Dual Spousal Work Involvement: An Alternative Method to Classify Households/Families

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EXECUTIVE SUMMARY

Social class and (some) related wives' work involvement (WWI) variables have long been valued by marketers as primary or supplemental bases for segmentation because they capture differences in values, norms, roles, lifestyles, and broad consumption patterns. These constructs have also been embraced because they capture the composite effects of a number of related demographic descriptors such as occupation, education, income, age, and family size. The purpose of this research effort is to develop an alternative consumer behavior construct "Dual Spousal Work Involvement" (DSWI), and to compare its performance to that of alternative WWI models. DSWI incorporates the occupation and work involvement of both spouses, not just wives (WWI) or husbands (social class). The manuscript develops a conceptual framework depicting the various antecedents (e.g., social class at birth, gender role norms) and consequents (e.g., work and time pressure, consumption patterns) of both spouses. This approach leads to an eight-category classification scheme based on the relative occupational status and work involvement of both husbands and wives. The results show that the DSWI model outperforms extant WWI models and that this scheme isolates strong and meaningful consumption pattern differences for both non-durables and durables.

Conceptual Framework: The construct DSWI is based on a cross-classification of occupational status and career commitment of both spouses. The antecedents begin with the parental socio-cultural/demographic backgrounds as they influence motivations/ attitudes, demographics, and work involvement of each spouse before marriage. Upon marriage, each spouse's demographics as well as work involvement influence the household demographics and motivations. The consequents of household demographics include role conflict and overload (work and time pressures) for both spouses, household decision-making, and consumption patterns. Since DSWI provides a more appropriate representation of modern households, it should be better able to isolate and explain attitudinal and consumption differences. Hence,

P1: Compared to extant WWI models, the DSWI framework will explain more variance in attitudes, motivations, and consumption patterns.

P2: The various segments that emerge from the DSWI classification scheme would exhibit meaningful differences in attitudes, motivations, and consumption patterns.

Method: The data were collected from 444 households using systematic random sampling from the telephone directory of a top 50 Metropolitan Statistical Area. The questionnaire included items relating to attitudes/motivations, food and beverage consumption, shopping behavior, and dollar values of durable goods plus several household demographics.

Academy of Marketing Science Review
volume 2006 no. 8 Available: http://www.amsreview.org/articles/schaninger08-2006.pdf

Results and Discussion: The empirical application of DSWI resulted in eight categories: 1) Retired Couples; 2) Non-working Wife Low Husband Occupation Status Couples; 3) Non-working Wife High Husband Occupation Status Couples; 4) Dual Low Occupation Status Blue-Collar Husband Couples; 5) Dual Low Occupation Status Low White-Collar Husband Couples; 6) High Husband Low Wife Occupation Status Couples; 7) Medium High Wife Occupation Status Couples (subdivisions of high and low husbands' occupations were not significantly different and led to a decline in overall model performance); and 8) Dual Very High Occupation Status Career Couples.

The DSWI scheme clearly outperformed all other models on most variable sets in terms of multivariate variance explained and was equivalent to the best WWI model in terms of univariate significance counts for wives' and husbands' attitudes/motivations (i.e., gender role norms, self-fulfillment aspirations, traditional family values, and work and time pressures). It demonstrably outperformed all WWI models for univariate significance counts, multivariate significance levels, and percent of variance explained for household food and beverages as well as the dollar values of home entertainment devices, furniture, and major durable acquisitions. Specifically, the DSWI model accounted for over 80% of the multivariate variance for both husbands' and wives' attitudes/motivations, versus only 48% for husbands and 66% for wives for the best WWI model. It explained almost 80% of the multivariate variation in household food and beverage consumption versus less than 50% for the best WWI model. Further, it dramatically outperformed extant models, explaining nearly 30% of the multivariate variance for dollar values of home entertainment devices and furniture, and major durable assets when each set is considered separately. When these variable sets were combined, the DSWI model explained around 50% of the total variance compared to 10% for the best alternate WWI model. All of the above results hold even after controlling income and other key demographic variables. Hence, both P1 and P2 are supported.

Conclusions: This research developed the DSWI model and demonstrated that this scheme could isolate significant differences in husbands' and wives' gender role norms, self-fulfillment aspirations, traditional family values, and work and time pressures. The DSWI model also exposed key differences in household food and beverage consumption patterns and dollar values of home entertainment devices and major durable acquisitions. These are not merely income effects as all the results hold even after controlling for family income. The results suggest that incorporating the relative work involvement of *both* spouses captures rich interactive effects. The strong empirical support for DSWI suggests that it is a rich, multifaceted, socio-cultural construct. It offers novel new insights and could be used as a basis for segmenting diverse product markets.

Keywords: Wives' Work Involvement, Social Class, Socio-cultural Segmentation, Modern Family Typology.

Dual Spousal Work Involvement: An Alternative Method to Classify Households/Families

Social class and (some) related wives' work involvement (WWI) variables have long been valued by marketers as primary or supplemental bases for segmentation because they capture differences in values, norms, roles, life-styles, and broad consumption patterns. These constructs have also been embraced because they capture the composite effects of a number of related demographic descriptors such as occupation, education, income, age, and family size. However, most econometric studies conclude that wife's work status has little/no impact on consumption expenditures or purchase/ownership of durable goods (Rubin, Riney, and Molina 1990; Weinberg and Winer 1983). Since the purpose of most econometric studies is to predict aggregate expenditures, work status variables primarily appear as macro level labor force inputs. These studies ignore micro-level effects of differences in motivations, lifestyles, and role demands. In fact, these differences get lost (averaged out) in the process of data aggregation, which might explain the observed null results.

In the general domain of family research, WWI has emerged as a substantive research area in large part due to the vast social changes in the past few decades (Reilly 1982; Zeithaml 1985). The purpose of this research effort is to develop an alternative consumer behavior construct "Dual Spousal Work Involvement" (DSWI), and to compare its performance to that of extant WWI models. DSWI represents the occupation and work involvement of both spouses, not just wives (as in WWI) or husbands (as in social class). This concept represents a natural step forward in the evolution of earlier work in the areas of WWI, social class, and gender-role norms. The basic premise is that the joint impact of both husbands' and wives' occupation and work involvement more effectively captures important underlying values, gender role norms, and lifestyles than do extant approaches based on WWI alone, or of accepted measures of social class. The manuscript develops a conceptual framework depicting the various antecedents (e.g., social class at birth, gender role norms) and consequents (e.g., work and time pressure, consumption patterns) of DSWI.

The empirical application leads to an eight-category classification scheme based on the relative occupational status and work involvement of both husbands and wives. This DSWI model explains more variance in attitudes and consumption than extant WWI models. Also, in contrast to findings reported in econometric studies, there are strong and meaningful consumption pattern differences for food and beverages (non-durables) and dollar values of major durables.

RELEVANT LITERATURE

Social Class Measurement

Social class models have not devoted appropriate attention to the wife's educational and occupational status. Traditional social class scales included only husband's status measures based on the assumption that a family's social class does not change when the wife went to work. However, Haug (1973) reported social class misclassifications based on the two-factor Hollingshead Index in about a third of families in which the occupational and/or educational status of wives exceeds that of husbands. She also pointed out that, in many cases, incorporation of the wife's occupation would raise the class level of families in which the wife's occupation status is higher than that of the husband. Coleman (1983) acknowledged that a woman's education, cultural interests, and class of origin might produce a one-class difference in households of husband's having the same occupational status. While Coleman did not incorporate these factors into his primary Computerized Status Index (CSI) scales, he alluded to a weighted composite variant of CSI incorporating wife's and husband's education and occupation (an approach contrary to Haug's suggestion that wife's status be separately incorporated). Hence, in spite of calls for updated models since the early 1970s, no one has developed a widely accepted scale that accurately reflects the impact of women's work status to a household's social class.

Wives' Work Status/Involvement

Consumer researchers have employed various terms and operational definitions to examine the impact of WWI on household consumption behavior. Early studies simply compared working vs. nonworking wife households, with the expectation that differences in shopping behavior, food consumption, and appliance expenditures would emerge due to time pressures and greater income. Even though these expectations were not supported (Douglas 1976a; Strober and Weinberg 1977), that simple division continued to receive research attention (Jackson, McDaniel, and Rao 1985; Weinberg and Winer 1983). However, these counter-intuitive findings led other researchers to search for more complex classification schemes and more refined operational definitions. For example, by classifying working wives into high versus low occupational status, scholars have found significant differences in food and beverage consumption, shopping behavior, deal proneness, makeup usage, television viewing and ownership, and restaurant patronage (Joag, Gentry, and Hopper 1985; Schaninger and Allen 1981). Similarly, Bartos' (1982) classification of working women into "just-a-job" and "career" segments and nonworking women into "plan-to-work" and "stay-at-home" segments has been shown to capture differences in norms and values, food and beverage consumption, and shopping behavior (Schaninger, Nelson, and Danko 1993; Zeithaml 1985). However, these classification schemes are unable to efficiently capture social status or work/time pressure differences faced by the various subgroups. In a recent commentary, Commuri and Gentry (2000) suggest that knowledge of wives' work-status has not provided consistent insights into household behavior and call for additional research on this topic.

CONCEPTUAL FRAMEWORK OF DSWI

An increasing proportion of households in developed and developing countries have dual working spouses. As discussed earlier, extant marketing and econometric models have not provided a comprehensive framework that incorporates changing values and gender norms. In an attempt to bridge this gap, this research proposes a conceptual framework that delineates the antecedents and consequents of DSWI. The intent of the framework is to provide a better understanding of the various factors that influence the decision processes and consumption patterns of modern families.

An Overview

The conceptual framework depicting the antecedents and consequences to understand DSWI is pictorially represented in Figure 1. The DSWI construct is based on a cross-classification of occupational status and career commitment of both spouses. The antecedents begin with the parental socio-cultural/demographic backgrounds as they influence motivations/attitudes, demographics, and work involvement of each spouse before marriage. Upon marriage, each spouse's demographics as well as work involvement influence the household demographics and motivations. The consequents of household demographics include role conflict and overload (work and time pressures) for both spouses, household decision-making, and consumption patterns. Since DSWI provides a more appropriate representation of modern households, it should be better able to isolate and explain attitudinal and consumption differences. Hence,

