

Exploring More than 24 Hours a Day: A Preliminary Investigation of Polychronic Time Use

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The present exploratory study investigates the concept of polychronic time use through the development and preliminary testing of a proposed scale, the Polychronic Attitude Index (PAI). Polychronic time use is defined and reviewed in relation to role overload and household demographic characteristics. When a sample of consumers in New Jersey was surveyed, both the PAI and role overload were found to be related to different types of polychronic time use. Overall, this research demonstrates that the concept of polychronic time use contributes to our understanding of consumer behavior and raises questions worthy of future research.

Researchers have been interested in what people do with their time resources, individually and collectively, which has stimulated several empirical studies of individual time use (Gronau 1977; Robinson 1977; Szalai 1972; Walker and Woods 1976). Most of this empirical work, however, has been undertaken with the limiting assumptions of the fixed resource approach: first, that time resources are limited to 24 hours a day, and second, that activities are usually performed one at a time (Becker 1965; Robinson 1977; Schary 1971; Voss 1967). Both of these assumptions are very restrictive and fit the traditional Western economic view of time as "linear separable" (Hall and Hall 1987). In contrast to the traditional finite-resource approach, a number of researchers have called for work that includes the subjective realities of consumers' time use (Coursey 1985; Graham 1981; Hirschman 1987; Hornik 1984; Jacoby, Szybillo, and Berning 1976).

The present study focuses on one specific area of time: level of activity. While most studies have examined, modeled, and analyzed activities as if people engaged in them one at a time (monochronic time use), many respondents in these studies have consistently reported combining activities simultaneously (polychronic time

use), such as eating while watching television. By combining activities, individuals use their time resources to accomplish several goals at the same time.

While the term "polychronic time use" appears to have originated with Hall's (1959) work in anthropology, the marketing and organizational behavior literature argue for its exploration (Bluedorn and Denhardt 1988; Feldman and Hornik 1981; Lane, Kaufman, and Lindquist 1989). Moreover, in major time studies, several investigators have recognized the substantial impact that the inclusion of polychronic time use could have on time analysis (Robinson 1977; Szalai 1972; Walker and Woods 1976). One of the most cogent summaries of the problem is given by Szalai (1972, p. 2): "Such an elimination of secondary or parallel activities from the circle of observation naturally distorts in a rather arbitrary fashion the picture of what people do the day long and leads to a biased account of the amounts of time they devote to the various tasks of life." The purpose of this exploratory study is to determine whether there is evidence that individuals are conscious of polychronic time use, that is, combining activities simultaneously in the same clock block.

POLYCHRONIC TIME USE: AN INTERDISCIPLINARY OVERVIEW

A number of authors have wrestled with the concept of simultaneous and multiple uses of time in their efforts to understand its effect on behavior (Arndt, Gronmo, and Hawes 1981; Hendrix, Kinnear, and Taylor 1979). Research in psychology suggests that attention is divided

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according to the skills needed to perform several activities together, such as driving a car and carrying on a conversation (Kahneman 1973; Lindsay 1970; Norman and Bobrow 1975; Pillsbury 1908). The organizational behavior literature distinguishes between monochronic and polychronic time use in certain types of jobs (Blue-dorn and Denhardt 1988; Jaques 1964; McGrath and Rotchford 1983; Schein 1985). Interdisciplinary terminologies for polychronic time use frequently vary and include such terms as "primary-secondary" activities and "concurrent" activities (Hendrix and Qualls 1981; Juster and Stafford 1985; Walker and Woods 1976), "joint production" (Peskin 1982), and "dove-tailing" (Hefferan 1982; Walker and Woods 1976). However, a common process is shared: two or more activities are performed within the same time block, apparently at the same time. In reality, at the level of mental processes, it is not clear whether these activities are intermittent or simultaneous. However, within a fixed-resource framework, time, like money, is budgeted and spent for only one purpose at a time.

A Fixed Resource Framework: Time Trade-offs within Households

As described by Becker (1965), Gronau (1977), Lancaster (1966), Schary (1971), and others, household members combine time and market goods to produce commodities. Their choice of combinations is likely to improve the productivity of the household, thereby increasing satisfaction (Beutler and Owen 1980). When the amount of available resources becomes limited by changing household circumstances, the members choose production functions that match their needs and constraints.

