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A cross cultural study of employees' time perceptions

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A CROSS CULTURAL STUDY OF EMPLOYEES' TIME PERCEPTIONS

A Thesis

Presented to

The Faculty of Department of Psychology

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

by

Nirit Hazan

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ABSTRACT

A CROSS CULTURAL STUDY OF EMPLOYEES' TIME PERCEPTIONS

by Nirit Hazan

This study examined the relationship between two time concepts: present and future time perceptions (Zimbardo & Boyd, 1999) and polychronicity and monochronicity preferences (Bluedorn, Kalliath, Strube, & Martin, 1999; Hall & Hall, 1990). Furthermore, the relationship between cultural origin and individuals' time preferences was examined. Finally, the gap between individuals' perceptions of their own and their organization's time preferences was examined in relation to stressors and strains. Data were collected through surveys completed by 138 employees and students. Results indicate that the two time concepts are independent and measure distinct constructs. Second, there are some cultural differences in time perceptions, between Asian, Anglo, and Mediteranean employees. Third, the greater the gap between individuals' perceptions of their own and their organization's time preferences, the more role ambiguity, and the less commitment and job satisfaction among employee participants. Implications of these results are discussed in terms of employee development and training.

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INTRODUCTION

“Time is of the essence” or “time is money” are common phrases used in the United States to describe the urgency and cost of getting things done within a period that is given a deadline - based on a shared notion of time. In the United States, work is a primary part of adults’ lives and time constraints play a large role in accomplishing projects or tasks. However, the plurality of the United States’ population, and specifically that of Silicon Valley, makes it difficult to determine if, in fact, we all share the same notion of time. Silicon Valley companies are quite cosmopolitan, including people with heritage stemming from European countries, Asian countries (e.g., China, Japan, Taiwan, India, Vietnam, and Philippines), Latin American countries (e.g., Mexico, Brazil, and Chile), and Middle Eastern countries (e.g., Israel, Turkey, and Iran; Mullins, 2004). People from each of these different regions and countries are socialized with different time perceptions that carry into our work behaviors. For example, Mexicans arriving to a meeting after the scheduled time may be perceived as reasonably punctual by some, yet tardy by others (Smith & Bond, 1999). Even the notion of setting deadlines has different implications on people’s willingness to exert effort in completing projects on time. It appears that time perceptions and preferences are important components of one’s personality and behavior (Hall & Hall 1990; Lewin, 1942; Zimardo & Boyd, 1999), which influences one’s performance beyond merely “time management.” This personality characteristic manifests itself, for example, in the way people pace their work, manage projects, refer to deadlines and prefer tasks over social relations. Thus, the issue of time has great relevance and importance in organizational behavior, but little research

has been done on it.

The purpose of this thesis is three-fold. First, the relationship between two time concepts - a) future, present, and past time perception (Benabou, 1999; Jones, 1988; Zimbardo & Boyd, 1999) and b) polychronicity and monochronicity preference in time management (Bluedorn, Kalliath, Strube, & Martin, 1999; Hall & Hall, 1990; Slocombe & Bluedorn, 1999) will be examined. Second, relationships between cultural origins and time perception measures will be tested. Third, the fit between an organization's demands for time (i.e., the organization's temporal culture) and employees' time perceptions in relation to organizational stress will be assessed.

Time Concepts

The concept of 1) past, present, and future, and 2) polychronicity and monochronicity represent two different yet overlapping approaches to the conceptualization of time; both concepts attempt to clarify and explain the amorphous concept of time, and the way different people perceive, understand, and use their time. For over thirty years (Bluedorn et al., 1999; Zimbardo & Boyd, 1999) these two concepts were referred to in abstract ways (i.e., no operational definition was associated with the concept of time) and no valid measurement was developed to explore its actual utility in understanding behaviors. Recently, two distinct tools were developed to measure the perceived concept of time. One measurement is the Zimbardo Time Perspective Inventory (ZTPI; Zimbardo & Boyd, 1999), which measures future, present, and past time perceptions. A second measurement is the Inventory of Polychronic Values (IPV; Bluedorn et al., 1999), which is aimed at measuring polychronicity in people's behaviors,

that is, people's tendencies "...to be engaged in two or more tasks or events simultaneously" (p. 208).

Zimbardo and Boyd (1999) referred to time perception as cognitive frames, which are acquired by individual development and socialization processes, and "are used in encoding, storing, and recalling experienced events, as well as forming expectations, goals, contingencies, and imaginative scenarios" (p. 1271). Hall and Hall (1990), two anthropologists, were the first to study time in terms of polychronicity and monochronicity. *Polychronicity* is associated with event or present time perception, whereas *monochronicity* is related to a linear, future time perception (Dahl, 1995; Hall & Hall, 1990; Jones, 1988); both were not perceived as related to past time perception. *Present time or event time perception* refers to perceiving time as related to a certain event (i.e., the occurrence of something), as measured by actual manifestation of an event, for example-the meeting will start when most board members arrive, (Dahl, 1995; Zimbardo & Boyd, 1999). *Future time* is referred to by some as linear perception, where people see time as passing from one (past or present) point to another point in the future (Dahl, 1995) and anticipate the constant, irreclaimable flow of time (Zimbardo & Boyd, 1999).

Thus far, no research has been found that establishes an empirical link between these seemingly related concepts, that is, between past, present, and future time perceptions and polychronicity and monochronicity (see Table 1 for definition of time concepts). One study established a relationship between monochronicity and time urgency (Waller, Giambatista, & Zellmer-Bruhn, 1999). Waller et al. found that people

who were more attentive to time and more aware of the passage of time (time urgent) promoted their work team's monochronic behavior (i.e., engaging in one task at a time). Time urgency is believed to be a component of future time perception (Zimbardo & Boyd, 1999). Developing such an empirical link, however, is important because perceptions of time hold a central role in shaping behaviors and cognition, and consequently one's approach to time management (Macan, 1996), handling tasks and problems, and preferences toward certain work cultures and settings (Slocombe & Bluedorn, 1999). Studying the relationship between these two different concepts for time perceptions, as well as their relationship with organizational behavior, will provide management of organizations with a better understanding of employees' behaviors and potential causes for work conflicts, such as in cases where colleagues hold opposing time perceptions (Benabou, 1999; Cotte & Rathenswar, 1999; Slocombe & Bluedorn, 1999).

Culture and Time

Much has been written both on the tremendous variations in people's values and behaviors as a consequence of their cultural background and socialization (e.g., Hofstede, 1984; Schwartz, 1994; Triandis & Bhawuk, 1997), and on the importance of understanding this variance in order to better survive and succeed in today's global market (e.g., Early & Erez, 1997; Granrose, 2000; Usunier, 1991). Surprisingly, not much research has been done to explore the relationship between time perceptions and behaviors or attitudes across cultures, particularly as polychronicity and monochronicity, as well as past, present, and future time perceptions are manifested among people of various cultural backgrounds. Learning about existing patterns in time perceptions

among people of different cultural origins might strengthen our understanding of how organizations might best manage these differing “time” issues and might provide support for better human resources planning of time management training.

Person – Environment Fit: A case of time

Person-Environment (P-E) fit refers to the notion that human behavior derives both from the individual and his or her environment, and that there should be an alignment between these components (Kristof, 1996). In the case of the proposed study, the environment is one’s organization. From this point forward, P-E fit will be referred to as Person-Organization (or P-O) fit. I believe that the more one’s personal perception of time fits with the organization’s values of time the better the fit between the person and the organization. When an organization’s endorsement of time fits with an employee’s time preferences, then the employee’s work attitudes and behaviors will be more positive than when there is a poor fit. Thus, in the present study, the role in which the fit between personal time preferences and perceived time endorsement by an organization will be examined as correlates of and a moderator of the relationship between stressors and strains.

In the next section, literature on the study variables, that is, time, stressors, and strains, are reviewed and hypotheses will be posed.

LITERATURE REVIEW

Time passes by all year round, all over the world at the same tempo. Whether one is in China, Madagascar, Germany or Nigeria, time is the only resource that no one can actually accumulate. It is interesting to note that many authors and researchers in the time domain open their papers with a notation regarding the universality, generality and perpetuation of the use of time (e.g., Benabou, 1999; Conte, Rizzuto, & Steiner, 1999; Dahl, 1995; Jones, 1988; Levine, 1988; 1997; Zimbardo & Boyd, 1999). Time is one of the most basic and common resources of all people; one gets 24 hours per day, regardless of education, finances, health conditions, age, or sex. However, there are numerous ways in which people can perceive the given time, their use of it (Jones, 1988), and even the meaning given to it (Trompenaars & Hampden-Turner, 1998). The differences in time perceptions are influenced- to some extent- by the society in which people live (Dahl, 1995; Hall & Hall, 1990; Hofstede, 1984; Jones, 1988).