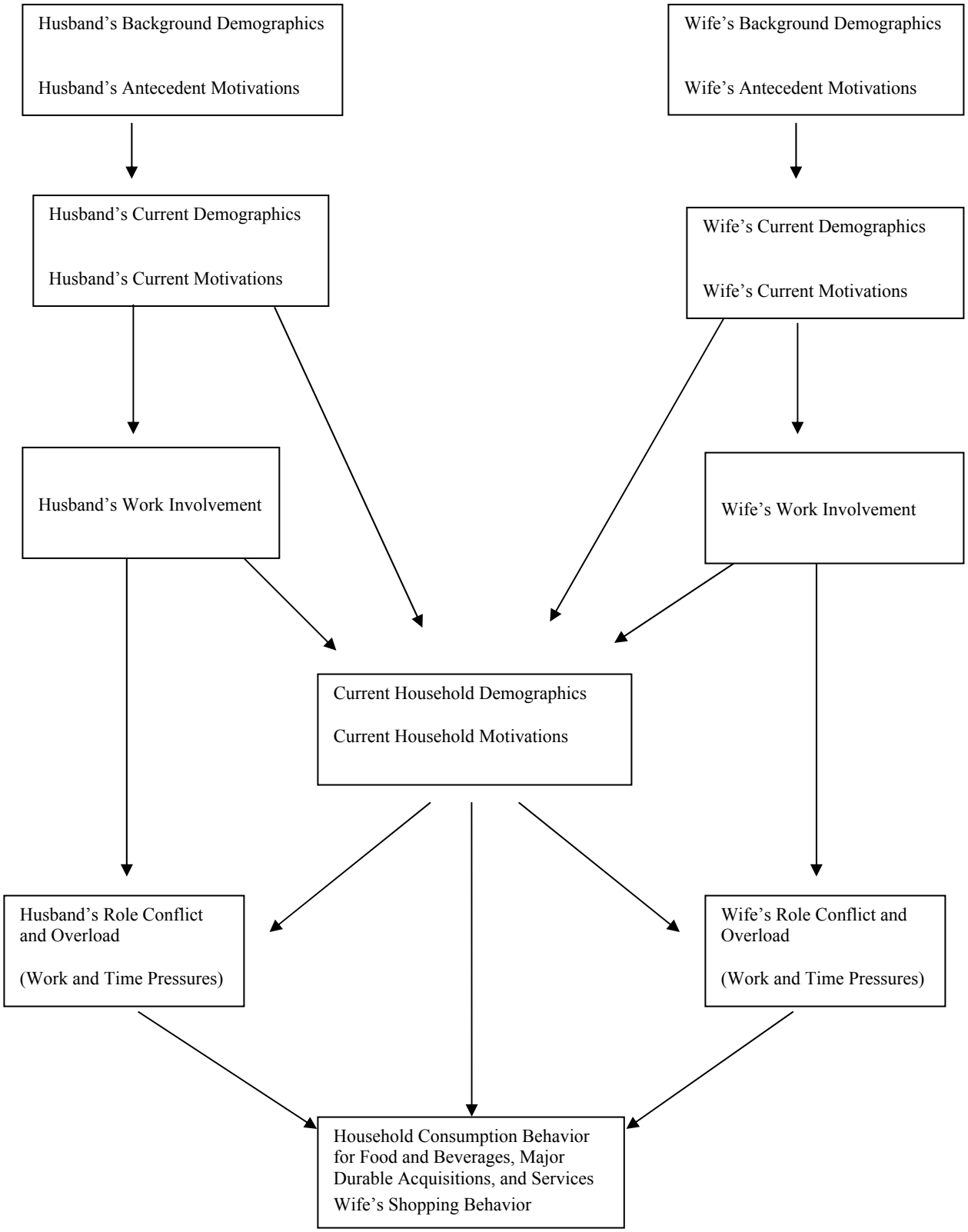
P1: Compared to extant WWI models, the DSWI framework will explain more variance in attitudes, motivations, and consumption patterns.

P2: The various segments that emerge from the DSWI classification scheme will exhibit meaningful differences in attitudes, motivations, and consumption patterns.

Background Demographic and Attitudinal/Motivational Influences

Parents' education and occupation (augmented by interactions with parents, teachers, and peers) positively influence a child's academic aptitude, teenage educational and occupational aspirations, and, thus, subsequent educational and occupational attainment (Alexander, Eckland, and Griffin 1975; Stevens 1986). Household social class and mother's work experience positively influence the child's gender role modernity and education, which, in turn, leads to having a full-time job prior to marriage (for women), older age at marriage, and career orientation.

FIGURE 1
Conceptual Model of DSWI



Year of birth (reflecting age younger age cohort) and parental education and occupation are positively related to holding nontraditional social values and non-conventional gender role norms (Schaninger and Buss 1986; Yankelovich 1981).

Current Demographic and Attitudinal/Motivational Influences

There seems to be an interactive, reciprocal relationship between demographic status and attitudes and motivations. For example, the educational and occupational attainment of each spouse plays a significant role in shaping their attitudes and motivations – through their education, workplace socialization, and interactions with peer groups. Similarly, gender role norms influence a person's (especially women's) educational and occupational attainment, openness to nontraditional values, and subsequent work involvement and delayed 'family' life cycle progression (Scanzoni 1975, 1983). Interaction of these forces influences subsequent occupational attainments, socio-economic status and income, deferred or delayed child bearing, and family size. These effects are more pronounced among children of dual-career families (Stephan and Corder 1985).

Modern gender role norms are tied to more egalitarian division of household responsibilities and rewards. Three common dimensions underlie gender role norms: gender-based division of labor, traditional homemaker vs. non-conventional wife orientation, and wife's vs. husband's career importance (Buss and Schaninger 1987; Scanzoni 1975). Highly educated, gender role modern women have higher degrees of independence, autonomy, and upward mobility (Scanzoni 1983). This leads to greater negotiation and bargaining, shifts toward more egalitarian gender role norms, and increased relative power and influence of wives. Such changes in gender role norms are accompanied by shifts in self-fulfillment aspirations and social values [i.e., increase in working wives and mothers, acceptance of women pursuing careers, and more individualistic (self-fulfillment) rather than traditional familial gratifications (Scanzoni 1983)]. High self-fulfillers are much more concerned with individuality, self-expression, self-improvement, achievement, independence, creativity, and career-advancement. They hold less traditional family and religious values and tend to be younger, have higher educational and occupational status, delay marriage and childbearing, and have smaller families (Yankelovich 1981).

Current Household Demographics

Family income and presence/number of children have been recognized as covariates of WWI. Family income influences expenditures on major appliances and other durables, services, food and beverages, and restaurants. Presence/number of children covaries positively with major appliance ownership and expenditures (Nickols and Fox 1983; Strober and Weinberg 1977, 1980) and consumption of convenience and junk foods, but covaries negatively with meals prepared away from home and with alcohol consumption (Schaninger and Danko 1993). Mothers of young children prepare more meals at home, but spend less time on housework and prepare less difficult food items (Nickols and Fox 1983). However, most econometric studies find that WWI is unrelated to expenditures on durable goods or services after controlling for family income, age, education, and number or presence of children (Bellante and Foster 1984; Nickols and Fox 1983; Strober and Weinberg 1977, 1980; Weinberg and Winer 1983). This result is not surprising since very few variables are likely to retain significance after controlling for such a potent set of known predictors.

Social class covaries positively with attitudinal/motivational antecedents and with WWI. While upper-middle and upper classes tend to be more gender role non-conventional, and lower classes tend to reflect the 'old' traditionalism, the (lower) middle class is split between those who emphasize traditional norms and those who subscribe to more modern values (Assael 1998; Coleman 1983). This linkage to gender role norms may also underlie the tendency of upper-lower class households to own feature laden top-of-the-line kitchen and laundry appliances which serve as a symbol of status within class (Schaninger 1981). Lower class shoppers are more brand-loyal, deal-prone, and sensitive to coupons, advertised sales, and in-store specials (Schaninger 1981). The upper-middle and upper classes place a greater emphasis on the quality and taste of food, than do lower middle or lower class households, particularly for the evening family meal. Beyond these direct influences, current household demographics interact with other antecedents and work and time pressures to influence family consumption behavior.

Work and Time Pressures/Role Conflict and Overload

A number of sociological studies have examined how modern families deal with the conflicting demands of work, career, and family. Role conflict exists when two or more positions (e.g., wife, mother, career woman) result in roles with conflicting or inconsistent expectations. Role overload is a type of role conflict that occurs when the expectations of the various roles exceed available time and energy (Reilly 1982). Time pressures and psychological stresses due to role conflict and role overload were highest among dual career families and full-time career wives (Hunt and Hunt 1978; Reilly 1982), particularly those with young children (Robinson 1977). Researchers have argued that family dynamics are better understood by looking at spousal roles and their interactions (i.e., commitment to the work and family roles, conflict between roles, etc.) and that work-family conflict is determined by the parental status of the respondent, not gender per se (Pleck 1983). Working wives and their families are motivated to reduce time pressures and psychological stresses. Specifically, they tend to use a number of time-saving and time-buying strategies, including purchase of appliances, services, convenience foods, and meals away from home; and reduce time spent on meal preparation, household work, and food shopping (Reilly 1982; Zeithaml 1985).

Household Consumption Behavior

Food and Beverage Consumption Patterns - Household demographics influence food and beverage consumption. Working wives were more frequent purchasers of restaurant, fast food, and take-out meals, even after adjusting for family income and husband's occupation (Kim 1989; Nickols and Fox 1983). Research suggests that high proportions of working wives used convenience foods, and that the types of convenience foods varied with life cycle stage. Non-career wives, who worked long hours and had young children, were heavy users of prepared dinners. In contrast, career wives with high education and income levels, who worked long hours and had small children, were more likely to purchase meals outside the home (Madill-Marshall, Heslop, and Duxbury 1995; Schaninger, Nelson, and Danko 1993). High occupation status working wife households place greater emphasis on the quality of food, tend to cook more from scratch and serve healthy staples, but are less likely to consume convenience or junk foods (Douglas 1976b; Schaninger and Allen 1981). While working wives use restaurants, takeout, and home food delivery services more, these effects were most pronounced for high occupational status wives (Joag, Gentry and Hopper 1985; Nickols and Fox 1983; Schaninger and Allen 1981; Schaninger, Nelson, and Danko 1993), reflecting work and time pressures, non-conventional gender role norms, and higher incomes. Also, high occupational status wife households consume distilled alcohol and imported wines more frequently (Schaninger and Allen 1981; Schaninger, Nelson, and Danko 1993; Waldrop 1989).

Wife's Shopping Behavior - Wives' shopping behavior is influenced by work and time pressures, gender role norms, and the household's demographics. Wives' educational and occupational status are likely to influence shopping behavior both directly and indirectly. Although working wives in general are subject to work and time pressures and hold more negative attitudes toward food shopping and the time it consumes (Jackson, McDaniel, and Rao 1985; Strober and Weinberg 1980), these effects should be more pronounced among higher occupational status and career wives (Schaninger and Allen 1981; Zeithaml 1985). Due to their modern gender role norms and upper-middle class backgrounds, such wives place less emphasis on the family-purchasing-agent role, spend less time looking at grocery ads or comparison-shopping, and use fewer coupons.

Lower occupational status or just-a-job working wives, however, are more gender role traditional, tend to work due to family income needs, and are more likely to come from lower class backgrounds. Hence, they are more likely to be deal-prone and less likely to reduce their shopping effort. Studies classifying working wives by occupational status (Schaninger and Allen 1981), work motivation (Zeithaml 1985), or income level (Strober and Weinberg 1980) have generally supported these generalizations. Educational status, short-term income deficiencies, and the absence of work-related time constraints, appear to underlie Zeithaml's (1985) finding that plan-to-work wives put forth the greatest effort on meal planning, economizing, and shopping.

Durable Goods Acquisitions - The social class literature has suggested greater dollar values for home furniture, primary homes, and automobiles among higher social class households (Assael 1998; Schaninger 1981). However, even the more complex WWI classifications (e.g., Bartos model) do not exhibit significant relationships

with major or minor durable expenditures, a result also emerging from most econometric studies. A couple of studies have found indirect relationships (Oropesa 1993; Riley 1982), and a Canadian study (Kim 1989) has reported minor increases in major and minor appliance ownership among working wife households, after adjusting for demographic covariates. However, these prior classifications provide only a partial picture of the modern household, precluding their ability to capture such differences. Given its comprehensiveness, the proposed DSWI classification is more likely to capture differences in dollar values of home entertainment devices, furniture, and major durable acquisitions. The DSWI classification scheme and the hypotheses were tested using an existing data set. The following sections describe the method, results, and major implications.

