

# Personality Predictors of Polychronicity among Young Adults

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## Abstract

Researchers are increasing their attention to the multitasking demands of current organizational settings and focusing on the Time-use related values and strengths of individuals. Several researches have been carried out to explore and examine the dimension of polychronicity in this perspective. Polychronicity is the attitude and preferences associated with time use and it has been identified as a critical competency in organizing various life domains. However, there has been substantial ambiguity existing in the literature and empirical researches regarding psychological predictors of polychronicity. The incongruent conceptualization of the construct might have revealed contradictory results in several studies across the globe. The present study conceptualized polychronicity as an individual difference construct and explored the personality predictors of polychronicity among 902 young adults. By using a cross sectional, descriptive design the participants were administered HEXACO-Personality Inventory, Sensory Sensitivity scale (FCB-TI) and Multitasking Preference Inventory (MPI). Correlational analysis and Hierarchical regression was used to analyze the data. Results revealed that Polychronicity was significantly related to Personality and Sensory Sensitivity. The results of hierarchical regression showed that Sensory Sensitivity, Conscientiousness and Extraversion as significant predictors of polychronicity among young adults.

**Index terms**— polychronicity, personality, sensory sensitivity, young adults.

## 1 Introduction

here are various aspects of time that characterize human life. Every individual values time from a different perspective. Broadly, there may be two approaches of time-use a) Objective approach and b) subjective approach. Time is considered as a uniform commodity in the objective approach. Past studies have considered time in terms of amounts available, assessing "deficits" or pressures which result from having too little time (Arndt et al., 1981; Becker, 1965; Gronau, 1977; Hill, 1985). Objective time is characterized by concrete or measurable quantities of time which people actually have to work with, whereas Subjective time is based on people's perceptions of the amounts of time available, relative to the things they have to do. With this time-use perspective in background, individuals may be categorized into two types, polychronic and monochronic individuals. The perception of time for monochronic and polychronic people differs in context of their preference of time-use. Polychronicity may be defined as "a non-cognitive variable reflecting an individual's preference for shifting attention among ongoing tasks, rather than focusing on one task until completion and then switching to another task" (Poposki et. al., 2009). Task was defined as a discrete set of activities engaged in for the purposes of attaining a goal, and can be considered and measured from relatively subjective and/or objective points of view (Poposki et. al., 2009). On the other hand Monochronic individuals are those who prefer to handle each task at a time rather than multitasking.

Although the role of polychronicity in work place has been empirically studied and established as a crucial factor for many organizations, the studies have been focused on different dimensions. Several researches have

been conducted to find its relationship with cultural variations, work environment, cognitive capabilities or with other individual difference variables.

As several researches provide views regarding the antecedents of polychronicity, there remains much ambiguity. Due to the fact that polychronicity was initially conceptualized as a cultural variable, existing literature for the role of culture as a predictor of polychronicity is elusive. A summary of these studies by König and Waller (2010) revealed contradictory results. No significant differences in polychronicity was found among Bulgarian, Chinese, Hungarian, Mexican, Polish, Ukranian and US small business owners (Carraher et al., 2004), French and US students (Conte et al., 1999), Anglo Americans and recent Latin American immigrants (Cotte & Ratneshwar, 1999), India, U.S., and Venezuelan managers and white collar workers in hospitals (Moustafa et al., 2005). On the other hand significant differences were found among Japanese students studying in the U.S. and U.S. students (Lindquist et al., 2001), Chinese and U.S. Americans (Zhang et al. 2003). The opposing findings in several studies may be due to the reason that the questionnaires used to measure polychronicity varied across cultures, although such measurement invariance in testing has been argued to be a prerequisite to testing mean differences between cultures (Vandenberg, 2002; Vandenberg and Lance, 2000). Different interpretation of task and time may also have resulted in variation among different cultures.