Kurt Lewin (1942) recognized the importance of time in organizational psychology when he wrote, “the life space of an individual ...includes the future, the present, and also the past. Actions, emotions, and certainly the morale of an individual at any instant depend upon his total time perspective” (p. 104). He claims that temporal perceptions and preferences of an individual influences his or her behavior and functioning in general. Hall (1983) also recognized the inclusiveness of time aspects when he argued that use of time influences one’s everyday behavior, and referred to it as the “silent language.” The above Lewinian perspective appears to be in accordance with the Eastern, “Zenish” point of view (i.e., one can only understand human behavior from

an holistic perspective) as opposed to the Western view, which is more pragmatic, individual, and task oriented (Hall & Hall, 1990; Zimbardo & Boyd, 1999). This might be the reason why it took more than forty years (since Lewin's assertion) to explore this fundamental human concept.

Even though for everyone everywhere time is a fundamental aspect in daily life, there is not much research on temporal perceptions and behaviors (with the exceptions of Bluedorn, et al., 1999; Slocombe & Bluedorn, 1999; Trompenaars & Hampden-Turner, 1998; Waller et al., 1999; Waller, Conte, Gibson, & Carpenter, 2001; and Zimbardo & Boyd, 1999). Only in the last few years (since 1996) have at least three measures of time perceptions been developed by Bluedorn et al., Macan, (1996), and Zimbardo and Boyd. The recent surge of time-related measures might reflect the increased interest in the temporal aspects of human psychology, and its importance in the study of organizational psychology and development (Cotte & Rathenswar, 1999; Slocombe & Bluedorn). The relevance to organizational psychology might stem from the multinational characteristic of employees in today's organizations. Unfortunately, in cross-cultural research few studies (e.g., Dahl; Hall & Hall, 1990; Levine & Norenzayan, 1999) have explored differences in people's time orientations from various nations and cultures. These studies lack a comprehensive understanding of reasons for cultural differences in use of time, as research was qualitative (e.g., Dahl; Hall & Hall), focused on as few as three cultures (Dahl), or focused on pace of time in different countries (Levine & Norenzayan), and not individuals' perceptions.

Thus far, no published quantitative research examining the potential cultural

differences in polychronicity has been found. Hall and Hall's (1990) seminal work utilized qualitative data and the study was explorative in nature. More research on time perception is warranted (see state of research reviewed by Bluedorn et al., 1999 and by Zimbardo & Boyd, 1999).

In order to establish theoretical reasons for this study, a set of papers in which the authors (i.e., Brislin & Kim, 2003; Dahl, 1995; Graham, 1988; Hall, 1983; Jones, 1988) examined time perception and use of time will be reviewed. Second, the relationships among these time concepts will be examined cross-culturally. Finally, in order to examine whether time perception discrepancies might have organizational consequences, such as organizational commitment and job satisfaction, fit between person and organization time perceptions will be evaluated.

Comparing Perception of Time Measurements

The first objective of this study is to explore the nature of the relationships between polychronicity and present time orientation. There are two different yet overlapping views in the literature regarding time perception or perspective (Dahl 1995; Hall, 1983). Dahl argues that "people of different cultural backgrounds often integrate time concepts differently" (p. 198) and thus refer to three ways in which people perceive time, that is, linear time, cyclic time, and event related time. In the "linear time concept...time passes in a continual flux...it is measurable in equal units and free from any concrete reality.... [it] passes away from a distant past and towards a coming future, which...becomes predictable and tangible...[it] is future oriented" (p. 200). To describe the cyclic time concept, Dahl also cites Ecclesiastic (ch.1, 3, and 9); "...the sun also rises

and the sun goes down and hastens to its place where he arises again...the thing that has been it is that which shall be, and that which is done is that which shall be done... ” (p. 202). Dahl uses natural rhythm and cyclical changes (day and night, the seasons of the year, birth/death) as a basis for the cyclic concept of time and therefore, he claims, “time...is not scarce. It is ongoing and keeps coming continuously. ...the future is not seen as a variety of alternatives. People become past oriented.... the cyclical metaphor does not contradict an evolution across time” (p. 201-202). Cyclic time refers to the ongoing expectation of the events to come (the baby will become a child, winter will follow autumn with its implications for a slower agricultural period and a hectic ski season, and so forth). One can rely on his or her own or others’ experience(s) when preparing for the future to come. The third concept, event-related time refers to time as qualitative. It “cannot be measured, only experienced and only in a subjective manner...time is when something happens...[and] when something happens-one takes action and not before...[time] is...present oriented” (Dahl, 1995, p. 202-203). According to the event related time concept, duration of the events (i.e., from beginning to end) is not rigorously determined (e.g., ‘the party will start when everybody will show up’) and personal relationships are given a lot of weight (Dahl, 1995).

Past, Present, and Future Time Perspectives

One aspect of temporal literature is the direction or flow of time. The terminology that Graham (1981) and Jones (1988) used to describe the perspective in which people see time and its duration was “Present” or “Future.” Time perception overlaps the linear, cyclic, and event related time typology (Dahl, 1995; Graham). The future time

perspective is an outcome of "...the belief in the conditional probability that if a specific act is performed in the present, the probability of some future goal state will be greater, and ...the tendency to value goals whose attainment can only occur in the future" (Jones, p. 23). The need for achievement is an important characteristic of this perception, as well as the anticipation that things will be better in the future (Graham; Zimbardo & Boyd, 1999). The present time perspective is based on the assumption that one should focus on present time tasks, and achievement of future goals has no greater importance than achievement of present goals. Present time perspective, according to Jones, is equal to the 'mañana' attitude- "never do today what you can put off until tomorrow" (p. 25). Contrary to Dahl who connected the past concept of time to the cyclic one, and suggested that it is common in warmer un-developed countries (e.g., Madagascar), Graham argues that the past perspective is more common in the classic European countries (e.g., France) that "...have strong leaning to a past orientation" (p. 337), as they tend to rely on past experience and tradition to gain knowledge of the future to come. Not much has been written on the past perspective to provide persuasive argument for one perspective or the other.

The second temporal aspect, time perception, is defined as

...a foundational process in both individual and societal functioning. Time perception is the often-unconscious process whereby the continual flows of personal and social experiences are assigned to temporal categories, or time frames, that helps to give order, coherence, and meaning to those events [or experiences] (Zimbardo & Boyd, 1999, p. 1272).

The majority of studies refer to time perceptions in terms of past, present and future time.

The third group of prominent concepts found in the literature examines the way

people actually use and manage their time. Hall and Hall (1990) defined two major approaches or characteristics of time use- monochronicity (M time) and polychronicity (P time). A person who is more polychronic tends to do more tasks at the same time, puts less emphasis on strict schedules and deadlines, and is subject to more present time orientation. Personal relationships are as important to him or her as the task or procedure in which he or she is engaged (Hall & Hall). In the polychronic nature "... nothing is truly stable; everything is in flux and changing. The polychronic system is abstract, intangible, regulated more by events and tacit communication than by time on the clock. Anything and everything can occur unpredictably and simultaneously" (Benabou, 1999, p. 258). The polychronic person tends to engage in more than one activity simultaneously (Bluedorn et al., 1999); this person tends to have multitasked performance (Waller et al., 1999).

On the opposite end of the continuum with polychronicity is the 'monochronic (M) person' (Hall & Hall, 1990). The M time person tends to engage in one specific activity or task at a given time, to work according to predefined schedule and deadlines, and to emphasize accuracy and promptness. Hall (1983) claims that monochronic people tend to complete tasks in a sequential manner. The monochronic character appears to be related to the future orientation. Waller et al. (2001) suggested that people with monochronic tendencies and high time urgency will hold stronger future time perceptions, as they are more attentive to time passage, need to schedule tasks, and exhibit high achievement striving, though no empirical study to support this proposition was found.

The conceptual definitions of pace of life (with linear, cyclic, and event-related perceptions); past, present, and future orientations; and polychronicity and monochronicity, though studied alone, are expected to have a strong and stable relationship with each other. Dahl (1995), Hall and Hall (1990), and Jones (1988) in their theoretical reviews suggest that polychronic (P) time is a characteristic of the event-related time or the present time perspective. A person or even a culture (Hall & Hall, 1990) that is polychronic will emphasize human relationships over scheduling work, and will be ready to make changes and adjustments in original plans. For example, Dahl (1995) argued that Latin cultures tend to endorse event-related time. Jones (1988) believed that they represent present time perspective, and Hall and Hall argue that they are polychronic. Based on the similarities in conceptual definition and by similar attribution given to Latin cultures by these researchers, it is presumed that people from Latin countries will endorse present time perception and the polychronic style. It follows that people, in general, who have polychronic time perceptions will have a present time orientation, and endorse event related time.

As stated before, polychronicity is defined as “the extent to which people in a culture...prefer to be engaged in two or more tasks or events simultaneously; and...believe their preference is the best way to do things” (Bluedorn et al., 1999, p. 207). Hall and Hall’s (1990) qualitative study on polychronicity across cultures found that in polychronic cultures “human relationships and interactions are valued over arbitrary schedules and appointments... and interruptions are frequent” (p.184), such as in Latin and Arab cultures, where people “...give precedence to their large circle of family

members over any business obligation” (p.16). Present time perception, or event related time refers to time as “qualitative...[that] cannot be measured, only experienced and only in a subjective manner...time is when something happens...[and] when something happens-one takes action and not before” (Dahl, 1995, p. 202-203). Furthermore, duration of events (i.e., beginning and termination points, schedule) is not rigorously determined and personal relationships are given a lot of weight (Dahl; Graham, 1981).