METHOD

Sample and Procedure

The data set used was from a larger study examining various aspects of household consumption as reported in Schaninger, Danko, and Nelson (1993). Systematic random sampling, with three callbacks, was used to recruit the sample from the telephone directory of a top 50 Metropolitan Statistical Area (MSA) towards the end of 1987. This MSA has been widely used as a test market. Ninety-five percent of the households in the MSA had phones and the unlisted rate ranked 93rd among the top 100 markets. Overall, 2790 households were called, 508 were unreachable after three attempts, and 111 numbers were not in service. Of the 2171 households reached, 1160 agreed to participate and were sent the survey. This mailing returned 307 usable, 19 undeliverable, and 10 unusable surveys. Three additional mailings of 500 surveys each were conducted on the non-respondent sub-samples: first-wave resulted in 54 usable responses and 10 undeliverables; second-wave resulted in 34 usable returns and 37 undeliverables; and the third-wave resulted in 49 usable responses and 27 undeliverables. No significant differences were found between the three latter samples and the original sample for a variety of demographic characteristics (percentages of singles, married couples with or without children, home ownership, working or nonworking wife families, and combined family income). Thus, they were combined to yield a total of 444 households, representing a 20.45 percent response rate (i.e., 444/2171). The combined sample did not significantly differ from MSA Census figures or nationwide Census estimates with respect to percent of owner occupied housing, age, marital status, presence of children, or male and female labor force participation. Of the 444 total households, the 280 who were married served as the study's sample. A comparison of the cross-classification of abridged family life cycle stages (husband under 45, no children under 18; husbands of any age, children under 6; husbands of any age, children 6-17 only; husband 45 or older, no children under 18) and wife's work status (working/nonworking) between the sample and U.S. Census estimates was also not significant ($\chi^2 = 7.41$, df = 7, ns). Thus, the sample appears to have been reasonably free of frame and non-response errors, and representative of both the MSA and the U. S. Census distributions of households.

Questionnaire

The questionnaire was divided into three sections. The first section was completed by head(s) of household (jointly if married). It ascertained household demographics, household food and beverage consumption, dollar values of major durable acquisitions, home entertainment devices, and furniture, as well as dichotomous ownership of major and minor durables and use of services. Frequency of use of household food and beverage consumption was ascertained for 46 food and beverage items, using seven-point itemized scales ranging from "nearly every day" to "never." Those items were developed based on previous studies of socio-cultural consumption influences (Schaninger and Allen 1981; Yankelovich 1981) and were subjected to content, factor, and reliability analyses. The 33 items used by Schaninger, Nelson, and Danko (1993) to test Bartos' Model of WWI were used here in order to facilitate direct comparison of results: healthy staples (yogurt, rice, herbal teas, fresh vegetables, bottled juice); diet beverages (diet sodas, sugar substitutes); sugary and junk foods (presweetened cereal, candy, potato/corn chips, sugary powdered drink mixes, regular sodas); convenience foods (instant rice, instant coffee, instant breakfast, TV dinners, canned vegetables, soups, entrees, etc.); meals prepared away from home (restaurant dinners out, fast food patronage, take-out pizza, and take-out Chinese food); and alcoholic beverages (beer, light beer, imported wine, premium domestic wine, and distilled spirits).

The remaining parts of the survey consisted of an individual questionnaire for each spouse eliciting attitudinal/motivational determinants and consequences, as well as shopping behavior. Thirty-five six-point Likert scale attitudinal/motivational items were examined for each spouse, subdivided into four categories based on content and exploratory factor analyses (maximum likelihood factor analysis with oblique rotation and delta=0): gender role norms (Schaninger and Buss 1985); self-fulfillment aspirations (Yankelovich 1981); traditional family and moral values (Reynolds, Crask, and Wells 1977; Yankelovich 1981); and work and time pressures (Robinson 1977). Wife's shopping behavior was measured using six-point Likert scale items.

Classification Measures

Part-time, full-time, nonworking, and retired status, as well as occupation, was ascertained for both spouses. Occupational status was determined by open-ended questions asking for occupation and job title. Following the method prescribed by Schaninger and Allen (1981), families with working wives in the top three occupational categories of the Hollingshead social class index (managerial-professional, administrative, and lesser professional) were classified as high wife's occupational status. Those in the lower categories (secretarial, clerical, retail sales, technicians, blue collar, and service workers) were classified as low status. The Wife's Occupational Status scheme was based on separating high and low occupational status working wives from nonworking wives. Both spouses, if not currently working, were asked whether they "do not plan to (return to) work," "plan to (return to) work in the near future," or "plan to (return to) work when my children are older." Similarly, both (if working or planning to work) were asked to indicate whether they regarded their work as "just a job" or as "a career." The Bartos scheme was based on separating 'career' from 'just-a-job' working wives and 'plan-to-work' from 'stay-at-home' nonworking wives. Comparative multivariate results are subsequently presented for the four most widely used WWI models (Working vs. Nonworking; Full-/Part-time/Nonworking; Wife's Occupational Status, and the Bartos scheme), plus the new DSWI scheme, detailed below.

In contrast to extant models, the proposed DSWI scheme is based on occupation and work involvement for *both* spouses, not just that of the wife (as in WWI), or husband (as in social class). The guiding rule in developing categories was that they represent at least 2.5% of the sample and attain a sample size of at least 20. This is larger than the minimum of 12 specified by Pazer and Swanson (1972) as sufficient to yield a normal distribution of means for a uniformly distributed population. This procedure yielded eight categories for DSWI: 1) Retired Couples; 2) Non-working Wife Low Husband Occupation Status Couples; 3) Non-working Wife High Husband Occupation Status Couples; 4) Dual Low Occupation Status Blue-Collar Husband Couples; 5) Dual Low Occupation Status Low White-Collar Husband Couples; 6) High Husband Low Wife Occupation Status Couples; 7) Medium High Wife Occupation Status Couples (subdivisions of high and low husbands' occupations were not significantly different and led to a decline in overall model performance); and 8) Dual Very High Occupation Status Career Couples. If a wife was working and her husband was retired or currently unemployed, his occupational status was based on his prior occupation and job title. When both spouses were retired, husband's occupation was assigned the lowest occupational status code (and classified as retired). In rare instances where the husband was below retirement age, not working, not planning to work, and did not report an occupation or job title for previous work, he was classified as permanently unemployed (lowest occupational status).

RESULTS AND DISCUSSION

The first task was to assess whether DSWI categories differed significantly across major demographic covariates. The results indicate that they do. Specifically, Dual Very High Occupation Career Couples had the youngest, highest education husbands and wives, highest family income, tied for highest husband's occupation and the most children under age 6; but they were below average for number of grade- and high-school age children. Medium High Wife Occupation Couples were second youngest and second highest wife's education and family income, above average in husband's education, just below average in pre-school-age children, but above average in grade school age and teenage children. Retired couples were the oldest and second lowest family income group, lowest in husband's occupation, substantially below average in education for both spouses, and had the fewest children at home. Non-working Wife High Husband Occupation Couples tied for highest for husband's occupation, were just

below highest for his education, somewhat above average in family income, and highest for pre-school-age and school-age children. Nonworking Wife Low Husband Occupation Couples were lowest in husbands' and wives' education, lowest in family income, lowest among non-retired groups in husband's occupation, highest in pre-school-age and total number of children. Dual Low Occupation Blue Collar Husband Couples had a similar profile, but had the fewest children and substantially higher yet still below average family income. Remaining DSWI households showed husbands' occupation and husbands' and wives' education consistent with their joint occupation labels. The overall pattern of demographic results is neither simple nor linear, suggesting that DSWI captures multiple and interactive influences (not just simple linear income, education, or occupational status effects).

Next, the performance of DSWI model is compared to that of alternative WWI models and the substantive attitudinal and consumption differences are discussed in detail. Table 1 presents summary multivariate and univariate test results for wives' and husbands' attitudes and values, food and beverage consumption, wives' shopping behavior, and values of home entertainment devices, furniture, and major durable assets. The numbers of univariate F-values significant at the .05 and .10 levels, values of [1 – Wilks'λ] representing the proportions of explained multivariate variance[1], and multivariate F-values for Hotelling's T^2 are presented for all variable sets. For both dollar value sets (with many zero values), square root transformations ($\sqrt{x} + \sqrt{(x + 1)}$) were employed to alleviate skewness and heterogeneity (Kirk 1968). The F-tests of the DSWI model are relatively conservative because they consume a large number of between group degrees of freedom compared to the other models, and because they test for bi-directional differences among all eight groups. The modest cell sizes are likely to increase type II errors at traditional levels ($p < .05$) levels of significance. Hence, the univariate significance counts at ($p < .10$) are presented separately. It is intuitively appealing to directly compare multivariate F values for competing schemes, and assume that a decline in values comparing a scheme with more categories to one with fewer would reflect a comparable decline in significance. However, careful examination of percentiles of the F distribution and their formulae indicate that as the number of degrees of freedom increases, the critical values for any given alpha decline. Thus, direct comparisons of F values for schemes with different degrees of freedom would be misleading. The ratio of the observed to the critical value for an alpha of .001 is provided as a yardstick to permit comparisons of the relative strengths of multivariate significance, and show the degree to which observed values exceed or fall short of that value.

While all models produced multivariate significance for wives' and husbands' attitudes and family food and beverages, Wife's Occupational Status and Bartos models outperformed the more naïve working/non-working dichotomy and full-time/part-time/nonworking trichotomy. More importantly, the proposed DSWI scheme clearly outperformed all other models on most variable sets in terms of multivariate variance explained and was equivalent to the best WWI model in terms of univariate significance counts for wives' and husbands' attitudes. It demonstrably outperformed all WWI models for univariate significance counts, multivariate significance levels, and percent of variance explained for household food and beverages as well as the dollar values of home entertainment devices, furniture, and major durable acquisitions. Under the DSWI scheme, multivariate F-values for all criteria sets were significant, many at the .001 level. The DSWI model accounted for over 80% of the multivariate variance for both husbands' and wives' attitudes, versus only 48% for husbands and 66% for wives for the best WWI model. It explained almost 80% of the multivariate variation in household food and beverage consumption versus less than 50% for the best WWI model. Further, it dramatically outperformed extant models, explaining nearly 30% of the multivariate variance for dollar values of home entertainment devices and furniture, and major durable assets when each set is considered separately. When these variable sets were combined, the DSWI model explained around 50% of the total variance (see Table 6) compared to 10% for the best alternate WWI model.

Significantly, all the multivariate results and most of the univariate tests hold even after controlling for family income with only slight decrements in value of [1 – Wilks' λ] for MANCOVA's (see Table 1), a result that is in direct contrast to that of econometric studies of WWI. The DSWI scheme does not perform as strongly as more parsimonious wives' WWI models for wives' shopping behavior, perhaps a result of consuming larger degrees of

[1] The multivariate significance of the value of (1 - Wilks' λ) test adjusts for the number of variables examined and their intercorrelations, and is conservative if multi-collinearity is present.