Many a times, to reach to sufficient performance level and attain several goals, individuals may be required to multitask. Those successful individuals who tend to follow this activity may be likely to develop a preference for multitasking, thus increasing their levels of polychronicity. Researchers have stated two assumptions behind the role of work environment as predictor of polychronicity. First, the work environments differ in the required amount of multitasking, and the second is that being driven or required to work in multitasking way leads to developing a preference for multitasking (i.e. polychronicity). The first assumption can be supported by studies of interruptions as triggers of multitasking (Carlson, 1951; González & Mark, 2005; Kurke & Aldrich, 1983; Oshagbemi, 1995). The second assumption comes from cognitive dissonance theory by Festinger (1957), which predicts that people experience discomfort when they engage in behaviours that conflict with one's beliefs or preferences. This discomfort can be reduced by modifying the preferences. It means that an individual who is forced to multitask, who would not prefer to do so, may change one's preference by becoming more polychronic (Conte et al. 1999). Although, this view lies on the assumption that polychronicity can change, which all polychronicity researchers may not believe. As Slocombe and Bluedorn (1999) stated that "preferences for monochronic or polychronic behaviour seem more likely to be fundamental personality traits than ephemeral states." The study by Hecht and Allen (2005) empirically supports the view that environment plays an important role in influencing polychronicity. Significant correlation was found between polychronicity and "polychronicity supplies".

The general mental ability of an individual might play a role in developing one's polychronic tendency, but researches have not yet found very significant relation between these two dimensions. König et al. (2005) argued that polychronic people might have a preference for working on several things at once because they have found themselves to be adept at multitasking. However, empirical evidence for this hypothesis is weak. Polychronic people may have a preference for multitasking because they find it relatively easy due to their high general mental abilities. Conte and Jacobs (2003) found a positive relationship between polychronicity and mental abilities among train operators, but they also report slightly lower correlations between polychronicity and mental abilities among student sample that was not significant.

Several researchers have stated polychronicity to have significant relation with the Big Five personality traits. König and Waller (2010) summarized the studies and found that polychronicity seems to be unrelated to neuroticism, openness and agreeableness and the evidence regarding conscientiousness is inconclusive. But there is a weak but consistent positive relationship between extraversion and polychronicity across five different studies (Conte & Jacobs, 2003 (1987). An important element of the ability to successfully multitask is the ability to remain calm and control anxiety that is produced by the need to switch tasks (Oswald et al., 2007). Because multitasking requires an individual to switch attention between tasks, often unexpectedly and in the presence of time pressures (Delbridge, 2000), it is expected that anxious individuals will perform less effectively in such an environment as consistent with previous research (Oswald et al., 2007). The existing literature reports weak negative correlations between neuroticism and polychronicity, although some not reaching the level of significance (Conte & Gintoft, 2005; Conte & Jacobs, 2003; Oswald et al., 2007; (1987) oposki et al., 2009a) but one study reports positive correlations using multiple measures of polychronicity (Stachowski, 2011). If individuals high in neuroticism are not successful multitaskers, it is expected that they will prefer to work on only one task at a time.

Polychronic individuals may find it difficult to work effectively in highly organized settings (Arndt et al., 2006). It is likely that individuals high in conscientiousness will prefer to work on one task at a time through to completion, according to their preferred schedule. The polychronic nature of work does not seem to align with the methodical nature of conscientious workers. It is expected that individuals high in levels of conscientiousness prefer to complete one task at a time. Therefore, it is likely that conscientiousness individuals will not be polychronic (Sanderson, 2012).

Agreeableness is a personality trait marked by flexibility, trusting, tolerance, and cooperativeness (Barrick & Mount, 1991). It is likely that flexibility will be associated with a willingness to shift attention between tasks when interrupted. Polychronicity is related to tolerance for ambiguity and unstructured work

Volume XV Issue II Version I 44 ( ) environments (Haase, Lee & Banks, 1979). Furthermore, previous meta-analytic research has found agreeableness to be related to job satisfaction (Judge, Heller & Mount, 2002), another attitudinal construct positively related to polychronicity (Arndt et al., 2006). Therefore it is likely that agreeableness is positively related to polychronicity.