Several investigations have examined the responses of employed wives to the demands of their multiple roles (Bellante and Foster 1984; Nickols and Fox 1983; Pleck 1985; Strober and Weinberg 1980). While those responses are frequently linked with operational measures, such as ownership of durable goods, use of convenience foods, purchase of meals, and purchase of services, a general set of alternative strategic responses has been advanced (Strober and Weinberg 1980). These expected responses can involve the substitution of capital equipment or the labor of others for wives' nonmarket labor. Additionally, wives may reduce the quality or quantity of household production or decrease the time that is allocated to volunteer work or leisure.

While many of the prevalent time studies have collected both primary (activities occupying one's principal attention) and secondary (activities occupying partial attention) time-use data, several empirical works have tested time-use strategies while examining only selected portions of the time-use data that respondents have actually reported. For instance, in Nickols and Fox's (1983) empirical test of Strober and Weinberg's (1980) strategies for dealing with time pressure, only the data

representing primary time use were analyzed empirically. Such a decision rule automatically eliminates the ability to study polychronic time use as an alternative strategy that is adopted to alleviate time pressures or role overload.

The lack of conclusive support for these proposed substitutions or resource transfers has led subsequent researchers to propose additional influences on the resource process. Reilly (1982), for instance, suggested that role theory could provide a rationale for the underlying structure of the relations between wives' employment and convenience consumption.

Role Overload

Roles define what must be done and often establish the priorities and schedules for carrying out necessary activities. Thus, roles can place competing demands on available money, time, information, goods, and skills, creating a type of role conflict known as role overload. In a consumer behavior context, researchers have proposed that role overload emerges from the wealth of demands experienced by the primary homemaker (usually the wife) and mediates the relation between labor force commitments and convenience consumption (Reilly 1982).

Temporal Planning in Organizations. Similarly, social psychologists have recognized an underlying association between time scarcity and role overload in organizational settings. Specifically, employees may experience conflict between the interactional time demands of interpersonal relations and the organizational time demands that firms use to structure tasks (McGrath and Kelly 1986). One problem concerns the temporal aspect of role overload, defined as "having more role behaviors to do than can be done in a given time period, or . . . having too little time allocated for a fixed set of role activities" (McGrath and Kelly 1986, p. 112).

Perceptions of temporal role overload lead organizations to enact strategies that enable both the organization and its members to cope with perceived time pressures, such as selective scheduling, synchronization, and allocation of time. One such coping strategy concerns the recovery of wasted time, replacing waiting or partially used time with deliberately chosen activity combinations and grouping activities that complement yet do not interfere with each other.

Temporal Role Overload and Polychronic Time Use. Existing applications of the role-overload framework to "traditional" resource theory suggest that individuals segment each set of role expectations into separate time blocks and attempt to increase productivity, delegate tasks to others, or decrease the quantity or quality of activities taken one at a time. From that perspective, methods for fulfilling the demands of each role are somewhat exclusive of each other, and there is little interaction between types of behavior. However,

work in social psychology suggests that "individuals within complex work-role networks react to and cope with demands upon their time" as functions of both their work situation and of their surrounding social networks, such as families, friends, and nonwork organizations (McGrath and Kelly 1986, p. 173).

The recognition of polychronic time use allows the possibility that demands placed by different roles may sometimes be satisfied within the same time block. Individuals can deliberately "aggregate" activities to enhance their time-activity match, or "disaggregate" activities that cannot be done efficiently in combination with others (McGrath and Kelly 1986). Thus, some individuals are likely to combine some of their cross-role demands into efficient periods of polychronic time use, neatly dovetailing several demands through the complementary use of their time, skills, and energy resources.

For instance, individuals fulfilling both employment and homemaker roles can perform primary career work while accomplishing household chores as secondary activities. Using interactive home offices, employees can perform organizational duties while fulfilling their roles at home and thus minimize potential role conflict. Some examples include grading papers while caring for children, making business calls on the car phone while doing household errands, and phoning one's clients while preparing dinner.

