countries. For example in Finland, it accounted for 40% of the GDP in the year 2001 (Varjonen, 2000; Pietilä, 2000; Varjonen - Aalto, 2005).

The NORDEST2009 document sets one goal as the management of a household and the participation in household economy (2009, s. 33):

"The learner learns how to responsibly maintain the functioning of the home environment by allocating resources and making decisions. Learners acquire the ability to evaluate factors like the consumer's household social relationships, time management, leisure and chores. Learners are able to assess how consumption habits influence our wellbeing, ability to work and our financial situation."

This comment is in line with the principles of learning holistic life conduct as well as the principle of learning practical skills in real-life situations, which were stated in the document.

Figure 1 below shows the roles of the consumer and respective activity areas expressed in the documents analysed.

**Futures education and consumer education**

To conclude it is useful to study the contribution of the viewpoints that were expressed about futures education to the study of the new goals set for consumer education. In CCN2005 and NORDEST2009, the emphasis has been moved to cover futures education. In NORDEST2009, the focus is on evaluating the long-term impact of one’s own activity and the capability to participate in sustainable development. Here special attention is paid to developing positive and ethical motivation and responsibility for the future. Both CCN2005 and NORDEST2009 present the concepts of futures perspective or foresight (NORDEST2009, p. 29, 41; CCN2005, p. 25).

In futures education several researchers have highlighted the importance of positive futures images for human motivation and for raising people’s futures-hope and futures-will (Gidley, 1998; Hicks, 2002; Halinen - Järvinen 2007). Dator (1998, p. 9) even emphasizes the evaluation of the preferences of futures generations. Mikko Rask (2008, p. 120) concludes:

"The central tasks of knowledge about future are to construct alternative futures, their evaluation and to influence in the future (Niiniluoto 2001; Bell 1997; Masini 1994). The interests are tied with this so, that there is no impact without the interests, which mobilize the activity."

The importance of futures images is not yet recognized in the documents analysed, though they comment on the futures perspective and the long-term impact of one’s activities. Moreover the emphasis of futures education is often found in the futures images. The creation
of alternative future images is already a stable practice. Three kinds of futures are usually mentioned: the possible, the probable and the wished-for futures. Hicks emphasizes that one has to think about how local, national and global futures are interdependent (Hicks, 2002, p. 14).

![Diagram of roles of consumer and activity areas expressed in the documents](image)

**Figure 1** Roles of consumer and the activity areas expressed in the documents

The table below gives more detailed information on the content of the reports.
<table>
<thead>
<tr>
<th></th>
<th>NORDIC2000</th>
<th>DOLCETA</th>
<th>CCN2005 academic level</th>
<th>NORDEST2009</th>
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<tbody>
<tr>
<td>Principles/</td>
<td>Ability to critical evaluation</td>
<td>• Sustainable development</td>
<td>• Activity based on values</td>
<td>• Media and technology literacy</td>
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<td>Themes</td>
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<td>• Ability to critical evaluation</td>
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<td>• Everyday readiness to choose a lifestyle</td>
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<td>in harmony with ethical principles and</td>
<td>• Prevention of harm</td>
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<td>• Ability to critical evaluation</td>
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<td>Substance areas</td>
<td>• Quality of life and life styles</td>
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The whole of the latest reports, concerning both substance areas and skills, is described in Figure 2 below.
Figure 2  Substance areas of the reports and converging skills.

The analysed documents emphatically stress the importance of the environment and its extension into the global and even universal. Holistic system-concepts are discussed and those have long been important for futures research and futures education. Furthermore consumer education values relating one’s own consumption and one’s activity in general to wider connections. Perhaps this is most visible in connection with sustainable development, when the lifecycle of commodities is widely used.

Both viewpoints of education emphasize the anticipation of the impact of one’s own decisions and deeds (Bell, 2002, p. xiii). Hicks (2002) also emphasizes the anticipation of change.

The construction of meaning and the clarification of values are important in both consumer education and futures education. In consumer education, the discussion is anchored in sustainable development. However in futures education the meaning is understood more widely.

“Knowing what is possible and probable helps us to guide our actions, but we need to know more. We also need to know what is desirable. Which futures
should we want to achieve? Which futures should we try to avoid?” (Bell, 2002, p. xiii).

The finding of answers necessitates moral analysis. We have to engage in dialogue with others concerning what is good and what is bad to ourselves as individuals, our families and our local community, our nation, and the whole community of humankind and all the living beings.

The concept of the consumer-citizen emphasizes involving the world in the role of a consumer. The concept of an individual in futures education could be called futures-citizen. The active and responsible participant is the ideal model in both of them.

The emphasis in consumer education is in setting goals and planning the consumer’s own household and monetary economy. The setting of wider goals and life planning is referred to only in cases of life conduct and life style choice. These are presupposed to be in harmony with sustainable development and ethical values. One important matter that has been emphasized in futures education but not yet in consumer education is the construction of alternatives, even in planning.

The activity itself is discussed in futures education in terms of creating the future. Nonetheless all activity is actually making the future, but highlighting it helps in the understanding the value of one’s own activity.

The focal subject in the documents in consumer education is the consumer’s coping. Special emphasis is on the weak consumer groups such as the children and youth. The preventive function is expressed particularly in the proposals to promote media and technology literacy. NORDEST2009 also speaks about the care of the household, whereas DOLCETA concerns the functioning of the market and all participation in sustainable development. The centre of gravity in futures education has been elsewhere than in an individual or in a close community. Instead wider substances have been emphasized. Nevertheless the definitions of the goals remain there, usually on a fairly general level: better living, good society and desirable futures.

The evaluation of one’s own activity remains fairly bleak from both perspectives. Generally speaking, both stress the importance of an ethical attitude and also cover the evaluation of one’s own activity in general. Consumer education has the consumer’s safety as centre of gravity and it presumes an evaluation of the safety of one’s own activity. Perhaps the clearest criteria that is expressed in consumer education documents is the continuity and stability of one’s own life and household.

Finally I want to make some comments on how futures consciousness can be enhanced by consumer education:

- Learning to evaluate past experience, empowering futures-will through skills to create positive futures images, transforming needs and creating new needs,
- Learning to relate one’s own choices to other levels of the world system,
- Learning life-cycle thinking,
• Learning to use positive futures images as a basis of goal setting and to construct alternative futures images and planning,
• Learning to evaluate consequences of one’s action in relation to the goals and to responsible ethics concerning other people, all living beings and the global system

Conclusion

During the first years of the 21st century, the thinking in consumer education has undergone remarkable developments. David Hicks (2002, p. 17) expresses the goals of futures education:

“The particular aims of futures education are to help teachers and pupils
• develop a more future-orientated perspective both on their own lives and on events in the wider world;
• identify and envisage alternative futures which are just and sustainable;
• exercise critical thinking skills and the creative imagination more effectively;
• participate in more thoughtful and informed decision making in the present;
• engage in active and responsible citizenship, both in the local, national and global community, and behalf of present and future generations.”

Most of these goals can be found in the consumer education documents analysed, but they are not yet elaborated on and not all of them have been taken into consideration. However the discussion on consumer education has approached futures education by assimilating some characteristics of it. For example the importance of consumption has attracted attention in futures education especially with respect to sustainable development. As I see it, consumer education should be an essential part of futures education. This concerns especially the mass consumption of commodities, necessary and luxurious.

This article has not addressed the changes in pedagogical thinking that have occurred. In the earliest report, NORDIC2000, the emphasis was on the mediation of knowledge but in later documents it has shifted on the one hand to values, and on the other, to practical skills.

NORDEST2009 (p. 25) states that the basic needs of the consumers and the specific characteristics of their consumption have to be the basis for teaching. It has to serve the everyday needs better and emphasize holistic, systemic views instead of details. Moreover teaching has to strengthen positive motivation, the ability to anticipate, systemic thinking and consciousness about the lifecycle of the products. Teaching also has to be based on social learning.