Openness to experience is characterized as artistic, intelligent, open minded, cultured, and exhibiting broad interests (Barrick & Mount, 1991). Most of the existing research reports weak non-significant positive relationships (e.g., Conte & Jacobs, 2003; Conte & Gintoft, 2005) between polychronicity and openness to experience.

In 1999, Conte et al. argued that having a Type A behaviour pattern (Friedman & Rosenman, 1974) leads to Polychronicity. People who exhibit Type A behaviour pattern are characterized by traits such as impatience, aggressiveness, a sense of time urgency, and the desire to achieve recognition and advancement. Empirically, correlation between Type A behaviour pattern (and/or its sub-dimensions) and polychronicity have been identified (Conte et. al, 1999; Ishizaka, Marshall, & Conte, 2001). Polychronicity is likely to be related to both achievement striving and impatience or irritability which are classic Type A behaviour. Conte et al. (1999) stated that "achievement-oriented individuals may attempt to multi-task in order to accomplish more goals in the same time."

Although there are several studies with contradicting results regarding personality and polychronicity, the relationship between temperament and polychronicity has not been much explored. According to Allport (1937, 1961, cited in Strelau, 1998) temperament refers to the characteristic phenomena of individual's emotional nature, including his susceptibility to emotional stimulations, his customary strength and speed of response, the quality of his prevailing mood, and all peculiarities of fluctuation and intensity in mood; these phenomena being regarded as dependent upon constitutional make-up, and therefore largely hereditary in origin. Newberry, Clark, Strelau, Angleitner, Hollinger-Jones & Elias (1997) stated that temperament is at least partly distinct from personality and that temperament variables appear to concern the "how" of behavior, whereas personality describes the "what" of behavior. It may be considered that personality is the result of temperament and the influence of experience. In this study, it is also intended to explore whether polychronicity has any link with temperament. As temperament includes formal behavioral traits only, manifested in all kinds of reactions and actions independent of content, it might be linked to an individual's approach towards time stimulus. One of the dimensions of temperament is Sensory Sensitivity, which is related to sensory thresholds. Eysenck (1967) used sensory sensitivity in his description of the extraversion-introversion dimension. Although Strelau and Zawadzki (1995), and Fruehstorfer (2005) found that introversion-extraversion was not related to Sensory Sensitivity. Strelau (1993) suggested that sensory sensitivity is primarily noticed in reactions to tactile, olfactory and visual stimuli, although thresholds obtained in the laboratory are only weakly related to questionnaire measures of Sensory Sensitivity (Strelau & Zawadzki, 1995). Strelau and Zawadzki (1995) indicated that sensory has a relationship with openness-this may be representative of experience seeking. It is feasible that sensory sensitivity may be more characteristic of one's openness to experience-one who is keenly aware of self, surroundings and relationship among stimuli. Polychronic individuals are more likely to react to surrounding stimuli while continuing a task or shifting attention among ongoing tasks.

Therefore, Polychronicity may have a significant relationship with temperament of an individual. Thus, as a biological predisposition of personality Sensory sensitivity has been included in the predictor battery of the study. The aim of this study is to study the relationship among Personality, Sensory sensitivity and Polychronicity in young adults and to explore the personality predictors of polychronicity.

## 2 II.

## 3 Research Design

For this study a cross sectional, descriptive design was used. Objectives

## 4 ? To study the relationship among Personality, Sensory Sensitivity and Polychronicity in young adults

? To explore the personality predictors of Polychronicity among young adults III.

## 5 Method a) Participants

The sample for the present study consisted of 902 young adults. The mean age of the participants was 21.3 years (SD=2.34), out of which 690 (76%) were male and 212 (24%) were female. The candidates belonged to different streams of education.

## 6 b) Measures

The predictor battery included measures of personality, Sensory Sensitivity Scale and demographic details. Criterion included measure of Polychronicity.

