

# NON STANDARD WORK PRACTICES AND ITS IMPACT ON CHILDREN DEVELOPMENT, FAMILY FUNCTIONING AND HEALTH AND SAFETY CONCERNS IN A 24/7 ECONOMY

## **PUDARUTH Sharmila**

University of Mauritius, Mauritius

#### **JUWAHEER Thanika Devi**

University of Mauritius, Mauritius

#### **NUNKOO Robin**

University of Mauritius, Mauritius

#### **VENCATACHELLUM I**

University of Mauritius, Mauritius

#### Abstract:

This main purpose of the study is to investigate upon the impact of non-standard work practices on children development, family functioning and employees' health and safety concerns in a 24/7 Economy. This paper reviews the concept of 24/7 economy and explores the impact of non-standard work practices. A survey instrument is administered to 400 householders of Mauritius and the questionnaires were further processed and analysed with the statistical programme SPSS 20, by using descriptive and inferential analysis. The results of the findings have demonstrated that changes in children development and family functioning and employees' health and safety concerns highly impact on the householders. The evidence of numerous associations from the present research have shown that 24/7 economy will give rise to pollution. Indeed, children will be affected by lack of parental time and employees might suffer from health issues with the 24/7 culture. The present research fills the significant gaps in the literature review by generating an integrative functioning framework of the 24/7 economy for island economies.

Key words: work practices, children development, health and safety

# 1. Introduction

A deliberate effort to study non-standard work practices in the 24/7 economy has urged many research scholars since 24/7 culture, non-standard work practices and

its impact on the 24/7 economy have been under-researched. The importance of the 24/7 concept has acquired substantial momentum in the recent years and existing research has demonstrated that the 24/7 society is becoming an emerging concept since many economies such as the United State of America (USA), Canada, Australia, Europe and Asia are moving towards a 24/7 culture (Fast and Frederick, 1998; Garhammer, 1998; Baker et al., 2003; Hamermesh and Lee, 2007; Crompton, 1999; De Grauwe, 2003; Presser, 2003, 2005; Hicks, 2006). Based on the above views, the pervasiveness of late shifts and weekend employment among Mauritian families calls for answers to various questions on lifestyles. Non-standard work schedules are significant, albeit often neglected, social phenomenon, with important implications for the health and well-being of workers and their families. The Mauritian economy today is at the cross roads of major international economic challenges. The newly emerging sectors of the economy require a 24/7 operation and empirical research has demonstrated that many of the enterprises find it very difficult to recruit workers to operate on the 24/7 basis. Given international trends and competitiveness from emerging low cost economies, it is becoming increasingly difficult for Mauritius to compete with traditional sectors such as textile and clothing and adopt a serviceoriented approach. It is therefore imperative for a change in mindset and attitude towards the 24/7 concept in the developing economy. In this respect, the Government has recently approved the National Sensitisation Campaign on the 24/7 Economic Model aimed at converting Mauritius into a 24/7 economy (Le Defi Media Group, 2013). The Human Resource Development Council (HRDC) had emphasized on the necessary mechanisms and the campaign pertaining to '24/7 Festival: Port Louis will not sleep' organised in July 2009. The campaign had enlightened the citizens on how the 24/7 economy will not only enable the various emerging sectors to operate fully but will equally help to improve overall living standards by creating more jobs, relatively higher incomes and greater business activity in Mauritius. To the authors' best knowledge, no academic study has yet focused on the emerging phenomenon of 24/7 economy for developing economies so far. This paper investigates the impact of nonstandard work practices on children development, family functioning and employees' health and safety concerns in a 24/7 Economy.

#### 2. Literature Review and Hypothesis Development

# The 24/7 Economy and Non Standard Work Practices

The academic literature has demonstrated that nonstandard work practices are becoming an important trend and employees have their own interest in such part-time employment (Woods and Head, 1996; Sheridan and Conway, 2001; Schneider *et al.*, 2006). Numerous studies have highlighted that there can be strong social and psychological impacts as a result of flexible working conditions (Elbing *et al.*, 1975; Haas and Hwang, 1995; Thomas and Ganster, 1995; Lewis, 1997; Thompson *et al.*, 1999). Moreover, supermarkets are now operating on 24 hours a day in the United Kingdom (UK) and 24-hour retailing of groceries by hypermarket groups are seen as

one of the consequences of the emergence of a 24-hour society (Moore-Ede, 1993; Presser, 2003; Groucutt, 2005). In USA, customers have enjoyed 24-hour shopping since 1980s but "Europe is only just waking up to the prospect and the UK is leading the way" through late night opening and Sunday trading (Freathy and Sparks, 1995; Cochrane, 1999). Empirical research have estimated that around 7 million people are active between 6pm to 9am in the UK and the effect of a 24/7 economy is mainly felt on service sectors (Keh and Park (1997) and Eroglu (2005) Crompton, 1999; De Gauwe, 2003; Hicks, 2006). Several studies have shown that flexible work arrangements have become interwoven with concepts such as work-life balance, family friendly practices, workplace equality, alternate work patterns, ability to concentrate and be productive and creative on the job and gender equality (Morley *et al.*, 1995; Lewis and Cooper, 1995; Tregaskis *et al.*, 1998; Thompson *et al.*, 1999; Lewis, 2001; Cooper 2000; Sheridan and Conway, 2001; Drew and Murtagh, 2005).