One more important point needs mention: the NORDEST2009 report pays attention to consumption, advertising and marketing concerns, and even to small children, as they are also able to use money as well as information technology, enabling consumption. That report proposes that consumer education should even cover pre-school children.
It remains to be verified how consumer education will be actualized on the basis of the official statements and the proposals. At the moment, for example, in Finland consumer education is not included in the curriculum on basic education. However, incorporating it in various subjects as a cross-curricular theme is apparently very difficult to achieve.

References:


CCN2005, see Consumer Citizenship education.


Sustaining the Life Energy of the Profession: Insights from the Quantum Holomovement Principle

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Mount Saint Vincent University

Abstract

This paper draws upon constructs from quantum thinking to position the profession beyond dominant Cartesian-Newtonian thinking (fragmented specializations with no common philosophical core). It tenders the idea of gaining insights around home economics philosophy from the holomovement principle, an influential quantum construct. The paper identifies and elaborates upon five key concepts borrowed from quantum physics and applies them to home economics philosophy and practice: implicate and explicate order, the ensemble, perpetual dynamism, locality and non-locality, and complexity-consciousness (entropy and extropy). If we want to ensure a sustainable, future-proofed profession, we must nurture the deep energy core of our profession. The holomovement principle and related quantum constructs help us re-envision our future.

Key words: home economics, holomovement, quantum, philosophy, Newtonian, hyperspecializations

Caveat

First person pronouns (I, we, us, our) are used in this paper to refer to members of the home economics profession, by which ever name is used. Also, this writing convention is used because the author is a character in the narrative developed in this paper.

Introduction

Home economics arose as a discipline and a profession in the late 1800s (Brown, 1993), during a time when Newtonian, reductionist, mechanistic science reigned. Informed by the intellectual contributions of René Descartes (Cartesian thought and the machine metaphor) and Isaac Newton (classical science), this world view has held sway for over 300 years (originating during the 17th and 18th centuries) (Korten, 1998; Pike & Selby, 1988; Sokal, 1996). It deeply influenced the trajectory of the evolution of the home economics profession. First, this paper explains the nuances of Cartesian-Newtonian thinking then provides a brief overview of the emergence of its contender, quantum thinking. The remainder of the paper tenders the idea of gaining insights around home economics philosophy from the holomovement principle, an influential quantum construct.

Cartesian-Newtonian Thinking

In brief, Cartesian-Newtonian thinking views reality as compartmentalized and fragmented, one in which phenomena and events are seen as isolated and separate from each other. It
enables people to divide knowledge into separate, siloed disciplines, specializations and subjects. A linear problem/solution and cause/effect interpretation of reality prevails, as does dualism. Dualism presumes that two realities cannot talk to each other, cannot act upon each other and that one is superior to the other (e.g., human-nature, matter-spirit, science-religion, facts-values). Analysis (a focus on the parts) is preferred to synthesis (a focus on synergy and integration of the whole), as is objectivity versus subjectivity. As well, this worldview privileges patriarchy. Males are seen to use reason and logic (the preferred qualities of citizens) while women are reflected as soft, secondary, intuitive and attuned with nature (McGregor, 2011; Pike & Selby, 1988). Home economics was born at the apex of this worldview’s power (Brown, 1993).

Newtonian, reductionist, mechanistic science has “profoundly influenced the Western worldview up to present day so that there are few areas of human activity left unaffected by its assumptions and methodologies” (Pike & Selby, 1988, p. 24). Critics of this worldview (this paradigm) do not suggest that it is wrong; only that it has its limits. Korten (1998) acknowledged that “it gave rise to extraordinary advances in scientific knowledge and technology that brought previously imaginable affluence” (p. 10). However, this technological progress came with a price. It led to a society focused on materialistic, monetary, and market values, and to a profound shift away from focal things and practice – away from the home, the family, and the support of communities (Borgmann, 2000).

Home economics also was seduced by the power of Newtonian, reductionist, mechanistic science. A century later, many home economics scholars lament how technical the profession and discipline have become (e.g., Brown, 1993; McGregor et al., 2004). There is general agreement that we have evolved into a very fragmented state. Whether commentaries are from North American, European, Australian, African, Middle Eastern or Asian sources, they tend to claim that the profession is too fragmented, and has been reduced to too many different pieces and specializations, with too little in common. Brown (1993) maintained that home economics professionals who do not see the world holistically have a mind full of little islands with no bridges between them. This image is compelling. It paints a picture of a collection of experts in food, clothing, housing, consumption and family dynamics practicing on individual little islands with no way to talk to, or work with, each other, let alone with other disciplines. By neglecting to challenge this situation, informed by the hegemonic Western intellectual outlook (Sokal, 1996), home economics practitioners perpetuated this way-of-being in the world (Pendergast & McGregor, 2007), whether intentional or not. The results are the same, and need to be redressed.

Quantum Thinking

In the 1920s, 20 short years after the home economics discipline was founded, a world-altering shift from classical sciences to quantum sciences emerged, marking a break from the 200-year-long Cartesian-Newtonian hegemony (Stapp, 1995). Sokal (1996) clarified that the emergence of quantum physics led to “deep conceptual shifts within twentieth-century science, [which] have undermined Cartesian-Newtonian metaphysics… and demystified the substantive content of mainstream Western scientific practice [and thought]” (p. 217). Science moved from a focus on creating a picture of nature to a focus on creating a picture of our relationship with nature. The focus of science shifted away from the characteristics of
particles themselves to our knowledge of them, and to how obtaining that knowledge through observation actually changes the particle itself (Sokal).

With this profound shift in thinking, quantum physics enabled people to move away from the limiting constraints of Cartesian-Newtonian thinking. New concepts became available to help reframe the world, including: emergence, interconnectedness, complexity, relational (holistic) thinking, discontinuity, integral thinking, uncertainty, chaos as order emerging (rather than order lost), and multiple levels of reality (McGregor, 2010a, Selby, 1999; Sokal, 1996; Wheatley, 1999).

**Positioning Home Economics within this Paradigm Shift**

This profound re-conception of science opened deep, new avenues of intellectual thought for those inclined to follow them: how to reframe politics, economics, society and our relationship with nature, along life-centric lines (Sokal, 1996). However, during the last century, members of the home economics profession continued to embrace the tenets of Cartesian-Newtonian science, which sees things as isolated, disconnected and not related (picture the balls on a pool table). We do little good for individuals, families or humanity if we continue to embrace a fragmented view of the world. It only leads to more isolation and disconnectedness at a time when the complexity of our contemporary world demands recognition of the relationships and solidarity needed for harmonious co-existence, even survival.

There are two types of fragmentation, internal and external. Internal fragmentation refers to the personal loss felt due to fear, anxiety, stress, misguided self-interest and the disintegration of social norms governing behavior, thought and social relationships. External fragmentation refers to the boundaries, real or artificial, that are placed between families and society, the economy, the political system and the ecosystem. Fragmentation also is reflected in the boundaries that people have put up within our field, leading to specializations, narrow areas of expertise, and many different names (e.g., McGregor, 2010b). By continuing to recognize separate fields of expertise, sub-disciplines and micro-specializations within our profession, without agreement on a guiding philosophy to hold us together, we remain complicit in perpetuating a fragmented world view (McGregor, 2006), again whether intentional or not.

**The Holomovement Principle Applied to Home Economics**

Home economists can learn many lessons from the new sciences of chaos theory, quantum physics and living systems (McGregor, 2010a). In particular, we can gain deep insights into home economics philosophy and practice by drawing on a particular quantum physics principle, the holomovement (Bohm, 1980). This idea combines the words *holo* and *movement*, which stem from the Greek words for wholeness (undividedness) and movement (*holoteles*, entirely, complete in all respects). Instead of seeing the profession as comprising bits and parts from many individual areas of expertise and specializations, we now have a concept that lets us view the profession as an undivided wholeness in flowing movement without borders, creating a new fabric for our professional reality.
Instead of perceiving ourselves as a collection of separate parts, we can conceive of the profession as an undivided whole, in perpetual, dynamic flux. From this perspective, we can see our profession as a collection of different aspects of one whole and unbroken movement. In order to develop this idea, this paper identifies and elaborates upon five key concepts borrowed from quantum physics and applied to home economics philosophy and practice: implicate and explicate order, the ensemble, perpetual dynamism, locality and non-locality, and complexity consciousness. The intent is to conceptualize a home economics philosophical holomovement.