TABLE 1
OVERALL COMPARISON OF DSWI AND MAJOR WWI MODELS

MODEL		NONWORKING vs. WORKING WIVE (0,1)		NONWORKING-PART-FULL-TIME WKG WIFE (0,2)		WIFE'S OCCUPATIONAL STATUS (0,2)		BARTOS' MODEL (1-4)		DSWI (1-8)	
Variable Set	(# Vars.)	MANOVA	MANCOVA	MANOVA	MANCOVA	MANOVA	MANCOVA	MANOVA	MANCOVA	MANOVA	MANCOVA
Wives' Attitudes & Values	(35)	22 + 2	17 + 5	22 + 3	17 + 5	23 + 2	19 + 4	24 + 3	21 + 5	26 + 1	17 + 4
Gender Role Norms	(9)	7 + 0	6 + 0	7 + 0	6 + 0	7 + 0	7 + 0	7 + 0	6 + 1	7 + 0	5 + 1
Self-Fulfillment Aspirations	(10)	3 + 1	3 + 1	3 + 3	2 + 4	2 + 2	2 + 3	3 + 2	4 + 2	5 + 0	3 + 2
Traditional Family Values	(9)	6 + 0	2 + 3	6 + 0	3 + 1	8 + 0	4 + 1	8 + 1	5 + 2	8 + 1	4 + 1
Work and Time Pressures	(7)	6 + 1	6 + 1	6 + 0	6 + 0	6 + 0	6 + 0	6 + 0	6 + 0	6 + 0	6 + 0
(1-λ)		.454	.430	.570	.539	.563	.522	.660	.644	.808	.794
F_h, p_h		5.472, .000	4.740, .000	3.717, .000	3.270, .000	3.600, .000	3.093, .000	3.013, .000	2.705, .000	1.831, .000	1.704, .000
df1, df2		35, 230	35,229	70, 456	70, 454	70, 456	70, 454	105, 680	105, 677	245, 1556	245, 1549
$F_{.001}$, $Fh/F_{.001}$		2.041, 2.680	2.042, 2.321	1.681, 2.211	1.681, 1.945	1.681, 2.142	1.681, 1.840	1.537, 1.960	1.537, 1.760	1.334, 1.373	1.334, 1.278
Husbands' Attitudes & Values	(35)	15 + 6	6 + 5	10 + 7	5 + 5	14 + 9	9 + 4	22 + 5	16 + 4	21 + 5	17 + 4
Gender Role Norms	(9)	5 + 2	3 + 2	6 + 0	3 + 3	6 + 1	5 + 1	9 + 0	6 + 2	6 + 1	5 + 1
Self-Fulfillment Aspirations	(10)	4 + 2	2 + 1	2 + 3	0 + 2	1 + 5	1 + 2	4 + 3	3 + 1	5 + 2	4 + 2
Traditional Family Values	(9)	2 + 1	0 + 2	0 + 2	0 + 0	4 + 2	1 + 1	5 + 0	3 + 1	4 + 2	3 + 0
Work and Time Pressures	(7)	4 + 1	1 + 2	2 + 2	2 + 0	3 + 1	2 + 0	4 + 2	4 + 0	6 + 0	5 + 1
(1-λ)		.212	.182	.297	.274	.355	.319	.483	.458	.810	.785
F_h, p_h		1.763, .008	1.451, .058	1.272, .080	1.132, .230	1.599, .003	1.377, .031	1.635, .000	1.487, .020	1.844, .000	1.650, .000
df1, df2		35, 230	35, 229	70, 456	70, 454	70, 456	70, 454	105, 680	105, 677	245, 1556	245, 1549
$F_{.001}$, $Fh/F_{.001}$		2.041, 0.864	2.042, 0.711	1.681, 0.757	1.681, 0.673	1.681, 0.951	1.681, 0.819	1.537, 1.064	1.537, 0.967	1.334, 1.383	1.334, 1.237
Food & Beverages	(33)	11 + 4	8 + 3	10 + 2	7 + 2	16 + 2	11 + 0	16 + 5	11 + 5	20 + 5	14 + 5
(1-λ)		.255	.202	.347	.282	.425	.455	.501	.456	.784	.749
F_h, p_h		2.537, .000	1.859, .004	1.783, .000	1.390, .029	2.419, .000	1.813, .000	1.943, .000	1.643, .000	1.846, .000	1.601, .000
df1, df2		33, 244	33, 243	66, 484	66. 582	66, 484	66, 482	99, 722	99, 719	231, 1654	231, 1647
$F_{.001}$, $Fh/F_{.001}$		2.064, 1.229	2.064, 0.900	1.696, 1.051	1.683, 0.826	1.696, 1.426	1.696, 1.069	1.549, 1.254	1.549, 1.060	1.341, 1.377	1.341, 1.194
Wives' Shopping Behavior	(6	4 + 2	3 + 0	3 + 1	2 + 1	3 + 2	2 + 1	4 + 0	2 + 2	2 + 1	1 + 0
(1-λ)		.074	.070	.108	.079	.117	.088	.158	.136	.243	.217
F_h, p_h		4.674, .000	3.240, .004	2.578, .002	1.817, .043	2.806, .001	2.034, .020	2.572, .000	2.153, .004	1.774, .002	1.538, .016
df1, df2		6, 260	6, 259	12, 516	12, 514	12, 516	12, 514	18, 770	18, 767	42, 1514	42, 1508
$F_{.001}$, $Fh/F_{.001}$		3.911, 1.195	3.912, 0.828	2.784, 0.926	2.784, 0.563	2.784, 1.008	2.784, 0.734	2.376, 1.082	2.376, 0.906	1.828, 0.970	1.828, 0.841
$ Home Entertainment	(6)	1 + 0	1 + 0	1 + 0	1 + 0	1 + 0	2 + 0	1 + 2	2 + 0	4 + 0	3 + 0
(1-λ)		.037	.070	.048	.076	.083	.115	.119	.154	.290	.266
F_h, p_h		1.743, .111	3.428, .003	1.121, .340	1.844, .039	2.022, .021	2.868, .001	1.965, .010	2.595, .000	2.275, .000	2.027, .000
df1, df2		6, 273	6, 272	12, 542	12, 540	12, 542	12, 540	18, 809	18, 806	42, 1592	42, 1586
$F_{.001}$, $Fh/F_{.001}$		3.903, 0.446	3.931, 0.878	2.780, 0.403	2.781, 0.663	2.780, 0.727	2.781, 1.031	2.374, 0.828	2.374, 1.093	1.827, 1.245	1.827, 1.109
$ Values of Major Acquisitions	(6)	0 + 1	3 + 0	0 + 0	1 + 2	0 + 1	1 + 1	0 + 0	2 + 0	4 + 0	3 + 2
(1-λ)		.018	.045	.057	.091	.043	.055	.077	.107	.293	.242
F_h, p_h		0.838, .541	2.114, .052	1.357, .183	2.197, .011	0.999, .448	1.314, .206	1.212, .243	1.733, .029	2.370, .000	1.857, .001
df1, df2		6, 273	6, 272	12, 542	12, 540	12, 542	12, 540	18, 809	18, 806	42, 1592	42, 1586
$F_{.001}$, $Fh/F_{.001}$		3.903, 0.215	3.904, 0.542	2.780, 0.488	2.781, 0.790	2.780, 0.359	2.781, 0.473	2.374, 0.510	2.374, 0.730	1.827, 1.297	1.827, 1.016

freedom and reducing between-group variance. With this exception, the DSWI scheme dramatically outperforms the leading alternative models both before and after controlling for family income. Two additional covariate analyses were conducted: First, using husband's Hollingshead husband's occupation, husband's and wife's education and age, and number of pre-school-age and total number of children home, as covariates (each taken singly) and second, using family income and all of the above variables together in a combined covariate analysis. As expected, there were declines in univariate significance counts, particularly for husbands' attitudes, for DSWI after adjusting for the full covariate set. However, all the multivariate results of DSWI held for the single as well as the combined MANCOVA (results available upon request). This pattern of results further attests to the value of the DSWI model and clearly indicates that the observed results are not due to linear covariate effects. Indeed, the covariate analysis shows that DSWI outperforms the husband's occupation component of the Hollingshead Social Class Index for all variable sets. Thus, DSWI captures meaningful differences in attitudes and consumption patterns that are not attributable to (and in many instances stronger than) traditional social class indicators like husband's occupation and education, offering a robust and promising segmentation base to marketing practitioners.

In sum, the DSWI scheme seems remarkably robust and able to capture meaningful differences in attitudes and values, food and beverage consumption, and dollar values of major durable acquisitions – differences that could not be isolated by earlier WWI models. The strength of the DSWI scheme lies in its ability to capture interactive and gestalt effects of such multiple underlying variables as work involvement, gender role norms, social class, self-fulfillment orientation, work and time pressures, traditional and nontraditional values, as well as income. The findings clearly demonstrate that DSWI captures differences well beyond those attributable to income and other demographics and offers a viable method of segmenting modern families.

Since the MANCOVA and MANOVA results largely parallel each other, only the MANOVA results are discussed further. The results and a priori comparisons for wives' and husbands' attitudes and values, food and beverages, wives' shopping behavior, and dollar values of home entertainment devices and furniture, and major durable acquisitions are presented in Tables 2 through 6. Multivariate criteria values and F approximations of Pillai's criterion, Hotelling's T^2, Wilks'λ, and Roy's largest root are also presented. For Tables 2 and 3 the mean standardized scores are only presented for the significant items but in the other tables standardized scores are presented for all items, to serve as a rough indicator of the pattern of findings.

Norms, Values, and Time Pressures

The results for wives' gender role norms, self-fulfillment aspirations, traditional values, and work and time pressures are shown in Table 2 and the corresponding results for husbands are shown in Table 3. These four variable sets are grouped together for multivariate testing to avoid multi-collinearity. For the most part, the highest univariate significance counts and strongest absolute differences for both spouses were for gender role norms and work and time pressures. While strong differences in traditional values occurred for wives, they were weak for husbands. Self-fulfillment motives, on the other hand, showed moderately strong differences for husbands yet weaker differences for wives. Specific a priori contrast results are shown as footnotes for each cell, with groups having the same superscript for an item being significantly different.

Consistent with theory and prior studies, Dual Very High Occupation Career Couples were the most gender role modern, followed by Medium High Wife Occupation Couples, with husbands in the latter group highest on some items. Retired and Non-working Wife Low Husband Occupation Couples (especially husbands) were most traditional, followed by Dual Low Occupation Blue-Collar Husband Couples. Other dual working households placed in the middle of the pack.