Personality: The 60 item HEXACO-Personality Inventory-Revised developed by Ashton & Lee (2009) was used to measure the six major dimensions of personality including Honesty-Humility (H), Emotionality (E), Extraversion (X), Agreeableness (A), Conscientiousness (C), and Openness to Experience (O). Participants were asked to indicate their agreement on a series of items ranging from 1 (strongly disagree) to 5 (strongly agree).

Each of the six HEXACO scales had acceptable internal reliability (H:  $\alpha = .82$ ; E  $\alpha = .75$ ; X  $\alpha = .78$ ; A  $\alpha = .78$ ; C  $\alpha = .80$ ; O  $\alpha = .66$ ).

Sensory Sensitivity: 23 items measuring sensory sensitivity was used to measure the ability to react to low-intensity physical stimuli. These items were taken from the Formal Characteristics of Behavior-Temperament Inventory (FCB-TI), adapted from the original Polish FCB-TI (Strelau & Zawadzki, 1995b; Strelau & Zawadzki, 1993; 1995a). The scale was found to be internally consistent with Cronbach's alpha .72.

Polychronicity: The 14-item Multitasking Preference Inventory (MPI) was developed by Poposki and Oswald (2010) to measure an individual's preference to engage in multiple tasks simultaneously. The scale was developed and validated on multiple samples, in which the scale demonstrated adequate internal consistency, with the Cronbach's alpha reliability estimates ranging from .88 to .91. Items were scored on a five point Likert scale with the response options ranging from 1 (Strongly disagree) to 5 (Strongly agree).

## 7 c) Procedure

All the participants were asked to complete a questionnaire consisting of three scales, namely the HEXACO-60, the Sensory Sensitivity Scale and the Multitasking Preference Inventory. The HEXACO-60 and the Temperament Inventory was used to find whether personality and sensory sensitivity of an individual predicts one's preference for multitasking. Data was collected from 902 participants in Mysore, Varanasi and Dehradun. Individuals were explained the nature of the measures and proper instructions were given before administering the tests.

## 8 IV.

## 9 Results

Descriptive statistics for all the predictor variables and the criterion variable was calculated. Correlational analyses were conducted to examine the relationships between personality variables, temperament variable and polychronicity. The values in parentheses are coefficient alphas.

An independent sample t-test was performed to determine if there were significant mean differences between the two genders. Results of the t-test are summarized in Table 2. and it shows that there were no significant difference in polychronicity among males and females,  $t(900) = .263$ ,  $p > .05$ . There was significant difference among males and females on Honesty-Humility,  $t(900) = -4.39$ ,  $p < .01$ , Emotionality,  $t(900) = -4.18$ ,  $p < .01$ , Extraversion,  $t(900) = -2.58$ ,  $p < .05$ , Agreeableness,  $t(900) = -1.55$ ,  $p < .05$ , Conscientiousness,  $t(900) = -3.89$ ,  $p < .05$ , Openness to Experience,  $t(900) = -2.82$ ,  $p < .05$  and Sensory Sensitivity,  $t(900) = -7.5$ ,  $p < .05$ . Thus, there was no significant difference in Polychronicity among male and female participants. Hierarchical regression analyses were conducted to determine whether the six dimensions of personality and sensory sensitivity provided incremental validity above the contribution of demographic variables. Before entering the predictor variables into the model, multicollinearity of the predictor variables were checked from Table 1. Although all the predictor variables were inter-correlated, there were no perfect collinearity between the variables. Low levels of collinearity did not pose much threat to the model estimates. Gender and Age were entered in step 1 and the personality variables along with sensory sensitivity were entered in step 2. The predictor variable (Personality variable) that has the highest correlation with Criterion Variable (Polychronicity) is entered first into the regression analysis. With reference to the correlational coefficients from Table 1, Sensory Sensitivity was entered first into the model, followed by Extraversion, Agreeableness, Honesty-Humility, Emotionality, Openness to experience and Conscientiousness respectively. All the personality variables were entered into the model as all the variables were significantly correlated to polychronicity. The relative contributions of these variables were examined by inspecting their standardized regression coefficients ( $\beta$ ). The significance of the change in variance accounted for in step 2 were examined for evidence of incremental validity of the personality and temperamental variable. Table 3 represents the results of hierarchical regression analysis. In step 1, the value of change in  $R^2$  of control variables was  $-.002$  ( $p > .05$ ) which indicated that gender and age did not account for any variance in the criterion variable. The result showed that when personality variables were entered into the model in step 2, only three variables predicted polychronicity. These predictor variables were Sensory Sensitivity ( $\beta = .43$ ,  $p < .01$ ), Conscientiousness ( $\beta = .16$ ,  $p < .01$ ) and Extraversion ( $\beta = .17$ ,  $p < .01$ ) and these variables accounted for 20% of the variance in polychronicity. Sensory Sensitivity accounted for 17% variance in polychronicity ( $\hat{R}^2 = .17$ ). The addition of Conscientiousness as predictor variable along with Sensory Sensitivity accounted for 19% of variance in polychronicity ( $\hat{R}^2 = .19$ ). With addition of Extraversion along with Sensory Sensitivity and Conscientiousness, the predictor variables accounted for 20% of variance in Polychronicity ( $\hat{R}^2 = .20$ ). Thus, Sensory Sensitivity, Conscientiousness and Extraversion accounted for variance in polychronicity.

