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# Is Teleworking for the Millennials?

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#### **ABSTRACT**

The telework option has been noted by researchers as a way to save costs and increase productivity for organizations; allow flexibility, savings, and relieve stress for employees; and be environmentally friendly for society. While research has examined generational attitudes regarding work, there are limited studies on the expectations of this newest workforce, the Millennials (born 1981- 1999), and even fewer concerning their attitudes towards teleworking. This study looks at the Millennials' attitudes toward autonomy, work/life balance, perceived computer competence and its relationship with telework preference. Using a survey instrument, a sample of Millennials and non-Millennials (GenXers, Baby Boomers and Traditionalists) were scrutinized to determine their preferences by group. A sample of 263 university students, faculty and staff represented 195 Millennials and 68 non-Millennials. Partial support was found for the effect of autonomy and work/life balance toward the preference to telework. Based on our results, Millennials do not seem to prefer teleworking. However, our analysis of differences between males and females depicted greater interest in males.

## **Categories and Subject Descriptors**

K.4.2. Social Issues - Employment

General Terms: Human Factors. Management.

**Keywords:** Teleworking, Millennials, Autonomy, Work/life balance, Computer competence.

#### 1. INTRODUCTION

The literature identified four generations in the current workforce, grouped in general categories of approximately twenty years with some variations in dates and names: Traditionalists, Baby Boomers, Gen Xers and Millennials with different values and preferences (Lancaster and Stillman, 2002). The newest entrant generation, the Millennial generation -born from 1981 – 1999, is the largest cohort group ever including some 80 million people in the USA (Alch, 2000; Lancaster and Stillman, 2002). Millennials, regarded to be the most technologically advanced

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generation (Alch, 2000; Eisner, 2005; Lancaster & Stillman, 2000), could have a strong potential for being teleworkers.

Teleworking, a way of working remotely from the office with telecommunications technologies (Vega, 2003), could be a preferred work for Millennial workers. It will be important to know if there is a shared perception of teleworking by the Millennial generation and to see if their preferences differ or not from other generational groups. According to previous studies, the Millennial generational group may possess different viewpoints towards new means of working. For example, Millennials are described as being more positive than Gen Xers, cooperative team players and accepting of authority (Howe & Strauss, 2000). They are noted to be most similar to the Traditionalist generation in their views of family and civic mindedness (Zemke, Raines, & Filipczak, 2000). They anticipate having to work over 40 hours a week to maintain their lifestyles (Zemke, Raines, & Filipczak, 2000), but value family and personal time (Barna, 1995). In addition, Millennials showed desire for balance between work and family life, meaningful work and autonomy (Buckley, Beau, Novicevic, & Sigerstad, 2001). We sought to study the preferences for telework by Millennials and the possible influence of predictors for telework such as autonomy, work/life balance and the perceptions of computer competence

# 2. CONCEPTUAL DEVELOPMENT AND HYPOTHESES Teleworking

The very nature of teleworking's technical connectivity, which today can be easily enabled through coffeehouses as well as park benches, may be a natural fit for a generation of purported technoliterate instant messagers and multi-taskers (Lewis, 2003). Teleworkers have reported many benefits that could relate to a new generation of workers who are said to be "less at home with the real world than in the virtual world" (Eisner, 2005). Combining that technological penchant with the Millennials teamorientation (Bridgers & Johnson, 2006) would seem to make the virtual team scenario of teleworking very compatible. For those socially conscious Millennials (Eisner, 2005, Raines, 2002), teleworking is touted as the method of saving gasoline and reducing traffic congestion (Hylmo & Buzzanell, 2002; Nilles, 1994).

#### **Generations in the Workforce**

Generational theorists propose that people who grew up with similar environmental conditions, such as political events, economic situations and technological changes will have related outlooks (Marías, 1970; Smith & Clurman, 1997). Generational groups represent individuals raised with very different technologies and lifestyles (Lancaster & Stillman, 2002; Zemke, Raines, & Filipczak, 2000). These differences influence attitudes which may bring challenges for the management of a diverse workforce (Zemke, Raines, & Filipczak, 2000).

Assessing attitudes through generational divisions has been a useful method for several kinds of studies. For example, in a Nebraska study by Leuenberger and Kluver (2006), generational issues in the workplace were investigated at the state human services agency which was having problems with recruitment and retention of workers. It was determined by generational assessment of Millennial and Generation X workers that more performance feedback from their mostly Baby Boomer supervisors was desired. The agency resolved this through mentoring partnerships and implementing a new computer system management of information (Luenberger & Kluver, 2006).

In this study, we will focus on Millennials and use the non Millennial group composed by Traditionalist, Baby Boomers and Generation X as a unique group in order to make comparisons with the Millennials. Below, we present a description of each of the groups that compose the "non-Millennial" group.

