

# THE POLYCHRONIC ATTITUDE INDEX: REFINEMENT AND PRELIMINARY CONSUMER MARKETPLACE BEHAVIOR APPLICATIONS

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## ABSTRACT

The present paper updates the investigation of polychronic time use, by administering the Polychronic Attitude Index (Kaufman, Lane, and Lindquist 1991) to a sample of consumers in order to examine how their feelings about polychronic time use may be related to their marketplace behaviors. A shortened three-item PAI is also presented, which is thought to reduce possible situation-specificity.

## INTRODUCTION

Today's consumers face a wealth of choices among new and old activities; even more than before, they face the challenge of fitting those hours and minutes of activities into a 24-hour day. Findings in national studies are mixed: while persons aged 25 to 34 report having less leisure time than they had when they were younger, mature Americans indicate that their weekly leisure time has increased (Robinson and Godbey 1996). Time has become a major currency of today's demanding society, with uneven distributions of time creating pressure or boredom, and frenzy or leisure.

### Feelings About Time

For some, daily life is considered to be a "time crunch" (Robinson 1990), while others, such as retired seniors, report that they have more time than they need (Kaufman and Lane 1997). "Time-compressed consumers," "distressed shoppers," and "role-overloaded shoppers" are frequently discussed in studies focusing on those who are time-short. Such reports suggest that consumers are not always successful in their attempts to integrate shopping times with the busy and demanding lifestyles of today's consumers (Bellizzi and Hite 1986; Fram 1991; Fram and Axelrod 1990; Reilly 1982). More significant, perhaps, is the finding that people are increasingly likely to report that they feel rushed, indicating that even their leisure time is complex and increasingly structured. As a result, those same individuals report feeling more stressed, more tired, and more overcome with the sheer volume of responsibilities with which they are faced.

With the advent of new time-saving and convenience-oriented technologies, individuals have new op-

tions for combining consumer and other activities which ideally "should" help them to manage their time more efficiently. However, given the added complexity and new maintenance/use patterns of a number of such "convenience products," consumers do not appear to have yet reaped the promised benefits of true time-savings. Product portability also promised greater convenience through increased locational flexibility. Technological breakthroughs have provided faxes, cellular telephones, pagers, and a whole host of communications media which make it possible to be in touch from numerous locations. Such devices also increase the likelihood of being "at work" and "on call" while in the car, while relaxing at home, when shopping, and even while on vacation. This enables individuals to bring work along to home, family, shopping and social events. Thus, the dividing lines among work, home, marketplace and social activities have become more blurred. And with this phenomenon has come the potential for new types of activity combinations and greater reasons for individuals to consider this time style.

### Combining Activities Through Polychronic Time Use

Polychronic time use, or "p-time" or "polychronicity," are the names given to the type of behavior which combines several activities into the same "clock block" or "block" of time (Bluedorn and Denhardt 1988; Hall 1959; Kaufman, Lane, and Lindquist 1991). Traditionally, discussions have focused on certain types of activity combinations, such as combining several household chores, combining a household activity with childcare, or combining some work activity with social interaction (Hall 1959; Robinson 1977; Szalai 1972; Walker and Woods 1976).

While the concept of polychronic time use has been investigated under a variety of names in several disciplines, few efforts have been made to empirically measure how people feel about such behavior and whether it actually does enable them to effectively manage multiple demands on their time. It has been discussed in anecdotal ways, characterized by discussions of activity combinations common in everyday life, such as listening to the radio while driving. However, less formal attention has been given to understanding how people think about polychronic time use and whether they choose it consciously, or do it naturally, as a time-saving strategy.

The Polychronic Attitude Index (PAI) was initially proposed by Kaufman, Lane, and Lindquist (1991) to try to understand how people feel about combining activities during a given time block and whether their attitudes towards such behavior were related to differences in their consumer behavior. The four-item scale was used to quantify people's attitudes toward using time in a polychronic manner. The scores of the four items, given in five-point Likert format, were summed to form an overall assessment. A higher total score shows a more positive attitude toward combining or juggling activities at the same time.

The purposes of the present manuscript are to use the PAI as a tool to identify consumers who have tendencies toward monochronic or polychronic behavior, investigating whether the classifications match their responses regarding planning and using time. In addition, we attempt to assess whether their feelings toward polychronic time use are consistent with their reported behavior, grocery shopping regularity, and suggestions for waiting room design.