**Implicate and Explicate Order**

From the holomovement perspective, we can say that each facet of the profession contains the total order of the “home economics” universe, including the past, present and future. Everything folds into everything else. Bohm (1980) introduced two kinds of order in this universe—the implicate and the explicate order. Implicate is from the Latin *implicare* meaning “to fold inward.” Explicate is from the Latin *explicare*, meaning “to unfold” (Phillips, 2004). This concept enables me to suggest that the profession has implicate and explicate order. The implicate order is implicit, underlying the whole of the profession and is invisible; yet, it is fundamental to the entire profession. We tend to call this our philosophy, mission and value system.

When professional practice manifests itself so that others can actually see it, others are seeing the visible, explicate order (home economists in action). This paper is concerned with the invisible implicit order, the fundamental, philosophical foundation for the profession that underpins external manifestations of practice. This foundation is an unbroken and undivided whole, the core of the profession. A core is the tough, central part of something that contains the seeds; it is the depths of something, the most important part of a whole (Simpson & Weiner, 1989).

Bohn (1980) clarified, as well, that a holomovement cannot be readily defined or measured. There is no way to describe it or specify it, because to do so would divide it. Only through particular appearances (external manifestations) is the holomovement known, and then only glimpses of its shadow are possible. By association, we can say that it is very hard to quantify home economics philosophy; practitioners express their philosophy by the way they practice. It makes its appearance when they act in the role of a home economist. Imagine a slinky. When the slinky is inert, it just sits on a desk or in your hand. If it is set in motion, the coils separate (i.e., we get a glimpse of the core section of the whole); yet, the exposed core is always connected to the whole, and the entire slinky is in motion until it comes to rest (and even then, there is still energy in the core awaiting release).

To help explain this idea further (especially the reference to glimpses of shadows), I will use the analogy of a regular film versus a holographic film, prefaced with a brief discussion of how three-dimensional holographic images are made. The holomovement principle and the holograph go hand-in-hand. Talbot (1991) explained how holograms are formed. The object to be photographed is bathed in the light of a laser beam. Then, a second laser beam is bounced off the light-bathed image, capturing the image on film. Instead of pixels (like in a regular
photograph), lasered images look like swirls of light and dark lines (concentric circles). When a third laser beam is applied, a three-dimensional image appears—the hologram.

Imagine this image is a rose. If the image (the developed film) were cut in two and then illuminated by a third laser, each half still contains the entire image of the rose, just with a more limited viewpoint. Continued divisions lead to degradation of resolution and the loss of fine details, but the whole is still there (Talbot, 1991) (see Figure 1). In reference to this phenomenon, Bohm (1980) proposed that sub-atomic particles are never separated, are not individual entities; rather, at some deeper level of reality, they all are extensions of the same fundamental something. This metaphor enables me to suggest that every home economist in the world is an extension of the fundamental essence of home economics. Even more profound, quantum physics allows me to suggest that every home economist can know what others are doing because each one of us contains the information possessed by the whole (in our case, a philosophical core) (Talbot, 1991).

Figure 1  How holograms work (divisible properties)

Back to the idea that each part contains the whole (the slinky analogy). When we look at a holographic film, we do not see an image of the object that was photographed. Instead, we see a pattern of intricate, concentric circles that look like rain drops on the surface of a pond—the wave patterns of the image (Talbot, 1991). If a piece is ripped off a regular, pixel photograph, the picture is now incomplete because each section of the film from which it came stored information only about that part of the picture. As mentioned, if a piece of holographic film is broken off, each fragment contains the entire image of the whole, just in lower resolution (remember the rose, Figure 1). The whole is fuzzy, but still intact (Keepin, 1993). Picture the drone called R2D2, from the iconic movie Star Wars, projecting the holographic image of Princess Leah to Obi-Wan Kenobi. If I tried to touch this holograph
projection, all I would find would be focused light and a handful of air (unless the holograph has been embossed on paper or plastic). The disturbed image would remain intact because it cannot be destroyed if part of it is interrupted. It only gets distorted (fuzzy) until that part flows back into the whole again.

This paper anticipates that a sustainable and future-proofed profession is probable if we use this holomovement concept. Each home economist’s professional identity is a shadow of the whole because it only appears to be independent (Sharpe, 2000). Separateness in quantum thinking is considered to be an illusion; everything and everyone really are connected (Talbot, 1991). Even more exiting is that everything is in perpetual movement, and every portion of this flow contains the entire flow (Bohm, 1980; Talbot, 1991). Imagine a lava lamp. The viscous fluid is always in movement, with new things bubbling up and then falling back into the whole again. The whole is embedded in all of the parts. Everything is interconnected. All home economists are part of a larger whole, that is part of them. The implications of this perspective are profound. We never have to feel alone again.

The Ensemble

Bohm (1980) had another idea that is useful as we develop this metaphor of a professional holomovement. He suggested that the context within which a holomovement operates plays a key role in determining which segment(s) of the holomovement lift up and make themselves explicit (i.e., become visible). Bohm proposed that when the contents of the holomovement lift up to become something that can be seen, we then perceive an ensemble of parts, which continues to relate to the invisible whole. An ensemble is a group of complementary parts that contribute to a single effect (Simpson & Weiner, 1989), a music quartet, for example.

Along the same line of thinking, using the notion of implicate order, I can suggest that there is no isolated element in the ensemble of ideas that constitutes the profession. No one philosophical or practical aspect of practice can be understood without considering how it relates to others, because they are all interconnected. They cannot be separated. Selby (1999) called this relational holism. Picture a spinning airplane prop, comprising three blades. When spinning, it gives the appearance of a solid, separate disk. This separateness is an illusion caused by a rapid sequence of unfoldings. What we see at any point in time is actually a totality of the ensemble of parts, all present together in a continual process of unfolding and folding. These parts intermingle and interpenetrate each other, creating a whole (Talbot, 1991).

If we accept this notion of wholeness, then we can suggest the profession’s ensemble (i.e., the same philosophical core) should apply to all contexts of practice. However, because only certain aspects of the holomovement lift up at one time, everything does not rise up at once. Given this fact, Bohm (1980) suggested we must know the context in which something is unfolding in order to know how much sameness we can expect. We cannot expect every practitioner to behave in the same way all the time (explicate), but we can expect them to adhere to and draw energy from the same invisible core (implicate), the foundation of everything. In our profession, this invisible foundation comprises paradigms, principles, philosophies, values, beliefs, meanings and assumptions that shape practice. Their
manifestation is dependent upon the context and the resultant impact upon the context is dependent upon which aspects of the implicate order (philosophical core) informed practice.

In a related line of thinking, Bohm (1980) offered the idea of generative order, in which the invisible order (e.g., philosophy) helps generate structure for people’s visible work. The parts of the whole that manifest in contexts are still enfolded in the whole of the profession. How these philosophical parts manifest will be different in different situations. But, the implicit order (the invisible, philosophical foundation) still shapes everyone’s thinking, actions and reflections. This influence is felt because the holomovement of the profession lies under the world that we and others actually “see.” It unfolds and then folds back into itself, continually. It is the invisible core that sustains the profession.

**Perpetual Dynamism**

The future is constantly in process, in flux (remember the lava lamp metaphor). Every portion of the flow contains the entire flow, called perpetual dynamism (Keepin, 1993). Because the whole and all of the pieces of reality are constantly in process (i.e., in a state of emergence and be-coming), I can suggest each professional home economist is in the process of becoming philosophically savvy. Some will be ready to “see” some parts of the profession’s holograph (philosophy informing our practice), but not be ready to see other parts. When the time is right, people will be able to see the other pieces of their new professional reality. For the time being, some aspects of the professional core are important in some people’s contexts, while other core aspects are not.