Similar to the polychronic preference, it is presumed that present time oriented people will value personal relationships over punctuality, and will not emphasize scheduling and promptness as monochronic people will (Hall & Hall, 1990). Zimbardo, Keough, and Boyd (1997) found a positive correlation between risky driving (which involves multiple tasks) and present time perception (whereby the driver does not give much attention to future consequences of his current behavior). Furthermore, Waller et al. (1999) found that work teams with higher time urgency members are prone to engage in monochronic behavior, as they promote the group’s “focus on its primary task...” (p. 254). Conceptually, time urgency appears to be similar in meaning to future time perception, as it refers to someone who is conscious of the passage of time and concerned with the need to finish a task to meet a given deadline (Waller et al., 2001). Thus, Waller et al. recommend further investigation to determine if monochronicity and future time perception are positively correlated.

As a first step to deciphering the complexity of “time” constructs, it is important to determine how these various constructs relate with each other.

H₁: Polychronicity will correlate positively with present time perception.

Likewise, monochronicity will correlate positively with future time perception.

Time in Global Eyes

The following description of temporal concepts will give a general outlook that will help close examination of what time actually means for different people in different places. There are three major aspects of time, namely 'tempo' or pace (Kirkcaldy, Furnham & Levine, 2001; Levine, 1997), duration or flow- whether linear, cyclic or event related type of time concept (Dahl, 1995; Graham, 1981) or past, present, and future orientation perspective (Benabou, 1999; Jones, 1988, Zimbardo & Boyd, 1999), and time characteristic, that is, the monochronic/polychronic structure (Bluedorn, et al., 1999; Hall & Hall, 1990). The first aspect, 'tempo' or 'pace of life,' was defined by Levine and Norenzayan (1999) as "...the rate, speed and 'relative rapidity or density of experiences, meanings, perception and activities'" (p. 178). A sub-concept (and conceptually distinct from tempo) of the pace of life is time urgency, defined as the preferred speed for accomplishing tasks (i.e., how quickly work is done; Slocombe & Bluedorn, 1999). Researchers have tried to demonstrate the variance of pace of life across and within countries by measuring walking speed in cities (Bornstein & Bornstein, 1976, cited in Levine, 1988; Levine, 1997; Levine & Norenzayan, 1999) and by measuring work speed in post offices (Levine & Norenzayan, 1999), and clock accuracy (Levine, 1988; Levine & Norenzayan, 1999) in big cities in different countries. "Overall... there is substantial evidence that bigger cities tend to have faster tempo"

(Levine & Norenzayan, 1999, p. 179) and higher clock accuracy. Levine and Norenzayan focused on the predictors of pace of life in 31 countries. They found that "...places with a faster pace of life were significantly more likely to be bigger, to have cold climate, healthier economies, and to emphasize individualism" (p. 191).

Culture of Origin and Time Perception

The second objective for this thesis is to study whether there is a relationship between culture of origin and time perception. In studying time in relation to culture of origin, researchers (e.g., Trompenaars & Hampden-Turner 1998) have likely examined people born and raised within the country where the studies were done. Today's global market and competitive conditions call for managers' and practitioners' better and fuller understanding of the complexity and multi-layered characteristics of the multinational workforce. Since people's perceptions and behaviors are culture bound through socialization (Hofstede, 1984), it is expected that temporal perceptions and preferences would also be culture-bound. Research has shown that people from Latin and Mediterranean countries have a polychronic time style and present orientation, whereas people from USA and Northern European countries had monochronic preferences (Hall & Hall, 1990) and demonstrated faster pace of life (Levine & Norenzayan, 1999). At the culture-level of analysis, Asian countries were conceived to endorse future oriented time perception (Chinese Culture Connection, 1987).

Hofstede (1984), in his seminal study of cultural differences, found that Latin countries were more collectivist in their cultural values than individualistic. Perhaps polychronic cultures pay more attention to interpersonal and group issues. Mediterranean

cultures are also believed to hold a present time, polychronic style (Jones, 1988).

Moreover, Mediterranean cultures tend to endorse collectivistic values (e.g., Greece in Hofstede's 1980 study) or conservative values (e.g., Israeli Arabs, Turkey, and Greece in Schwartz's 1994; 1999 studies). Schwartz's (1994) values research also showed that Brazil and Mexico tended to be neither high nor low on autonomy values (i.e., endorsing independent rights and desires, and freedom of thought, feeling and action) or conservative values (i.e., endorsing status quo and group cohesiveness).

The Chinese Culture Connection (CCC) research group (1987) found that Asian cultures hold distinct values that are less apparent in Western countries. The "Confucian Work Value" emphasizes concern for the long run, thrift, and consistency (CCC, 1987; Hofstede, 1991). Hong Kong, Taiwan, Japan, and South Korea scored higher on this value than the USA, Sweden, and West Germany, which was at the middle of the possible range (CCC, 1987). This might imply that Asian countries hold more of a future perception than Western countries. (The CCC did not include any Latin or Mediterranean country). Hofstede (1991) added the concept of future-orientation as a Western conceptualization of the Confucian work value and found consistent results with the Chinese Culture Connection research. Dahl (1995) noted that linear or future time perception (and faster pace) is related to cultural achievement values. In cultures where achievement is emphasized, people tend to direct or plan their behaviors to achieve their goals; they are more concerned about achieving future goals.

The second cluster of time typology ties together the linear perspective with the future orientation and the monochronic (M) time. People with linear M time style are

generally more concerned with committing to their tasks and deadlines, placing high value on accuracy, privacy, and individual space (Dahl, 1995; Hall & Hall, 1990; Jones, 1988). An important notion emphasized by Hall and Hall is that “monochronic time is an artifact of the industrial revolution...[and] despite that it is learned, monochronic time now appears to be natural and logical...” (p. 14) for those raised in that environment. Dahl referred to western cultures in general when giving examples of linear time countries, and Hall and Hall exemplified USA and Western Europe, especially Switzerland, Germany, and Scandinavian countries. This perspective is in accord with the findings of Hofstede (1984) in that the USA, Canada, Netherlands, UK, Italy, Sweden, and Denmark are highly individualistic. Schwartz’s (1994) findings partially support it, as France, Switzerland, Germany, and Denmark are autonomous nations, though USA is only in the upper middle range on that value.

Finally, geographic antecedents for the different time perspectives suggest that warmer climates influence a slower pace of life (Levine & Norenzayan, 1999), and the way people conceive time (i.e., emphasizing a present orientation; Jones, 1988). Jones argues, “...cultures that evolved in mild climate...were not required to consider future goals in the formulation of present activity. The year round availability of sustaining goods, and the general absence of threatening environmental changes, permitted a focus on proximal goals...” (p. 24). Warmer climate countries, therefore, developed event-related or present time perceptions. This observation supports the previous argument about Latin and Mediterranean countries endorsing present time perceptions.

The above explanations fail to account for variability within cultures as Jones

(1988) argues, "...that even in a society dominated by future time perspective...the future and present time perspectives merge, overlap, and are functionally intertwined..." (p. 29). In other words, different time conceptions are used simultaneously by different people in the same culture or by the same people in different situations.

A second issue with respect to understanding temporal differences among people with different national backgrounds concerns culture values distinctions. Collectivism and Conservatism values emphasize interpersonal relationships (Schwartz, 1994; Triandis & Bhawuk, 1997), thereby suggesting that cultures endorsing collectivism will be characterized by present orientation and polychronic time, as in Latin cultures. The 'pace of life' studies (Kirkcaldy et al., 2001; Levine, 1988; Levine & Norenzayan, 2001) support the contention that Latin cultures are slower in their general pace, time urgency and tempo, and are characterized by present time perspective, and polychronicity. Levine and Norenzayan (1999) found in their research on pace of life that "individualistic cultures were faster than those emphasizing collectivism" (p. 199), that is, individualistic cultures could be described as holding monochronic and future time perception. When examining 31 countries in their research and their scores on the overall pace of life, USA, which is considered to be an individualistic culture by Hofstede (1984), was rated in the middle range of the scores (i.e., not too fast, not too slow), preceded by Singapore or Japan, countries considered more collectivist (Hofstede, 1984) than the USA. Hall and Hall (1990) argue that the North American countries are characterized by future time perceptions or M time (faster pace). However, on pace of life (Kirkcaldy et al., 2001; Levine & Norenzayan, 2001), Canada and USA score in the lower end of the

intermediate pace countries, implying that Canada and USA might not be as future-oriented or Monochronic as might have been originally concluded. The conclusions regarding M time and future orientation might only be accurate in relation to the countries studied in Kirkcaldy et al. (2001) and Levine and Norenzayan (2001) studies (which included Switzerland, Germany, Japan, and Sweden). France, for example, considered by Hall and Hall (1990) to be a slower culture with polychronic values, came out in the upper range of the intermediate pace countries, scoring 'faster' than US and Canada. It is important to mention that since all the above conclusions regarding the conceptual relationship between the different time concepts (i.e., present/ future time and M/P style) are not supported by any empirical research (pace of life studies by Kirkcaldy et al., 2001 and Levine & Norenzayan, 2001, did not examine the above distinct temporal concepts), it is only possible to present the different theoretical arguments and findings.