Polychronic Time Use—An Additional Consumer Strategy

Conceptually, it is proposed that polychronic time use forms another strategic response, similar to those advanced by Strober and Weinberg (1980), that individuals can use to enrich their time budgets, producing the output of more than 24 hours of single, monochronic activities. Simultaneously performing several household activities, such as doing the laundry while preparing the evening meal, may enhance the individual's productivity. The crunch for leisure time can be augmented by combining leisure activities, such as planning family visits with vacations, rather than performing each separately. The purchase of market goods can efficiently be combined with other activities through interactive home shopping networks that introduce formerly impossible activity combinations, such as buying from Sears while doing the laundry.

Polychronic time use may also affect how people organize their days. Schedules may reflect periods of monochronic time focusing on one highly valued activity with other periods allocated to less demanding combined tasks. One could argue that projects that require concentration may be saved for time blocks of uninterrupted quiet, while others are graded and sorted so that they can be grouped appropriately with other activities. The chosen combinations may span the different roles that the individual undertakes, thereby har-

monizing the demands of multiple roles rather than stimulating conflict from them.

The Exploration of Polychronic Time Use

McGrath and Kelly (1986, p. 173) have argued that much can be gained from "a systematic empirical exploration of temporal factors that influence the forms and levels of stress that people experience, and the various means they use for coping with such stress in work and non-work roles." Furthermore, they recommend the study of temporal patterns at the level of "midrange" time units, such as doing the week's laundry, rather than using global concepts like past, present, and future or smaller measures (such as minutes and hours) of equal length and finite duration that characterize the linear, homogeneous, absolute assumptions of Newtonian mathematical time. In a similar vein, we have chosen to extend the existing tradition of time-use studies by focusing on polychronic time use as an aggregation strategy that may be operative in consumer settings, such as household production, market exchange, and leisure activities.

METHODOLOGY

It is expected that the strategy of polychronic time use will be related to individuals' perceived time pressures, their acceptance of the idea of combining and ability to combine activities, and the actual demands of their everyday lives. This exploratory sample included both men and women, employed and unemployed. However, to eliminate the possible confounds of unemployment or retirement, the sample was limited to households in which at least one adult was employed and was less than retirement age.

Data Collection

The data used in this analysis were collected through personal interviews and self-administered questionnaires. The interviewers screened selected households and requested completion of a self-administered questionnaire regarding several aspects of time use. Interviewers were required to be present while the questionnaire was filled out for the purpose of answering respondents' questions and to ensure noninterference by other household members. Interviewers kept a detailed log of requests, comments, and complaints regarding the individual questions.

Sampling Procedure. The questionnaires were collected by trained student interviewers from a university in southern New Jersey during August 1989. Using an area cluster of urban residential neighborhoods, adjacent to the Philadelphia standard metropolitan statistical area, the interviewers were required to start at a designated location, selecting each fifth residence as part of the initial sample, for a total of 10 households. If a

household could not be contacted after two callbacks, was not a home in which at least one adult was employed and was less than retirement age, or refused to participate, then the dwelling was deleted and the next dwelling on the street was added to the target group. Accurate logs of participating homes were kept for verification purposes. This sampling procedure is based on that employed by Reilly (1982).

Sample Description. The final data collection resulted in a sample of 310 completed questionnaires, with 42 percent male and 58 percent female. The population actively participated in the labor force, with 63.2 percent of those sampled reporting 40 or more hours per week spent at work. Fifty-eight percent of the households were married couples with both spouses present, with the remainder being single, divorced, separated, widowed, or widowed. The ages were widely dispersed throughout the acceptable 18–65-year range, with the median age falling in the 26–35-year-old category. About 42 percent of the households had no children, and the remainder had between one and four children. The sample was relatively highly educated, with the median education level indicating “some college study.” Those interviewed were active in their communities; over 62 percent of respondents reported belonging to clubs or social organizations. Median income was in the \$45,000–\$49,999 range, although respondents’ incomes varied considerably and ranged from a low of under \$5,000 to highs of over \$90,000.