If members of the profession eventually can embrace some or all of the ideas being postulated about what should constitute home economics philosophy(ies) (see McGregor, 2009, McGregor & MacCleave, 2007), they can accept the idea that no single aspect of their practice stands alone. All core aspects are connected to each other. This way of thinking reflects holistic practice; that is, continually working towards the formation of a professional whole through creative evolution (be-coming and emerging). As people work to create this new whole, specific manifestations of the core philosophy appear as ripples on the surface of the whole (Keepin, 1993). Consider the raindrop on the water surface metaphor again; through the ripple-effect, a small drop can make a huge difference. As we live each day as home economists, we should never lose sight of the whole (the underlying orderliness) or the need to continually strive to be creative as we perpetually create this whole, together. Each of us can make a difference.

**Locality and Nonlocality**

Bohm’s (1980) notions of locality and nonlocality can be extended to this professional holomovement metaphor. Nonlocality means simply that everything connects with everything else; that is, things are not separate. The implicit order (the invisible fundamental essence of the profession) is nonlocal: all aspects of the ensemble are interconnected. It is when we try to divide parts of this ensemble that things become local, a quantum term for separated. For example, if we bring a fragmented approach to our practice (bits and pieces), without appreciating that they are all connected through a core philosophy, we get practice that does not percolate up from the life energy of the profession; instead, our philosophically
ungrounded practice drains energy from the profession. McGregor et al.’s (2004) article tried to describe the effect of locality (fragmentation) on the profession. It argued the profession is addicted to the technical mode of practice, predicated on Cartesian-Newtonian thinking, and concluded we need to strive for a common philosophical core; in effect, strive for nonlocality.

It is important to acknowledge that viewing things as interconnected (nonlocality) does not rule out local influences. But, if the local (separateness and fragmentation) becomes universal, then people lose the ability to see things as connected (Biase & Rocha, 1999). This unfortunate side effect of excessive locality has happened in our profession. We have not embraced the idea of a core of life energy for the profession; instead, we have all gone our separate ways, leading to a profession that is not vibrant and not sustainable. Its energy core is being drained at a rapid pace, and is not being replenished.

But, quantum principles give us hope. Because locality (fragmentation) is less organized than nonlocality (connectedness), a fragmented professional system will lose entropy. This eventuality is the exact opposite of what a vibrant, sustainable profession needs. We need entropy, an increase in intelligence, information, energy, vitality, experience, diversity, opportunity and growth (Sharpe, 2000). This entropic state is achieved through connectedness, because systems experiencing entropy have higher energy levels than those that are fragmented.

Complexity-Consciousness

Finally, to counter the idea of entropy, Bohm (1980) used the concept of extropy (the tendency for systems to grow more organized as they become more complex). He also used the idea of consciousness. Bohm understood it to be a series of moments in which one moment gives rise to another (implicate becomes explicate, and so on) leading to an accumulation of understanding. From this perspective, we can suggest that each home economist displays an unfolding of the consciousness of the profession. We can further suggest that any thought or idea about practice that comes into one’s mind peculates up from the deep recesses of the professional holomovement. This holomovement is the life energy of the profession. Each of us arises from this energy core. Likewise, when necessary, we can reenter this energy force to augment our evolution and strength (Sharpe, 2000). It sustains us. To mirror Sharpe’s (2000) suggestion, the consciousness of home economics is one; each home economist displays an unfolding of this consciousness.

Bohm (1980) further referred to extropy as increasing complexity-consciousness. Complex consciousness emerges from the formation of simple connections that lead to more and more complex and numerous connections. Interestingly, in some instances, the complexity of the nonlocal (global) movement may have to abate for a while to allow room and energy for more local growth. Indeed, local action (fragmentation) often is a first necessary step to create the elementary parts needed for consciousness and complexity to arise.

Applying this idea to home economics, we can say that the profession has the potential to become more complex if its fragmented parts can merge and become more complex. As the profession becomes more complex, it will become more interconnected (i.e., non-local). As a
new whole emerges, individual elements of the professional system tend to behave in new ways. People begin to relate to each other over distances, although not connected by immediate physical contact. People involved in this dynamic process become both a by-product of complexity and an actor in perpetuating complexity; hence, there is more consciousness in the profession. This force strives toward, even beyond, the initial complexity of the profession (Sharpe, 2000).

Back to the beginning—our ultimate professional reality need not remain a collection of separate people and ideas on individual islands (as it appears to us right now). Rather, it can be an undivided whole that it is in perpetual, dynamic flux. Talbot (1991) asserted people can be part of an undivided whole and still possess unique qualities. Seeing ourselves as part of an unbroken profession means we will each be individual professionals, but it will be hard to determine where one of us ends and the profession begins. A water metaphor helps here. Imagine eddies (swirling pools of water) in a stream. At first glance, they appear to be separate eddies. But, soon it becomes hard to tell where the whirlpools end, and the stream begins. Such would be our professional holomovement. While maintaining separate identities, each home economist would be drawing strength from the life energy core underlying and sustaining the whole, unbroken profession.

Discussion and Conclusion

Everything in the profession, our base reality, is made of the seamless holographic fabric of the implicate order (we cannot see this). This is our energy core from which everything in our practice is drawn. In our waking state, we unfold from this underlying energy core, but stay connected to it. The reality in which we work, on a daily basis, is the explicit order—our waking state. The underlying, invisible implicate order is our professional consciousness, our guiding light and our professional compass.

I think the photograph of our profession was taken using a regular camera that generates a pixel-based, paper copy. When one piece is ripped off, the picture is incomplete. Using the holographic film metaphor again, it is time for a new image of the profession to be taken so that the whole is encoded within it. The holographic image projected to us and the world (remember R2D2 from Star Wars) would represent the unfolded image of the profession, made visible through what people see us doing. But, at the core of this image is the invisible, yet fundamental, philosophical heart of our work. Because images of ourselves as professionals flow in and out of this film, yet are constantly anchored to the core, we have the opportunity to step in and out of the core and constantly form and change. This is the professional holomovement—the whole is moving as one (Talbot, 1991).

Fragmentation (locality) is necessary in order to create the parts that eventually form connections leading to complexity and evolution of systems (nonlocality). As well, there is an underlying force in the universe making the universe move towards increased complexity and interconnections (Sharpe, 2000) (the opposite of the Cartesian idea that the universe is a clock winding down to nothing). The notion of the universe gaining energy through the amalgamation of fragmented parts provides justification for our 100-year-long journey along the path of fragmentation. Now, we can say we have the parts needed to merge and create something more complex and evolutionary.
Members of the profession are encouraged to take the time to focus on the idea of a professional holomovement. We can be on the vanguard of the new millennium, if we embrace this metaphor to guide us. Being in the vanguard is where we need to be, because the vanguard is any creative group active in the innovation and application of new concepts and techniques in a given field, including home economics. We can better position ourselves on the vanguard if we embrace the holomovement concept—the idea that the entire whole is in constant movement, folding in and out of itself recreating a central core of sustaining and invigorating professional life energy.

Perhaps our founders tapped into this idea. There is deep meaning in the fact that many home economics associations have the flame as their symbol (most logos designed a century ago). The flame is a powerful representation of the inner energy core of the profession. The flame encompasses all of the metaphors used in this paper: folding and unfolding, the entire whole moving as one, embodied practice, dynamic motion. In order for this flame to continue to burn, it needs to be stoked, and continually watched. If we want to ensure a sustainable, future-proofed profession, we must take care of our flame. We must remain committed to nurturing the deep energy core of our profession. The holomovement principle serves as well in this commitment.