#### Changes in Child and Parental Care and Acceptance of 24/7 Economy

Specific studies have shown that there is an increasing burden of poor health and developmental outcomes among children and youth such as obesity, problems with emotional, attentional, social regulation, unsafe behaviours despite economic growth and prosperity from the 24/7 culture in many developed countries (Shonkoff and Phillips, 2000; Cohen et al., 2002; Bunting, 2004; Coats and Max, 2005; Speiser et al., 2005; Maggi et al., 2005; Anderson and Butcher, 2006; Jabs and Devin, 2006; Barnett et al., 2008; Li et al., 2008). In addition, several researchers have documented those children have demonstrated poorer cognitive development and expressive language skills and mothers report less involvement with their children's educational and other important activities (Han, 2005; Wight, 2007; Rapoport and Le Bourdais, 2007; Brooks-Gunn et al., 2010). It is also estimated that worldwide, between 10% and 20% of children have one or more mental health's or behavioural problems, emotional, attentional, cognitive and social regulation (Shonkoff and Phillips, 2000; Hofferth and Sandberg, 2001; World Health Organisation, 2003; Maggi et al., 2005; Hughes, 2007). It has been found that parents working in the evenings experience a greater reduction in time spent with their children, a reduction in leisure and social activities (Staines and Pleck, 1986; Pate et al., 1995; Rapoport and Le Bourdais, 2007). In addition, many researchers have documented those children whose mothers work nonstandard schedules during their first 3 years of life show poorer cognitive development, expressive language skills this may further aggravate a child risky behaviour (Crouter et al., 2004; Han, 2005; Brooks-Gunn et al., 2010). Various studies negatively affirmed that nonstandard schedules make it difficult for parents to monitor and discipline their children (Staines and Pleck, 1986; Presser, 1998, 2003). One downside of parental nonstandard work schedules in a 24/7 economy is that mothers of school-aged children report less involvement in their children's educational activities (Bianchi, 2000) but agued by Cooksey and Fondell (1996).

Hence, the first hypothesis has been formulated as:

H₁: There is a significant relationship between children development and 24/7 economy

## Changes In Family Functioning and 24/7 Economy

Several researchers found that couples in which one spouse works a late shift report having substantially less quality time together, more marital unhappiness, instability, dissatisfaction, work-family conflict and eventually to marital discontent and divorce (Blair, 1993; Deutsch, 1999; Grosswald, 2004; Presser, 2004, 2005; Schneider and Waite, 2005; Barnett et al., 2008; Davis et al., 2008; Kalil et al., 2010; Liu et al., 2011) although Locksley (1980) find it contrarily. In a 24/7 society, women are not at home enough hours to carry out all the traditional homemaking responsibilities, thus marriage stress and conflict are generated and thus put them at greater risk for poor health (Frone et al., 1996; Fenwick and Tausig, 2000; Daly, 2001; Galinsky et al., 2004; Jamal, 2004; Han, 2004; Jacobs and Gerson, 2004). Female spouses tend to spend more hours on traditionally female tasks when at home and these women report more psychological distress, fewer career opportunities, and less work success (Barnett and Shen, 1997; Presser, 2004; Hill et al., 2004; Hook's, 2010). Several studies have also reported that long working hours are associated with more workfamily conflict, fatigue, worrying, and irritability (Geurts et al., 1999; Grzywacz and Marks, 2000; Crouter et al., 2001; Major et al., 2002; Galinsky et al., 2005). Employment at nonstandard hour's challenges family daytime and everyday demands and can give rise to family conflict (Allen, 2000; La Valle et al., 2002; Schneider and Waite, 2005; Galinsky et al., 2005). In a 24/7 society, it is found that there is much more difficulty for spouses to manage work and family obligations than those working standard schedules and will report work-family conflicts since working marriage partners enjoy less time alone with their spouse which may cause serious disruption to family life in a 24/7 economy (Moen and Yu, 2000; La Valle, et al., 2002; Jarvis, 2005; Presser, 2005; Mc Dowell et al., 2006; Schwanen, 2007; Barnett et al., 2008 and Liu et al., 2011). Fathers who work late hours have also been found to have problems with scheduling sleep, work, home and leisure activities (Bianchi, 2000; Presser, 2003, 2005; McDowell et al., 2006; Schwanen, 2007).

Hence, it is hypothesized that:

H<sub>2</sub>: There is a significant relationship between family functioning and 24/7 economy

# Health And Safety Issues of Employees and 24/7 Economy

Increasing work demands during all hours of the day are an emerging reality of the move towards a "24-7" economy. Working above 48 hours weekly is among the most unfavorable of modern working conditions because of the substantial disruptions it creates in individuals' lives (Golden, 2003; Tucker and Rutherford, 2005) and employees run higher risk of contracting musculoskeletal disorders, both acute and cumulative shoulder pain, back and neck pain, (Aiken et al., 2002; Dembe et al., 2005; Caruso et al., 2006; Gadrey et al., 2006; Trinkoff et al., 2006; Johnson and Lipscomb, 2006; Raediker et al., 2006). The increase in men's working hours, contributed