Traditionalists, the oldest segment of the workforce, are described as dutiful and loyal (Lancaster & Stillman, 2002; Smith & Clurman, 1997). Traditionalists or Veterans, born before 1946, enjoyed the radio as their home technology and panned to work for one company for over twenty years to receive their gold watch and retire. Their values were challenged when the Baby Boomers joined the workforce (Smith & Clurman, 1997).

Baby Boomers, born from 1946 – 1964, are the first generation brought up with or characterized as "created by" (Zemke, Raines, & Filipczak, 2000, p. 128) television. Known as a generation that did not trust anyone over 30 or their values, (Lancaster & Stillman, 2002; Zemke, Raines, & Filipczak, 2000) many are active in the workplace and, although millions are nearing retirement age, it is predicted that they are seeking to stay in work that "provides satisfaction and fulfillment" (Lancaster & Stillman, 2002).

Generation X, born from 1965 – 1980, are the first generation of computer literate workers as most have used technology since grade school (Losyk, 1997). Gen Xers, are reported to communicate differently, are "skeptical of third parties" (Smith & Clurman, 1997, p. 104), less loyal and committed, "feel that making money is not as important as experiencing life" (Losyk, 1997, p. 42) and want flexible work schedules (Cordeniz, 2002).

## Millennials of this Study

The newest group entering the workforce, the Millennials (also referred to as Nexters, Generation Net and Generation Y) were brought up with Internet connectivity to the world. Millennials are described as being more positive than Gen Xers, cooperative team players and accepting of authority (Howe & Strauss, 2000). They are noted to be most similar to the Traditionalist generation in their views of family and civic mindedness (Zemke, Raines, & Filipczak, 2000). They anticipate having to work over 40 hours a week to maintain their lifestyles (Zemke, Raines, & Filipczak, 2000), however Millennials are said to value family and personal time (Barna, 1995). These Millennials desire balance between

work and family life, meaningful work and autonomy (Buckley, Beau, Novicevic, & Sigerstad, 2001).

Millennials expect communication via technology and "may be intolerant of those who are technologically challenged" (Murray, 2004, p. 106). This techno-literate cohort is three times the size of their predecessor generation, Generation X and the "largest population of business education students in American history" (Pelton & True, 2004, p.64). There has been a "paucity of research attention focused on the generational differences" of this significant group (Pelton & True, 2004, p. 64). Managers will be presented challenges and opportunities by these newest workers and are advised to apply strategies tailored to the Millennials' specific characteristics (Eisner, 2005).

Managers of "Gen Y's" (Millennials) have been advised to be "careful not to oversimplify workplace differences, but should see intergenerational differences as one of several aspects of diversity" (Eisner, 2005, p. 10). "When managers and coworkers do not understand each other's generational differences, tension increases and job satisfaction and productivity decrease" (Kupperschmidt, 2000. p. 65). The purpose of this study is to explore how the preference for working styles described in the literature about Millennials, such as autonomy, work-life balance and computer competence, determine the preference for telework for Millennials and non-Millennials. In the following section we present the literature review and the hypothesis tested in our empirical study.

Autonomy is defined as "the degree to which the individual feels personally accountable and responsible for the results of the work he or she does" (Hackman & Oldham, 1976, p.256). Job autonomy, according to Hackman and Oldham's Job Characteristic Model (1976), is a mediator of the critical psychological state of experienced responsibility for work outcomes. Autonomy on the job was studied as a moderator of the relationship between personality and performance in management positions (Digman, 1990). Management and sales positions (requiring social interaction) — had better job performances when allowed high autonomy compared to managers with low autonomy (Barrick & Mount, 1993).

#### Autonomy and Teleworking

Autonomy is recognized as a facet of teleworking that allows more control over working conditions and may be a significant consideration in the Millennial generation's motivation towards teleworking. Autonomy, and the flexibility it allows, is a very high priority to Millennials as observed from "workplace interviews with hundreds of Generation Yers [Millennials] and managers" (Martin, 2005, p. 39). Millennials "demand the freedom and flexibility to get the task done their own way, at their own pace" (Martin, 2005, p. 40). Another generational comparison of workplace attitudes noted that Millennials, "want total flexibility in how they operate" (Harris, 2005, p. 48.) It is proposed that a more positive perception of autonomy will impact a greater preference in teleworking. It is further proposed that Millennials will have greater preference for telework when they have positive perceptions of autonomy than non-Millennials.

Hypothesis 1: Greater positive perception of autonomy will lead to greater preference for telework

Hypothesis 2: Greater positive perception of autonomy leading to greater preference for telework will be stronger for Millennials than it will be for non-Millennials.

Work/life Balance is even more of a struggle in the 21st century since many people work extended hours, have additional part-time jobs, and family responsibilities (Schmidt & Duenas, 2002; Solomon, 1999). Employer and employee agreed-upon work arrangements such as compressed work weeks and flex time have already been introduced to help remedy the strain of family members' home, medical and social needs (Almer, Cohen, & Single, 2003; Dastmalchian & Blyton, 2001; Hill, Hawkins, Ferris, & Weitzmam, 1998). Teleworking options may reduce these costs to employers by allowing employees to work from home and better balance their job and home care responsibilities.