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Biography
Sue L. T. McGregor is a Canadian home economist at Mount Saint Vincent University, Canada. She is a Professor in the Faculty of Education. Her intellectual work pushes the boundaries of consumer studies and home economics philosophy and leadership towards integral, transdisciplinary and moral imperatives. She is Docent in Home Economics at the University of Helsinki, Marjorie Brown Distinguished Professor and a Kappa Omicron Nu Research Fellow. Affiliated with 20 professional journals, she is Associate Editor of three home economics journals. Sue has delivered 35 keynotes and invited talks in 11 countries and published over 120 peer-reviewed publications, 11 book chapters, and eight monographs. She published Transformative Practice in 2006. Consumer Moral Leadership was released in 2010. With Russ Volckmann, she co-published Transversity in 2011. Her professional and scholarly work is available at http://www.consultmcgregor.com

References


Abstract

A transdisciplinary methodology better ensures that home economics can take the lead in ensuring that higher education disciplines (including home economics), government agencies, the corporate sector, and members of civil society can share perspectives and power to solve increasingly complex problems of humanity. To that end, this paper profiles home economics as comprising disciplinary work, interdisciplinary work and transdisciplinary work. It envisions home economics practice through the lens of transdisciplinarity as a methodology, with four axioms: (a) multiple Levels of Reality (ontology), (b) the Logic of the Included Middle, (c) knowledge as emergent complexity (epistemology), and (d) integral values constellation (axiology).

Keywords: transdisciplinarity, interdisciplinarity, methodology, home economics, complex human problems

Home economics is “the only critical, profound, and global profession that addresses the actual spectrum of nurturing basic human universals” (Davis, 1993 p. 32 (see also Davis, 2008)). To live up to the laudable goal of addressing problems of humanity, home economics could consider transitioning from an interdisciplinary to a transdisciplinary approach to practice. The latter involves intellectual, border-crossing work (Horlick-Jones & Sime, 2004) for the good of humanity (Brown, 1993). To facilitate a conversation about what this practice might look like in home economics, this paper shares ideas about transdisciplinarity as a methodology, an idea worth considering for home economics.

For a century, the profession has framed itself as interdisciplinary (Brown, 1993). Interdisciplinarians strive to assemble different disciplines around particular themes without any commitment to change the boundaries and relations among the disciplines (Fairclough, 2005). Home economics excels at this task. However, the unintended results often are fragmented knowledge, insular islands of specialized expertise, and too few connections with other disciplines that also are interested in problems faced by humanity (Brown, 1993; von Schweitzer, 2006). Home economics’ unique contribution is its focus on the home and family. When home economics professionals embrace the idea of crisscrossing back and forth across its disciplinary boundary and those of other disciplines, with the intent of removing the boundaries to create a space for intellectual synergy, they will augment their ability to meaningfully contribute to the solution of the world’s problems.

Acknowledging home economics’ traditional interdisciplinary posture, McGregor (2010b) shared a history of the idea of transdisciplinarity in home economics. She recounted the
leading-edge contributions of Christine Daniels (1980) from Wales and Marjorie Brown (1993) from the United States. Daniels believed that transdisciplinarity was a way to organize home economics curriculum in higher education. Brown believed transdisciplinarity was both (a) an overarching conceptual framework and (b) a context for the unity of world views. She ardently maintained that by using a transdisciplinary framework, interdisciplinarian home economists would be better able to study more relevant social problems than if they remained constricted by their narrow disciplinary boundary and siloed specializations.

Daniels (1980) and Brown (1993) started the profession on its journey towards transdisciplinarity, using then-contemporary understandings of the concept. Daniels relied on Jantsch’s (1972a,b) and Brown relied on Kocklemans’ (1979) conceptualizations of transdisciplinarity. McGregor (2010b) observed that as the concept of transdisciplinarity evolved during the seventies and eighties so too did home economists’ interpretations of transdisciplinary-informed practice. Indeed, Daniels and Brown tendered quite different ideas of what transdisciplinary in home economics might look like. They both provided very valuable insights for the profession, nudging us further away from our historical reliance on interdisciplinarity.

In her discussion of Daniels’ (1980) and Brown’s (1993) contributions, McGregor (2010b) asserted that, by remaining cognizant of the continually evolving notion of transdisciplinarity, the profession could become a key player in the global movement for integral, boundary-crossing approaches to address the magnitude and complexity of problems faced by humanity. Following in Brown’s and Daniels’ footsteps, she continues to champion the idea of transdisciplinarity and home economics; however, McGregor draws on new iterations of transdisciplinarity that have evolved since Daniels’ and Brown’s contributions. In particular, she employs notions of transdisciplinarity as methodology, a perspective that originated at the first world congress on transdisciplinarity (cf. Nicolescu, 2002). This meeting was held in 1994 in Portugal, one year after Brown’s work was published and 14 years after Daniels’ paper.

For clarification, earlier notions of transdisciplinarity (TD) assumed it was a hyper form of interdisciplinarity (Jantsch, 1972a,b; Kocklemans,1979). New scholars of transdisciplinarity perceive it as more; they envision it as an integrated combination of: (a) disciplinary work, (b) scholarship between and among disciplines (interdisciplinarity), and (c) knowledge generation beyond academic disciplines and across sectors external to the university (at the interface between the academy and civil society) (McGregor & Volckmann, 2010) (see Figure 1). This approach is the focus of this paper.

Home Economics Disciplinary Work

Home economics concurrently evolved as both a discipline and a profession. The former entailed the development of university units, higher education curricula, library holdings, and academic journals and gatherings. Disciplines are understood to be areas of academic study that are comparatively self-contained and isolated domains of learning, which possess their own community of experts (Nissani, 1997). On the other hand, a profession involves a responsibility to serve the public, has a complex, evolving body of knowledge (drawing from disciplinary scholarship), has standards of admission, requires certification or licensing, and
has a need for public confidence (Brown, 1993). Professions require professional associations, accreditation and/or licensing, ongoing professional development and in-servicing, and codes of ethics and practice, even regulatory legislation.

Figure 1  Contemporary notion of transdisciplinarity - integrated combination of three forms of scholarship (work) and problem solving

In more detail, the academic discipline of home economics has created (and continues to create) its own disciplinary knowledge base, to serve both a generalist and a specialist approach. The former prepares mission-oriented professionals to assist families in complex problem solving. It often involves added attention to the stated mission, values and philosophical core of the profession. The specialist approach prepares professionals for specific career paths, with the focus on the mission less clear (Butler, Ade-Ridder, Rudge & Senbach, 1987). Brown (1993) further clarified that a generalist is prepared to integrate knowledge from a variety of disciplines while a specialist studies within existing sub-divisions of an established discipline (in our case, food, clothing, shelter, family, consumption et cetera). Turkki (2006) proposed a new kind of specialization within home economics. We
would become integral specialists with expertise that integrates, links bridges, sees connections, looks for patterns, coordinates and communicates.

As well, within the last decade, some professional associations have focused attention on clarifying the profession’s body of knowledge (BOK) (e.g., Nickols et al., 2009). A BOK is a term used to represent the complete set of agreed-to concepts, terms, principles and activities that make up a professional domain, as defined and advocated by the relevant professional association. BOKs contain the main domains of learning and respective high-level topics or knowledge areas, as developed within the academic discipline. Ideally, there is a mutually beneficial relationship between the discipline and the profession (McGregor & MacCleave, 2007), one which ensures productive and meaningful disciplinary work that advances the discipline and serves the profession.

**Home Economics Interdisciplinary Work**

Brown (1993) clarified that interdisciplinary work involves the integration of knowledge and modes of reasoning and logics from different disciplines into new patterns of thought and practice (taken to mean empirical logic, interpretive logic (meanings) and critical logic (judgements about power infrastructures)). From an interdisciplinary stance, problems faced by individuals and families are perceived and dealt with through inquiry in research and in education over several disciplines (including some combination of the natural, human, social, and administrative sciences). Daniels (1980) and McGregor (2008, 2010c) explained that home economics higher education programs are conventionally structured so that students take courses from other disciplines. Their minds are trained to tease out content, theory and principles from aligned disciplines and then to draw on the synergy created when connections are made between these insights and home economics’ mission and philosophy. The intended result is interdisciplinary-informed practice that is focused on individual and family needs and functions.