Research Instrument

Two sets of statements were generated representing attitudes toward polychronic time use and participation in actual activity combinations. The first set of statements reflected the respondents’ overall feelings toward combining activities. The second set of statements elicited the respondents’ levels of agreement or disagreement with combining specific sets of activities in their own daily lives. These frequently reported, simultaneous mental and physical activities included combinations judged likely to occur on the basis of prior time-use studies (Hefferan 1982; Hill 1985; Robinson 1977; Szalai 1972).

The statements were pretested on two student samples, at universities in New Jersey and Michigan, to eliminate ambiguous or problematic statements. The final version of the questionnaire incorporated statements regarding both general attitudes toward multiple activities and actual behaviors that reflect possible combinations of activities. Reilly’s index of role overload (1982) was also administered as an indicator of perceived time pressure. Finally, standard demographic information was collected.

Polychronic Attitude Index (PAI). The first step in constructing an index of attitudes toward polychronic time use consisted of generating a battery of statements

that were thought to represent how individuals feel about combining activities through polychronic time use. The items were not activity specific but instead attempted to capture the respondent’s general tendencies toward performing more than one activity at a time. These statements were developed in part by consulting the FAST Scale, a four-dimensional, trait-specific personality instrument that has been related to product preference, purchase planning, brand and store loyalty, and personal credit use (Settle and Alreck 1977). A format similar to the FAST scale was developed, and 15 statements using a five-point Likert-type format were chosen for the final questionnaire.

When the item-to-total correlations were considered for the initial 15 items, 11 were judged to be at an unsatisfactory level. In recomputing item-to-total correlations with the remaining four items, the resulting values were approximately .4 and above, which were judged to be within an acceptable range. The PAI is computed as the linear sum of these four items; the scale is given in Appendix A.

A factor analysis was then performed on the four remaining items to confirm the final set of items. Principal components analysis extracted only one factor, and the solution could not be rotated, which indicated that the scale represented one underlying dimension.

Next, Cronbach’s alpha was computed for the four-item PAI; it was 0.6802. While this is somewhat lower than the 0.80 level recommended for basic research, Nunnally (1978, p. 245) argues that reliabilities of approximately 0.70 or higher will suffice in the early stages of research on hypothesized measures of a construct.

Role Overload. As a previously validated indicator of perceived time pressure, Reilly’s index of role overload was administered to the 310 respondents. The reliability of the role-overload scale was estimated by calculation of Cronbach’s alpha. The computed value in the present sample was 0.86, which favorably compares to Reilly’s value of 0.88 in his Milwaukee sample.

Additional Variables. To examine whether attitudes toward polychronic time use are correlated with the actual use of activity combinations, respondents were asked to report the likelihood of their participation in several specific types of activity combinations. In the actual data collection, ongoing records of respondent protocols aided in identifying problematic activity statements (such as a high number of ineligibles or ambiguous terminology). Eleven activity statements were selected for the final analysis and ranged from “eating while reading” to “giving television one’s undivided attention.” The activity statements were presented in five-point Likert-type scale format, as listed in Appendix B.

ANALYSIS AND RESULTS

Correlation Analysis

For the initial analysis, we followed a methodology similar to the one that Settle and Alreck used in the

development and testing of their FAST scale of time orientation (Settle and Alreck 1977; Settle, Alreck, and Glasheen 1977; Settle, Belch, and Alreck 1981). Product-moment correlation was used to examine the relation between the two indices, the index of role overload and the PAI, and the 11 activity combination statements listed in Appendix B. The correlations are presented in Table 1.

First, the relation between role overload and the PAI is statistically significant ($p = .006$) and in the expected negative direction. This finding suggests that those individuals that are capable of and comfortable in combining activities are less likely to report feelings of role overload. The data in the present study are not detailed enough to offer any evidence of causality. However, the adoption of polychronic time use may be related to an individual's effort to manage the multiple roles that have to be carried out, reducing or managing role overload in the process.