V.

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## 10 Discussion

The purpose of this study was to examine the relationship between personality dimensions and polychronicity and to explore the personality predictors of polychronicity. Polychronicity was found to significantly correlate with all the six dimension of personality. As polychronicity is one's preference for time use, it is related to the personality dimensions.

Research shows an inconsistent result regarding its relation to individual difference variables. Extraversion is marked by sociability, and extraverts tend to be active, talkative and friendly (Barrick & Mount, 1991). The activity level of extraverts are high and polychronic individuals tend to be distracted more easily by other tasks in the workplace (Sanderson, 2012). Individuals high in polychronicity tend to be more concerned with social interactions than schedules and deadlines (Arndt et al., 2006) ). In the present study, polychronicity is positively related to emotionality, although the correlation is very small. In 2011, Stachowski found positive correlation between polychronicity and neurotism using multiple measures of polychronicity. An individual high in emotional stability may prefer to complete one task and then switch to another. Individuals low on emotional stability may prefer to jump from one task to another. Thus, polychronicity and emotionality may have a positive, yet small correlation.

Conscientiousness is characterized by reliability, striving for achievement, concern for detail and organization (Barrick & Mount, 1991). Polychronic individuals may find it difficult to work effectively in highly organized settings (Arndt et al., 2006). It is likely that individuals high in conscientiousness will prefer to work on one task at a time through to completion, according to their preferred schedule. The polychronic nature of work does not seem to align with the methodical nature of conscientious workers. It is expected that individuals high in levels of conscientiousness prefer to complete one task at a time. Therefore, it is likely that conscientiousness individuals will not be polychronic.

Openness to experience is characterized as being creative, inquisitive, intelligent, and cultured (Barrick & Mount, 1991). Openness to experience also includes flexibility in approach towards tasks which links it to polychronicity. Openness to Experience was significantly related to four measures of Polychronicity in a study by Sanderson (2012). Agreeableness is a personality trait marked by flexibility, trusting, tolerance, and cooperativeness (Barrick & Mount, 1991). In the present study, polychronicity was significantly related to agreeableness. It is likely that flexibility will be associated with a willingness to shift attention between tasks when interrupted (Stachowski, 2011). Polychronicity is related to tolerance for ambiguity and unstructured work environments (Haase, Lee & Banks, 1979). Another dimension used in this study is sensory sensitivity, which is the ability to react to sensory stimuli of low stimulative value. Sensory sensitivity may be more characteristic of one's openness to experience and extraversion, one who is keenly aware of self, surroundings and relationships among stimuli. Thus, it is likely that sensory sensitivity will be related to polychronicity as polychronic individuals are likely to react to low stimulus values in the environment. Extraversion and conscientiousness were significant unique predictors of polychronicity in a study by Sanderson (2012). Although there is not much evidence of the relationship between sensory sensitivity and polychronicity to support the findings of this study, it leads to a new concept to explore further. The above findings supported the present study, in which sensory sensitivity, extraversion and conscientiousness were significant predictors of polychronicity.