It bears repeating that, despite this deeply valuable approach to academic socialization into the profession, interdisciplinarians strive to assemble different disciplines around particular themes without any commitment to change the boundaries and relations among the disciplines (Fairclough, 2005) or between the discipline of home economics and other disciplines. In our case, architects of higher education programs design curricula that expose students to an array of disciplines, with the intent to create a home economics-focused disciplinary knowledge base. Over time, this knowledge base emerged as a result of the generation of fresh knowledge produced through the integration of knowledge from a collection of different disciplines (Brown, 1993). Done well, interdisciplinary approaches help home economics students create patterns for interpreting the world through a multitude of disciplinary lens, while remaining focused on family well-being and quality of life.

Brown (1993) and others also characterized home economics as multi-disciplinary. Interdisciplinary work differs from multi-disciplinary studies in that the latter does not strive to integrate knowledge into new patterns. Both approaches are natural first steps for solving complex social problems, but they are not enough (Brown, 1993; Lattanzi, 1998). Human problems do not exist in isolated discipline-oriented packets; hence, solutions to such complex problems cannot be found in disciplinary, even multi- or inter-disciplinary,
approaches. To that end, Brown asked us to use the transdisciplinary framework to re-examine the purpose historically claimed for home economics, both its meaning and its justification.

**Home Economics Transdisciplinary Work**

Brown (1993) portrayed transdisciplinarity in home economics as an overall framework for the synthesis of knowledge that unites and then transcends the disciplines because it focuses on work done in various fields by people concerned with “the human problem” (p.296). She astutely explained that this knowledge synthesis must take place in the mind of each home economist before a collective synthesis can take place within the discipline. This synthesis cannot occur if each home economist seeks comfort within his or her specialist-trained mind, limiting his or her perspective concerning the human problem. Home economists engaged in this transdisciplinary process would have to move beyond their views of the world informed by their respective discipline (Brown). Even if it is interdisciplinary in its philosophy, home economics is not the only way to see the world.

Transdisciplinarity also significantly deepens the range of problems that home economists would consider. Historically, we have focused on the quality of life and well-being of individuals and families. This characterization of our raison d’etre fails to “clarify the set of human problems appropriate for home economics” (Brown, 1993, p.255). Transdisciplinarity would have home economists “go to the root of human problems …rather than to treat the manifest symptoms [thereby] making us more critically reflective about social realities and their influence on the human condition rather than blindly accepting existing social conditions [characterized as well-being and quality of life]...” (p.268, emphasis added). Present day scholars (e.g., Nicolescu, 2001) agree that the set of human problems mentioned by Brown encompasses: the human condition, issues that have global implications, human freedom and justice, self-determinism, harmonious access to and distribution of resources, human and bio sustainability, power relationships, human aggression, human development, human empowerment and potential, and the import of ideologies, worldviews and paradigms. This notion of what constitutes a problem is a far cry from home economics’ conventional rhetoric of specialized issues pertaining to food, clothing, shelter, family relations and individual development, and consumption-related scenarios.

As mentioned before, Sue McGregor is carrying on Christine Daniels’ and Marjorie Brown’s work by continuing to champion transdisciplinarity and home economics. In her paper for KON’s Human Sciences Working Paper Series, McGregor (2004) distinguished transdisciplinarity from other forms of disciplinarity with which home economists are familiar. She then used metaphors to illustrate the mind shift necessary to move home economists from multi- and inter-disciplinarity to transdisciplinarity. She concluded by tendering a transdisciplinary self-orientation tool to help individual practitioners determine their readiness for this new approach to practice. More recently, her writings affirm her belief that transdisciplinarity is a methodology in its own right,1 akin to empirical, interpretive and critical methodologies (McGregor, 2005, 2007a, 2009a, 2010a; Torkar & McGregor, 2012). This paper now turns to this current approach to transdisciplinarity, and what it might mean for home economics practice.
Transdisciplinarity as a Methodology

Brown (1993) exclaimed that it is not enough for home economists to solve the set of human problems using an integrated package of technical information from several disciplines (the logic of empirical scholarship). Such problems also concern human values (interpretive logic) and the need to judge and critique global resource distribution and resultant power infrastructures (critical logic). She asked us to apply a combination of all three methodologies to solve the problems of humanity - empirical, interpretive and critical. McGregor and Murnane (2010) provided a detailed discussion of how these three methodologies differ.

Contemporary approaches to transdisciplinarity actually conceive it as a fourth methodology in its own right, with its own notions of what counts as knowledge, logic, reality and the role of values (four axioms, with axiom meaning self-evident rules, principles and laws). Nicolescu (2002, 2008b) is the leading advocate of the transdisciplinary (TD) methodology. He tendered three pillars (axioms) of transdisciplinarity: (a) multiple Levels of Reality (ontology), (b) the Logic of the Included Middle, and (c) knowledge as emergent complexity (epistemology). McGregor (2009a) and Cicovacki (2004, 2009) added a fourth pillar of values (axiology), which McGregor labelled integral values constellation (see Figure 2).

![Four Pillars (Axioms) of Transdisciplinary Methodology](image)

**Figure 2** Four pillars (axioms) of transdisciplinary methodology

It is important to note that the current TD methodology is deeply informed by the new sciences of quantum physics, chaos theory and living systems theory (Nicolescu, 2006). By comparison, most home economists have been socialized in higher education programs informed by Newtonian physics. The latter (known as Modern Science) assumes everything is separate, especially that science is separate from theology, philosophy and culture. It embraces fragmentation, dualities (this or that), and universal laws that apply to everything and everyone (with no concern for context). The world is viewed as black and white. The ideology of scientism assumes that only knowledge generated using the scientific method is
worthy knowledge. Objectivity becomes the extreme criterion for Truth and reality. Human beings become objects.

Within this scientific mind set, generations of home economists have become comfortable with being experts, with working within their own discipline, and especially with being specialists within home economics sub-disciplines (hyper-specialization). They have become adept at assuming that their picture of family reality is incomplete, made up of many separate parts. If they can just conduct enough experiments and develop enough theories about this singular reality, they will eventually build up a more complete picture (McGregor, 2009b). Nicolescu (2006) explained that the innovation of the new sciences radically changed what is acceptable as knowledge, reality, logic and the role of values. Home economics now has a methodology that enables it to renounce (at least downplay) scientism, fragmentation and hyper-specialization, a fervent call of Brown (1993). Each of these four pillars of the TD methodology is now discussed.

**Transdisciplinary Reality (Ontology)**

Ontology refers to the study of existence or reality. It deals with questions of what entities exist (or can be said to exist) and of how they can be grouped or sub-divided according to similarities or differences. Instead of one singular reality, transdisciplinarity accommodates 10 key realities (multiple levels of realities): the environments, economics, politics, culture and art, social and historical, individual and community, the planet and the cosmos. Each of these realities is characterized by its incompleteness; yet, together, in unity, these realities generate new, infinite knowledge (Nicolescu, 2006).

Some people are more aware of different levels of reality than are others (i.e., it is their speciality, their expertise, or their lived experience). For this reason, transdisciplinarity assumes that it is essential to seek multiple perspectives on any human problem (or set of human problems) because the intent is to integrate many levels of truth. There is no right or wrong, good or bad, yes or no answer; there is no black and white. Also, no one level of reality constitutes a privileged place from which individuals are able to understand all other levels of reality; instead, a level of reality is what it is because all of the other levels exist at the same time (Nicolescu, 2006).

From a TD perspective, home economists would respect the complex and dynamic relationships between three levels of reality: (a) the internal world of humans (comprising political, social, historical and individual realities); (b) the external world of humans (comprising environmental, economic, and cosmic/planetary realities); and, The Hidden Third. People’s experiences, interpretations, descriptions, representations, images, and formulas meet on this third level. Three realities exist in this intuitive zone/level: culture and art, religions, and spiritualities (see Figure 3).
In summary, the TD methodology assumes there are 10 different realities, organized along three levels. Together, they form TD ontology: the internal world of humans (with its flow of consciousness), the external world (with its flow of information), and their mediated interface (Nicolescu, 2006, 2008b). Home economists would no longer problem-solve from one level of expertise (e.g., just home economics, or just politics or just economics). They would expand their horizons to envision solving the set of human problems by employing a different notion of what counts as reality, and by accepting that these realities are intertwined.