indirectly to hypertension, reduced time for sleep, physical activity, and job dissatisfaction (Gadrey et al., 2006; Artazcoz et al., 2009; Courtemanche, 2009). Working long hours has been associated with more errors and accidents, adverse health effects (Gander et al., 2000; Nachreiner et al., 2000; Harrington 2001; Loomis, 2005). More specifically, long work hours have been found to be associated with poor psychological health, excessive fatigue and burnout (Rosa, 1995; Barnett et al., 1999; Deery, 2000; Kirkcaldy et al., 2000). Long-term effects include an increased incidence of cardiovascular disease, gastrointestinal and reproductive disorders, musculoskeletal disorders, chronic infections, and mental illnesses (Aiken et al., 2002; Spurgeon, 2003; Dembe et al., 2005; Caruso et al., 2004, 2006; Gadrey et al., 2006; Trinkoff et al., 2006; Johnson and Lipscomb, 2006; Raediker et al., 2006). Nonstandard hours disturb the body circadian rhythms and potentially lead to chronic health conditions, anxiety, neurotic disorders, depressions, chronic sleep deprivation, fatigue and it was also associated with greater depressive symptoms among parents (Caruso et al., 2004, 2006; Totterdell, 2005; Ulker, 2006; Perry et al., 2007; Barnett, 2007).

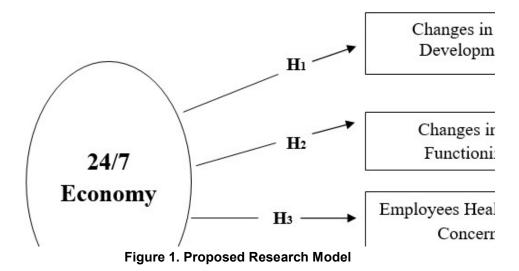
Various authors mentioned that working non-standard hours can also affect employees' health and sleep and thus they are more susceptible to a range of illnesses, including stress, cardiovascular disorders and gastroenteritis (Costa, 1996; Totterdell, 2005; Han, 2005; Ulker, 2006; Barnett, 2007; The International Labour Office, 2009). The increase in men's working hours, contributed indirectly to hypertension, reduced time for sleep, physical activity, and job dissatisfaction (Gadrey et al., 2006; Artazcoz et al., 2009; Courtemanche, 2009). Employees run a higher risk of contracting musculoskeletal disorders, both acute and cumulative, shoulder pain, back and neck pain (Aiken et al., 2002; Caruso et al., 2004, 2006; Trinkoff et al., 2006; Johnson and Lipscomb, 2006; Raediker et al., 2006). It is predicted that the occupational diseases in a 24/7 economy will be heart attacks, strokes, suicide, cardiovascular disease, disability retirement, self-reported health and fatigue (Pelfrene et al., 2001; Van der Hulst, 2003; Geurts and Sonnentag, 2006).

The following hypothesis is posited:

 $H_3$ : There is a significant relationship between health and safety issues of employees and 24/7 economy

The above literature has provided a comprehensive review and it further presents the research model for the present study as illustrated clearly in Figure 1.

## The Conceptual Framework



# 3. Research Methodology

#### Research method and sampling

A questionnaire comprising of several sections was developed. The questionnaire items were constructed and adapted from the existing intensive literature review and the list of sources has been included in the list of references. The last part of the questionnaire has addressed the demographic characteristics of respondents. In this study, householders' perceptions on 'health and development of children', 'children implications', and 'family life' were measured on a five-point Likert Scale (1 = Strongly Disagree to 5 = Strongly Agree) and finally, 'gender' has been measured on a categorical measure (1=Male and 2=Female). Prior to data collection for the survey, a pilot test was conducted among 10 householders to ensure comprehensiveness, clarity and reliability of the questionnaire. Some minor modifications of wordings were made to avoid unnecessary confusion for the respondents.

## Internal Consistency of Questionnaire

Internal consistency and reliability of the scale was measured by the use of Cronbach's Alpha (Hair *et al.*, 2000). The Cronbach's Alpha overall value for the entire questionnaire was 0.784 and such a high figure designates that the questionnaire was a good indicator of what the researchers wanted to investigate. According to Hair *et al.* (1995), a coefficient of less than 0.6 indicates marginal to low internal consistency and a value of 0.60 or more indicates satisfactory internal consistency reliability (Churchill, 1979).

# Sampling Population

The target population consisted of the number of Mauritian households above 18 years and information was obtained from the CSO (Central Statistics of Mauritius) of Mauritius, and the number of households that are above 18 years consist of 1170126 as at 2011 (CSO, 2011). The sampled population were householders across the nine districts of Mauritius to ensure adequate geographical coverage. Respondents were drawn from 9 districts across Mauritius and they were interviewed. Below is the tabular layout of the sampling process of respondents covering the geographical representation of Mauritian households' district wise.

#### Sampling Size and Method

Owing to the need for a relatively large sample size while at the same time keeping the research costs down, the sample size of this study amounted to 400 customers through the stratified sampling technique. Stratified sampling was applied for householders and district wise as it could be a viable design in situations where the population can be divided into distinct strata due to the heterogeneity of the population. The stratification helps to ensure representativeness of the sample and at the same time increases the precision of the sample (Bauer *et al.*, 2007). All other variable will be based on the probability sampling and each household will be chosen as each three houses in a street.