Though weaker than gender role norms, the results for self-fulfillment items followed the expected pattern with few exceptions. Self-fulfillment aspirations were highest for the Dual Very High Occupation Career and Medium High Wife Occupation Couples and lower for Non-working Wife Low Husband Occupation and Dual Low Occupation Couples. The largest discrepancy between wives and husbands occurred in the Retired Couples category. Specifically, among retirees, women scored much higher on items related to work quality, personal interests, and

TABLE 2
Wives' Attitudinal Responses Across DSWI Categories

	Retired Couples (n=36)	Non-Wkng Wife, Low Hub Occ (n=21)	Non-Wkng Wife High Hub Occ (n=47)	Dual Low Occ BC Hub (n=23)	Dual Low Occ, Low WC Hub (n=27)	High Hub Occ, Low Wife Occ (n=49)	Med High Wife Occ (n=40)	Dual Very High Occ Career (n=27)	Total Sample (n=267)	F (7,258)	p
Modern Gender Role Norms *(Items reverse coded)* **Mean Std. Scores of Sig. Items**	**-1.34**	**-0.56**	**-0.56**	**-0.86**	**0.34**	**0.22**	**1.15**	**1.53**			
A wife should give up her job when it inconveniences her family	3.64^{defg}	2.79^{m}	2.87^{bqr}	2.91^{uv}	2.67^{dy}	2.39^{ea}	2.13^{fqu}	1.67^{gmrvya}	2.63	4.98	.000
If a mother of young children works, it should be only while the family needs the money	4.42^{dfg}	3.57^{l}	3.90^{qr}	4.37^{uv}	3.60^{dx}	3.82^{za}	2.60^{flquxz}	2.81^{grva}	3.64	4.69	.000
A married woman should be able to work, even if it involves some inconvenience for her family	3.49^{defg}	4.00^{m}	4.13^{bqr}	3.65^{tuv}	4.27^{dy}	4.54^{e}	4.70^{fqu}	5.11^{gmrvya}	4.26	4.32	.000
A married woman's most important task in life is to take care of her husband and children	4.67^{abcdefg}	3.90^{am}	3.96^{bqr}	3.96^{cv}	3.54^{d}	3.56^{e}	3.34^{fq}	3.00^{gmrv}	3.75	3.29	.002
A married woman's job should be just as important as encouraging her husband in his job	4.90^{g}	4.43^{klm}	4.52^{opqr}	4.80^{v}	5.13^{o}	5.07^{kp}	5.22^{lq}	5.33^{gmrv}	4.93	2.06	.048
A married woman who works should be able to make long range career plans	4.42^{dfg}	4.50^{m}	4.53^{qr}	4.35^{uv}	5.00^{d}	4.77^{a}	5.13^{fqu}	5.30^{gmrva}	4.75	2.17	.037
If his wife works, a husband should share equally in chores such as cooking and cleaning	5.06	5.00	5.36^{np}	4.70^{nv}	5.33^{s}	4.90^{p}	5.20	5.26^{v}	5.11	1.28	.263
If a wife works, a husband should share equally in the responsibilities of child care	5.10	5.02	5.26	5.04	5.44^{w}	4.87^{wa}	5.27	5.33^{a}	5.15	1.05	.394
Both parents should have the responsibility to care for small children	4.75^{dfg}	4.57^{lm}	4.80^{oqr}	4.76^{suv}	5.42^{dos}	5.03^{z}	5.55^{flquz}	5.44^{gmrv}	5.05	2.31	.027
Self-fulfillment Aspirations **Mean Std. Scores of Sig. Items**	**0.52**	**-1.17**	**-1.29**	**-0.36**	**0.63**	**-0.31**	**0.83**	**1.55**			
It is important to be well read and educated	5.79^{abcefg}	4.90^{aiklm}	5.13^{b}	5.48^{ci}	5.46	5.47^{ek}	5.42^{fl}	5.48^{gm}	5.40	2.38	.023
I feel a strong need for new experiences	3.83	3.81	3.72	4.04	4.21	3.86	4.19^{qb}	3.81^{b}	3.92	0.60	.757
I like to seek out new foods and tastes	3.83^{g}	3.33^{m}	3.55^{r}	3.33^{uv}	3.88^{y}	3.60^{a}	3.95^{u}	4.59^{gmrvya}	3.76	2.21	.034
I am concerned with self-fulfillment	4.26	3.62^{jkm}	4.09^{or}	4.26	4.63^{jo}	4.36^{k}	4.31	4.63^{mr}	4.28	1.29	.256
I want to be outstanding in my field of work	4.88^{be}	4.40	4.01^{bnoqr}	4.70^{n}	4.67^{o}	4.38^{ea}	4.77^{q}	4.93^{ra}	4.55	2.28	.029
I want something meaningful to work toward	4.68^{fg}	4.72^{lm}	4.45^{qr}	4.96	4.92	4.68^{za}	5.20^{flqz}	5.33^{gmra}	4.83	2.18	.036
I want time and energy left over to pursue personal interests	5.15	4.85^{jl}	4.91^{oq}	4.76^{suv}	5.54^{josw}	5.16^{w}	5.39^{lqu}	5.30^{v}	5.14	2.24	.032
I prefer a more creative life to financial well-being	4.07^{b}	3.57	3.38^{boqr}	3.61^{u}	4.00^{o}	3.76	4.20^{qu}	3.93^{r}	3.81	1.70	.110
Self-improvement is important to me and I work hard at it	4.46^{b}	4.17	3.95^{boqr}	4.30	4.79^{ow}	4.21^{w}	4.47^{q}	4.59^{r}	4.33	1.63	.127
People should be free to look, dress, and live the way they want	4.28	4.57	4.55	4.52	4.83	4.45	4.63	4.56	4.53	0.45	.871
Traditional Family Values *(Item reverse coded)* **Mean Std. Scores of Sig. Items**	**1.64**	**-0.23**	**0.37**	**0.70**	**-0.26**	**-0.03**	**-0.98**	**-1.61**			
The father should be the boss in the house	2.78^{ag}	1.95^{ai}	2.49^{r}	3.13^{istuv}	2.25^{s}	2.46^{t}	2.22^{u}	1.89^{grv}	2.41	1.82	.083
I go to church regularly	4.42^{acdfg}	3.43^{ah}	4.26^{hnoqr}	3.17^{cn}	3.29^{do}	3.72	3.35^{fq}	2.85^{gr}	3.66	2.36	.024
Everything is changing too fast today	4.11^{bdefg}	3.81^{fm}	3.40^{br}	3.87^{uv}	3.38^{dy}	3.36^{ea}	3.11^{fu}	2.72^{gmrvya}	3.45	2.65	.012
Today, most people don't have enough discipline	4.89^{efg}	4.90^{fklm}	4.72^{pqr}	5.00^{tuv}	4.58	4.17^{ekpt}	4.14^{flqu}	3.89^{gmrv}	4.50	3.06	.004
"Strict, old-fashioned upbringing and discipline" are still the best way to raise children	4.21^{defg}	3.57^{i}	3.62^{bnr}	4.78^{instuv}	3.54^{dsy}	3.64^{eta}	3.47^{fub}	2.89^{grvyab}	3.70	3.92	.000
Four or more children is the ideal number for a family to have	2.90^{acdefg}	1.62^{ah}	2.40^{hpq}	2.04^{c}	2.00^{d}	1.82^{ep}	1.65^{fq}	1.80^{g}	2.06	3.30	.002
It is morally acceptable to stay single and have children	4.94^{bdefg}	4.26	4.24^{bqr}	4.70^{uv}	4.17^{d}	4.30^{eza}	3.56^{fquz}	3.52^{grva}	4.21	2.63	.012
It is morally wrong for couples to live together even if they are not married	3.51^{bfg}	2.57^{k}	2.70^{bp}	3.04	3.08	3.59^{kpeza}	2.51^{fz}	2.37^{ga}	2.97	2.16	.038
To buy anything on credit, other than a house or a car, is unwise	4.10^{adefg}	3.12^{ah}	3.81^{hoqr}	3.57	3.13^{do}	3.31^{e}	3.17^{fq}	2.96^{gr}	3.44	2.06	.048
Work and Time Pressures **Mean Std. Scores of Sig. Items**	**-1.01**	**-1.50**	**-0.81**	**0.45**	**0.42**	**0.15**	**1.46**	**0.72**			
I feel I never have enough time to get anything done	4.06^{f}	4.43	4.34	4.67	4.75	4.31	4.72^{f}	4.74	4.47	0.93	.481
I always feel rushed in completing my day's activities	3.11^{bdefg}	3.14^{jlm}	3.81^{b}	3.87	4.25^{djx}	3.72^{e}	4.13^{flxb}	4.15^{gmbb}	3.77	2.15	.039
I spend so much time working, I don't even have time to spend my money	1.89^{fg}	1.33^{aijklm}	1.77^{noqr}	2.35^{inu}	2.38^{jox}	2.02^{kza}	3.10^{flquxzb}	2.52^{gmrab}	2.18	6.64	.000
I feel a great deal of stress from work	1.92^{cdefg}	1.38^{hijklm}	2.09^{hnpqr}	3.09^{cinu}	2.65^{dj}	2.66^{ekpz}	3.77^{flquz}	3.04^{gmr}	2.60	9.17	.000
I often feel drained when I get home from work	1.81^{cdefg}	1.57^{ijklm}	2.06^{nopqr}	3.61^{cin}	3.79^{djox}	3.57^{ekpz}	4.15^{flqxz}	3.93^{gmr}	3.06	17.24	.000
I find my job interferes with my ability to enjoy my family	1.69^{cefg}	1.86^{il}	1.68^{npqr}	2.74^{cins}	2.00^{s}	2.42^{epz}	3.10^{flqz}	2.56^{gr}	2.25	5.46	.000
I have to plan in advance to spend time with those close to me	2.58^{f}	2.00^{jkm}	2.30^{oqr}	2.52^{u}	3.02^{jo}	2.74^{z}	3.52^{flqz}	2.93^{mr}	2.73	2.77	.009

A Priori Comparisons: Pairs with same superscript are significantly different at p =0.05 level. All items were measured on verbally anchored 6 point Likert Scales, with a 6 representing strongly agree.

Multivariate Tests	Value	Approx. F	Hypoth. DF	Error DF	Sig. of F
Pillais	1.38610	1.62252	245.00	1610.00	.000
Hotellings	2.01777	1.83070	245.00	1556.00	.000
Wilks	.19239	1.71683	245.00	1553.13	.000
Roys	.47772				