### **POLYCHRONIC TIME USE: BACKGROUND AND DEFINITIONS**

A basic characteristic of polychronic time use is that a common process is shared: two or more activities are performed within the same time block, apparently at the same time (Bluedorn, et al. 1992; Hall 1959; Kaufman, Lane, and Lindquist 1991). For convenience, people who have stronger polychronic tendencies can be called "Polychrons." Right now you may be reading this paper while doing other things, such as having lunch, watching television, or supervising children in the home. In fact, all three of those activities could be occurring. As you do this, you may have feelings of efficiency or of great stress, or even something in between, depending on your preference for time use in this situation.

In contrast, "monochronic time use" takes place when activities are performed one at a time. People who have stronger monochronic tendencies can be called "Monochrons." When other activities are attempted at the same time by Monochrons, the additional activities are typically thought of as intrusions or interruptions, rather than pleasant combinations. In the hypothetical case considered earlier – reading while having lunch, watching television, or supervising children – may result in stress, inattention, and inefficiency for the Monochron, who simply wants to do one thing at a time, without interruptions.

#### **Polychronic Time Use as a Behavioral Strategy**

The notion of polychronic time use was introduced in marketing as an additional strategic response that individuals use to make the most of their time in terms of

marketplace behavior. Traditionally, studies on working wives have suggested responses to time pressure including the use of time-saving durable goods and convenience foods, the purchase of household services and reduced quality of personal household output (Nickols and Fox 1983; Reilly 1982; Strober and Weinberg 1980). With the consideration of polychronic time use, researchers can also study consumer choices of simultaneous or intermittent activities, such as combinations of multiple household chores which have the potential to enhance productivity.

The distinctions among strict simultaneous activities and those which are combined sequentially are somewhat blurred, with some degree of overlap. Bluedorn, et al. (1992) argue that the notion of simultaneous activities should not be absolute; instead, it may be more realistic to identify time use along a monochronic/polychronic continuum. That is, pure monochronic time use is placed at one end of the continuum; this occurs when one activity is engaged in during a given time period. A consumer would vary in his or her position along the continuum depending on the specific situation with which he or she is faced. Some activities may be performed simultaneously or intermittently, while other activities are performed one at a time.

#### **Measuring Attitudes Toward Polychronic Time Use**

The Polychronic Attitude Index (PAI) was developed and tested to see if measures of a person's attitude towards and ability to combine activities could empirically be linked with their actual likelihood of doing so. The Polychronic Attitude Index (PAI) was found to be valid and reliable based on accepted norms of scale development (Bearden, Netemeyer, and Mobley 1993). The scale was developed by initially generating 15 statements which were thought to reflect the notion of acceptability of combining activities within the same time period. After pretesting, the authors analyzed the item-to-total correlations which resulted in the deletion of 11 items. Factor analysis revealed that the four-item PAI was unidimensional. The reliability coefficient alpha was found to be 0.68 in the original 1991 study, an acceptable level for scale development.

Scores on the PAI suggested preliminary ties with certain types of activity combinations from everyday life. In terms of consumer behaviors, high-PAI respondents were more likely to report liking to get all their errands done at once, bringing things to do while waiting for appointments, and shopping on the way home rather than making special trips for shopping purposes than their lower scoring peers. Persons who scored higher on the PAI were also more likely to combine eating, drinking, and working while driving or commuting, which could be seen as important information for fast food and mass transit industries.

## PROBLEM DEFINITION

Fundamentally, attitudes toward polychronic time use in general are thought to transcend actual situations. Polychronicity is a trait, which is translated into polychronic time use across situations (Slocombe and Bluedorn 1997). As a result, Polychrons would be more likely to combine activities across situations than Monochrons would. However, some discussions have raised the concern that individuals may prefer to combine activities in some situations and not in others, varying their polychronic preferences by task or situation (Kaufman, Lane, and Lindquist 1991; Slocombe and Bluedorn 1997). If that is true, individuals may temporarily switch from their preferred type of time use, as a strategic response to the situation at hand. Thus, depending on the researchers' goals, the choice of a general or a situation-specific measure of polychronic time use may be appropriate.