#### Allocation of Questionnaire

Table 1: Allocation of questionnaire for Gender

Gender	No. of Questionnaire allocated
Male	197
Female	203
Total	400

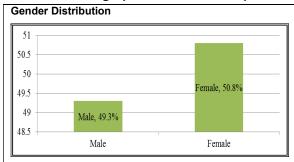
**Table 2: Allocation of Questionnaire District-Wise** 

Districts & Percentage (%) of Household Population	Male	Female	No. of Household Respondents		
Port-Louis (10%)	19	21	40		
Pamplemousses (11%)	21	23	44		
Riviere-du-Rempart (9%)	18	18	36		
Flacq (12%)	24	24	48		
Grand-Port (9%)	18	18	36		
Savanne (6%)	12	12	24		
Plaine Wilhems (30%)	59	61	120		
Moka (7%)	14	14	28		
Black River (6%)	12	12	24		
Total	197	203	400		

## **Empirical Findings**

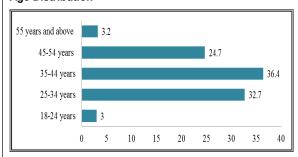
# Part A: Demographic Profile of Respondents

**Table 3: Demographic Profile of Sample** 

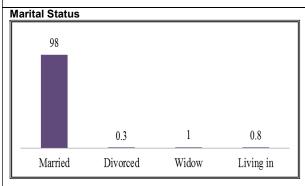


The percentage of male respondents (49.3%) and female (50.8%) participated in the survey.

#### Age Distribution

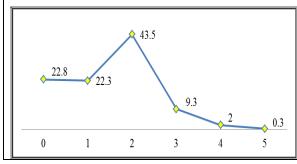


Age-wise, it is noted that the highest age group for both men and women is between 35-44 years and the two smallest groups consists people of 18-24 years and 55 years and above. Hence it can be said that the respondents of 40 years seem to be professionally established, thereby constituting an attractive target market for the 24/7 culture in Mauritius.

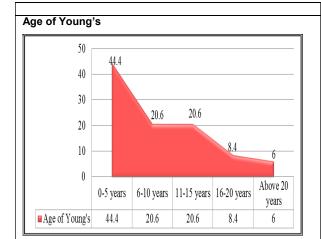


Among the respondents, 98% are married, 0.3% who are divorced, 1% is widow and 0.8% represent the living in. Those who are married are the major and future market 24/7 culture and are very likely to be affected both positively and negatively from the 24/7 concept.

# Number of Children



It can be noted from that among the married couples 22.8% have no children, those having one child represent 22.3%, those having 2 children represent 43.5%, 3 children (9.3%), 2% for 4 children and 0.3% for 5 children.

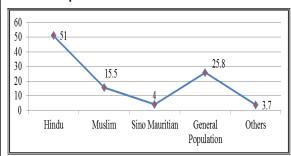


Among the respondents, couples with children of 0-5 years represents 44.4% and is the highest age group. It is also noted that 20.6% of the children age group are highlighted between 6-10 years and 11-15 years. In a family children age between 16-20 years represent 8.4% and above 20 years is only 6.0%

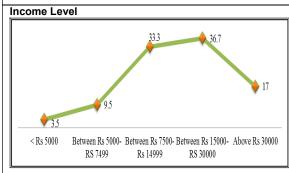
#### **Ethnic Group**

**Occupational Group** 

Proffesional & Executives



Based on the population of Mauritius, Hindu forms part of the largest group (51%), followed by 25.8% for the general population, 15.5% for Muslim and 4% for Sino Mauritian and 3.7% for others.



The above figures indicate that people having income between the range Rs 15000 - Rs 30000 represent 36.7% of the sample surveyed. Income group between the ranges Rs 7500 - Rs 14999 represent 33.3% and 17% for more than Rs 30000. People earning between 5000 - Rs 7499 is 9.5% and the remaining 3.5% goes for people earning less that Rs 5000.

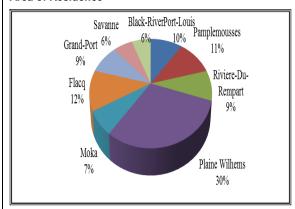


The empirical findings have shown that people occupying the post of public officials have been the highest number of respondents with 40.5%. The professionals and executives represent 34% and manual worker 16.8%. The self-employed represent 8.8% of respondent surveyed.

#### Sector of Employment Health & Social Work Education Social Security 4 Public Administration & Defense 12.8 9.3 Financial Intermediation Transport & Communication 11.5 Hotels & Restaurant 0.5 Wholesale & Retail trade Construction Electricity & Water Supply 4.3 Manufacturing Agriculture 3.8 2 4 6 8 10 12 14 16 18 20

From the above figure, it is noted that the highest number of people surveyed were in the education sector of employment (19%). Second comes the public administration and defense with 12.8% sector of the sample. For the lowest rank it is in the sector of agriculture (3.8%), followed by social security (4%), electricity and water supply (4.3%) and construction (4.5%).

#### Area of Residence



It is noted that 30.0% respondents came from Plaine Wilhems. The least one is Savanne (6.0%), and Black River (6%), Port Louis has 10% of the sample surveyed and Pamplemousses is (11%). Geographical regions do make a difference since many facilities are provided in urban areas like Shoprite, Jumbo and big shopping malls as compared to rural regions.

## Part B: Empirical Survey Findings

The proposed conceptual model (Figure 1.0) was tested by using inferential analysis such as Pearson Correlation. The empirical estimates for the main-effects model are shown in Figure 2.0. The results indicated that, from a statistical point of view, the data fit the conceptual model acceptably.