There are several activity combinations that correlate significantly with the PAI. When only the PAI is considered, persons who score highly on this index report combining activities in several settings. The data suggest that these individuals aggregate the routine tasks of everyday life, such as working while driving or commuting, and eating or drinking during that time. Moreover, high-PAI individuals do not watch television with undivided attention but presumably combine television viewing with other tasks in the home. Conscious planning also seems to be important to these individuals, as they are likely to report bringing along something to do while waiting for appointments. High-PAI individuals also prefer to get all their errands done at once, trying to shop on the way home from other activities rather than make special trips.

The role-overloaded respondents in the sample also indicated similar tendencies to economize time in their shopping habits. While role overload is positively correlated with eating and drinking while driving or commuting, negative correlations are found between role overload and accomplishing a good deal of work during a business lunch. Leisure activities, such as reading newspapers or magazines, were likely to be combined with other activities, such as eating.

This preliminary analysis suggests that individuals may choose different polychronic activity combinations in relation to the environments that they perceive. Time resources can be used to accomplish multiple activities, matching the individual's personal style with his/her use of time.

Correlations among Respondent Characteristics

When the demographic characteristics of the respondents are considered in terms of the PAI and the index of role overload, some interesting patterns emerge. The correlations were investigated with chi-square analysis

TABLE I
CORRELATIONS OF ROLE OVERLOAD, POLYCHRONIC ATTITUDE INDEX, AND POLYCHRONIC TIME-USE ACTIVITY STATEMENTS

	Role overload (p)	PAI (p)
Index of role overload	1.0000	-.1458 (.006)
Polychronic attitude index	-.1458 (.006)	1.0000
Polychronic time-use activity statements:		
I often combine other activities with chores around the house	.0030 (.480)	.0258 (.331)
When I watch television, I like to give it my undivided attention	-.0656 (.131)	-.1673 (.002)
When supervising children or visiting with family, I usually drop whatever else I am doing	-.0123 (.417)	-.0667 (.127)
I often try to read the newspaper or a magazine while I'm doing something else, such as eating	.1286 (.013)	.0117 (.420)
A good deal of work can be accomplished over a business lunch	-.0813 (.096)	.0594 (.172)
When I shop, I like to get all my errands done at once	.0832 (.081)	.0933 (.056)
I often shop with friends or family, since I can visit at the same time	-.0272 (.322)	.0158 (.393)
While waiting for appointments, I always bring something along to do	.0237 (.345)	.1308 (.013)
I try to shop on my way home, rather than making special trips for shopping purposes	.2178 (<.0001)	.0950 (.054)
I often eat or drink while I'm driving or commuting	.0981 (.047)	.0756 (.097)
I am able to get some work done while driving or commuting	.0152 (.401)	.1129 (.029)

and are presented in Table 2. Probably the most striking result is that, of the seven respondent characteristics considered, role overload is significantly related only to education. That is, when Reilly's index of role overload was broken into four categories of approximately equal size, the most highly educated respondents reported relatively low role-overload scores. Proportionately more of the high school graduates and those with some college had higher role-overload scores. There were no statistically significant differences in role overload on the basis of sex, participation in social clubs, age, marital status, employment hours, or income, although the cross-tabulation patterns suggested that

higher levels of role overload were more common among female respondents.

The PAI was originally computed as a linear sum. To further investigate possible correlations, each individual's score on the PAI was classified into one of four categories, each representing approximately one-fourth of the sample. By this method, the PAI was found to be significantly correlated with education, employment, and club membership. Those individuals who reported that they had college or professional degrees scored the highest on the PAI. In addition, those who reported that their employment force participation was greater than 40 hours per week also tended to have the highest PAI scores. Respondents who reported social group or club membership also fell into the higher-scoring categories. No apparent correlation was found between age, sex, income, or marital status and scores on the PAI.

These results suggest that, while it is difficult to describe the role-overloaded respondent in this sample, the respondent who reports favorable and comfortable attitudes toward polychronic time use has a somewhat definable, although tentative, profile. The high-scoring PAI respondent in the New Jersey sample is more likely to be highly educated, to work over 40 hours a week, and to belong to social groups or clubs.