Organizations and the Temporal Nature of Time

During the last five years a few researchers (e.g., Benabou, 1999; Bluedorn et al., 1999; Conte et al., 1999; and Granrose, 2000) have examined and developed an understanding of the monochronic and polychronic time concept and behavior in the I/O Psychology field. The definitions first established by Hall and Hall (1990) for M and P time, that is, the tendency to be engaged in one or few tasks simultaneously, were examined in different organizational settings, resulting in arguments- made by the above researchers- that modern life and organizational demands need much more complicated solutions and answers for managing daily tasks and conflicts (e.g., meetings and deadlines) than Hall and Hall's (1990) basic definition of polychronity and

monochronity. Benabou (1999) articulates this argument best:

...our institutions and the corresponding job designs are often based on compartmentalization of departments, deadlines that are often very rigid, economy of time and motion, short-term strategies favoring immediate profit, restrictive control measures, and standards and procedures applied uniformly, regardless of the cultural differences between various departments, individuals or the host countries of transnational companies... But the current tumultuous climate is presenting a fundamental challenge to this Newtonian conception of time and space... [thus] becoming closer to that of Einstein.... Organizations (are) now characterized by multiple values, activities, and structures involving a notion of time that is relative, evolving, multidimensional, complex, symbolic, and above all, is seen as a social construction of the actors in the organizational universe (p. 258).

Given that many organizations today operate under multinational conditions, either by having interdependent branches and teams in different countries, and/or by employing people who originate from different cultures, it is logical to assume that people from different cultures would endorse different time perceptions.

Though no study tried to compare present time perception and polychronicity, nor future time perception and monochronicity with cultural origin (Zimbardo & Boyd, 1999 examined time perceptions across ethnicities), it seems logical to presume that people from cultures that endorse present time perceptions will demonstrate polychronic styles and those from future oriented cultures will report more monochronic styles.

H₂: Present perception and polychronicity will be greater for people from Latin and Mediterranean cultures than for people from the USA, Western European, or Asian cultures. Moreover, future time perception will be greater for Asians than people from all other cultural regions.

Stress

Stress is loosely defined as the relationship between stressors and strains (Beehr & Glazer, 2005). Stressors, specifically work-related role stressors, are demands, constraints, or opportunities one perceives as a result of the role one occupies in the workplace. When employees' time preferences are different from that which they perceive the organization to endorse, they might perceive the expectations for their work role differently than intended. As a result, employees might develop a sense of role overload, role conflict, and/or role ambiguity (Cooper, Dewe, & O'Driscoll, 2001; Posig & Kickul, 2003). Role overload occurs when an employee experiences that he or she does not have enough time to complete role tasks (Cooper et al., 2001). Role conflict occurs when one perceives two or more sets of conflicting expectations toward his or her role, whereby adhering to one set will make it hard to respond to the other (Cooper, 1998). Finally, when an employee does not have enough information and the information regarding her or his role expectation is unclear, then she or he will experience role ambiguity (Cooper, 1998).

Strains are negative psychological, physiological, or behavioral reactions to stressors. Examples of strains include lowered sense of affective commitment toward workplace (Lee & Ashforth, 1996), lower job satisfaction, (Cooper et al., 2001; Faragher, Cooper, & Cartwright, 2004), and poor well-being (Cooper et al., 2001).

Affective commitment is defined as an emotional attachment to an organization (Allen & Meyer, 1990). The greater the stressors the less one's affective organizational commitment (Beehr & Glazer, 2005). Job satisfaction is conceptualized here as a general

perception of satisfaction with working in one's organization. Low job satisfaction is considered a strain (Beehr & Glazer). Finally, in this study poor well being is conceptualized as feelings of nervousness and anxiety (Parker & DeCotiis, 1983); increases in stressors yield greater anxiety (Beehr & Glazer).

Person-Organization Fit

Bluedorn et al. (1999), who developed a scale for measuring polychronicity (i.e., Inventory Polychronicity Values or IPV) suggest that organizations vary in their polychronicity level as part of their organizational culture. That is, many organizations, including those in the USA and Europe, are likely polychronic. This is also the characterization of mature organizations (Benabou, 1999). However, this premise is different from Hall and Hall's (1990) notion that modern Western organizations are mainly engaged with monochronic structures. It might be argued that mature organizations are structurally complicated (Benabou), highly competitive (Waller et al., 2001), and increasingly multinational (Trompenaars & Hampden-Turner, 1998; Waller et al., 1999; 2001). For these reasons international people working in organizations located in the USA might perceive their organization more or less polychronic than they are.

Given that (1) multinational organizations are composed of international members, (2) culture influences people's time perceptions and behaviors, and (3) organizations' cultures draw from the host culture in which they operate (Cummings & Worely, 2001), it is expected that international individuals' perceptions of polychronicity would differ more from the perceptions they hold of their organization's polychronicity. Nonetheless, for any person where there is a P-O, gap stressors and strains would

increase. This is because differences between an organization's time orientation and an individual's time orientations, as with values (e.g., Melingo & Ravlin, 1998), might create misunderstandings and conflicts between group members who do not share the same time orientation. For example, stressors and strains might increase when one member is monochronic and other team members are polychronic. Without communicating expectations for time management, conflicts persist, and one might feel dissatisfaction with one's position, job, or organization (Chatman, 1989; Kristof Brown, Jansen, & Colbert, 2002). Furthermore, one could experience different levels of strain(s) as a result of conflicts between one's preferences for time management and the perceived style preferred by the organization (Spector, 2000).

Many studies examined different aspects (e.g., values) of person-job fit, person-group fit, and person-organization fit (see Chatman, 1989; Dineen, Ash, & Noa, 2002; Kristof Brown et al., 2002; Saks & Ashforth, 2002). The objective of understanding the degree of person-environment fit is to ensure the alignment between one's personal competencies and one's work environment conditions (Kristof Brown et al., 2002). Most of the the above studies draw from Lewin's field theory, which argues that the behavior of one person is the result of both personality factors and environmental factors (Chatman, 1989; Kristof Brown et al., 2002). Fit is usually examined from three different levels; person-job fit will be achieved when one can meet the requirements of job tasks that he or she must perform (Kristof Brown et al., 2002). Person-group fit will be experienced "when an individual is compatible with his coworkers" (Kristof Brown et al., 2002, p. 985). High person-organization fit occurs when the employee shares the same

set of cultural values that establish the formal and informal rule for behavior in a given organization (Chatman, 1989; Kristof Brown et al. 2002; Saks & Ashforth, 2002).

Researchers have found relationships between person-organization fit and organizational consequences, such as employment quality (Saks & Ashforth, 2002), work satisfaction (Chatman, 1989; Kristof Brown et al., 2002), organizational commitment (Chatman, 1989), and attraction to the organization (Dineen et al., 2002). This study will focus on person–organization (P-O) fit by comparing individuals' preference for polychronicity to their perceptions of their organizations' value for polychronicity. It is conjectured that with increased fit, there will be decreased stressors and strains.

Over the years, organizations probably adapt the national values in which they operate (Hofstede, 1984), including values for time, because employees in the organization will likely function best when the organization is aligned with the society in which it is located (Schwartz, 1994). Therefore, when individuals perceive time the way time is endorsed in the nation within which the organization resides (Parkes, Bochner, & Schneider, 2001), fit will be achieved and employees' behaviors and affects toward the organization will be positive. In today's multinational organizations, it is especially important to learn about a nation's value for time, the organization's endorsement for use of time (from employees' perspectives), and employees' perceptions of time. This type of information could help organizations or organizational consultants develop interventions that address a reduction of stress through culture appropriate time management seminars or training.

However, no studies on person-organization fit were found that have examined

time perceptions. Discrepancies in sense of time and time related behaviors could be between individuals and their perceptions of the organization's general culture of time (P-O fit). This study will attempt to explore the degree to which a person's perception of time fits his or her perception of the organization's endorsement of use of time. It is expected that when one's culture of origin differs from that of the organization, there will be poor P-O fit, which would manifest itself in terms of stress-related variables (i.e., role conflict, role overload, role ambiguity and job related anxiety, organizational commitment, and job satisfaction). Also, when one's preference for time does not fit with one's perception of the employer's preference for time, there will be more stressors and strains.

H₃: As the gap between individuals' time preferences and their perceptions of their organization's endorsement of time increases, so will work-related stressors (role conflict, role overload, and role ambiguity) and anxiety; however organizational commitment and job satisfaction will decrease.

METHODS

Participants

A total of 388 surveys were distributed with a return of 138 completed self-administered surveys (yielding a 35.5% response rate). Eighty-eight participants came from five Silicon Valley for-profit companies and an additional 50 participants were university psychology students. Based on a power analysis, it was determined that a minimum of 130 participants would be required to reach .80 power (this is based on .05 significance with nine variables). Participants ranged in age from 17 to 58 years, with an average of 31.4 (S.D. = 11.3) years of age. More than half the participants (53%) were men and 47% were women. The ethnic background of participants was diverse, including people from English speaking countries, such as USA (51%) and Australia (1%), Asian countries, including China, Japan, India, and Vietnam (23%), European countries, including Denmark, Russia, Hungary, Romania (7%), Central and South America countries, including Mexico, Peru, and Nicaragua (7%), and Middle Eastern/Mediterranean countries, including Greece, Iran, and Israel (13%). Thirty-one percent of the sample indicated having a managerial role. Education levels varied; 38% had a high school education, 27.5% had a Bachelor's degree, 25% had a Master's degree, and 6% had doctoral degrees.