The ability to balance work and multiple non-work activities has some teleworkers proclaiming themselves to be in better health than their standard office peers (Steward, 2000). Jobs that enable a greater work/life balance, such as those based on flexible teleworking options, have been perceived by teleworkers to promote overall satisfaction (Tremblay, 2002). The importance of work/life balance may increase the preference for telework. Furthermore, as stated by Buckely et al. (2001), maintaining work/life balance for the Millennials may be particularly more important for them than for non-Millennials. In this study, empirical evidence will be collected to see if this relationship is significant.

#### Work/life Balance and Teleworking

Teleworking, which can ease spatial and temporal boundaries more than compressed workweeks or flextime, could be seen as an even better means for achieving flexibility (Rau & Hyland, 2002) If teleworking can provide the flexibility that facilitates employees to more easily manage their own time for work and home responsibilities, it may be perceived as a means to improve one's work/life balance and satisfaction. "Job demand and the demand of life off the job both must be manageable for employees to preserve their personal well-being and to be effective workers" (Bond, Galinsky, & Swanberg, 1998, p. 139).

According to Hill (2002), Millennials care "more about personal fulfillment and less about external rewards" (p. 63). This reaffirms the findings of Howe and Strauss (2000) who reported that Millennials will "demand that employers adjust to the needs of workers who wish to build careers and families at the same time and to lead lower-stress lives than their parents did" (p. 314). A question of this study is whether or not work/life balance is a major factor considered by Millennials for their future.

Millennials have grown up with such busy schedules that they are the first generation to carry "their own Day-Timers to keep track of all their activity" (Hicks & Hicks, 1999, p. 285). Young workers are reported to place a very high value on work/life balance (Lewis, Smithson, & Kugelberg, 2002; Smola & Sutton, 2002; Sturges & Guest, 2004). It is proposed that a greater positive perception of work/life balance in employment will lead to a greater preference for telework.

Hypothesis 3: Greater positive perception of work/life balance will lead to greater preference for telework

As Millennials, the largest of American generations, are using the Internet for new ways to discover, debate, action, enterprise, work and socialize (Tapscott, 1998), it is expected that

telecommunications will be the method that may best suit Millennials in their quest for a good work and life balance. This quest could be perceived to be achieved through teleworking more for Millennials than non-Millennials.

Hypothesis 4: Greater positive perception of work/ life balance leading to greater preference for telework will be stronger for Millennials than it will be for non-Millennials.

Computer Competence of employees by businesses has become a necessity (Cantone, 2003; Wilhelm & Thierer, 2000). Individuals in this study will use a web-based survey which will indicate some form of technological knowledge, but Internet usage is not a test of competency in software packages or e-mail systems. It will be important, however, to understand the Millennial (and non-Millennial) participants' perceived capability regarding their technological skills that are components of teleworking. Answering questions regarding specific skills will yield a personal assessment of abilities in computer technology which are very useful for understanding attitudes towards working with computers. This perceived capability of technological skills could influence the Millennial's perception of performing successfully in teleworking assignments. By contrast, perceptions of poor computer skills could present a barrier to engaging in telework.

Computer Competence for this study was defined by personal assessments of the major components described in previous studies i.e. the ability to use word processing, e-mail and attachments, spreadsheets, and Internet searching. Additionally, items will be included regarding Instant Messaging for specific Millennial distinctions. These perceived abilities will be gauged as their computer competence.

#### Computer Competence and Teleworking

Technological abilities, integral to successful teleworking, could impact attitudes toward teleworking. In addition, the Millennial cohort has been described as "techno-literate" (Lewis, 2003), "techno-savvy" (Zemke, Raines, & Filipczak, 2000), "technologically fluent" (McGhee, 2006), and even dependent on technology (Smith, 2005/2006). This purported characteristic could influence their perception of teleworking. If a Millennial does not perceive this comfort and commitment to technology, one may posit that he/she will not exhibit an interest in teleworking. It is proposed that Millennials may indicate a more positive measure of computer competence than non-Millennials. This computer competence may positively impact Millennials' interest in teleworking as a preferred option to traditional work.

Hypothesis 5: Greater computer competence will lead to a greater preference for telework.

Hypothesis 6: Greater computer competence leading to greater preference for telework will be stronger for Millennials than it will be for non-Millennials.

The strength of the importance autonomy and work/life balance and the computer competence may positively impact the Millennials' preference in teleworking as a desired method of employment. This would support the limited data from previous studies that shorter workweeks and teleworking options are of interest to some new workforce entrants (Buckley, et al., 2006; Kerrin & Hone, 2001; Lomo-David & Griffin, 2001). Considering the reported characteristics and the predicted differences of the Millennials and the non-Millennials, it is

expected that the preference in teleworking will be significantly stronger to the Millennials (See Figure 8).