## Changes in Child and Parental Care and Acceptance of 24/7 Economy

H<sub>1</sub>: There is a significant relationship between children development and 24/7 economy

Table 4: Pearson Bivariate Correlation Between Changes in Child and Parental Care and 24/7 Economy

Changes in Child and Parental Care	24/7 Economy	
Teenage Behavioural Problems	0.274**	0.000
Health and Development of Children	0.271**	0.000
Lack of Parental Time	0.172**	0.001
Presence of Parental Time	-0.224**	0.000

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (2-tailed)

Results in the above table show key insights between child development and the 24/7 economy. Pearson correlation was used to test the intention of householders on changes in child and parental in a 24/7 economy. It was found that there is a positive relationship between the teenage behavioral problems (r = 0.274, p < 0.01) and the 24/7 economy. A positive relationship also exists between health and development of children (r = 0.271, p < 0.01) and 24/7 economy. There is also a weak positive relationship between lack of parental time (r = 0.172, p = 0.01) and 24/7 economy. However, there is a negative relationship between presence of parental time (r = 0.224, p < 0.01) and 24/7 economy. This negative result indicate that the presence of parental time will not affect children in a 24/7 economy but contrarily lack of parental time will make a difference. In turn, teenage behavioral problems and health and development of children are likely to get deteriorated in the 24/7 economy. These results can be linked to the views of Presser (2003); (2005); Anderson and Butcher (2006); Jabs and Devine (2006); Barnett *et al.*, (2008) and Li *et al.*, (2008). Hence, these results validate H<sub>1</sub>.

# Changes in Family Functioning and 24/7 Economy

H<sub>2</sub>: There is a significant relationship between family functioning and 24/7 economy

Table 5.0: Pearson Bivariate Correlation Between Changes in Family Functioning and 24/7 Economy

Changes in Family Functioning	24/7 Economy	
Family Functioning	0.174**	0.000

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (2-tailed)

As observed, the correlations reported in the above table demonstrate that there is a positive relationship between family functioning (r = 0.174, p = 0.01) and 24/7 economy. It can be deduced that spouses will have less quality time together and there will be more tensions and conflicts between couples when working in a 24/7 economy and this can result in marital discontent and divorce. This result was also observed in the studies reported by Presser (2000), (2003), (2005); Allen (2000); La Valle *et al.*, (2002); Schneider and Waite (2005); Galinsky *et al.*, (2005); McDowell *et al.*, (2006) and Schwanen (2007). These results reinforce the theoretical framework, therefore, H<sub>2</sub> is supported.

#### Health and Safety Issues of Employees and 24/7 Economy

 $H_3$ : There is a significant relationship between health and safety issues of employees and 24/7 economy

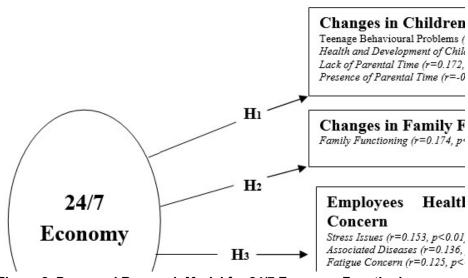
Table 6: Pearson Bivariate Correlation Between Health and Safety Issues of Employees and 24/7 Economy

Health and Safety Issues of Employees	24/7 Economy		
Stress Issues	0.153**	0.002	
Associated Diseases	0.136**	0.006	
Fatigue Concern	0.125*	0.013	
Injury and Accidents	0.125*	0.012	

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (2-tailed)

Survey findings have illustrated that there are changes in health and safety issues of employees when operating in a 24/7 economy. It is noted that there is a positive relationship between stress issues (r = 0.153, p < 0.01) and 24/7 economy. Moreover, a weak positive relationship exists between associated diseases (r = 0.136, p < 0.01) and 24/7 economy. Concerning fatigue (r = 0.125, p < 0.05) and injury and accidents (r = 0.125, p < 0.05) it holds a positive relationship with 24/7 economy. In line with these findings, the literature points out that working non-standard hours can also affect employees' health and sleep and thus they are more susceptible to a range of illnesses, including stress, cardiovascular disorders, fatigue, injury and accidents as several (Costa, 1996; Totterdell, 2005; Han, 2005; Ulker, 2006; Goldenhar, 2006; Barnett, 2007; The International Labour Office, 2009). Although the results of previous literature references are generally in line with the findings of this analysis, hence, H<sub>3</sub> is supported.

#### The Conceptual Framework For a 24/7 Economy



<sup>\*.</sup> Correlation is significant at the 0.05 level (2-tailed)

## The Tested Hypothesis

Table 7: The Results of the Tested Hypothesis

Hypothesis	Findings				Results	
H <sub>1</sub> (Changes in Child Development)	0.274	0.271	0.172	-0.224	-	Supported
H <sub>2</sub> (Changes in Family Functioning)	0.174	-	-	-	-	Supported
H <sub>3</sub> (Employees Health and Safety Concern)	0.153	0.136	0.125	0.125	-	Supported

# Managerial Implications of the Study

The subject of 24/7 economy is introduced into mainstream literatures through this study. This may be of particular value to scholars concerned with understanding more about this emerging topic. The paper also provides theoretical foundations for our results pertaining to 24/7 economy. The implications of this paper for policy makers, practitioners and scholars are stated as follows.