TABLE 3
Husbands' Attitudinal Responses Across DSWI Categories

	Retired Couples (n=34)	Non-Wkng Wife, Low Hub Occ (n=17)	Non-Wkng Wife High Hub Occ (n=50)	Dual Low Occ BC Hub (n=23)	Dual Low Occ, Low WC Hub (n=23)	High Hub Occ, Low Wife Occ (n=55)	Med High Wife Occ (n=38)	Dual Very High Occ Career (n=28)	Total Sample (n=268)	F (7,259)	p
Modern Gender Role Norms *(Items reverse coded)* **Mean Std. Scores of Sig. Items**	**-1.14**	**-1.72**	**-0.04**	**-0.60**	**0.02**	**0.16**	**1.14**	**1.10**			
A wife should give up her job when it inconveniences her family	3.62^{bdefg}	3.35^{lm}	2.79^{bqr}	2.91^{uv}	2.48^{dy}	2.63^{ea}	2.16^{flqu}	1.82^{gmrvya}	2.69	3.86	.001
If a mother of young children works, it should be only while the family needs the money	4.31^{befg}	4.53^{hklm}	3.56^{bhqr}	4.30^{tuv}	3.96^{xy}	3.52^{ekpza}	2.82^{flquxz}	2.82^{gmrvya}	3.62	4.65	.000
A married woman should be able to work, even if it involves some inconvenience for her family	3.33^{bdefg}	3.24^{hjklm}	4.32^{bh}	3.91^{u}	4.22^{dj}	4.25^{ek}	4.70^{flu}	4.54^{gm}	4.14	3.31	.002
A married woman's most important task in life is to take care of her husband and children	4.18^{defg}	4.71^{hjklm}	3.58^{hnr}	4.48^{nstuv}	3.35^{djs}	3.23^{eky}	3.21^{flu}	2.89^{gmrv}	3.59	4.29	.000
A married woman's job should be just as important as encouraging her husband in his job	4.85	4.12^{l}	4.49^{q}	4.70^{u}	4.80^{x}	4.56^{z}	5.28^{lquxz}	4.89	4.73	2.13	.041
A married woman who works should be able to make long range career plans	4.21^{cfg}	3.82^{hiklm}	4.64^{hq}	4.96^{ci}	4.48^{x}	4.69^{kz}	5.21^{flqxz}	4.98^{gm}	4.68	2.86	.007
If his wife works, a husband should share equally in chores such as cooking and cleaning	4.20^{b}	4.47	4.76^{b}	4.43	4.61	4.50	4.76	4.50	4.55	0.70	.671
If a wife works, a husband should share equally in the responsibilities of child care	4.25^{bcdf}	4.47	4.90^{b}	5.11^{cv}	5.04^{d}	4.65	4.91^{f}	4.54^{v}	4.73	1.77	.093
Both parents should have the responsibility to care for small children	4.49^{e}	4.41^{i}	4.72^{n}	5.39^{cintv}	5.00	4.80^{t}	4.75^{u}	4.54^{v}	4.75	1.43	.194
Self-fulfillment Aspirations Mean Std. Scores of Sig. Items	**-2.30**	**-0.39**	**0.54**	**-0.37**	**0.72**	**0.24**	**0.57**	**0.51**			
It is important to be well read and educated	5.43	5.24	5.52^{n}	5.07^{n}	5.43	5.44	5.42	5.39	5.40	0.73	.649
I feel a strong need for new experiences	3.56	3.76	3.92	3.35^{tu}	4.00	3.95^{t}	4.16^{u}	4.00	3.87	0.86	.541
I like to seek out new foods and tastes	2.71^{bdefg}	3.15^{l}	3.55^{b}	3.17^{u}	3.87^{d}	3.77^{e}	4.07^{flu}	3.54^{g}	3.53	2.40	.022
I am concerned with self-fulfillment	3.47^{bcdefg}	3.76^{hjm}	4.54^{bh}	4.24^{e}	4.52^{dj}	4.32^{e}	4.45^{f}	4.46^{gm}	4.26	2.93	.006
I want to be outstanding in my field of work	3.88^{abdefg}	5.06^{a}	5.12^{bq}	4.65^{s}	5.39^{dswx}	4.87^{ew}	4.74^{fqx}	5.16^{g}	4.84	4.92	.000
I want something meaningful to work toward	4.04^{abdefg}	4.97^{a}	5.25^{bn}	4.74^{nst}	5.30^{ds}	5.15^{et}	5.13^{f}	5.11^{g}	4.99	5.83	.000
I want time and energy left over to pursue personal interests	4.38^{cefg}	5.00	5.15	5.17^{c}	4.87	4.96^{e}	5.29^{f}	5.29^{g}	5.02	2.26	.030
I prefer a more creative life to financial well-being	3.33^{bdf}	3.12^{jl}	3.42^{bq}	3.13^{su}	4.00^{djs}	3.47^{z}	4.05^{flquz}	3.57	3.53	1.87	.076
Self-improvement is important to me and I work hard at it	3.82^{dg}	4.24	4.44	3.91^{sv}	4.78^{dsw}	4.12^{wa}	4.32	4.57^{gva}	4.26	1.80	.088
People should be free to look, dress, and live the way they want	4.03^{cdf}	4.24^{l}	4.40	4.87^{cv}	4.74^{d}	4.51	4.87^{flb}	4.29^{vb}	4.49	1.59	.137
Traditional Family Values *(Item reverse coded)* **Mean Std. Scores of Sig. Items**	**1.32**	**0.74**	**-0.43**	**1.29**	**0.64**	**-0.32**	**-0.63**	**-1.46**			
The father should be the boss in the house	3.43^{e}	4.18^{hklm}	3.02^{hn}	4.09^{enstuv}	3.04^{js}	3.36^{kt}	3.07^{lu}	2.93^{mv}	3.31	1.91	.068
I go to church regularly	3.50^{g}	3.00	3.66^{noqr}	2.65^{n}	2.74^{o}	3.43^{a}	2.92^{q}	2.36^{gra}	3.14	1.65	.122
Everything is changing too fast today	4.09^{befg}	4.35^{hklm}	3.18^{bhnr}	4.26^{ntuv}	3.65^{y}	3.06^{ekt}	3.16^{flu}	2.54^{gmrvy}	3.41	4.85	.000
Today, most people don't have enough discipline	5.20^{befg}	4.76^{m}	4.40^{bnor}	5.00^{ntuv}	4.91^{owxy}	4.42^{etwa}	4.33^{fuxb}	3.57^{gmrvyab}	4.53	4.39	.000
"Strict, old-fashioned upbringing and discipline" are still the best way to raise children	4.54befg	4.41^{hkm}	3.49^{bhnor}	4.70^{ntuv}	4.17^{oy}	3.65^{ekta}	3.61^{fub}	2.93^{gmrvyab}	3.84	4.84	.000
Four or more children is the ideal number for a family to have	2.06	2.59^{m}	1.95	1.70	2.04	1.93	1.97	1.61^{m}	1.95	0.97	.457
It is morally acceptable to stay single and have children	5.41^{abefg}	4.41^{a}	4.19^{bno}	5.22^{ntuv}	4.96^{oxy}	4.39^{etz}	3.71^{fuxz}	3.89^{gvy}	4.46	4.14	.000
It is morally wrong for couples to live together even if they are not married	2.51^{a}	3.71^{ahilm}	2.68^{h}	2.91^{iv}	2.83^{y}	2.87^{a}	2.29^{l}	2.07^{mvya}	2.68	1.80	.087
To buy anything on credit, other than a house or a car, is unwise	3.71^{dg}	3.24	3.34^{o}	3.61^{s}	2.39^{doswx}	3.09^{w}	3.58^{x}	2.93^{g}	3.26	1.68	.114
Work and Time Pressures Mean Std. Scores of Sig. Items	**-2.47**	**0.38**	**0.46**	**0.14**	**0.22**	**0.69**	**0.20**	**0.04**			
I feel I never have enough time to get anything done	3.63^{abde}	4.65^{a}	4.24^{b}	4.30	4.39^{d}	4.12^{e}	4.18	4.21	4.17	1.10	.360
I always feel rushed in completing my day's activities	2.56^{abcdefg}	3.56^{a}	3.65^{b}	3.61^{c}	3.48^{d}	3.91^{e}	3.66^{f}	3.64^{g}	3.54	2.63	.012
I spend so much time working, I don't even have time to spend my money	1.53^{abcdefg}	2.41^{a}	2.30^{b}	2.43^{c}	2.48^{d}	2.58^{e}	2.34^{f}	2.54^{g}	2.32	2.24	.032
I feel a great deal of stress from work	1.79^{abcdefg}	3.12^{a}	3.46^{bqr}	3.26^{c}	3.17^{d}	3.62^{eza}	2.95^{fqz}	2.96^{gra}	3.09	6.41	.000
I often feel drained when I get home from work	1.79^{abcdefg}	3.41^{a}	3.80^{b}	3.48^{c}	3.52^{d}	3.87^{e}	3.42^{f}	3.46^{g}	3.40	8.24	.000
I find my job interferes with my ability to enjoy my family	1.74^{abcdefg}	3.00^{a}	2.84^{b}	2.57^{c}	2.57^{d}	2.95^{e}	3.03^{f}	2.61^{g}	2.69	3.39	.002
I have to plan in advance to spend time with those close to me	2.00^{abcdefg}	3.53^{a}	3.20^{b}	3.04^{c}	3.39^{d}	2.93^{e}	3.16^{f}	2.93^{g}	2.98	2.86	.007

A Priori Comparisons: Pairs with same superscript are significantly different at p =0.05 level. All items were measured on verbally anchored 6 point Likert Scales, with a 6 representing strongly agree.

Multivariate Tests	Value	Approx. F	Hypoth. DF	Error DF	Sig. of F
Pillais	1.39451	1.63481	245.00	1610.00	.000
Hotellings	2.03201	1.84362	245.00	1556.00	.000
Wilks	.18993	1.73187	245.00	1553.13	.000
Roys	.46468				

Academy of Marketing Science Review
volume 2006 no. 8 Available: http://www.amsreview.org/articles/schaninger08-2006.pdf

self-improvement than men. This finding suggests that male self-fulfillment aspirations might be more closely tied to their careers whereas females tend to obtain self-fulfillment in other spheres as well.

As expected, for traditional family values, the pattern of results was the opposite to that of modern gender role norms. The results are strong and consistent for both sexes. Dual Very High Occupation Career Couples held the least traditional values, followed by Medium High Wife Occupation Couples. In contrast, Retired Couples held the most traditional values followed by Dual Low Occupation Blue-collar Husband Couples.

With regard to work and time pressures, one would expect differences in the pattern of results between wives and husbands depending on their occupation status and this is borne out by the results. For wives, the group reporting the greatest work and times pressures was Medium High Wife Occupation Couples, followed by Dual Very High Occupation Career Couples – perhaps due to greater stresses among the former still developing their careers, and the presence of young children. Wives in the Dual Low Occupation Low White-Collar Husband group were highest on the two items related to feeling rushed and not having enough time to spend their money, and well above average on several other items. Wives in the Dual Low Occupation Couples (both blue-collar and white-collar husbands) also reported above average work and time pressures. Thus, it appears that being in lower status blue or white-collar jobs or "being on the way up," leads to greater work and time pressures, and this effect may be influenced by presence of younger children. Wives in the Retired and Non-working Wife Low Husband Occupation groups felt the least work and time pressures, followed wives in the Non-working Wife High Husband Occupation group. In general, working wives reported greater time pressures (first two items) than husbands, but lesser work related stresses and interference with family (last four items).

The pattern for husbands was less straightforward (see Table 3). Husbands in higher occupation status categories generally reported greater work-related stresses and time pressures, but there was more idiosyncratic variation and the differences were not as large as in the wives. High occupation husbands with either a non-working or low occupation status wife reported the greatest work-related stresses overall and were at or near the top on five of the seven items, possibly reflecting greater pressures due to the presence of children, a working spouse earning less income than needed, growing career demands, longer hours, and conflict with family time. Husbands in the Dual Very High Occupation Career group felt less work/time pressures than their High Husband Occupation counterparts with non-working or low occupational status wives. This may reflect that the former had already attained success and established their careers. Husbands in the Retired Couples category reported the least work and time pressures as expected.

Food and Beverage Consumption

Table 4 presents the results for food and beverage consumption. Twenty of the 33 univariate F tests attained significance at the ($p < .05$) level, with another five attaining significance at the ($p < .10$) level. As discussed earlier, most differences were significant even after controlling for income and almost 80% of the variance is explained (see Table 1).