Due to the large range of cultural origins, but small total sample size, in order to increase cell sizes and have meaningful comparisons that still reflect hypothesis 2, the 23 cultures of origin were collapsed into five culture clusters based on geographic location or linguistic characteristics (these clusters are similar to those found in Schwartz's, 1999,

research). For example, Australia and USA were combined into an ‘Anglo’ cluster, as Schwartz’s found that students and teachers from Australia and USA were clustered or positioned similarly in relation to more than 45 other nations. It was decided to drop the two Iranian participants from the data set, as Iran is neither Mediterranean nor culturally similar to the Mediterranean cultures or the Asian cultures represented in the Asian cluster (e.g., Schwartz, 1999, found some Muslim nations to hold culturally different values than those represented in the current study).

Measures

Time perceptions (see section I A, items 1 - 25, Appendix). Twenty-five of 56 items, comprising five constructs, from the Zimbardo Time Perspective Inventory (ZTPI, Zimbardo & Boyd, 1999) were employed in the present survey. Only items that loaded at or above .50 on each of the five constructs were retained for the purpose of the current study. It was felt that retaining all 56 items, along with the other measures, would be too cumbersome on respondents. The five sub-scales were labeled Past Negative (items 1, 9, 15, 22 and 25 in the current study), Present Hedonistic (items 3, 10, 11, 12, 14 and 20), Future (items 4, 6, 19, 21, and 24), Past Positive (items 2, 5, 8, 13), and Present Fatalistic (items 7, 16, 17, 18, and 24). Of those constructs, only Present Hedonist, Present Fatalist and Future were of interest to this study. However, items for each of the five sub-scales were incorporated in order to maintain a robust framework of the scale as a whole. Respondents rated each item on a Likert-type scale ranging from 1 (very uncharacteristic) to 5 (very characteristic) of oneself. Higher scores were indicative of respondents’ characteristic time perceptions (i.e., present or future time preference).

Both reliability and validity were assessed. Through a Principal Components Factor Analysis with Varimax rotation and a factor-solution of three components, it was determined that some items did not load well on the intended constructs. For Future time perception, items 4 and 24 did not have strong loadings and were therefore removed from further analyses. This omission also increased the Cronbach alpha reliability coefficient for that scale from .60 to .69. Item 10 was removed from the Present Hedonist time perception scale because the item had a weak factor loading (less than .40). The item's removal also increased the scale's reliability from .68 to .71. All items measuring Present Fatalist time perception had strong loadings (between .49 and .83) and yielded a .75 alpha reliability.

Time Preferences (see section I B, items 1 - 10, Appendix). The Inventory Polychrony Values (IPV; Bluedorn et al., 1999) was used to measure time preference to engage in more than one task at a given time (polychronicity). Bluedorn et al. found this scale to be reliable and valid on a sample that consisted of 2,190 students, with an average alpha reliability coefficient of 0.80 and a test re-test reliability analysis on four independent samples that averaged 0.86. In the current study, all ten items were retained. The scale was found reliable with a Cronbach alpha reliability coefficient of .85. Respondents rated themselves on a five-point Likert-type scale ranging from 1 (very uncharacteristic) to 5 (very characteristic). Higher scores were indicative of having polychronic preferences.

Organization's Time Preferences (see section I C, items 1 - 10, Appendix). Ten items of the IPV (Bluedorn et al., 1999) were modified in the present study to reflect

employees' perceptions of their organizations' preference for use of time (e.g., instead of "I believe people should try to do many things at once," the item was rewritten as "My organization believes that people should try to do many things at once"). Respondents gave ratings on a five-point Likert-type scale ranging from 1 (very uncharacteristic) to 5 (very characteristic), but this time they were asked to indicate "How characteristic or true is this of your organization?" This modified scale (used for the first time this way in the current study) was found to be reliable with a Cronbach alpha reliability coefficient of .71.

Job-related stressors, job-related anxiety, affective organizational commitment, and overall job satisfaction were rated on a 7-point Likert-type scale, from 1 (strongly disagree) to 7 (strongly agree). Higher scores indicate more of the given stressor, anxiety, affective organizational commitment, or general job satisfaction.

Job-Related Stressors (see section II A, items 1 - 15, Appendix). Fifteen items were used to assess role overload (items 1-5), role conflict (items 6-10) and role ambiguity (items 11-15; Beehr, Walsh, & Taber, 1976; Rizzo, House, & Lirtzman, 1970). Based on Principle Components Factor Analysis with Varimax rotation, the three scales were found valid. All items loaded on their respective factors from .40 to .83. Cronbach alpha reliability coefficients were .77, .74, and .75 for role overload, role conflict, and role ambiguity, respectively.

Job-Related Anxiety (see section II B, items 1 - 4, Appendix). Four items, adapted from Parker and DeCotiis (1983) and found reliable and valid by Glazer (1999), were used to assess job-related anxiety. In this study, the scale was found to be reliable

with a Cronbach alpha reliability coefficient of .82. Factor loadings on this component ranged from .75 to .85.

Affective Organizational Commitment (see Part II B, items 5 - 9, Appendix). Five items based on Allen and Meyer's (1990) organizational commitment questionnaire were used to measure affective commitment to the employing organization. The scale was found to have a Cronbach alpha reliability coefficient of .79. All items loaded on their respective factor with loadings from .61 to .84 in a Principal Component Factor Analysis.

Job Satisfaction (see Part II B, item 10, Appendix). One item for general job satisfaction was used. Respondents were asked to respond to the question "Overall, I am satisfied working at this organization." Research has shown that a single "overall job satisfaction" item can be reliable (Ellickson, 2002), and even more robust than a multi-items scale of job satisfaction (Wanous, Reichers, & Hudy, 1997). It was found in previous research that general job satisfaction items are positively correlated to organizational commitment items (see for example Yoon & Thye, 2002). In the current study, the job satisfaction item was found to correlate significantly with organizational commitment ($r = .59, p < .01$).

These four scales were followed by a 12-item *Demographic questionnaire*, asking about participants' age, sex, occupational status, and ethnicity (see section III, items 1 - 12, Appendix).

Procedures

Paper and pencil surveys were distributed by the author to 388 potential respondents, from five organizations (nine companies were contacted, five agreed to

participate), parents of a school in northern California, and psychology students at San Jose State University. Respondents were asked to voluntarily complete the survey questionnaire. Along with the survey each respondent received a pre-addressed and pre-stamped envelope addressed to the thesis chairperson, Sharon Glazer, Ph.D. They were asked to return the survey within one week. In order to identify that the envelopes' contents were the thesis student's survey questionnaire, the author's return address was on the envelope and the envelopes were only opened by the author.

In each participating organization a contact person (e.g., human resources director, secretary) sent out a request letter to employees asking them to complete the surveys along with an explanation regarding the purpose of the study and confidentiality issues. Employees who were willing to participate collected the survey in the envelope in the company's office and after completion returned it by mail. For data collected from parents at an elementary school, parents were first contacted via internal e-mail, with a similar request letter as above; only employed parents working in High-tech or similar companies were asked to participate. Surveys were picked up in the school's main office. San Jose State University students completed the survey during an open research day in the psychology department. Data collection began in summer 2004 and was completed by the end of November 2004.

Data Analysis

Once data were obtained and entered, they were assessed for normality; with skewness and kurtosis noted. Items were tested for reliability and validity. Means, standard deviations, and correlations of the study variables were determined. Pearson

correlation was used to test Hypothesis 1. Hypothesis 2 was tested via analysis of variance (ANOVA). To test the third hypothesis, a new variable was created that was indicative of the gap between polychronic preference and organization's time preferences. This new variable was then correlated with stressor and strain variables.

RESULTS

Correlations, means, standard deviations, and Cronbach alpha reliabilities of the main study variables are presented in Table 2. Of the time perception variables (Zimbardo & Boyd, 1999), present hedonist significantly correlated with present fatalist and future time perception ($r = .28$, and $r = -.24$, $p < .01$ respectively), but present fatalist was not significantly correlated with future time perception ($r = -.13$, *n.s.*). In other words, the more one perceives time from the perspective of present hedonism (i.e., "...orientation toward present pleasures with little concern for future consequences" p. 1275), the greater his or her present fatalist time perception (i.e., "...fatalistic, hopeless, helpless attitude toward the future and life." p. 1257), and the less his or her future time perception (i.e., person's "...behaviors are striving for future goals and rewards," p. 1275).

On Bluedorn et al.'s (1999) IPV, polychronic preference and individuals' reports of their organization's time preference was significantly correlated ($r = .41$, $p < .01$). However, neither individual polychronic preference on IPV nor perceived organizational time preferences on the modified IPV correlated significantly with any of the Zimbardo and Boyd (1999) time perception variables. It is important to note that when splitting the sample to High-tech employees and students, it was found that polychronic preference is positively correlated with present hedonist perception ($r = .26$, $p < .05$) for the business sample ($n = 88$). In other words, the more one perceive time with a present hedonist perception, the more he or she will tend to be engaged in more than one task in any given time. Therefore, since it was the primary intent to study high-tech employees, it can be

stated that hypothesis 1 is mostly supported.