The first implication of the study that emerged relates to the impact of child development with the 24/7 culture. Data analysis found a good fit for the model demonstrating that the 24/7 economy can influence children development in an unfavourable manner, thus, leading to teenage behavioural problems (r=0.274, p<0.05) and deterioration of the health and development of children (r=0.271, p<0.05) in Mauritius. In this respect, parents should have a balance with their work life and the responsibility towards proper development of their children. Parents should be present for their child to have a proper childhood development which relates to emotional, attentional, cognitive and social regulation as suggested by research scholars (Hofferth and Sandberg, 2001; World Health Organisation, 2003; Maggi *et al.*, 2005). Thus, there should be greater participation from parents in the activities of children such educational activities, leisure activities, homeworking, extracurricular activities such as sports, music amongst others as outlined by researchers who have observed a strong association between child development and parental participation (Lareau, 2003; Blau and Curruie, 2006; Waldfogel, 2006; Hughes, 2007; Ramey and Ramey, 2010).

The present study has demonstrated that should be greater participation from parents in childcare activities, since the 24/7 economy impacts negatively on children health and eventually result in teenage behavioural problems. These results correspond with Bryant and Zick (1996) and Hoffert (2006) as they found that parent participation in children activities have positive outcomes. These parental activities include educational activities, leisure activities, homeworking, extracurricular activities such as sports, music, and lessons of various kinds (Lareau, 2003; Blau and Curruie, 2006; Waldfogel, 2006; Hughes, 2007; Ramey and Ramey, 2010).

Another implication of the study relates to poor dynamics of family functioning associated with the 24/7 economy (r=0.174, p<0.05) whereby several marital problems and imbalances can crop up. Hence, it is imperative for organisations operating in the 24/7 economy to be positioned as a work-life balance friendly company. The 24/7

companies should plan and implement comprehensive work-life balance policies whereby employees can be provided with more vacation leaves as highlighted by several academic researchers (Huws *et al.*, 1990; Woodland *et al.*, 2003; BERR, 2009).

From the empirical estimates, it has been also observed that the 24/7 economy will give rise to several health and safety issues among employees. The research has highlighted that long working hours will lead to higher level of stress, fatigue, diseases, injury and accidents (r=0.125-0.153, p<0.01,0.05). Therefore, it is crucial to protect employees against excessive long working hours in the 24/7 economy. In this respect, appropriate government policies to protect workers against excessively long working hours should be implemented in order to establish a necessary condition for achieving the goal of decent working time. This is because, the reduction of regular long working hours include positive impacts on workers' physical and mental health, improved workplace safety, and increased labour productivity due to reduced fatigue and stress; higher levels of employee job satisfaction and motivation; and lower rates of absenteeism (Cooper, 2000; MacInnes, 2005; Booth and Van Ours, 2005; Marting and Pixley, 2005). Therefore, organisations adopting the 24/7 culture should ensure that employees work in favourable working conditions in order to reduce the substantial health disruptions in their lives associated with long working hours as outlined by various scholars (Golden, 2003; Tucker and Rutherford, 2005; Gadrey et al., 2006; Artazcoz et al., 2009; Courtemanche, 2009).

#### 4. Conclusions, Limitations and Directions for Future Research

We concluded that child development, family functioning, health and safety concerns of employees significantly impact on householders of a 24/7 economy society. Still, the theoretical framework developed in this paper could be useful for further research devoted to the 24/7 economy and its varying effects on organisational, employee and student performance in general. The study has some potential limitations, since it was limited only to the working householders and the underlying perceptions of business executives; governmental bodies and other stakeholders have not yet been tapped. Hence, the study has also some serious conceptual limitations, it has considered only a predefined set of determinants in the model has only been validated among customers from an emerging country like Mauritius. In this respect, a thorough investigation that includes all categories of people would be more desirable including working and non-working individuals whereby a more expansive study would possibly generate more implications of a 24/7 economy. Hence, future studies could also emphasise on factors such as social anxiety, school and university implications created by the presence 24/7 economy. Likewise, a more integrated conceptual model relating to other determinants for the expansion of the 24/7 economy can be proposed and validated in order to overcome the conceptual limitations of the present study and the research can be extended to other emerging countries such as the Seychelles and Rodrigues.