Dual Very High Occupation Career Couples were the heaviest users of all healthy staples (except fresh vegetables) and were generally lower in usage of most convenience foods, including TV dinners, canned foods, hot dogs, and instant coffee. Consistent with prior research, they were the heaviest consumers of restaurant meals and Chinese take-out. They also placed above average on take-out pizza and fast food consumption. Like upper middle class and college-educated consumers, they tended to be very low (next only to Retired Couples) in consumption of most junk foods such as candy, potato/corn chips, presweetened cereal, and powdered drink mixes. They were among the lightest users of sugar substitutes and diet soda, demonstrating the tendency of highly educated consumers to avoid artificial additives. Reflecting the opposite pattern, Dual Low Occupation and Non-working Wife Low Husband Occupation households had the highest consumption of junk and convenience foods and the lowest consumption of healthy staples. Retired households had the highest consumption of sugar free products and lowest consumption of junk foods and meals away from home, a reflection of their dietary needs as well as lifestyles. The pattern of results suggests that couples in which the husband was of low occupation status tended

TABLE 4
Food and Beverage Consumption Frequency Differences Across DSWI Categories

	Retired Couples (n=37)	Non-Wkng Wife, Low Hub Occ (n=21)	Non-Wkng Wife High Hub Occ (n=49)	Dual Low Occ BC Hub (n=24)	Dual Low Occ, Low WC Hub (n=24)	High Hub Occ, Low Wife Occ (n=55)	Med High Wife Occ (n=40)	Dual Very High Occ Career (n=28)	Total Sample (n=278)	F (7,269)	p
Healthy Staples (Std. Scores)	-0.41	-1.24	0.42	-0.96	-1.18	0.38	0.09	1.68			
Bottled Juice	3.68[bg]	4.19[m]	4.69[b]	4.04[v]	3.96[y]	4.49[a]	3.95[b]	5.36[gmvyab]	4.32	2.06	.048
Fresh Vegetables	5.97[acdf]	5.33[a]	5.53[o]	5.08[ct]	4.96[dowy]	5.71[tw]	5.45[f]	5.93[vy]	5.55	2.34	.025
Yogurt	3.32	3.14[m]	3.78[o]	3.38	2.50[owxy]	3.67[w]	3.97[x]	4.07[my]	3.56	1.91	.069
Rice	3.86[bg]	4.05	4.47[bo]	3.92	3.88[oy]	4.16	3.95	4.46[gy]	4.12	1.10	.366
Soda Water	2.38[a]	1.29[ahijklm]	2.20[hr]	1.92[id]	2.46[j]	2.33[k]	2.55[l]	2.96[mrv]	2.31	2.12	.041
Herbal Teas	2.35[g]	1.71[hklm]	2.73[h]	2.00[tv]	2.08[wy]	2.95[ktw]	2.80[l]	3.43[gmvy]	2.61	2.53	.015
Sugar Free Products (Std. Scores)	1.00	-0.33	0.28	-0.46	-0.65	0.96	-0.28	-2.12			
Sugar Substitute	3.70[dfg]	3.05[jm]	2.92[r]	2.58	1.96[djw]	3.04[wb]	2.60[f]	1.79[gmra]	2.78	2.06	.048
Diet Sodas	3.38	3.19	3.71	3.58	4.08	4.02	3.67	3.32	3.67	0.58	.774
Junk Foods (Std. Scores)	-1.69	0.92	0.17	0.79	1.47	0.15	-0.15	-0.76			
Presweetened Cereal	1.89[abcdef]	3.86[akm]	2.94[bno]	3.92[cntv]	4.13[odwy]	2.82[ektw]	3.38[f]	2.54[mvy]	3.05	3.67	.001
Candy	3.54[abcdef]	4.76[am]	4.14[bn]	4.83[cnv]	4.54[d]	4.47[ea]	4.22[f]	3.75[mva]	4.24	2.25	.031
Potato/Corn Chips	3.30[abcdef]	5.00[alm]	4.84[bqr]	4.38[c]	5.04[dxy]	4.65[ega]	4.00[flqxz]	4.00[mrya]	4.38	4.99	.000
Powdered Drink Mixes	1.76[abdf]	3.05[akm]	2.63[b]	2.33	2.92[dw]	2.20[kw]	2.60[f]	2.21[m]	2.41	1.72	.100
Regular Sodas	3.78[cde]	3.86[j]	4.18[o]	4.75[cu]	5.21[djoxy]	4.55[ez]	3.77[uxz]	4.00[y]	4.24	1.92	.067
Convenience Foods (Std. Scores)	0.28	1.63	0.46	-0.67	1.16	-0.19	-0.86	-1.24			
Instant Rice	2.19[f]	2.48	2.55	2.00[nu]	2.46	2.27[z]	2.95[fuz]	2.39	2.43	1.22	.293
TV Dinners	1.78[ad]	2.43[aik]	1.88[o]	1.67[is]	2.58[doswxy]	1.82[kw]	1.92[x]	1.79[y]	1.94	1.83	.082
Frozen Entrees	2.32[a]	3.33[ahikl]	2.59[hnq]	1.92[insv]	2.92[swx]	2.24[kw]	1.97[lqxb]	2.57[vb]	2.42	2.92	.006
Canned Ravioli/Spaghetti	1.57[abde]	2.76[ahilm]	2.08[bhnor]	1.33[inst]	3.17[doswxy]	2.18[etwza]	1.70[lxz]	1.54[mrya]	2.00	6.06	.000
Hamburger Helper	1.41	1.67[il]	1.41[n]	1.13[int]	1.54	1.45[t]	1.25[l]	1.32	1.39	0.92	.495
Hot Dogs	3.38[a]	4.05[aklm]	3.76[r]	3.75	3.63	3.49[k]	3.40[l]	3.21[mr]	3.56	1.36	.224
Canned Soup	3.92	4.43[l]	4.06	3.92	4.29	3.98	3.77[l]	3.93	4.01	0.61	.751
Canned Vegetables	4.32[bfg]	4.67[hlm]	3.35[bhno]	4.54[nuv]	4.29[oxy]	3.80[za]	2.75[fluxz]	2.86[gmvya]	3.72	4.51	.000
Instant Coffee	4.32[def]	3.52	3.86[or]	3.54	2.83[do]	3.27[e]	3.42	2.89[gr]	3.50	1.36	.222
Instant Breakfast	1.73[c]	1.19[j]	1.41[o]	1.21[cs]	1.92[jos]	1.53	1.52	1.54	1.51	1.18	.313
Unsweetened Cereal	5.59	5.33	6.02[nopqr]	5.17[n]	5.08[o]	5.33[p]	5.05[q]	4.71[r]	5.35	1.73	.100
Meals Prep Away From Home (Std)	-1.61	-1.05	-0.19	-0.62	0.42	0.54	0.63	1.43			
Restaurant Dinner Out	3.73[ag]	2.86[ahijklm]	3.92[hr]	3.83[iv]	3.96[jy]	4.07[ka]	3.88[lb]	4.75[gmrvyab]	3.92	3.96	.000
Fast Food Items	2.95[defg]	3.48	3.33[opqr]	3.29[stuv]	4.00[dos]	3.87[ept]	4.13[fqu]	3.96[grv]	3.63	3.24	.003
Take-out Pizza	1.97[abcdegf]	2.95[ajlm]	3.20[bo]	3.04[csuv]	3.67[djos]	3.44[e]	3.57[flu]	3.61[gmv]	3.19	8.63	.000
Take-out Chinese	1.32[bdefg]	1.62[klm]	1.88[bnr]	1.46[ntuv]	1.71[dwy]	2.16[ektwx]	2.10[flub]	2.68[gmrvyab]	1.90	7.14	.000
Alcoholic Beverages (Std. Scores)	-0.52	-1.46	-0.34	-0.65	0.13	0.59	-0.17	1.93			
Beer	3.22[defg]	3.38[m]	3.59[r]	4.08	4.29[d]	4.00[ea]	4.13[f]	4.89[gmr]	3.92	2.10	.044
Light Beer	2.22[eg]	2.38[m]	2.55[r]	2.25[v]	2.54[y]	2.96[z]	2.32[zb]	3.57[gmrvyb]	2.62	2.31	.026
Imported Wine	2.27[e]	1.81[km]	2.24[pr]	2.25[v]	2.08[wy]	2.71[kpwga]	2.17[zb]	3.54[gmrvyab]	2.41	4.65	.000
Premium Domestic Wine	2.46[ag]	1.81[ahjklm]	2.43[hr]	2.13[tv]	2.71[j]	2.85[kt]	2.65[lb]	3.36[gmrvb]	2.59	2.82	.007
Distilled Spirits	2.78[ac]	1.48[ahjklm]	2.55[h]	1.96[cstv]	2.79[js]	2.91[kt]	2.47[l]	3.07[mv]	2.58	2.58	.014

Scale values: 7 = nearly everyday; 6 = several times a week, 5 = about once a week, 4 = once in two weeks; 3 = about once a month, 2 = rarely, 1 = never
A-Priori Comparisons: Pairs with same superscript are significantly different at p =0.05 level.
Multivariate Tests of Significance (S = 7, M = 12 1/2, N = 118)

Test	Value	Appr. F	Hyp. DF	Error DF	Sig. of F
Pillais	1.32587	1.72774	231.00	1708.00	.000
Hotellings	1.80479	1.84608	231.00	1654.00	.000
Wilks	.21557	1.78519	231.00	1645.72	.000
Roys	.39854				

to be lighter users of healthy staples and heavier users of junk foods, both among dual working couples and non-working wife couples, reflecting general social class tendencies.

Due to their social class backgrounds and work related stresses, Dual Very High Occupation Career Couples were the heaviest users of all types of alcoholic beverages, including imported and domestic wines, beer and light beer, and distilled spirits. High Husband Low Wife Occupation households were next highest in alcohol consumption, except for regular beer. In general, heaviest consumption of imported and domestic wines, light beers, and distilled spirits is observed among the highest status, highest work involvement couples. In contrast, lower consumption is observed among lower occupation (especially husband) and retiree households. Retired Couples in general report lower alcohol consumption than other groups (except for distilled spirits) reflecting age effects and absence of work-related stresses. Medium High Wife Occupation Couples were below average on alcohol (other than beer) likely due to middle class tendencies. Consumption of distilled spirits was lower amongst couples with lower middle class and blue-collar occupations, perhaps due to general social class tendencies, and lower income.

The above pattern of results suggests that occupation status, work and time pressures, income, and social class interact to determine family food and beverage consumption patterns, and that simple linear relationships do not hold. For this reason, the DSWI scheme is able to identify patterns of food and beverage consumption differences that could not be isolated by alternative WWI models or by econometric models using macro-level data.

Wives' Shopping Behavior

Table 5 presents mean Likert scores for the six shopping behavior items, univariate and multivariate test statistics, as well as a priori t-test comparison significance levels for the DSWI scheme. Looking at the actual group-to-group comparisons, it is clear that the wives in the Dual Very High Occupation Career households put forth much less shopping effort, followed by the wives from Medium High Wife Occupation and High Husband Low Wife Occupation households. It appears that the three nonworking wife groups put in the greatest shopping effort, and that retired wives were most likely to pay attention to sale ads, use coupons, shop at several supermarkets, and believe they can save money by buying things on sale. These findings reflect the availability of extra time as well as more traditional gender role norms and emphasis on the wife's shopper role. However, unlike the other dependent variable sets, the simpler models with fewer categories produced stronger patterns of statistical significance for wives' shopping behavior. The simple dichotomy (working versus nonworking wives) produced significant results (at $p < .10$) for all six items, while the DSWI model produced significant results (at the $p < .10$) level for three of the six items (see Table 1). While DSWI captured differences related to social class and gender role norms (e.g., blue collar working wives expended more effort on grocery shopping than high status career wives), the large number of degrees of freedom between groups weakened the resultant statistical tests. The Bartos' model's separation of plan-to-work and stay-at-home wives captured greater effort for plan-to-work wives, perhaps in response to short-term income deficiencies. Overall, none of the models explained a high percentage of the multivariate variance in wives' grocery shopping.

Values of Major Durable Acquisitions

Contrary to prior econometric studies, the DSWI scheme dramatically outperformed extant WWI models and isolated significant differences in dollar values of major durable acquisitions and home entertainment devices and furniture, even after controlling for income. While the proportions of multivariate variance explained [1 – Wilks'λ] were modest, about .30 before and .25 after adjusting for income (examining each variable set separately), these values compare favorably to those for family life cycle (cf. Schaninger and Danko 1993). In addition, these values underestimate the true explained variance due to violations of normality (there were many values near zero). Further, the value of [1 – Wilks'λ] is nearly .50 for the analysis combining the two variable sets.