Some indicators of polychronic time use are linked to specific situations under study. For instance, Bluedorn's Monochronic/Polychronic Orientation Scale was developed to assess time use in departments and organizations (described in Bluedorn, Kaufman, and Lane 1992); it should be used with caution in other settings, such as household and shopping. Such indicators could potentially produce misleading results, if used to predict overall polychronic tendencies, since their scale items refer to situations which may not be applicable to all respondents. The PAI, in contrast, was developed to "capture the respondent's general tendencies toward performing more than one activity at a time," applicable to various situations (Kaufman, Lane, and Lindquist 1991). A caution was raised by other researchers, who were concerned about the situation-specificity of one item in the original PAI, which refers to "sitting down at my desk," especially when researching low-income populations, who may not typically work at a desk (Cotte 1997). Originally, the "desk" item was thought to be generalizable across populations, since desks are common in both home, work, and social settings, and serve to represent the general notion of "getting down to the task." Thus, in the present study, the authors have chosen to utilize a three-item version of the PAI, dropping the "desk" item, providing that the shortened scale indicated acceptable reliability.

### Study Objectives

The objectives of our study are: (a) to utilize a three-item PAI Scale in identifying consumers with general monochronic versus polychronic time use tendencies, (b) to investigate whether persons who have these tendencies differ in their deliberate attempts to use time either polychronically or monochronically, (c) to determine whether they enjoy following their time-use tendency pattern, and (d) to examine whether their descriptions of

desired waiting room design matches their time use preferences. Sample participants were also queried regarding their perceptions of their amount of free time available and their regularity of shopping..

## METHODOLOGY

The research instrument was a composite of items taken directly from or adapted from previously validated time-related scales. The time-related scales used were the PAI, Polychronic Attitude Index (Kaufman, Lane, and Lindquist 1991a), the F-A-S-T Scale (Settle, Belch, and Alreck 1981), and the TSQ, Time Structure Questionnaire (Bond and Feather 1988). All were comprised of five-position, Likert-type, agreement scales (1 = strongly agree to 5 = strongly disagree). Respondents also had the options to choose either "don't know" or "not applicable."

### Items in the PAI

The PAI consists of four scale items, measured on a 5-point strongly-disagree to strongly-agree scale. Items 1, 2 and 3 are reverse-scored. The item scores are summed to provide an overall score, which is used to represent an individual's level of positive attitude toward polychronic time use.

### Items in the Original Polychronic Attitude Index

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.

Item 1 relates to the individual's liking to juggle several activities at the same time; it is expected that people may express attitudes at both ends of the continuum, since this item is thought to reflect feelings regarding polychronic time in their own lives. Item 2, in contrast, asks the respondent to comment on the behavior of others and, in an oblique sense, on their own behavior as part of the "people." That is, the respondent is asked to indicate whether they view polychronic time use as acceptable for others as well as for themselves. Item 3, while performing well in the original scale development, has potential to add bias if the respondent literally interprets the item to be asking about their behavior done only at a desk. While the general idea being tapped concerns the individual's deciding to work on one project at a time, the "desk" anchor may limit the respondent in reporting what she or he perceives as appropriate behav-



iors in “desk-related” contexts. It may also have the unexpected effect of having some respondents being unable to answer, since they may not work at a desk. It is this item which was expected to create some weakness in reliability testing and was planned to be omitted. Finally, in Item 4, the individual is asked to indicate their level of comfort with polychronic time use.

### **Polychronic Behavior Indicator Items**

The items selected for analysis are part of a larger study of time use, as described below, which incorporates items from other validated time use scales, namely, the F-A-S-T Scale (Settle, Belch, and Alreck 1981) and the Time Structure Questionnaire (Bond and Feather 1988). Those items from the larger survey were directly related to time structure and deliberate choice of strategy, that arguably could be used to reflect situations that are encountered during the day by individuals at home or in the marketplace as a consumer or at work. Further, these items were thought to be related to the tendency to maintain scheduling flexibility and/or to deliberately choose polychronic time use. Additionally, respondents were asked to indicate whether, compared to last year, they have more, less or the same amount of free time. Also, a grocery shopping question related to regularity or schedule was asked to obtain a preliminary feeling about a what the authors perceive to be a “universal” marketplace consumer activity that had potential for split along monochronic/polychronic lines. Further, questions regarding “waiting room” entertainment preferences and work station options were asked. Waiting rooms are considered to be “natural” places for polychronic time use, since the consumer has the option to try to use their time doing other things during their wait. Four hypotheses were generated, and are given as follows:

H1: Persons who are more polychronic (Polychrons) would be expected to be more likely to:

- a. reschedule activities in response to demands;
- b. think of other things while doing something;
- c. combine routine tasks to free time for important tasks;
- d. have a flexible schedule; that is, not planning exactly when to do each thing;
- e. want to do several things at a time; i.e., not consider it to be fun to do one thing at a time;
- f. break projects into parts; and
- g. often change from one activity to another during the day.