#### 5. References

- Aiken, L.H., Clarke, S.P., Sloane, D.M., Sochalski, J., & Silber, J.H. 2002. Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *Journal of the American Medical Association*, 288(16), 1987-1993.
- Allen, N, Wolf, A.M., Bybee, D.I., & Sullivan, C.M. 2003. Diversity of children's Immediate Coping Responses to Witnessing Domestic Violence in R. A: *The Effects of Intimate Partner Violence on Children*, 123-147. London: The Haworth Press, Inc.
- Allen, T.D., Herst, D.E.L., Bruck, C.S., & Sutton, M., 2000. Consequences associated with work-to-family conflict: a review and agenda for future research. *Journal of Occupational Health Psychology*, 5 (2), 278–308.
- Anderson G.F., U.E. Reinhardt, P.S. Hussey, & V, Petrosyan. 2003. It's the prices, stupid: Why the United States is so different from other countries, *Health Affairs*, 22 pp.89 105.
- Anderson, P.M. & Butcher, K.F. 2006, Childhood obesity: Trends and potential causes. *Future of Children*, 16(1), 19–45.
- Artazcoz, L.; Cortès, I.; Escribà-Agüir, V.; Cascant, L.; & Villegas, R. 2009. Understanding the Conditions and health. *American Journal of Industrial Medicine*, 49(11), pp. 943-952.
- Baker, A., Roach, G., Ferguson, S. & Dawson, D. 2003. The Impact of Different Rosters on Employee Work and Non-work Time Preferences, Time & Society 12(2/3), 315–32.
- Barnett .R.C, & Y.C, Shen. 1997. Gender, high- and low-schedule-control housework tasks, and psychological distress. *Journal of Family Issues*, 18, pp.403 428.
- Barnett RC, Gareis KC, & Brennan R.T. 1999. Fit as a mediator of the relationship between work hours and burnout. *Journal of Occupational Health Psychology*. 4 (4), 307–317.
- Barnett, R. C., Gareis, K. C., & Brennan, R. T. 2008. Wives' shift work schedules and husbands' and wives' well-being in dual earner couples with children. *Journal of Family Issues*, 29, 396-422.
- Barnett, W. S., 2007. Benefits and costs of quality early childhood education. *Children's Legal Rights Journal*, 27(1), 7-23.
- Bauer, F., Groß, H., & Sieglen, G. 2007. Methodology of the EUCOWE Project: *Operating Hours* and Working Times: A Survey of Capacity Utilisation and Employment in the European Union, Physica-Verlag: Heidelberg.
- BERR., 2009. Flexible working and work-life balance, available at: www.berr.gov.uk.
- Bianchi, J.P., Robinson, M.A., & Milkie. 2006. Changing rhythms of American family life: Russell Sage Foundation, New York.
- Bianchi, S. M., 2000. Maternal employment and time with children: Dramatic change or surprising continuity. *Demography*, 37, 401-414.
- Bianchi, S. M., & Raley, S. 2005. Time allocation in families: *Work, family, health, and well-being,* Mahwah, NJ: Lawrence Erlbaum.
- Blair, L., 1993. Employment, Family and Perceptions of Marital Quality among Husbands and Wife. *Journal of Family Issues*, 14, pp 189-212
- Blau, D.M. & Currie, J. 2006. Pre-school, day care, and after school care: Who's minding the kids? Handbook of the Economics of Education. Amsterdam: Elsevier.
- Booth, A.L. & van Ours, J.C. 2005. Hours of Work and Gender Identity: Does Part-time Work Make the Family Happier? Centre for Economic Policy Research, Australian National University: Canberra.

- Brooks-Gunn, J., Han, W.J., & Waldfogel, J., 2010. First year maternal employment and child development in the first 7 years. *Monographs of the Society for Research in Child Development*, 75(2), pp. 1-147.
- Bunting, M., 2004. Willing Slaves. London: Harper Collins.
- Caruso, CC., Bushnell, T., Eggerth, D., Heitmann, A., Kojola, B., Newman, K., Rosa, R., Sauter, S., & Vila B. 2006. Long working hours, safety, and health: Toward a national research agenda. Am Jlnd Med 49, 930–942.
- Caruso CC, Hitchcock EM, Dick RB, Russo JM, Schmitt JM. 2004. Overtime and extended work shifts: Recent findings on illnesses, injuries, and health behaviors. (DHHS (NIOSH) Publication No. 2004-143. Cincinnati, OH: Department of Health and Human Services, Public Health Service. Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health.
- Coats, D., & Max, C. 2005. *Healthy Work: Productive Workplaces Why the UK Needs More Good Jobs.* London: The Work Foundation.
- Cochrane, P., 1999. The 24-hour Society, Profile Books, London, pp.vii-vix.
- Cohen, J. A., Mannarino, A. P., Greenberg, T., Padlo, S., & Shipley, C. 2002. Childhood traumatic grief: Concepts and controversies. Trauma, Violence & Abuse: A Review Journal, 3, 307–327.
- Cooksey, E. C., & Fondell, M. M. 1996. Time with his kids: Effects of family structure on fathers' and children's lives. *Journal of Marriage and Family*, 58, 693-707.
- Cooper, C., 2000. "Choose life", People Management, 11, pp. 35-8.
- Cooper, C.D., & Kurland, N.B. 2002. Telecommuting, professional isolation, and employee development in public and private organizations. *Journal of Organizational Behavior*, 23, pp.511-32.
- Cooper, M., 2002. Being the go-to-guy: Fatherhood, masculinity and the organization of work in the Silicon Valley. Nashville: Vanderbilt University Press.
- Costa .P, T. Pérez, F. Tropea, 1996. Tribus urbanas. El ansia de identidad juvenil: entre el culto a la imagen y la autoafirmación a través de la violencia: Paidós, Barcelona.
- Courtemanche, C., 2009. Longer hours and larger waistlines? The relationship between work hours and obesity. *Forum for Health Economics and Policy*, 12 (2). Available at: www.bepress.com/fhep/12/2/2.
- Crompton. R., 1999. Restructuring gender relations and employment: The decline of the male breadwinner. University Press: Oxford.
- Crouter A.C, M.F. Bumpus, M.R. Head, & S.M. McHale. 2001. Implications of overwork and overload for the quality of men's family relationships", *Journal of Marriage and Family*, 63 pp.404 416.
- Crouter, A. C., Head, M. R., McHale, S. M., & Tucker, C. J. 2004. Family time and the psychosocial adjustment of adolescent siblings and their parents. *Journal of Marriage and Family*, 66, 147-162.
- Daly, K. J., 2001. Deconstructing family time: From ideology to lived experience. *Journal of Marriage and Family*, 63, 283-294.
- Davis, K.D., Goodman, B., Pirretti, A.E. & Almeida, D. M. 2008. Nonstandard work schedules, perceived family well-being, and daily stressors, *Journal of Marriage and Family*, 70, 991–1003.
- De Grauwe, P. 2003. 'De toekomst van de industrie in België' (The future of industry in Belgium), Leuvense economische standpunten (102), 16.