Hypothesis 7: Telework is significantly more desirable to Millennials than to non-Millennials.

Figure 1 presents the causal model of the seven hypotheses listed in this study.

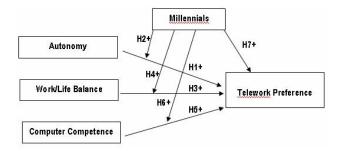


Figure 1. Model of variables and hypotheses

#### 3. METHODOLOGY

A quantitative survey research design was used. The survey method has been noted to be the preferable method for collecting information for analysis (Zikmund, 2003). The survey questionnaire can reach a large number of people who can complete it at his/her convenience (Trochim, 2005). This study used an e-mail invitation with a direct link to the survey. Webbased surveys are well-received according to a survey of 63 professionals by the American Educational Research Association's Survey Research Special Interest Group (Shannon, Johnson, Searcy, & Lott, 2002). These professionals favorably noted low costs, compatibility of data with other software programs, and the likelihood of response when the HTML address was connectable in an e-mail message (Shannon et al., 2002).

In a web based questionnaire, participants were asked about their generational group and their perceived importance of all the variables listed in the model. The survey was composed of forced choice questions. Demographic questions included gender and age range (as determined by intervals of birth years). The survey instrument for teleworking, autonomy, work/life balance and computer competence was based on previous literature and in some cases reworded. Autonomy scales were adapted from Hackman and Oldham (1976) and Campion (1988). Items to measure work/life balance adapted from Netemeyer, Boles, & McMurrian, (1996) and PricewaterhouseCoopers International Student Survey (1999). Items to measure computer competence were adapted from Bunz (2004). Attitudes towards teleworking were adapted from Baruch & Yuen, 2000; Mokhtarian & Salomon, 1995; Ward & Shabha, 2001. The final scales were then examined by a panel of 5 experts who are scholars with backgrounds in organizational behavior, information systems and quantitative methods. This panel of experts assessed the questions for face and content validity. A pilot study of 21 participants was conducted to test the survey items and the clarity of instructions. A sample size of 12-30 subjects is the customary size for this type of study (Hunt, Sparkman & Wilcox, 1982). The pilot study was constructed to further limit any misunderstanding of the survey items and to avoid any problems of validity and reliability of the survey instrument and data analysis (Churchill & Iacobucci,

2001). After a factor analysis and reliability measurements, only two items were excluded. Survey participants were students, academics and staff of a University in the U.S.

Regressions analyses were used for comparing these effects between Millennials and non-Millennials. Simple regression is used in the case of one independent variable and multiple regression is used when there are two or more independent variables (Babbie, 2001). Regression analyses were used to determine the extent to which each of the variables contributes to explaining the dependent variable of telework. A separate equation was used to test each of the hypotheses.

H1: Greater positive perception of autonomy will lead to greater preference for telework.

H1:  $TEL = \beta o + \beta 1AUT + \beta 2LWE + \beta 3GEN + \beta 4EDU + \epsilon$ 

H3: Greater positive perception of work/ life balance will lead to greater preference for telework

H3:  $TEL = \beta o + \beta 7WLB + \beta 2LWE + \beta 3GEN + \beta 4EDU + \epsilon$ 

H5: Greater computer competence will lead to a greater preference for telework.

H5:  $TEL = \beta o + \beta 9CC + \beta 2LWE + \beta 3GEN + \beta 4EDU + \epsilon$ 

Testing the hypotheses with moderating variable Millennials

To determine the appropriate equation for testing the hypothesized influence of moderating variable "Millennials" in hypotheses H2, H4, H6 and H7 the approach described by Sharma, Durand and Gur-Arie (1981) was used. That approach enabled the researcher to determine (1) whether the hypothesized moderator variable is a moderator variable, (2) if it is a moderator variable, to determine whether it operates through the error term or through an interaction with the predictor variable, and (3) if it operates through an interaction term, whether it is a quasi moderator or pure moderator variable.

The first step is to ascertain the presence of a moderator variable by testing whether the proposed moderator interacts with the predictor variable. If the hypothesized moderator variable significantly interacts with the predictor variable, it means that it is a moderator variable. The next step is to determine whether it is a quasi moderator variable or a pure moderator variable. In step 2, the relationship between the moderator variable (z) and the criterion variable will be determined. If the moderator variable (z) is significantly related to the criterion variable, there is a case with a quasi moderator variable. The following model was used to test such a hypothesis:  $Y = a + bx + cz + dxz + \varepsilon$ 

Where: Y is a criterion variable, X is a predictor variable, Z is a moderator variable, and  $\epsilon$  is a random error term.

A separate equation was used to test each of the hypotheses with moderating variables.

H2: Greater positive perception of autonomy leading to greater preference for telework will be stronger for Millennials than it will be for non-Millennials.