Although this idea may feel similar to human ecology’s concept of reciprocal relationships among levels of environments, it is different in that it deals with the mediated flow of inner consciousness (perceptions) and technical information from different realities leading to a meeting of the minds in a Zone of Non-Resistance. In this space, home economists would shed their resistance to truth informed by other realities, and join these realities to generate complex, TD knowledge (see Figure 4).

**Transdisciplinary Logic**

Transdisciplinarity asserts there are multiple levels of reality and that each level is governed by a different kind of logic (Nicolescu, 2008b). Logic is concerned with the habits of the mind that are acceptable for inference and reasoning when arguing one’s position on an issue. In philosophy, logic is concerned with answering the question “How do we know what we know?” Logic (reasoning and inference) is used in most intellectual activity, and perceptions of what counts as logic underpin all intellectual activity. The tendency in higher education is to predicate curriculum on the Newtonian logic of exclusion, on reductionist-based scientific inquiry (Nicolescu, 2008b). The logic of exclusion assumes that the space between objects or people is empty, flat, static and void of life (like the space between the balls on a billiard table). In academic life (and home economics is no exception), this logic manifests as
separate departments, journals, library holdings, conferences and professional associations. It is also evident in the familiar intellectual actions of: deduction (cause and effect), linear thinking, reductionism (breaking things down into parts to understand the whole from which they come), and either/or approaches with no room for contradictions.

Figure 4  Transdisciplinary zone of non-resistance where actors can talk with each other

Home economists often employ the logic of exclusion, even though they characterize themselves as interdisciplinary. Interdisciplinarity builds bridges between disciplines so ideas can cross back and forth across temporary, coordinated borders. The assumption is that a bridge is needed to cross the deep chasm between siloed, fragmented fields of study and between hyper-specialized sub-disciplines within home economics (McGregor, 2004, 2006). In practice, the lack of a temporary bridge means there are many instances when people from different disciplines (even within the (sub)discipline(s) of home economics) cannot talk to
each other; hence, there can be no integration or generation of new knowledge (MacCleave, 2006).

In contrast to a logic of exclusion, a TD methodology embraces the Logic of the Included Middle. This inclusive logic enables people to imagine that the space between things is alive, dynamic, in flux, moving and perpetually changing. It is in this fertile middle space that transdisciplinary manifests itself. Transdisciplinarity has people stepping through the zones of non-resistance (away from one worldview or notion of reality towards others) onto a fertile, moving floor of the included middle, where, together, they generate new transdisciplinary intelligence and knowledge. The logic of the included middle would require home economists to create a space for dialogue and knowledge generation. In this space, attempts would be made to reconcile different logics for the sake of solving the set of human problems. Using the logic of the included middle to move through the 10 different types of reality (by making space for contradictions and discontinuities in realities), creates a permanent possibility for the evolution of new knowledge.

In more detail, quantum physics allows people to imagine many fuzzy-edged balls of knowledge and ways of knowing coming together. When all of these people and their ideas collide on the fluxing, fertile space, fusion occurs when separate bits of knowledge come together. These knowledge and perception/consciousness bits move faster when they are exposed to each other (McGregor, 2004). TD knowledge is created. The logic of the included middle allows people to bridge adjacent levels of reality, enabling meaning-making systems to orient themselves to each other (Nicolescu, 2008b). When people from different disciplines come in contact with each other and are motivated, an energizing force is generated - a synergy is created. This synergy leads to the generation of embodied knowledge created from the energy emanating from the intellectual fusion. McGregor (2009a) employed a metaphor of a lava lamp to explain this idea. As well, a sense of community and belonging is nurtured - a sense that individuals are part of something bigger than each of them. At the same time, there is a realization that everyone is a new and different person in each relationship(s) formed in the fertile middle. The strength and potentialities that emerge from these intellectual encounters are life-giving and transformative.

What is especially significant about the logic of the included middle is transdisciplinarity’s focus on what happens at the interface between higher education (academic disciplines) and the rest of the world. In order for home economics scholars to become transdisciplinary, they would have to connect with members of civil society (as well as with the private and public sectors). Civil society refers to all groups outside government and the corporate sector (including the academy) such as: community groups, non-governmental organizations, labour unions, Indigenous Peoples’ organizations, women’s groups, charitable organizations, faith-based organizations, professional associations, foundations, and citizens (FAO, 2008). While inter means between, trans means to crisscross back and forth, to zigzag, to move beyond, to move through, to pass beyond the limits. By definition, this means home economists would reach beyond the walls of their academic discipline and sub-discipline(s) into the world of lived human experiences, interacting with actors from other sectors (McGregor, 2004, 2006).
Furthermore, a TD methodology would ask home economists to accept that what counts as knowledge has to expand beyond that which is generated using the scientific method to include the complex structure of understandings garnered through intricate webs of relations among individuals in the academy, the private and public sectors, and in civil society. Horlick-Jones and Sime (2004) coined the phrase border-work to refer to the intellectual work that occurs when people living on the borders of the academy (university disciplines) and civil society engage in knowledge generation to address complex problem solving.

Transdisciplinary Knowledge (Epistemology)

The third axiom is TD knowledge. Epistemology stems from the Greek word, epistēmē, meaning knowledge. It is a branch of philosophy concerned with what is knowledge, how is it acquired, what do people know and how do they come to know it. As with ontology and logic, transdisciplinarity strives for a different kind of epistemology than do the other three methodologies (see McGregor and Murnane, 2010). Transdisciplinary knowledge is based on cross-fertilization, embodiment, complexity and emergence.

A different understanding of these familiar words is required of home economists, especially complexity (versus complicated) and emergence. Transdisciplinarity draws its notion of complexity from the new sciences. From this perspective, there is a difference between a complicated problem and a complex problem. Although complicated and complex have the same root, they do not mean the same thing in a TD methodology. A complicated problem is characterized as hard to solve because it is intricate, tangled, knotty and detailed. It is one thing to untangle the strings of a complicated problem but quite another to re-weave them, along with new strings, into a new whole. The latter process is an inherent part of solving a complex problem because it features the concept of emergence.

McGregor (2010a,d, in press) provided an in-depth discussion of the TD concepts of complexity and emergence. Succinctly, transdisciplinarity holds that the process of emergence comes into being as people pass through the zone of non-resistance (accept that there are many realities) and enter the fertile middle ground to problem solve using the logic of inclusion. Emergence refers to novel qualities, properties, patterns and structures that appear from relatively simple interactions among people, qualities that did not exist when presented in isolation. These new qualities are layered in arrangements of increased complexity (Morin, 2005; Nicolescu, 2008a). Emergence means home economists would assume that the problem(s) they are addressing continually changes as people try to jointly solve it. The problem (for example, poverty) is a rich weave of societal structures and functions. This new weave of poverty (and people’s understandings of poverty) keeps changing because new and coherent structures, patterns and properties emerge as a result of the interactions among people trying to address poverty while working within a web of changing relationships (on the included middle ground). Original perceptions of poverty are left behind or transformed as new understandings of the problem take shape and as the synergistic energy is generated during the intellectual border-work (McGregor, 2009a).

TD knowing assumes that everything is interconnected and interrelated in the world, which is far from being consistent and predictable. To that end, transdisciplinarity tries to understand the complex problems of the world (the big issues with global implications) rather than the
problems inside specific disciplines and sub-disciplines. To achieve this complex knowing, a new kind of knowledge is required, called TD knowledge. TD knowledge is created in the fertile middle ground, emerging from gradual cross-fertilization. The latter results from the iterant convergence of different actors and their fuzzy-edged balls of knowing, shaped by their respective expertise or disciplinary axiomatic (Nicolescu, 1997). The creation of TD knowledge depends on negative (maintain the status quo) and positive (deviate from the path) feedback to self-generate. Increasing deviation allows for transformation; hence, TD’s notion of complexity implies that home economists would pair unlike ideas to generate intellectual deviations (Morin, 2005).