Table 1 presents MANOVA results for the two sets of variables separately to facilitate model comparison. However, it is more appropriate to jointly examine the home entertainment and furniture values with that of major durables since all of them relate to large/significant purchases. As shown in Table 6, significant univariate differences were observed for values of stereos, personal computers, VCRs, furniture (total of estimated values of living-,

TABLE 5
Wives' Shopping Behavior Differences Across DSWI Categories

	Retired Couples (n=36)	Non-Wkng Wife, Low Hub Occ (n=21)	Non-Wkng Wife High Hub Occ (n=47)	Dual Low Occ BC Hub (n=23)	Dual Low Occ, Low WC Hub (n=24)	High Hub Occ, Low Wife Occ (n=50)	Med High Wife Occ (n=40)	Dual Very High Occ Career (n=27)	Total Sample (n=268)	F (7,259)	p
I find myself checking the prices in the grocery store even for small items.	4.25	4.86^{jkm}	4.51^{r}	4.30	3.96^{j}	3.92^{k}	4.13	3.56^{mr}	4.17	1.41	.202
I usually watch advertisements for announcements of sales.	4.75^{cdfg}	4.33	4.50^{nopq}	3.87^{cn}	3.63^{do}	4.18^{p}	3.95^{fq}	3.85^{gr}	4.18	1.75	.098
A person can save a lot of money by shopping around for bargains.	4.81^{cfg}	4.38	4.64	4.15^{c}	4.67^{y}	4.59^{a}	4.22^{f}	4.07^{grya}	4.47	1.39	.211
I use a lot of coupons.	4.47^{defg}	4.10^{m}	4.06^{pqr}	3.96^{v}	3.50^{d}	3.46^{epa}	3.40^{fq}	2.85^{gmrva}	3.73	3.07	.004
I often go to several supermarkets to get the best prices on everything.	$3.29^{abcdefg}$	2.19^{a}	2.51^{bpr}	2.17^{cv}	2.15^{dy}	1.68^{ep}	1.72^{fq}	1.56^{grvy}	2.16	5.32	.000
I often buy sale items from discount stores.	3.97	4.10	4.04^{r}	3.93	3.92	3.65	3.63	3.44^{r}	3.82	0.74	.640

A Priori Comparisons: Pairs with same superscript are significantly different at p =0.05 level.
All items were measured on verbally anchored 6 point Likert Scales, with a 6 representing strongly agree, and a 1 representing strongly disagree.

Multivariate Tests of Significance (S = 6, M = 0, N = 126)

Test	Value	Appr. F	Hyp. DF	Error DF	Sig. of F
Pillais	.26401	1.70300	42.00	1554.00	.004
Hotellings	.29521	1.77358	42.00	1514.00	.002
Wilks	.75664	1.74269	42.00	1194.82	.003
Roys	.14781				

dining- and bed-room furniture), primary homes and autos, 2nd autos, and trucks/vans/3rd autos. Dual Very High Occupation Career households had the highest mean values for stereos, primary TV's, VCR's, primary homes, primary and 2nd autos, the second highest mean values for furniture, and very high values for second homes. These findings do not reflect simple income differences, but appear to reflect upper-middle and upper social class background, desired lifestyles, and self-fulfillment orientations. These couples had the second lowest mean values for trucks/vans/3rd autos, products often associated with affluent blue-collar lifestyles. As expected, Dual Low Occupation Blue-Collar Husband households had the highest expenditures on recreational vehicles (campers, boats, motorcycles, and ATVs). The profile of Non-working Wife High Husband Occupation households seems to reflect affluent upper middle class lifestyles among families with children at home, with full-time housewife mothers reflecting traditional family values. Such households had the highest mean values for 2nd and 3rd TVs, personal computers, furniture, and high mean values for primary homes, 2nd autos, stereos, primary TVs, and VCRs. Non-working Wife Low Husband Occupation households represent less affluent, younger, recreation-oriented, blue-collar households who exhibit very high mean values on trucks/vans/3rd autos, and on recreational vehicles. These households had very low mean values for 2nd and 3rd TVs, personal computers, primary homes, primary and 2nd autos, stereos and furniture. Because mean values include zeros for those not owning an item, the value of under $12000 for second homes for Dual Low Occupation Low White Collar Husband Couples reflects their tendency to not own second homes rather than a tendency to own second homes of low value. The highest husbands' occupational status households tended to own the most expensive primary homes and furniture, consistent with upper-middle/upper social class influences.

TABLE 6
Mean Dollar Values of Major Purchases Across DSWI Categories

	Retired Couples (n=37)	Non- Wkng Wife, Low Hub Occ (n=21)	Non- Wkng Wife High Hub Occ (n=50)	Dual Low Occ BC Hub (n=24)	Dual Low Occ, Low WC Hub (n=24)	High Hub Occ, Low Wife Occ (n=55)	Med High Wife Occ (n=41)	Dual Very High Occ Ca-reer (n=28)	Total Sample (n=280)	F (7,271)	p
Home Entertainment & Furniture											
$ Value of Stereo	273.97[bdefg]	291.67[hjlm]	470.24[bh]	380.21[uv]	479.17[dj]	404.69[ea]	527.54[fluz]	544.64[gmva]	426.91	3.35	.002
$ Value of Primary TV	478.57	416.67[m]	465.00	453.13	472.17	450.71[a]	471.51	543.11[ma]	468.72	0.80	.591
$ Value of 2nd & 3rd TV's	425.68	321.43	437.50	434.04	357.96	413.02	344.51	374.07	395.35	0.83	.566
$ Value of Personal Computer	108.11[abf]	0.00[ahjklm]	359.06[bhnop]	190.75[n]	114.58[jox]	172.73[kp]	329.27[flxz]	219.86[m]	208.70	3.68	.001
$ Value of VCR	155.41[aefg]	244.05[him]	360.00[bho]	260.42[iv]	223.96[oy]	330.58[e]	276.61[fb]	418.43[gmvyb]	291.92	3.82	.001
$ Value of Furniture	2081.97[bc]	1922.62[hk]	2475.00[bhnoq]	1671.88[cntv]	2074.29[o]	2280.16[kt]	2050.07[q]	2237.79[v]	2154.24	2.82	.007
Major Durable Acquisitions											
$ Value of Primary Home	79574.27[abe]	57904.76[ahkm]	103319.16[bhn]	64707.25[ntuv]	66038.17[owxy]	98502.73[ektw]	84091.41[lqux]	105892.86[gmvy]	86766.0	3.77	.001
$ Value of Second Home	4324.32	5047.62	6640.00	4208.33	11812.50	9727.27	10202.44	9535.71	7867.14	0.28	.960
$ Value of Primary Auto	9261.49[acf]	4935.71[ahjkm]	9172.62[hnq]	6410.42[cnv]	9384.38[ix]	7906.82[k]	7057.93[fqxb]	9696.43[mvb]	8142.07	3.68	.001
$ Value of 2nd Auto	2330.35[bg]	1780.95[hm]	4973.20[bhnpq]	2475.00[nsv]	3363.46[sy]	2869.44[pa]	3335.27[qb]	5432.14[gmvyab]	3425.25	3.92	.000
$ Value of Trucks/Vans & 3rd Autos	562.16[acdf]	2426.19[am]	918.00[oq]	2097.97[c]	2666.67[doy]	1673.18	2643.15[qb]	628.57[myb]	1607.12	2.07	.046
$ Value of Recreational Vehicles	1324.19[a]	3802.38[ah]	1102.00[h]	4887.50	1529.17	1205.04[k]	1934.76	1925.00	1919.45	1.45	.185

A Priori Comparisons: Pairs with same superscript are significantly different at p =0.05 level.
Statistical Tests Based on Transformed Dollar Values *[SQRT (X) + SQRT (X + 1)]* to Alleviate Heterogeneity;
Mean values are in 1987 reported dollars. Values in today's dollars would be more than doubled due to inflation. For those not owning a given item, values of zeros were assigned.
Thus small mean values for second homes reflect low percentage of ownership rather than low value of second homes.

Multivariate Tests of Significance (S = 7, M = 2, N = 129 1/2)

Test	Value	Appr. F	Hyp. DF	Error DF	Sig. of F
Pillai's	.58549	2.03090	84.00	1869.00	.000
Hotellings	.68339	2.10944	84.00	1815.00	.000
Wilks	.53191	2.07646	84.00	1606.52	.000
Roys	.21114				

CONCLUSIONS

This research developed and demonstrated that the DSWI model isolated significant differences in husbands' and wives' gender role norms, self-fulfillment aspirations, traditional family values, and work and time pressures. The DSWI scheme exposed key differences in household food and beverage consumption patterns and dollar values of home entertainment devices and major durable acquisitions. It accounted for over 80% of the multivariate variance for both husbands' and wives' attitudes, almost 80% for household food and beverage consumption, and, most notably, nearly 50% of that for dollar values of home entertainment devices and furniture and of major durable acquisitions. These are not merely income effects as all the results hold even after controlling for family income. The results suggest that incorporating the relative work involvement of *both* spouses captures rich interactive effects.

While very high status DSWI couples held more modern gender role norms, self-fulfillment aspirations, and non-traditional values, they did not experience the greatest work/time pressures – probably because they were more established and successful, had already attained career success, even though they were more likely to have young children. They were heaviest consumers of healthy staples, restaurant meals, and most forms of alcohol but avoided sugar substitutes, junk foods, and convenience foods. They put forth the least shopping effort, used fewer coupons, and acquired more expensive major durables. This pattern strongly contrasts to those of retired couples, non-working wife couples, and low occupation status dual working households. Hence, as specified by the DSWI framework, work and time pressures, income, gender role norms, and social class background interact to determine household consumption patterns. These findings and this approach should be very useful to marketers, demographers, and sociologists interested in understanding differences between traditional households and their more individualistic and career-oriented counterparts. This approach captures important Gestalt profiles that underlie the different motivations, norms, lifestyles, and consumption patterns that separate such households. Thus, DSWI, at a more macro level, focuses on the fundamental social and cultural changes in values, norms, and lifestyles which have 'shaken' most industrialized and many developing societies; changes that have led to a very different world than that which existed a few decades ago. A major limitation of this research is that the findings and specific operational definitions are based on a single study using a modest-size data set from one metropolitan area in the United States. A second limitation is that the data are dated and based on self-reports. However, given both the marketplace and socio-cultural changes, it is likely that newer data would increase the applicability of the DSWI model. In the past two decades electronic devices, shopping, and food options have expanded and changed dramatically. Most baby boomers have entered later life-cycle stages and remain affluent. Researchers should test the usefulness of DSWI by using new/multiple data sets that include measures of DSWI, attitudes, motives, and consumption patterns. Future research could also explore the extent to which DSWI would be applicable to rapidly developing as well as more traditional societies.

The principle contribution of this research is developing an integrative approach for classifying households/families based on the work involvement of both spouses. The strong empirical support for DSWI suggests that it is a multi-faceted socio-cultural construct. It offers rich new insights and could be used as a basis for segmenting diverse product markets, e.g., advertising high quality healthy foods or restaurant fare more toward career-wife households and food and beverage coupons and sales promotions toward non-working wife households. Also, the observed lifestyle and consumption differences could be more dramatic depending on the specific DSWI categories of interest to marketers (e.g., blue collar versus dual high occupation households).

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