H2: TEL =  $\beta$ o +  $\beta$ 1AUT + $\beta$ 5MLN +  $\beta$ 6AUT\*MLN +  $\beta$ 2LWE + $\beta$ 3GEN + $\beta$ 4EDU +  $\epsilon$ 

H4: Greater positive perception of work/ life balance leading to greater preference for telework will be stronger for Millennials than it will be for non-Millennials.

H4: TEL =  $\beta$ o +  $\beta$ 7WLB + $\beta$ 5MLN +  $\beta$ 8WLB\*MLN +  $\beta$ 2LWE + $\beta$ 3GEN + $\beta$ 4EDU +  $\epsilon$ 

H6: Greater computer competence leading to greater preference for telework will be stronger for Millennials than it will be for non-Millennials.

H6: TEL =  $\beta$ o +  $\beta$ 9CC + $\beta$ 5MLN +  $\beta$ 10CC\*MLN +  $\beta$ 2LWE + $\beta$ 3GEN + $\beta$ 4EDU +  $\epsilon$ 

H7: Telework is significantly more desirable to Millennials than to non-Millennials

H7 TEL =  $\beta$ o +  $\beta$ 5MLN +  $\beta$ 2LWE + $\beta$ 3GEN + $\beta$ 4EDU +  $\epsilon$ 

#### Where:

AUT=Autonomy; WLB=Work/Life Balance; CC=computer Competence; TEL=Teleworking Preference; MLN=Millennials (yes/no); LWE=Length of work experience; GEN=Gender; EDU=Highest level of education obtained

#### 4. RESULTS

The scales were developed based on previously developed scales in the literature but adapted to the teleworking context. After the validity of the principal component analysis was shown to be acceptable, the items were then tested for validity and reliability of the measures. These are the items that remained after running factor analysis where 2 items were removed. Alpha scale reliability inter-item correlation computations between the items were analyzed and proven acceptable as shown in Table 1.

Table 1 - Alpha Reliability of Combined Constructs

Construct and Items	Reliability
Autonomy	.873
1.Autonomy in job	
2.Independence and freedom	
3.Discretion in work schedule	
Work/life Balance	.874
1. Work not interfere with personal life	
2.Job that does not make it difficult	
3.Company values WLB	
4.Opportunity for personal life	
Computer Competence	.881
1.Word processing	
2. Read e-mail	
3. Send e-mail attachment	
4. Internet research	
5. Open saved file from other directory	
6.Use reply/forward e-mail	
7.Save images off web to disk	
8.Spreadsheet program	
9.Overall ability	
Telework	.899
1.TW preferred method of work	
2.Prefer organization that offers TW	
3.TW improve job satisfaction	
4. Opportunity to TW important	

Most of the respondents, as expected, were female Millennials because the university was originally an all-female school that became co-educational in 1969. The population ratio is now approximately 70% females and 30% males. Table 1 shows the descriptive statistics of our participants.

Table 2- Demographics

Demographic/Control Variables	Category	Frequency (N=263)	Percent
Gender	Male	8	30.8
	Female	18	69.2
Generation	Millennials	<b>1</b> 9	74.1
	No -Millennials	6	25.8
School area	b/Indergraduate student	<b>\$</b> 8	71.1
	Graduate student	<b>4</b> 4	16.7
	Faculty	8	3
	Administrator	1	4.9
	Clericall	в	2.3
	Technology	5	1.9
	Security	0	0
Education completed	High School	3	14.8
-	1 yr. College	9 4	15.2
	2 yrs. College	5	19.4
	3 yrs. College	5	24.4
	College graduate	9	14.4
	Masters	2	10.6
	Doctorate	8	3
Job or expected job			
area	Technology	1	3.8
	Biology	9	1.9
	Management	5	22.4
	Financia	4	17.1
	Marketing	3	13.7
	Education	2	9.5
	Other	8	31.6
Work experience	Less than 1 yr.	7	26.9
•	1-2 yrs.	5	19
	3-4 yrs.	4	16.7
	5-6 yrs.	2	11
	7-10 yrs.	ባ	4.9
	Over 10 yrs.	3	19.4
Present or expected		1	•
commute to work	Under 15 min	11	45.2
	1 -30 min	8	33.8
	3 -45 min	9	13.3
	4 -60 min	f	4.9
·	Over 60 min	7	2.7

Hypothesis 1 was partially supported. Greater positive perception of autonomy will lead to greater preference for telework. The results did not suggest that autonomy (p = .141) influences the preference to telework. Although the predictor of autonomy (males, p = .072, females, p = .565) did not prove to be statistically significant, there was a difference observed between males and females. The control variable education (males, p = .003, females, p = .062) showed significant association for the interest of males in teleworking as including the variable of autonomy. This depicts some relevance with an earlier study which reported that men place a higher degree of importance on autonomy in the workplace than women do (Statham, 1987).

Hypothesis 2 was not supported. Greater positive perception of autonomy leading to greater preference for telework will be stronger for Millennials than it will be for non-Millennials. Among Millennials, only education (p =.041) was significantly associated with the desire to telework that included the variable of autonomy.