The correlations of the PAI and the index of role overload with polychronic activities and respondent characteristics suggest that consumer time use is more complex than previously studied conceptual models would indicate. Furthermore, these results provide preliminary support that polychronic time use is a frequently reported and identifiable strategy that individuals use in accomplishing several types of consumer behavior, often in conjunction with other kinds of social behavior. That is, the data suggest that individuals may combine behaviors that are of interest to consumer researchers in definable ways and that such behavior combinations can be correlated with measurable indices that differentiate among individuals.

CONTRIBUTIONS TO CONSUMER BEHAVIOR

The present study develops the concept of polychronic time use in the consumer context and has provided preliminary evidence that such behavior can be identified and measured. Polychronic time use was reported by numerous respondents in the study and was statistically correlated with perceptions of role overload, positive attitudes toward polychronic time use, and certain demographic characteristics.

The findings presented here suggest possible relations worthy of further research. Within a more inclusive resource framework, polychronic time use appears to present an additional strategy that consumers may adopt in meeting their multiple role demands. If, as this exploratory empirical research suggests, people intentionally plan polychronic time use, they may expand,

TABLE 2
CROSS-TABULATIONS

Demographic characteristic	Polychronic attitude index		Index of role overload	
	Chi-square	<i>p</i>	Chi-square	<i>p</i>
Sex	2.6345	.4515	4.233	.2373
Age	8.5025	.4844	12.1997	.2023
Education	22.4191	.0010	20.1097	.0026
Employment	21.6103	.0102	12.2816	.1979
Income	14.2047	.1152	7.2274	.6135
Marital status	2.0326	.5657	2.9944	.3925
Clubs	15.6226	.0014	1.9827	.5760

trade off, or recombine time resources on the basis of their preferences and abilities.

Polychronic time use can be implemented in the stages of decision making, purchasing, consumption, and disposal. Consumers combining search and evaluation with other activities, such as watching television, are likely to scan promotional messages selectively for relevant information, rather than monochronically isolate their mental processes to focus on a specific decision. Shoppers who polychronically group several errands at the same time may simultaneously experience different stages in the decision process; they may search for information for one product while evaluating another and purchasing a third, which suggests that multiple decision stages may be operative at the same time across products. These decision processes can take place in the context of other activities, such as consuming a meal or commuting from work to home. Future research can examine whether consumer behaviors compete for the individual's attention when several activities are undertaken within the same block of time.

Use of the PAI

The PAI enables the researcher to identify whether individual consumers have the potential and the positive affect allowing expansion of their time resources through the strategy of polychronic time use. For instance, it is anticipated that consumers that score highly on the PAI will report aggregations of complementary activities. These aggregations are expected to occur within and across role settings. Thus polychronic time use will exhibit combinations of household, leisure, marketplace, and workplace behaviors with each other, as well as cross-role combinations, such as the grouping of a household and a workplace activity.

Relationships with Role Overload

Role overload may be perceived as resource specific; that is, it represents an identifiable shortage in any resource such as time, money, information, energy, or

space. Consumers who use time polychronically may do so in relation to their perceptions of temporal role overload. However, the structure of this relationship is not understood. Future research is needed to clarify the negative correlation between polychronic time use and role overload that was identified in this research.

Some consumers may seek additional roles knowing that they can expand their resources to accommodate the extra demands. Some roles may actually help with time expansion owing to synergy and complementarity of demands. The study of consumers can include a determination of whether they prefer doing one thing at a time or performing multiple, simultaneous activities, as well as the context in which such time-use preferences occur.

IMPLICATIONS FOR UNDERSTANDING CONSUMER BEHAVIOR

Extensions of this preliminary research are based on the possibility that some consumer behaviors depend, in part, on the choice of polychronic time use. Consumers' responses to the marketing mix may be affected by their preferences for polychronic time-use combinations.

Implications for Promotional Messages

The ability to process promotional messages may be mediated by the attention needed to perform multiple activities at the same time. In the sample studied, monochronic television viewing, which is presumably characterized by "undivided" attention, occurred predominantly among those respondents who scored in the lower ranges of the PAI. High scorers were much more likely to divide their attention between television and some other activity, possibly experiencing the media through a selective scanning process. Research can identify whether certain types of activities are paired with television viewing and what types of mental, auditory, or visual attention are divided among the activities. If certain groups of consumers listen to the television while doing something else requiring visual attention, perhaps great detail can be embedded in the audio content of the promotional message and less reliance placed on an ad's visual impact.