To test hypothesis 2, ANOVA was performed with ethnicity and the population type (student and employed individuals) covarying and age held constant. Results show no support for the posed hypothesis. However, there were differences between some culture clusters on present fatalist and Future time perceptions. Analysis of Variance revealed that business Asian respondents had higher scores on Present Fatalist ($\underline{M} = 2.80$, S.E. = .14) than Anglo respondents ($\underline{M} = 2.34$, S.E. = .08) and Mediterranean respondents ($\underline{M} = 1.71$, S.E. = .35). In addition, Mediterranean participants were more future oriented ($\underline{M} = 4.54$, S.E. = .41) than Anglo participants ($\underline{M} = 3.27$, S.E. = .10). These results oppose the stated hypothesis.

In order to test the third hypothesis, a new variable was computed to reflect the difference between participant's polychronic preference and his or her perception of the organization's time preference. This new variable was labeled "time preferences gap." Time preferences gap was created by calculating the absolute value of the difference between polychronicity and perceived organizational time preferences. This time preferences gap variable was then correlated with stressor and strain variables to determine the extent to which a difference in time preferences would correlate with stress-related variables (see Table 3). This time gap variable was not correlated with any stressors or strains. However, when splitting the data into employed business people and students it was revealed that in the student sample ($n = 50$) correlations between time gap and stressors and strains remain similar to the above results, but among the sample of employees in high-tech companies ($n = 88$), time gap correlated significantly with role

ambiguity, organizational commitment, and job satisfaction ($r = .37$, $r = -.32$, $p < .01$, and $r = -.23$, $p < .05$ respectively). In other words, as the gap between polychronic preferences and perceived organization's time preferences increases, the greater the perceived role ambiguity, and the less organizational commitment and job satisfaction. Thus, given that the objective was to examine people working in a business environment, it can be said that hypothesis 3 was mostly supported.

DISCUSSION

“Time” has been a topic of research interest for a few decades (see for example, Graham, 1981; Hall, 1983; Levine, 1988; Conte et al., 1999), however, only in recent years has anyone attempted to operationalize time in a research questionnaire (e.g., Bluedorn et al., 1999; Zimbardo & Boyd, 1999). Given that two “time” surveys were published about the same time (no pun intended), the first research question was simple. The first objective of this study was to examine the relationships between these two temporal concepts, time perceptions and polychronic preference using the two different time measurements, the ZTPI (Zimbardo & Boyd, 1999) and the IPV (Bluedorn et al., 1999). A significant positive relationship between Present Hedonist and polychronic preferences were found for the business respondents, but not for the student population. Out of ZTPI’s five temporal constructs, Present Hedonist was conceptually defined similarly to polychronicity. Polychronicity is defined as the tendency to engage in more than one task in the same time, emphasizing interpersonal relationship, and being less concern with clock time (Benabou, 1999; Hall & Hall, 1990; Waller et al., 1999), and present hedonist is defined as inclination to enjoy the moment and not to worry about the future (Zimbardo & Boyd, 1999). Both concepts appear to reflect the importance of enjoying the moment with little or no concerns for the future (Hall & Hall, 1990). Therefore, it is logical to find a significant positive correlation between present hedonism and polychronicity (at least among the business person sample), as well as the negative correlation between future time and present fatalist. It seems that the scales might be sensitive to age and work experience and thus for working people perceptions of time

converge. However, given that the scales were originally developed using student samples and the correlation between the two scales was not significant in the current sample of students, it is possible that the scales are valid and measure distinct constructs. Given these tentative conflicting ideas, it is recommended that future research focus on why employed participants vs. student participants view these time perceptions differently. It is also important to note that the IPV scale used in this study is conceptually narrower than the above definition of polychronicity. In the IPV scale, Bluedorn et al. (1999) operationalized polychronicity as the tendency to do two or more tasks simultaneously. Further research should incorporate an assessment of polychronicity that accounts for the social aspect of polychronicity. For example, one might ask “Do you often engage in social activity while on completing job tasks?”

Lack of a significant relationship between future perception and monochronicity may be explained in that monochronicity and polychronicity are two distinct constructs, and not opposites on the same continuum. In other words, a low score on the polychronicity scale might not be indicative of high monochronicity. Again, that present fatalist negatively correlated with future time orientation, but present hedonist correlated positively with polychronicity support this contention. This study used only a polychronicity scale, and it might not be appropriate for measuring monochronicity. If a distinct monochronicity scale was tested in relation to future perception, results might have been different. Derived from the premise that people with a monochronic or future time orientation go through life as though they can influence their future (Hall, 1983; Hall & Hall, 1990; Waller et al. 2001; Zimbardo & Boyd, 1999), it is also suggested here

that new research further investigate possible relationships between monochronicity and future time perception and control constructs, such as locus of control and control beliefs (Spector, 2000; Spector, Sanchez, Siu, Salgado & Ma, 2003). Like it was surmised with regards to Mastery, based on Schwartz's (1999) culture values, and future time orientation, so might one's perception of control influence how time is perceived or used.

The second objective of this study was to determine if culture of origin influenced individuals' time preferences. Although it was hypothesized that Asian would have greater future time orientation than other cultures, and Mediterranean cultures would report greater present time orientation than Asians, results showed that Asian respondents reported greater present fatalist perceptions in comparison with Anglo and Mediterranean participants. In other words, when comparing to Anglo and Mediterranean respondents, Asian respondents' time perceptions reflect a "helpless and hopeless attitude toward one's future and life" (Zimbardo & Boyd, 1999, p. 1275). This finding, although opposing the hypothesis, is in accord both with Zimbardo and Boyd's findings in that Asian respondents had higher scores on the present fatalist sub-scale than Hispanics or Euro-Americans. This might be further explained by culture values. Although CCC (1987) and Hofstede (1984) would categorize Asian nations as endorsing future, Schwartz (1999) found that Asian countries (excluding Japan) endorsed both Hierarchy and Conservative culture values, such as being devout, obedient, respecting tradition, and security. These values are conceptually close to the present time concept; though do not provide clarity as to their relation with fatalism. In contrast, Anglo and Mediterranean cultures (i.e., Israeli Jews in Schwartz's study) value Mastery and Autonomy, for

example, choosing of one's own goals, taking chances in ways of thinking, and being ambitious. Conceptually, Mastery and Autonomy might reflect a future time orientation.

It was surprising to find that Asians were more present fatalistic in their perceptions than Mediterranean because present fatalist opposes the values emphasized through the Confucian Work Value of thrift and persistence found in the Chinese Culture Connection (CCC) study (1987). One reason for this discrepancy might be rooted in the fact that the Asians in the CCC study and Schwartz's (1999) study were living in their respective Asian countries, whereas in this study, and in Zimbardo and Boyd's (1999) study, the Asians were business or student expatriates living and working in the USA (either by personal choice to relocate and emigrate to the USA or by being sent by the parent company to the USA).

It was also found that Mediterranean participants reported greater future time orientation than Anglo participants. According to Schwartz (1999), Israelis (Jews in Israel), who made up the bulk of the Mediterranean group (one Mediterranean participant was Greek), had higher scores on Mastery value than the Anglo cluster (i.e., USA and Australia). Furthermore, Israel has many cultural artifacts that reflect its concern and hope for a better future. For example, the Israeli national anthem, "Hatikva," (in Hebrew, "The Hope") is about how the future for Israel will be better and brighter. Many other popular Israeli folk songs (e.g., "Machar," which means "tomorrow") are about people's hope to be a free people and nation. The U.S. national anthem, "The Star-Spangled Banner," however, reflects mastery over an enemy and the ability to maintain freedom.

The third and last purpose of this study was to learn the extent to which the gap

between individual's personal reports on polychronicity and their perception of the organization's position on polychronicity would be related to organizational stressors and strains. Results provide tentative support for this notion, revealing that in the business sample, the greater the gap between individual polychronic preferences and perceived organization's time preferences, the greater perceived role ambiguity, and the less organizational commitment and job satisfaction. When looking at the above 'time gap' as a misfit between individual's time preferences and the way he or she perceives their organization's endorsement of time, one can clearly see that ambiguity is a logical consequence of this condition. Unfortunately, due to the small sample sizes within each cultural group, it was difficult to determine if culture also impact this relationship between stressors and strains. Nonetheless, organizations, especially multi-national organizations, should recognize that employees' perceptions of stressors and strains are likely due in part to cultural differences. Moreover, these results suggest that perceptions and use of time is influenced by culture. Organizations employing a multinational workforce should consider training that takes into account cultural differences, including time perceptions and preferences.

Limitations and Future Research

It was very challenging to obtain companies' approval for their employees to participate in this study. It was even harder to get employees' cooperation to answer the surveys. As a consequence, the employed business participants' sample was not big enough to enable robust groups from various cultural backgrounds. Therefore, an additional sample of psychology students was incorporated. When studying differences

between cultures of origin, research is usually done on a larger scale, accounting for factors, such as sample validity (i.e., the sample represents a country's values), translation and reverse-translation of research tools, and more (see for example Hofstede, 1984; Levine, & Norenzayan, 1999; and Schwartz, 1994;1999). This study made an effort to be as inclusive as possible within its time and budget limitation. However, it is important to note that the sample size within cultural group was not large enough to warrant conclusive results. Future studies should incorporate a bigger, business oriented, and international sample.