Hypothesis 3 was partially supported. Greater positive perception of work/life balance will lead to greater preference for telework. The results did not suggest the influence of positive perception of work/life balance lead to a greater preference for telework as WLB (p = .706) is not statistically significant. However, education (p = .003) was significantly associated with the preference for telework including the predictor variable of work/life balance among the entire sample of Millennial and non-Millennial participants. When regressions were performed separately for males and females, a significant association was

indicated only by males in the control variable of education (p = .007).

Hypothesis 4 not supported. Greater positive perception of work/life balance leading to greater preference for telework will be stronger for Millennials than it will be for non-Millennials. The results did not suggest that MLN moderates the influence of Work/life balance on the Preference for Telework. The Millennials respondents showed a significant association of education (p = .049), while there were no significant associations of the preference in teleworking including the variable of work/life balance within the non-Millennial respondents.

Hypothesis 5 was not supported. Greater computer competence will lead to a greater preference for telework. Computer competence did not show a statistical significance. As in previous analysis, education (p =.011) indicated a significant association towards the relationship between the perception of computer competence and the preference in teleworking for the entire sample of Millennials and non-Millennials. However, when separate analysis were performed on males and females, only males showed a significant association by the variable of education (p = .017).

Hypothesis 6 was not supported. Greater computer competence leading to greater preference for telework will be stronger for Millennials than it will be for non-Millennials.

There was no statistical significance shown among the entire sample of Millennial and non-Millennials participants. Nor were there any statistical significance found in separate regressions of Millennials and non-Millennials with the interaction variable.

Hypothesis 7 was not supported. Telework is significantly more desirable to Millennials than to non-Millennials. There was no statistically significant indication of the preference of Millennials to non-Millennials regarding telework. Within the Millennials (N = 195), education showed a significant association (p = .039). No significance of any kind was found in non-Millennials as a whole or separately by gender.

Table 3 – Hypotheses Testing For all the tables \* p< .05; \*\* < .01.

H 1 Telework and Autonomy			
Predictors	$R^2$	(β)	t
AUT	.047	.069	1.107
LWE		051	689
EDU		.223**	3.070
GEN		.023	.370
H 2 Millennials,	Non-Millennial	s, Telework and	d Autonomy
Predictors	$R^2$	(β)	t
AUT	.057	.203	1.815
LWE		117	-1.187
GEN		.016	.266
EDU		.176*	2.168
MLN		.287	
AUT*MLN		.407	1.478
H 2 Mi	llennials, Telewo	ork and Autono	omy
Predictors	$R^2$	(β)	t
AUT	.031	.007	.091
LWE		067	932
EDU		.150*	2.062
GEN		.071	.990

	Millennials, Tele		
Predictors	$R^2$	(β)	t
AUT	.076	.250	1.889
LWE		110	858
EDU		.101	.810
GEN		121	975
Н3	3 Telework, Wor	k/life Balance	
Predictors	$\mathbb{R}^2$	(β)	t
WLB	.043	.023	.377
LWE		039	527
EDU		.222*	.3.038
GEN		.026	.417
H 4 Millennial, N	on Millennial Ca		
11 + ivillicilliai, iv	Balanc		K & WOIK/IIIC
Predictors	R <sup>2</sup>	(β)	t
WLB	.061	.282*	2.006
LWE		093	952
GEN		.019	.308
EDU		.176*	2.186
MLN		.610	
WLB*MLN		759*	
	als and Telework		e Balance
Predictors	$R^2$	(β)	t
WLB	.032	038	521
LWE		065	904
EDU		.144*	.144
GEN		065	.887
	nials and Telewo		
Predictors	$R^2$	(β)	t
WLB	.072	.222	1.817
LWE	.072	047	378
EDU		.121	.974
GEN		086	700
	lework and Com		
Predictors	R <sup>2</sup>		
		(β)	t
CC	.051	.098	1.554
LWE		026	357
EDU		.190*	2.545
GEN		.024	.391
H 6 Millennial ar			Telework and
	Computer Cor	npetence	
Predictors	R <sup>2</sup>	(β)	t
CC	.054	.099	1.580
LWE		087	808
GEN		086	880
EDU		.028	.465
EDU		.158	1.914
	and Telework a		
Predictors	$R^2$	(β)	t
CC	.041	.101	1.365
LWE	.011	067	933
Gender		.074	1.038
EDU			
EDU	<u> </u>	.121	1.627
H 6 Non-Millennials and Telework and Computer Competence			
	R <sup>2</sup>		
Predictors		(β)	t
CC	.039	.127	.997
LWE		015	.114
GEN		085	681

EDU		.126	.996
H 7 Millen	H 7 Millennials and non-Millennials and Telework		
Predictors	$\mathbb{R}^2$	(β)	t
MLN	.045	094	871
LWE		093	950
GEN		.027	.445
EDU		.189	2.353

<sup>\*</sup> p< .05; \*\* <.01.