Implications for Product Design

Products that enable individuals to use their skills in a complementary manner are likely to be preferred by high-PAI consumers. New product opportunities can possibly be developed by learning which types of activities consumers desire to combine with others and identifying those activities that may embody consumer "downtime" or waiting periods.

Reading a newspaper or a magazine while doing something else, such as eating, appears to be a behavior

that characterizes many members of this society. If reading is combined with commuting, eating, or exercising, perhaps the layout or design of the reading material could be modified to enhance readability and comprehension. In addition, accessories, such as keyboard or television attachments for exercise bicycles, may make it easier for the stationary cyclist to process information while pedaling.

As a consumption-while-traveling strategy becomes more ingrained in U.S. society, it is possible that many individuals will regard this combination as one specific activity rather than as two. While drive-through facilities grow in their popularity, single-handed eating and driving may simply characterize much of the eating and driving behaviors of the role-overloaded consumer. Further research may investigate planning for greater (and safer) handling of such foods, packaging that is easy to manipulate while traveling, and environmentally safe disposable containers. Additional adjustments for using home-produced items, such as leftover soups, may instead examine the potential for various storage and heating facilities as part of an automobile's functional interior (see *Marketing News* 1990).

The PAI was found to be related to the individual's tendency to bring along something to do while waiting for appointments. This type of planned activity combination may provide a fertile area of research for the service industries. If, for example, a physician determined that many of the clients brought along paperwork to do, an office equipped with a few small desks or chairs with writing arms would provide patients with a means of enhancing their polychronic time use while increasing satisfaction through more efficient use of their waiting time. As a practical example, at least one obstetrician's office gives arriving patients a beeper and invites them to perform errands, assuring them that they will be beeped 15 minutes before the doctor is ready to see them.

Implications for Distribution

The selection of distribution locations may depend on the consumer's definition of an appropriate, desirable method and place to shop. Consumers who balance multiple roles, such as employee, wife, husband, parent, and so forth, are likely to prefer environments that encourage one-stop shopping. Stores can market directly to consumers who shop at the end of a tiring workday and who are faced with polychronic demands that occur all at the same time. Supermarkets offering planned assortments of items, such as prepared hot foods or a complete set of fresh ingredients that is necessary for a specific meal, can satisfy the consumer's needs to prepare dinner, accomplish errands, and possibly pick up the children from day care. Together with modifications such as drive-through dry-cleaners and 24-hour pharmacies, alternative distribution locations can be selected by identifying which activities consumers want to com-

bine. For instance, the placement of automatic teller machines extends the banking function to entertainment events, mass transit stations, college campuses, and so forth. Shopping time may also become part of family time or socializing as one leafs through the latest catalogs while sitting with the family gathered around the television.

Implications for Pricing

Individuals who use time polychronically may consider both the monetary price and the "time" price in their consumer choices. Products and shopping methods that allow activity combinations may be worth a higher monetary price to such consumers. Since spending time in activity combinations appears to be a deliberate goal for some consumers, products like lap-top computers or portable telephones may be viewed as worth the necessary monetary expenditure. Services such as fitness programs offering exercise, social support, learning, and so forth as ongoing benefits that permeate all activities would potentially have greater worth to a high-PAI consumer than a health club that scheduled each component as a separate event.

FUTURE RESEARCH DIRECTIONS

If, as it appears, people think about and plan for polychronic time use, it is insufficient to assume that the empirical analysis of primary activities alone can adequately reconstruct their daily lives. In almost all discussions, resources, whether time, money, space, energy, or information, have been assumed to be limited to a specific amount that is available for one specific use. The idea of deliberate expansion, as indicated by the PAI, would lead to a reconceptualization of these resources. Time, for instance, may be reconsidered as finite but unbounded in that multiple uses of the same time block are possible.