It was interesting to find out that after controlling for sample characteristics, that is, students or hi-tech employees, results showed significant numbers on the business sub-sample. This observation is most important as many studies are relying on having students' sample, out of which they generalized to the population in general (e.g., CCC, 1987 and Conte et al., 1999). This study was originally geared toward looking at people in industry, because it was surmised that people who work, unlike students (who do not work, or hold part time jobs), would have different work experiences, or have a different relationship with their employer than students would have with the university. This supposition seems to be somewhat supported in that the hypotheses were partially supported in the business sample, but not the student sample. Thus, it seems that characteristics, such as age and work/life experience, are crucial for a study of this nature. This study, therefore, can serve to caution scholars about using student populations on topics that are not necessarily relevant to students. Although very convenient and feasible for many researchers to use students as their studies' samples, this study

demonstrates possible problems with utilizing student samples. Zimbardo and Boyd (1999) validated their scale with multiple student samples only. As seen in the current study's results, time perceptions and orientations might overlap with the business sector population. Also, it is not yet known if temporal perceptions and preferences are stable traits. It is surmised that time perceptions or preferences will alter along one's life span, due to life and situational transitions, experience, and changes in attitudes (Hall, 1983; Lewin, 1942). Thus, combining business employed populations with students might in itself be problematic. In fact, Zimbardo and Boyd found differences based on age on future time perceptions, as there was more than one component related to "future" time perceptions among older people (e.g., future as reflected in legacy and retirement) and only the one future time perception factor in the student population. It is therefore recommended to assess the validity of these scales using samples of all ages through a cohort or longitudinal design.

Next, that the validity of the ZTPI, as employed in this study, yielded low reliability (which could be a function of the integration of two sample types), it is suggested that the shorter scale be used only after further validation with a larger sample and comparison of the short-version and the long-version reliability scores are made.

As a general note, it is important to remember that there is no one inclusive individual level time perception measure that will incorporate all different conceptual aspects of temporal perspectives, perceptions, preferences, and behaviors (Trompenaars & Hampden-Turner, 1998), thus it is expected that ... "many more studies will be required before it is clear how different time perceptions are correlated with differences

in cultural values” (Smith & Bond, 1999, p. 150).

Finally, the P-O fit of time perceptions in relation to stress-related variables, should compare across different cultural groups within a given country. Knowing for which cultural group a large time gap could be problematic, would help HR professionals develop workshops that incorporate information that is relevant to the workshop participants.

Implications

There are several implications of the results of the current study. First, looking at the diversity component of any given workforce, moreover of a multinational workforce, it is important to understand that there are differences in people’s time perceptions or preferences, which is likely a result of socialization within one’s culture of origin. Thus, differences among people should not be solely attributed to personality differences, but also to culture’s influence on individuals’ time preferences. Although one cannot extract culture from an individual, it is possible for organizations to train employees from different nations on the expected time orientation the organization endorses. Organizations that build diverse work teams should consider diverse time perceptions, which also reflect on behaviors (e.g., what is considered timely or late submission of work deliverables). Through such an awareness organizations will realize how they can benefit from this rich variance.

Second, in terms of multinational teams’ and individual employees’ training and development, it is suggested that discussion about time differences be part of organizational training modules for various situations. One situation is when an

employee is relocated to another country. It is important that the organization include in the training some reference to time as a cultural difference employees will encounter. It is assumed that international assignees, properly trained and ready to deal with many new cultural differences, will be able to better adjust to the new country (Sussman, 2000).

Another training issue is to help multinational teams adjust and benefit from various time styles of their team members. For example, when a long-term project is planned, then let those who have a future orientation lead the planning, whereas when the task requires multiple actions during a given situation and the task is complicated then distribute the task to those who are polychronic or allow for the polychronics to teach others how to engage in multi-tasking.

CONCLUSIONS

This study's purpose was to explore the relationship between two different "time" related surveys. Moreover, the present research intended to examine possible differences between employees' culture of origin on temporal perceptions and preferences, for international employees in Silicon Valley. Finally, this research also studied the organizational consequences of the gap between individual time preferences and individuals' perceptions of their organization's time endorsement. Results revealed that the two surveys, one on time perception and the other one on polychronic preferences, are likely distinct. Nonetheless, polychronicity does positively correlate with present hedonist time perception for the employed sub-sample. It was also concluded that culture of origin does influence individuals' time preferences. Finally, it was revealed that when there is a large gap between individual's polychronic preferences and their perception of their organization's preference for polychronicity, the more employees report role ambiguity and anxiety, and the less they report affective organizational commitment and job satisfaction.

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APPENDIX

Assessment of Time Perceptions Across Cultures

Informed Consent for Survey Questionnaire

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The purpose of this survey questionnaire is to obtain information about time perceptions and preferences among people of various cultural backgrounds. This information is being acquired for research purposes only. Your responses will remain **anonymous**. The researcher will not have access to personal information about potential participants; no one will be able to identify you and your organization will not receive raw data, only aggregated results.

This questionnaire is divided into 3 sections. The first two sections of the survey ask questions that are related to your time perceptions and preferences in time management, as well as stressors and strains. The last section asks questions that will help describe the sample on which these data were obtained. This information will not be used to identify you or what you say.

Completion of the survey is entirely voluntary. You may withdraw at any time. Choosing not to participate in completion of this survey will not affect your relations with San Jose State University or your organization. Questions in this survey are not expected to cause harm or discomfort to any participant. Overall results of this study may be published.

Included with the questionnaire is a stamped envelope addressed to me (via my research advisor). Please seal your questionnaire in this envelope and send it through the US postal mail system within **one week**.

Finally, the questionnaire will take about 15 minutes to complete.

Should you have any questions, comments, or concerns about this research, please call me, Nirit Hazan at: (408) 873-1307. For further information or questions you may also contact Dr. S. Glazer, thesis research advisor, at: (408) 924-5639. Questions about research subjects' rights, or research-related injury may be presented to Pam Stacks, Ph.D., Associate Vice President, Graduate Studies and Research, at (408) 924-2480.

Your time and effort is much appreciated.

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Sacramento, San Bernardino, San Diego,
San Francisco, San José, San Luis Obispo,
San Marcos, Sonoma, Stanislaus

Section I: Time Perception and Preferences

Please answer the following question: "How characteristic or true is this of you?" for each item by circling the appropriate number, from 1 (very uncharacteristic/ not true) to 5 (very characteristic/true).

	very uncharacteristic/ not true	uncharacteristic/ not true	neutral	characteristic/ true	very characteristic/ true
A. Time Perspectives					
1. I often think of what I should have done differently in my life.	1	2	3	4	5
2. It gives me pleasure to think about my past.	1	2	3	4	5
3. I do things impulsively.	1	2	3	4	5
4. When I want to achieve something, I set goals and consider specific means for reaching those goals.	1	2	3	4	5
5. On balance, there is much more good to recall than bad in my past.	1	2	3	4	5
6. Meeting tomorrow's deadlines and doing other necessary work comes before tonight's play.	1	2	3	4	5
7. Since whatever will be will be, it doesn't really matter what I do.	1	2	3	4	5
8. I enjoy stories about how things used to be in the "good old times."	1	2	3	4	5
9. Painful past experiences keep being replayed in my mind.	1	2	3	4	5
10. Happy memories of good times spring readily to mind.	1	2	3	4	5
11. I make decisions on the spur of the moment.	1	2	3	4	5
12. It is important to put excitement in my life.	1	2	3	4	5
13. I get nostalgic about my childhood.	1	2	3	4	5
14. Taking risks keeps my life from becoming boring.	1	2	3	4	5
15. It's hard for me to forget unpleasant images of my youth.	1	2	3	4	5
16. You can't really plan for the future because things change so much.	1	2	3	4	5
17. My life path is controlled by forces I cannot influence.	1	2	3	4	5
18. It doesn't make sense to worry about the future, since there is nothing that I can do about it anyway.	1	2	3	4	5
19. I complete projects on time by making steady progress.	1	2	3	4	5
20. I take risks to put excitement in my life.	1	2	3	4	5
21. I am able to resist temptations when I know that there is work to be done.	1	2	3	4	5
22. I think about the bad things that have happened to me in the past.	1	2	3	4	5
23. I keep working at difficult, uninteresting tasks if they will help me get ahead.	1	2	3	4	5
24. Often luck pays off better than hard work.	1	2	3	4	5
25. I think about the good things that I have missed out on in my life.	1	2	3	4	5

Please turn to the next page...