An interesting finding of the study was the differences between the Millennial males and Millennial females. Only the significant differences on the relationships by gender are described below.

Regression analysis was conducted for the Millennial males and females to determine any indication of their interest in teleworking including the control variables of length of work experience and education. For example, regarding H 7, within the female Millennials there was no significance indicated. Among Millennial males, although there was no statistical significance indicated, the control variable of education (p = .049) was significantly associated with the interest in teleworking. Although significance was noted for length of work experience, the negative Beta reverses the positive impact of the significance; that is length of work experience may be less important to their preference to telework.

H 7-Gender- Millennials and Telework				
	Ma	les	Fem	ales
Predictors	(β)	Sig	(β)	Sig
LWE	327	.011*	.061	.479
EDU	.249 .049*		.104	.230
$R^2$	.161		.0	15

<sup>\*</sup> p< .05; \*\* <.01.

Another finding did show a generational difference, but not the one that was predicted. Running an independent T-Test of the main variables by MLN (Millennials and non-Millennials), the only significant difference between the means was for Telework (.016). This result suggests that the preference for telework is different due to generational differences. Non-Millennials showed higher preference for telework (3.40) than Millennials (3.02) (see Table 5).

Table 5 - T-Test

Telework		
Millennials	N= 195	3.02
Non-Millennials	N = 68	3.40

Levene's test for equality of variables Sig. .016

Because the analysis of the variable EDU reported significant results in the regressions, an analysis of variance of the level of education and the preference for telework was performed. It has shown that EDU is significant (.024) for the analysis of variance of Telework. This confirms that people with more education prefer to telework. Of course, these are the ones that also are non-Millennials.

Table 6 - ANOVA for Education

Telework			
	df	F	Sig.
Between	6	3.02	.024
groups			
Within	256		
groups			

Table 7 - Description of Education Levels

Education	N	Mean	Std Deviation
High school	39	2.75	.92
1 yr college	40	3.03	1.23
2 yrs college	51	3.09	1.07
3 yrs college	59	2.97	1.21
4 yrs college	38	3.48	1.21
Masters	28	3.45	1.26
Doctorate	8	3.81	.94
Total	263	3.12	1.14

#### 5. DISCUSSION

Theoretical Implications: Generational differences

The indication of generational differences is important for the understanding of attracting, retaining, managing and motivating a diverse workforce.

The hypotheses of generational differences in attitudes in this study were not statistically supported. Only in Post hoc analysis did an independent T-test show a generational difference of the higher preference for telework by non-Millennials, contrary to what was hypothesized.

Significant associations shown by Millennial males toward teleworking that is dependent on computer skills also exemplifies that this difference should not be measured strictly by gender. The study of Morris, Venkatesh, and Ackerman (2005) reported that "supposed differences between women and men must be interpreted with respect to age" (p. 80), regarding perceptions and decisions about technology.

#### Technological differences

H 5 found that education was a significant association towards the interest in teleworking including the predictor of computer competence. This is pertinent to technology models as technological skills are generally acquired through formal education .

## Gender differences

The significant association of Millennial males towards the interest in teleworking, a method of working dependent on technology, is relevant to the findings of Clegg and Trayhurn (2000) and Green (2000) denoting the differences of women and men and the confidence of males in their attitudes toward technology. It is surprising that even this newest generation of workforce entrants, particularly Millennial females, do not embrace the concept of teleworking. A possible explanation of this, in addition to females' purported lack of confidence or concern for job security, could be related to the phenomena discussed by Ianzito (2004) that many Millennials are postponing their moves from home due to economic reasons. This could influence the preference, of Millennials females at least, to work away from their parents' home and in an office environment.

## 6. Practical Implications

This study serves to further the understanding of the importance of generational differences that can impact attracting, retaining, managing and motivating a diverse workforce. It, additionally, gives insight on gender differences as evidenced by the some of the perceptions of Millennials and non-Millennial females and males. Millennials will seek the employers that can offer location, technology, workspace and human resource policies regarding working conditions and flexibility (Burke & Ng, 2006).

As noted by Susan Heathfield, a management and organizational consultant specializing in human resources, "Millennials seek a challenge and do not want to experience boredom. Used to balancing many activities such as teams, friends, and philanthropic activities, millennials want flexibility in scheduling and a life away from work" (2007). This study sheds light on the significant associations that Millennials', particularly Millennial males, have towards an interest teleworking and how offering this option could allow them the flexibility that could attract them to an organization.

#### 7. Limitations

Some of the limitations of this study are the geographic, educational and economic distinctions. Also, Millennials are a larger group age-wise (1981- 1999) which still includes younger grade school students and this study only represented college-age Millennials. The study participants were from a private university in the northeastern United States. This restricted the sample participants by income as the university is one of the more expensive institutions in the region. Also, the education levels of the participants did not reflect the average population of the country as, according to the 2005 U.S Census, less than 21% of U.S. residents have at least a bachelor's degree ("Educational Attainment," 2006).