H2: Polychrons are expected to feel that they have more time than last year, while Monochrons are expected to report feeling that they have less time than last year.

H3: Based on their preferences for regular scheduling, Monochrons are expected to report grocery shopping on a regular schedule; since they prefer flexibility, Polychrons are expected to disagree with regular schedules for shopping.

H4: Based on their preferences to combine activities, Polychrons are expected to suggest design items for waiting rooms which allow them to pursue planned activities. Monochrons are expected to prefer to wait passively, with little additional activity possible.

### **Data Collection**

Data were collected by conducting a systematic sample of urban residential neighborhoods adjacent to Philadelphia. A starting point was the home residence of the trained student interviewer, who was instructed to conduct interviews at every fifth residence encountered while proceeding throughout their neighborhood. Names and addresses of respondents were collected and compared to ensure representation from distinct communities in a three-county area. The starting residence plus every fifth residence was targeted to be in the sample. Each person was to complete 10 interviews. Two “call backs” were required before an additional residence could be included in the sample. The head of household agreeing to do the survey was questioned. The process resulted in 181 usable surveys.

### **The Sample**

The sample consisted of adult heads of households, 70 percent of whom were females. Ages ranged from 18 to 65 with 38 percent having completed some college and 30 percent with college degrees. The remainder had various types of schooling and technical training and all had completed high school. Median income was in the \$50,000 to \$60,000 range. All but seven respondents reported hours worked. Of those reporting, 47 percent indicated they worked more than 40 hours per week. Fifty three percent of the sample were married, 29 percent were single, never married, and 15 percent were separated or divorced.

### **Analysis Procedures**

Reliability testing on the original four-item PAI yielded a coefficient alpha of 0.79. When the “desk” item was removed, the value of the coefficient increased to 0.82, based on the 158 respondents who scored all four items on the survey. If any of the three other items were removed (one at a time) the resulting alpha was, at most,

0.73. The decision was made to revise the PAI by eliminating the weakening item. The reliability coefficient was calculated based on the 172 respondents who had scored the three remaining scales, giving a value of 0.81. A factor analysis was executed and confirmed that the three items produced one factor with an Eigenvalue of 2.19, explaining 73 percent of the variance. Respondent classification was then based on the "Revised" PAI, now called RPAI, scores.

Next, respondents had to be categorized as to degree of monochronic/polychronic tendency. The first two items of the RPAI were reversed scored and a simple sum of the three item scores determined respondent position on the index scale. The range of scores was from 3 (high monochronic) to 15 (high polychronic). Scores from 3 to 9 (49 percent of the 172 cases) were labeled, "high/moderate monochronic;" those in the 10 to 15 range (51 percent) were called, "moderate/high polychronic." This division into only two groups was necessary in order to provide sufficient cell sizes for the planned crosstabulation analysis. Similarly, the five-item behavioral indicators were also collapsed into three positions, representing overall agreement (strongly agree plus agree answers), neither agreement nor disagreement (no change), and overall disagreement (disagree plus strongly disagree).

The next step was to cross-tabulate each of the time-related items on the questionnaire with the monochronic/polychronic tendency scores. These three (agree, neither agree nor disagree, disagree) by two (high/moderate monochronic, moderate/high polychronic) matrices were then subjected to Chi-square analysis. Pearson's Chi-square values for two degrees of freedom were calculated and statistical significance of differences (0.05 or less) assessed.

## FINDINGS

### **Polychronic Time Use is Preferred by Those Classified as Polychrons**

Polychronic behaviors were reported, although not all parts of Hypothesis 1 were supported. There were several areas in which polychronic and monochronic people responded similarly. First, both the monochronic and the polychronic respondents were similar in their willingness to reschedule activities, with slightly more of the monochronic persons doing so (Chi-square = 0.28). Similarly, both monochronic and polychronic persons agreed that they think of other things while doing something (Chi-square = 0.55). This points up an interesting issue, which is at the heart of time/activity analysis; that issue centers on whether activities are generally thought of and tabulated as observable, physical occurrences, and that mental activities such as thinking do not enter the computation of polychronic time use. This issue may be responsible in part for the finding.