Nicolescu (1997) further suggested that generating TD knowledge requires people to become an apprentice of creativity, and to respect open unity and complex plurality. People have to figure out how they have been conditioned to learn, and they have to become comfortable with testing the foundations of their convictions. Also, TD knowledge emerges through the process of integration, understood to mean opening things up to all disciplines and to civil society-knowing so that something new can be created via synthesis and the harmonization of ideas and perspectives (different realities).

Cicovacki (2009) pointed out that theories of truth and knowing from the other methodologies are one-sided and inadequate for dealing with today’s set of human problems. It is not that they completely miss the nature of truth and knowledge; rather, they capture only a few relevant aspects and disregard others. To address this issue, the TD methodology assumes that everything is complexus - woven into a web, where the focus is on the relationships (links) among things instead of on the things that are linked. The resultant knowledge that is created when higher education meets civil society is alive because the set of problems the knowledge addresses is alive, emerging from the life world (McGregor 2009b). When people accept the world and everything in it as dynamic, evolving and always in-formation, their knowledge, explanations and definitions gain nonpermanent status. TD knowledge is vibrant, alive and used in common rather than stagnant, hoarded and copyright protected (McGregor, 2004, 2006).

Finally, discussed in limited detail in this paper (see elsewhere in McGregor, 2010d), home economists also would come to welcome chaos, uncertainty, and tension, along with emergence and complexity. They would know that TD intellectual border work is going to lead to personal and disciplinary growth and evolution. Change creates chaos (a lack of regular, predictable arrangements, as defined by the new sciences). Home economists would learn to self-organize (reorganize) as they accept chaos and seek solutions to the apparent lack of order (the problems of humanity). This reorganization would lead to renewal (Wheatley, 1999). Home economists would not try to maintain the old order but would enter into trustful, sharing relationships with others who have the same vision and relevant information. Together, they would create a new world and generate creative solutions to complex, emergent human problems. Through rich processes and exchanges, multiple minds would interact and produce a complex knowledge containing its own reflexivity. This knowledge creation process is rich with value orientations.
Transdisciplinary Values (Axiology)

The final TD axiom deals with values. By its very nature, transdisciplinary dialogue will witness the inescapable value loading of every inference, every opinion; every line of conversation will face a potential clash of values, ethics and morals. The transdisciplinary methodology is very politicized, hence value laden. The fourth pillar of the TD methodology is thus concerned with axiology, the role of values and the researcher/change agent in the knowledge creation and problem solving process (Cicovacki, 2009; McGregor, 2009a).

The science of inquiry into human values (axiology) enables people to identify the internal valuing systems that influence their perceptions, decisions and actions (Schoof, 2009). Within transdisciplinary complex problem solving, thinking and action are intricately bound, necessitating a key focus on values. Indeed, Bazewicz (2000) affirmed that transdisciplinarity holds a holistic vision of the world, and is concerned with the local and global integration of values. Cicovacki (2009) argued that TD practitioners need to be able to deal with values and their systematic examination, even to develop a map of values. This values map would serve as a coordination system for the TD map of multiple realities that people are trying to assemble and navigate.

Working together in fluctuating, enriching and challenging relationships necessitates a concern for values, especially because complexity infers the need for more than a single expert’s solution. In order to develop the necessary tolerance of different viewpoints, so people can stay engaged in conversations about the complex problems shaping the human condition, home economists would respect the role of axiology in transdisciplinarity. Küpers (2009) asserted that changes in value mixes are a key part of the rapidly changing global village, and that profound changes are taking place at all levels. He agreed with vanBreda (2007), that values often are the missing link in providing strategic solutions to key, global issues, which are informed by a collage of differing worldviews held by individuals, cultures, nations and regional and international groups. Transdisciplinarity needs value-steered processes to lead to multiple truths; its attendant TD knowledge production depends upon it (Burger, 2003).

Integral values constellations (Axiom 4) play a key role in successfully implementing the transdisciplinary methodology in home economics practice. The solutions for complex, emergent problems require partnerships with, and the knowledge of, experts from different scientific disciplines, from the private and public sector and from civil society. The capacity to solve complex problems is generated through these relationships, which are predicated on the generation and allocation of power, which is energy. This compilation and integration of different world views and value orientations may cause conflicts, which can result in power struggles. Whether or not the power (the energy force) generated when people work together to solve complex and emergent human problems is negative or positive depends upon the nature of the relationship(s). And, with power comes responsibility. Embracing this TD responsibility can be a challenge unless the constellation of values at play is respected, managed and lead.
Summary and Emergent Conclusions

In summary, if they employed a transdisciplinary methodology, home economists (a) would crisscross disciplinary and sub-disciplinary boundaries with the intent to change (or remove) the borders while integrating theories, policies and practices emanating from this disciplinary migration and integration. (b) They would recognize that leadership for home, families and humanity happens in the fertile middle ground within the academy and among higher education, civil society and other sectors. This integral leadership is informed by the logic of inclusion and multiple levels of reality. (c) Home economists would appreciate that TD knowledge is complex, emergent and embodied. They would find new respect for tension, chaos and disorder, (d) especially as they managed the value-laden transdisciplinary dialogue inherent in intellectual fusion. And, (e) they would integrate many realms of reality (multiple perspectives and logics) as they worked with other disciplines and members of civil society in intellectual border-work to address the context of 21st century humanity.

A transdisciplinary methodology better ensures that each of higher education, government agencies, the corporate sector, and members of civil society can strive to share their perspectives and power to solve increasingly complex problems of humanity. Home economics can assume a leading role in this process. Daniels (1980) and Brown (1993) started the profession on its journey towards transdisciplinarity, drawing on then-contemporary iterations of TD. This paper shared a third version of transdisciplinarity, informed by Basarab Nicolescu’s conceptualizations of TD as a methodology in its own right. It explained how the current generation of TD might reshape home economics if members of the profession shifted paradigms. This shift would enable them to appreciate the merit of respecting TD as a fourth methodology, augmenting the familiar empirical, interpretive and critical methodologies.

This paper intentionally makes a strong value statement about the discipline and the profession. Brown (1993) claimed that home economists need to rationally examine any statements about what home economics can and should be, else we will lack the conviction and the will to act upon them. Believing that home economics should become convinced of the merit of acting on the TD methodology, this paper aimed to illustrate how transdisciplinarity can be a powerful way to reframe home economics. It could become a discipline that engages in disciplinary work, interdisciplinary work, and knowledge generation and problem solving at the interface between higher education and civil society - transdisciplinary work (see Figure 1). This transdisciplinary work would lead to a different, higher plane of inquiry involving the co-invention of new TD knowledge at the interface of disciplines, civil society and other sectors, and do so through joint problem solving, reorientation, perspective shifting, and value integration.

The TD methodology, with its focus on integral, complex and emergent problem solving, seems a natural fit with home economics’ deep core. Home economics is a science of human life and existence, shaped by life within the home (Fusa, 2004). East (1979) asserted that home economics is a focus on the home in order to improve humanity. If we accept her insight into home economics’ raison d’etre, we will need a new methodology with which to solve the set of human problems appropriate for home economics’ focus and attention. In our contemporary times, that methodology is called transdisciplinarity.
Biography

Sue L. T. McGregor is a Canadian home economist at Mount Saint Vincent University, Canada. She is a Professor in the Faculty of Education. Her intellectual work pushes the boundaries of consumer studies and home economics philosophy and leadership towards integral, transdisciplinary and moral imperatives. She is Docent in Home Economics at the University of Helsinki, Marjorie Brown Distinguished Professor and a Kappa Omicron Nu Research Fellow. Affiliated with 20 professional journals, she is Associate Editor of three home economics journals. Sue has delivered 35 keynotes and invited talks in 11 countries and published over 120 peer-reviewed publications, 11 book chapters, and eight monographs. She published Transformative Practice in 2006. Consumer Moral Leadership was released in 2010. With Russ Volckmann, she co-published Transversity in 2011. Her professional and scholarly work is available at http://www.consultmcgregor.com

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