However, many teleworking jobs would require competence with computers and systems that, at present, are skills achieved at higher education levels. As this study was conducted with college students, faculty and staff, higher educational levels were certainties.

The study was also limited by sample size (N = 263) especially regarding the sample of non-Millennials (N = 68). Many of the student participants had limited work experience. For many college students, the work experience they did have was often limited to entry-level positions in sales jobs, wait service or manual labor occupations. These jobs do not exemplify the opportunity for successfully working from home or away from the job site. Entry-level jobs are generally restricted to direct face to face service for customers or clients and many others consist of physical work to be performed whether it is as a lifeguard, painter or groundskeeper. Teleworking jobs are largely information service jobs. The inexperience of college students to be able to earn money through their computer skills, phone and e-mail interactions with co-workers and/or clients may have influenced the lack of desire for a teleworking option.

Another limitation is the distinction of individuals within generations such as 'cuspers' or those born close to one of the generations that precede or follow their generation (Lancaster & Stillman, 2002). Other generational differences such "older Boomers and younger Boomers" (Zemke, Raines, & Filipczak, 2000, p 71) could also affect those Millennials that may have more similarity to Gen Xers. This limitation of exact cutoff dates

should also be part of the understanding that descriptions of generational cohorts are common stereotypes. As noted previously, it must be considered that not all individuals will possess the traits and attributes of their generational categories.

#### 8. Future research

Studies with a larger sample size and broader demographics should include different areas of the country. An interesting comparison could be made with regions such as the North, Mid-West, Southern, West Coast and Central states. Follow-up studies tracking Millennials over a period of several years in the same workplace would also continue to expand the knowledge of their attitudes. Other research could include longitudinal studies that compare college student surveys and follow-up surveys of the same sample and their work experiences after several years. Comparisons of in-office desk workers with traveling and/or more flexible workers may also yield information about telework interest that could relate to job confidence and/or job satisfaction/dissatisfaction.

Males showing indications of more interest in telework, hence less desire or need to be in an office environment, could be studied for further research. It may be relevant to self-efficacy issues of males and females. For example, in a study of "Comparisons of self-efficacy and expectancy models of occupational preferences of college males and females" (Wheeler, 1983), females were shown to have less confidence for pursuing male-dominated occupations. Interestingly, both genders perceived these occupations as more difficult for success (more strongly perceived by females) and of more value. These male-dominated occupations included self-employment, general management, public administration and finance. The Wheeler study (1983), however, would have only included younger Baby Boomers who are a small representation of this study. It is reasonable to consider that there would be a changed attitude of college students and female representation in occupations after twenty years, although there could still be some similarities.

Other future studies could clarify the attitudes of the non-Millennials regarding teleworking and the importance of autonomy, work/life balance and perceived computer competence. The distinctive perceptions of the Gen Xers, Baby Boomers and Traditionalists could be measured by a larger representative sample of each group. The knowledge of these cohorts, in addition to the Millennials, will be of particular value for the workplace as these intergenerational differences are an important aspect of diversity (Eisner, 2005).

As for the Millennials, additional variables such as the need for socialization, personality types and household size would further enhance the understanding of this newest generation's expectations and requirements of employment. There is certainly a need for "more research into the attitudes and expectations of the next generation of workers" particularly toward "the changing nature of work" (Ng & Burke, 2006, 490). This could also include the need to study the attitudes of managers and their acceptance of, or their resistance to, teleworking.

#### 9. Conclusions

Although the hypotheses of this study were not statistically supported, the results of this study provide preliminary evidence of some significant associations towards the interest in teleworking. It depicts differences between Millennials and non-Millennial participants. It reaffirms the need for understanding

and appreciating the diversity among the current and anticipated workforce. It gives cause to consider the education of today's students and the social effects that may still affect the variations of male and female attitudes.

Employers, managers as well as educational institutions need to realize that "the values, expectations and job search process among university students have shifted" (Ng & Burke, 2006, 489). These values and expectations, including the importance of autonomy, the concern for work/life balance and the computer ability of the Millennials, should guide organizational and educational designs and policies to further enhance and support their development. They are the future.

Assessing attitudes through generational divisions have yielded important and useful findings in research regarding commitment, marketing, motivation, retention, teamwork, work values and management (Albright Jr. & Cluff, 2005; Coleman, Hladikova, & Savelyeva, 2006; Davis, Pawlowski, & Houston, 2006; Littrell, Ma, & Halepete, 2005; Smola & Sutton, 2002; Sung-Bum & Guy, 2006; Yrle, Hartman, & Payne, 2005). The study of the Millennial generation is important not only for the business area but also for institutions of higher education for attracting, motivating and retaining this techno-literate cohort. Teleworking is an option that could attract, motivate and retain workers and students.

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