Both monochronic and polychronic people are divided in their liking to break projects into parts (Chi-square = 0.325), while both are similar in their indications of frequent change from one activity to another (Chi-square = 0.411). Such responses may be related to the types of activities and jobs which the respondents actually do, since the ability and the opportunity to break an activity into parts, or to change from one activity to another, may depend on the nature of the activities in the first place.

As expected, persons who use time polychronically do combine routine tasks in order to create free time for important tasks; while both monochronic and polychronic people tended to agree, the level of agreement for polychronic persons was much more pronounced (Chi-square = 0.004). Additionally, monochronic persons were much more likely to agree that they plan their activities so that they know just when to do them (Chi-square = 0.049). This sentiment is expected, since monochronic persons are characterized by control over their schedules and less tolerance for ambiguity. Similarly, monochronic people think that it is fun to take one thing at a time, while polychronic people are less likely to agree (Chi-square = 0.000).

### **Perceptions of Having More Time This Year than Last Year**

Hypothesis 2 proposed that Polychrons would report having more free time this year, in comparison to their free time last year. Interestingly, a different pattern emerged for polychronic versus monochronic respondents. Over 65 percent of the polychronic respondents felt that they had more time this year than last, with 16 percent indicating less and 18 percent indicating the same. In contrast, only 47 percent of the monochronic respondents felt that they had more time, with 23 percent indicating less and 30 percent indicating the same. The difference in patterns was significant (Chi-square = 0.049), and is even more striking when the ratios of "more" to "less" are compared. For the Polychrons it was approximately 4 to 1 and for the Monochrons about 2 to 1.

### **Grocery Shopping on a Regular Basis**

As proposed by Hypothesis 3, monochronic consumers are creatures of habit, who plan assiduously in order to achieve what they think is a doable schedule. They are not flexible regarding changes in their schedule, and are likely to be thrown off by indefinite blocks of time and loosely-planned agendas. Their behavior is predictable in consumer areas which pivot around regularity; for instance, they are much more likely to shop for groceries on a regular schedule than their polychronic counterparts (chi-square = 0.014). Polychronic consumers, in contrast, tend to thrive on variety, change, and

spontaneity. They are likely to feel constrained by strict limits placed on their behaviors, and are likely to want to integrate their consumer behavior into many aspects of their daily lives. Rather than shopping on a strict schedule, polychronic persons are more likely to want to have various hours of shopping available to them, when they are able to fit it in.

### Waiting Room Design Preferences

When faced with an uncertain wait, it appears that Polychrons in the present sample could more readily adapt, by possibly bringing along some routine type work to do. Respondents in the present sample were asked to describe their ideal waiting room in free-response format. Twice as many monochronic persons indicated a preference for televisions or other electronic devices such as computers, while twice as many polychronic persons reported a preference for reading material. Comfortable seats were more important to monochronic persons, and some polychronic persons suggested having telephones, desks, or faxes available. These responses may be indicative of a preference for passive entertainment on the part of the monochronic persons, versus a preference for more active choice by polychronic persons.

### DISCUSSION

The results of the study suggest there are consumers who clearly prefer to operate generally as Polychrons or Monochrons. While not generalizable to the overall population, their behaviors and feelings appear to be consistent with their preferences for polychronic or

monochronic time use; that is, Polychrons deliberately combine activities, prefer a flexible schedule, enjoy doing several things at a time, and break their projects into parts. Moreover, the preferences of the sample suggest that their marketplace behaviors also match tendencies towards polychronic or monochronic time use. The "marketplace" has been reacting to this phenomenon for years without always clearly presenting reasons beyond "convenience" and "time saving." Ideas such as self-timing appliances for the home, cruise control on automobiles, portable phones and office items such as fax machines and PC's, voice-mail and e-mail systems are just a few examples. Software for PC's that allow simultaneous activities among which users can alternate also fall into this category.

More formal recognition of the monochronic-polychronic time use preference spectrum should allow marketers to develop products, services, distribution, promotion and selling strategies that are on-target. In particular, the Polychron needs to be more clearly recognized through more deliberate product/service development which allow for multiple activities which fit their timestyles. One area of possible application is that in developing strategies for waiting areas for numerous medical and repair providers. Waiting areas are known to provide varying degrees of certainty in terms of the actual schedule and amount of wait. However, typical design allows for simple reading and/or television viewing, with lesser provision of workspaces, which overlooks the possibility that Polychrons would be likely to prefer the opportunity to bring activities which they could perform, enhancing their productivity.

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