B. Personal Time Management Preferences	very uncharacteristic/ not true	uncharacteristic/ not true	neutral	characteristic/ true	very characteristic/ true
1. I like to juggle several activities at the same time.	1	2	3	4	5
2. I would rather complete an entire project every day than complete parts of several projects.	1	2	3	4	5
3. I believe people should try to do many things at once.	1	2	3	4	5
4. When I work by myself, I usually work on one project at a time.	1	2	3	4	5
5. I prefer to do one thing at a time.	1	2	3	4	5
6. I believe people do their best work when they have many tasks to complete.	1	2	3	4	5
7. I believe it is best to complete one task before beginning another.	1	2	3	4	5
8. I believe it is best for people to be given several tasks and assignments to perform.	1	2	3	4	5
9. I seldom like to work on more than a single task or assignment at the same time.	1	2	3	4	5
10. I would rather complete parts of several projects every day than complete an entire project.	1	2	3	4	5
Please answer the following question: "How characteristic or true is this of your organization?" for each item by circling the appropriate number, from 1 (very uncharacteristic/ not true) to 5 (very characteristic/true).					
C. Organization Time Management Preferences					
1. My organization likes employees to juggle several activities at the same time.	1	2	3	4	5
2. My organization would rather employees complete an entire project every day than complete parts of several projects.	1	2	3	4	5
3. My organization believes that people should try to do many things at once.	1	2	3	4	5
4. My organization prefers that when people work by themselves, they usually work on one project at a time.	1	2	3	4	5
5. My organization endorses people doing one thing at a time.	1	2	3	4	5
6. My organization believes that people do their best work when they have many tasks to complete.	1	2	3	4	5
7. My organization believes it is best to complete one task before beginning another.	1	2	3	4	5
8. My organization believes it is best for people to be given several tasks and assignments to perform.	1	2	3	4	5
9. My organization prefers that people work on more than a single task or assignment at the same time.	1	2	3	4	5
10. My organization prefers that people complete parts of several projects every day than complete an entire project.	1	2	3	4	5

Please turn to the next page...

Section II: Job Related Stress

Please indicate the extent to which you agree or disagree with the following statements by circling the appropriate number, from 1 (strongly disagree) to (7 strongly agree).

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
A. Job Related Stressors							
1. I received an assignment without the manpower to complete it	1	2	3	4	5	6	7
2. I am given enough time to do what is expected of me on my job	1	2	3	4	5	6	7
3. It seems like I have too much work for one person to do	1	2	3	4	5	6	7
4. On my present job, the amount of work seems to interfere with how well I can do the job	1	2	3	4	5	6	7
5. I often notice a marked increase in my work load	1	2	3	4	5	6	7
6. I have to do things that should be done differently	1	2	3	4	5	6	7
7. I work with two or more groups who operate quite differently	1	2	3	4	5	6	7
8. I receive incompatible requests from two or more people	1	2	3	4	5	6	7
9. I do things that are apt to be accepted by one person and not accepted by other	1	2	3	4	5	6	7
10. I work on unnecessary things	1	2	3	4	5	6	7
11. I feel certain about how much authority I have	1	2	3	4	5	6	7
12. I have clear, planned goals and objectives for my job	1	2	3	4	5	6	7
13. I know I have divided my time properly	1	2	3	4	5	6	7
14. I know exactly what is expected of me	1	2	3	4	5	6	7
15. Explanation is clear of what has to be done	1	2	3	4	5	6	7
B. Job-Related Anxiety, Commitment, and Satisfaction							
1. I have felt fidgety or nervous as a result of my job	1	2	3	4	5	6	7
2. My job gets to me more than it should	1	2	3	4	5	6	7
3. There are lots of times when my job drives me right up the wall	1	2	3	4	5	6	7
4. I have too much work and too little time to do it in	1	2	3	4	5	6	7
5. I do not feel like "part of the family" at my organization	1	2	3	4	5	6	7
6. I would be very happy to spend the rest of my career with this organization	1	2	3	4	5	6	7
7. I do not feel "emotionally attached" to this organization.	1	2	3	4	5	6	7
8. This organization has a great deal of personal meaning for me	1	2	3	4	5	6	7
9. I do not feel a strong sense of belonging to my organization	1	2	3	4	5	6	7
10. Overall, I am satisfied working at this organization.	1	2	3	4	5	6	7

Please turn to the next page...

Section III: Socio-Demographic Data

Instructions: For purposes of statistical analysis *only*, please answer the following questions about yourself. Your answers will remain *anonymous*. However, this biographical data is *crucial* to this research study. Most of the questions listed below are answered by circling a number. Some ask that you write a number or words. Please write **clearly and legibly**.

1. Sex (circle one): 1 Male 2 Female
2. Age (as of January 1, 2004): ____ years
3. Were you born in the USA?
1 No 2 Yes
4. If you were not born in the USA, please indicate which country were you born in (Please write **clearly**).

- If not, how long have you lived in this country?
_____ months _____ years.
- How many years were you living in the country where you were born?

- How many years have you been working in the USA: _____
5. What is the primary language you speak at home?

6. How many years have you spent in your profession or this career path:
_____ months _____ years
7. Marital status:
1 Single
2 Married/Re-married
3 Living with partner(s)
4 Divorced/separated
5 Widowed/widower
6 Other (Please specify) _____
8. Highest academic degree:
1 High School Degree
2 Bachelors degree
3 Master's degree
4 Doctorate
5 Other (Please specify) _____
9. Employment status:
1 Full-time
2 Part-time
(Please specify) _____
10. How long have you been working for this company:
_____ months _____ years
11. Do you supervise other employees?
1 Yes 2 No
If yes, how many? _____
12. What has been your experience with "time" while working in this organization? (please continue writing your answer on the back of this page).

THANK YOU very much for your participation in filling out the questionnaire. We hope that you have found it interesting and not too demanding of your time.

Table 1
Definitions of Time Concepts

Time Concept	Definition
Past Time Perception	Characterized by relying on one's (or group's, nation's) past experience with regard to time planning and managing, whereas the future is not seen as a variety of alternatives. Similar to cyclic time .
Present Time Perception	Perceiving time as determined by certain event(s) that happen(s) in the present (this day/week/year), not relying on past experience nor concerned about the future to come.
Future Time Perception	Perceiving time in an irreversible continuous flow from past or present to future, emphasizing future events over others ("one should always save for future needs").
Time Urgency	Being attentive to time and more aware of the passage of time. Believed to be a component of future time perception.
Cyclic Time	Origin of Past time perception. Time perceived as a natural rhythm and cyclical changes (day and night, the seasons of the year, birth/death). There is an ongoing expectation of the events to come (e.g., spring follows winter, baby will become a child). Time is not scarce and one should not be surprised nor in a hurry by or to anything.
Linear time	Foundation of Future time orientation. Time perceived to be passing from past to future point; measured in equal units (hours, days, etc.) regardless of concrete reality. Future becomes predictable and tangible.
Event related time	Equivalent to Present time . Time perceived as a qualitative resource that cannot be measured, derived, and related to events and actions; ("the meeting will start when everyone arrives"). The duration of events (i.e., from beginning to end) is also flexible.
Polychronicity	A tendency to be engaged in more than one task/activity simultaneously; to multitask. Less emphasis on strict schedules and deadlines; personal relationships are as important as the task.
Monochronicity	A tendency to be engaged in one specific activity or task at a given time and to complete it in a sequential manner. Working according to a predefined schedule and deadlines; emphasizing accuracy and promptness.

Table 2
Descriptive Statistics and Correlations among Study Variables (N = 138)

	Mean	SD	1	2	3	4	5	6	7	8	9	10
1 Present hedonist	3.21	.73	(.71)									
2 Present fatalist	2.41	.77	.28**	(.75)								
3 Future	3.47	.82	-.24**	-.13	(.69)							
4 Polychronic preference	2.98	.68	.06	-.01	-.03	(.85)						
5 Org. time preference	3.21	.51	.01	-.12	-.07	.41**	(.71)					
6 Role overload	4.19	1.17	.04	-.04	-.02	.20*	.23**	(.77)				
7 Role conflict	4.14	1.16	.24**	-.02	.03	.22**	.26**	.41**	(.74)			
8 Role ambiguity	3.14	1.01	-.07	-.04	-.15	.10	.18*	.16	.26**	(.76)		
9 Job related anxiety	4.01	1.41	.10	.01	-.16	.10	.11	.47**	.34**	.24**	(.82)	
10 Org. commitment	4.02	1.23	.01	-.08	-.08	.07	.09	-.04	-.23**	-.41**	.14	(.79)
11 Job satisfaction	5.01	1.55	-.02	.07	.04	.07	.02	-.11	-.23**	-.42**	-.30**	.59**

** $p < .01$.

* $p < .05$.

Note: Values in parenthesis along the diagonal are Cronbach alpha reliability estimates.

Table 3
Correlation Between Time Preferences Gap and Stressors and Strains by Sample

	Study sample (<i>n</i> = 138)	Student sample (<i>n</i> = 50)	Business sample (<i>n</i> = 88)
Time preference gap	(<i>m</i> = .53, SD= .47)	(<i>m</i> = .49, SD= .56)	(<i>m</i> = .54, SD= .41)
Role overload	-.01	.01	-.03
Role conflict	-.07	.04	.09
Role ambiguity	.11	-.22	.37**
Job related anxiety	-.11	.12	.05
Org' commitment	-.01	-.05	-.32**
Job satisfaction	-.02	.16	-.23**

** $p < .01$ level

Note: Values in parentheses reflect means and standards deviations for the gap in polychronic time preferences.