There are some limitations of the present study. The measures of this study were administered to mostly students as opposed to a working population. There may be a difference in time use preferences among students and employees. The numbers of male subjects were much more compared to female subjects in the study. This variation in number of data may have influenced the analysis. Apart from these limitations, self report measures used for the study have its own disadvantages which can not be overlooked. Socially desirable responses may have distorted the data to certain extent.

Based on the limitations described above, a number of recommendations for future research can be made. A similar study may be carried out with a working population. It is possible that the results from this study with young adults might not be generalized to the greater population of people in the workplace. Data may be collected from a sample more diverse in age. To study the gender differences a comparable number of samples of both gender may be considered. Future studies may also explore the measurement of polychronicity and personality and test the fakability of the measures of these constructs in diverse samples. Finally, the link between sensory sensitivity and Volume XV Issue II Version I 48 ( ) polychronicity may be explored in a diverse sample to strengthen the evidence.

In today's working environment, time orientation is an important consideration for all organizations. With increasing demand of multitasking, polychronic individuals are potential employees in several organizations. Information about personality predictors of polychronicity may provide selection practitioners with meaningful facts regarding the potential utility of polychronicity assessments during recruitment and job allocation. Results of this study showed that polychronicity was significantly related to all the dimensions of personality. It also revealed that sensory sensitivity, extraversion and conscientiousness predicted polychronicity in this study.

Volume XV Issue II Version I 50 ( ) <sup>1 2</sup>

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<sup>2</sup>Personality Predictors of Polychronicity among Young Adults

1

Variables	Mean	SD	1	2	3	4	5	6	7	8
Honesty-Humility	35.47	6.86	1.00(.76)							
Emotionality	26.57	6.23	.203**	1.00(.74)						
Extraversion	35.75	6.82	.656**	.199**	1.00(.81)					
Agreeableness	33.36	6.24	.678**	.270**	.629**	1.00(.78)				
Conscientiousness	35.30	6.70	.707**	.186**	.735**	.632**	1.00(.83)			
Openness to Experience	34.22	6.80	.607**	.289**	.660**	.585**	.672**	1.00(.77)		
Sensory Sensitivity	80.02	8.18	.523**	.282**	.558**	.559**	.484**	.519**	1.00(.82)	
Polychronicity	36.10	10.48	.182**	.162**	.235**	.195**	-.120**	.155**	.412**	1.00(.70)

Note. \*\* p<.01

1= Honesty-Humility, 2= Emotionality, 3= Extraversion, 4= Agreeableness, 5= Conscientiousness, 6= Openness to Experience, 7= Sensory sensitivity, 8= Polychronicity

Figure 1: Table 1 :

2

Dimensions	Males (N=690)	SD	Females (N=212)	SD	t
Honesty-Humility	34.92	7.09	37.26	5.75	-4.39**
Emotionality	26.09	6.28	28.12	5.82	-4.18**
Extraversion	35.43	7.08	36.81	5.78	-2.58**
Agreeableness	33.94	6.45	34.82	5.43	-1.55**
Conscientiousness	36.85	6.97	33.86	5.46	-3.89**
Openness to Experience	33.85	7.07	35.37	5.70	-2.82**
Sensory Sensitivity	78.26	9.05	85.77	11.27	-7.00**
Polychronicity	36.15	11.33	35.93	7.05	.263

Figure 2: Table 2 :

3

		Extraversion	
Predictor		Î <sup>2</sup> R	?
Step 1	Control Variable	-.002	
	Gender		-.012
	Age		.010
Step 2	Predictor Variable		
	Sensory Sensitivity	.17	.43**
	Conscientiousness	.19	-.16**
	Extraversion	.20	.17**
N=902			
Dependent Variable: Polychronicity			
p<.01			

Figure 3: Table 3 :

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Figure 4:





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