Reporting of Polychronic Time Use

Because of its potential ability to more fully explain individuals' time use, polychronic time should be explored in a number of ways. In the quantitative area, replications of national or multinational time-use studies can incorporate more opportunities for individuals to report their multiple uses of time. Most prior studies have focused on only primary or secondary activities and have not allowed polychronic time use to surface as a deliberately chosen strategy. In the qualitative area, researchers can use interviews and focus groups to understand how and when individuals choose to use their time polychronically and which types of combinations are most efficient and satisfying to them.

The PAI

The polychronic attitude index that was developed in this article needs further study to determine whether

such attitudes differ across population segments, such as subcultural and cultural groups. Although some correlations were found with certain respondent characteristics, the results of the New Jersey sample cannot be generalized to all consumers.

The ability to trace the potential for multiple activities may uncover additional insight into the role of time in consumer behavior. The notion of "attitude" is a key to the planning process examined here. Attitudes imply thoughts, feelings, and positive and negative affect. Attitudes are indicative of planning and thinking about time and presumably reflect the ways that time is experienced. Increased understanding of the subjective aspects of time use may help with the construction and understanding of more realistic purchase- and consumption-process models.

Consumers may be capable of increased but different activity combinations, such as listening to or watching the television while reading, caring for children, or doing professional work. Customers planning for polychronic time use may perceive that they have more time for shopping and evaluation than they previously thought. Perhaps being able to acquire the product or consume it while doing something else will both modify promotional messages as well as enhance sales.

The examination of subjective time resources can potentially offer additional insight into psychotemporal expenditures in the pursuit of pleasure (Holbrook and Hirschman 1982). Some consumers may experience "more consumption and more fun" through choosing products that facilitate desired activities in an enjoyable, doable combination. Leisure events that combine and heighten sensory experiences, such as dinners held in a museum setting highlighted by artistic performances, may appeal to those polychronic consumers who search for multisensory experiences in their consumption choices. However, fewer intense sensory experiences may also result if the combination divides the experiential aspects of consumption among too many competing activities, thereby limiting the amount of sensation that can be experienced from each.

Individuals may spend time in partial consumption, in which only part of the product is actually perceived or experienced. This is easily understood when considering television, radio, and other media, but may apply as well in other circumstances, such as eating with friends, satisfying a nutritional and social need, but not being actually conscious of the tastes, smells, or textures of what is being eaten. Challenging opportunities confront the marketer in identifying which activities, if any, are combined with the use of a specific product and which aspects of that product consumers actually use and experience.

Most of the discussion of implications for resources, role overload, and time expansion have been purely theoretical and based on what the authors have observed in the initial work on the PAI. Not only is much further work needed on that index, but a great deal of concep-

tual, substantive, and methodological work is needed in developing these discussions. This kind of work could be important in helping to establish a resource framework that explicitly includes the multiple use of time, thereby providing a richer understanding of the exchanges that consumers make in obtaining products and services.

APPENDIX A

Statements in the Polychronic Attitude Index

Responses were gathered with a five-point Likert-type scale. Items 1, 2, and 3 were reverse scaled.

1. I do not like to juggle several activities at the same time.
2. People should not try to do many things at once.
3. When I sit down at my desk, I work on one project at a time.
4. I am comfortable doing several things at the same time.

APPENDIX B

Recurring Polychronic Time-Use Activity Statements

Each activity statement was chosen to reflect frequently reported mental and physical activity combinations selected from combinations judged most likely to occur on the basis of prior studies. The level of agreement with each of these statements was assessed with a five-point Likert-type scale.

1. I often combine other activities with chores around the house.
2. When I watch television, I like to give it my undivided attention.
3. When supervising children or visiting with family, I usually drop whatever else I am doing.
4. I often try to read the newspaper or a magazine while I'm doing something else, such as eating.
5. A good deal of work can be accomplished over a business lunch.
6. When I shop, I like to get all my errands done at once.
7. I often shop with friends or family, since I can visit at the same time.
8. While waiting for appointments, I always bring something along to do.
9. I try to shop on my way home, rather than making special trips for shopping purposes.

10. I often eat or drink while I'm driving or commuting.
11. I am able to get some work done while driving or commuting.

[Received July 1990. Revised April 1991.]

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