- Deery, S. 2000. Work relationships, employee attitudes and the intensification of work in telephone call centres in Australia. Proceedings of the 12th IIRA World Congress, 2, Tokyo.
- Dembe, A., Erickson, J., Delbos, R., & Banks, S. 2005. The impact of overtime and long work hours on occupational injuries and illnesses: New evidence from the United States. Occupational and Environmental Medicine, 62, 588-597.
- Deutsch, F., 1999, "Halving it all: How equally shared parenting works", Harvard University Press, Cambridge, MA.
- Drew, E., & Murtagh, E. M. 2005. Work/life balance: senior management champions or laggards? Women in Management Review, available at: www.emeraldinsight.com, 20(4), pp.262-78
- Elbing, A.O., Gradon, H., & Gordon, J. 1975. "Flexible working hours: the missing link", *California Management Review*, 17 (3), pp.50-7.
- Eroglu, S.A. 2005. "Perceived retail crowding and shopping satisfaction: the role of shopping values", *Journal of Business Research*, 58, pp.1146-53.
- Fast, J. and Frederick, J. 1998. "The time of our lives: juggling work and leisure over the life cycle", Statistics Canada: Ottawa.
- Fenwick .R, & M. Tausig. 2001. "Scheduling stress: Family and health outcomes of shift work and schedule control", *American Behavioral Scientist*, 44, pp.1179 1198.
- Freathy, P., Sparks, L. 1995, "The employment structure of the Sunday labour market in retailing", *Environment & Planning A*, 27 (3), pp.471-87.
- Frone, M.R., & Yardley, J. 1996. "Workplace family supportive programs: predictors of employed parents' importance ratings", *Journal of Occupational and Organisational Psychology*, Vol. 69 pp.351-66.
- Gadrey, N., Jany-Catrice, F., Pernod-Lemattre, M. 2006. "The working conditions of blue-collar.
- Galinsky, E., Bond, J. T., Kim, S. S., et .al. 2004. Overwork in America: When the Way We Work Becomes Too Much. A Families and Work Institute Report.
- Galinsky, Ellen, James T. Bond, Kelly Sakai, Stacy S Kim, and Nicole Giuntoli. 2008. National Study of Employers. New York NY: Families and Work Institute.
- Galinsky.E, J.T. Bond, E.J. Hill. 2005. "When work works: A project on workplace effectiveness and workplace flexibility", Families and Work Institute, New York, NY.
- Gander P, Merry A, Millar M, et al. 2000. Hours of work and fatigue-related error: a survey of New Zealand anesthetists. Anaesthesic Intensive Care; 28, pp.178–83.
- Garhammer., 1998. *Themes in social scientific ICT research a literature review.* BT Technologies internal report.
- Geurts, S., Rutte, C., & Peeters M. 1999. Antecedents and consequences of work-home interference among medical residents. Soc Sci Med 48:1135–148.
- Geurts, S.A.E. & Sonnentag, S. 2006. Recovery as an explanatory mechanism in the relation between acute stress reactions and chronic health impairment. Scandinavian *Journal of Work, Environment & Health*, 32, 482-492.
- Golden, L. 2003. Flexibility Gaps: Dofferential Access to Flexible Work Schedules and Location n the U.S. Paper presented at the International Symposium on Working Time, Paris, France.
- Grosch JW, Caruso CC, Rosa RR, & Sauter S. L. 2006. Long work hours in the U.S.: Associations with demographic and organizational character-istics, psychosocial working conditions and health. Am J Ind Med 49, 943–952.
- Grosswald, B., 2004. "The effects of shift work on family satisfaction." *The Journal of Contemporary Human Services*, 85, pp.413 423.

- Groucutt. J, 2005. "Radical strategies may be required in today's 24/7 society." *Handbook of Business Strategy*, 6 (1), pp.241 245
- Grzywacz, J. G., & Marks, N. F. 2000. Reconceptualizing the work–family interface: An ecological perspective on the correlates of positive and negative spillover between work and family. *Journal of Occupational Health Psychology*, 5, 111–126.
- Haas, L., Hwang, P. 1995. "Company culture and men's usage of family leave benefits in Sweden", *Family Relations*, 44, pp.28-36.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., Tatham, R.L. 2006. *Multivariate Data Analysis*, 6<sup>th</sup> Edition, Pearson Educational International, Upper Saddle River, NJ.
- Hamermesh, D. S. & Lee, J. 2005. "Stressed Out on Four Continents: Time Crunch or Yuppie Kvetch?" IZA Discussion Papers 1815, Institute for the Study of Labor (IZA).
- Han, W.-J. 2005. Maternal nonstandard work schedules and child cognitive outcomes. Child Development, 76, 137-154.
- Harrington, J. M.2001. Health effects of shift work and extended hours of work. Occup Environ Med, 58, 68–72.
- Hicks, M. 2006. East of England Scanning Report #2: The 24/7 society: Implications for the East of England.
- Hill EJ, Martinson VK, Ferris M, Baker R. Z. 2004. Beyond the mommy track: The influence of new-concept part-time work for the professional women on work and family. *Journal of Family and Economic Issues*. 25, 121–136.
- Hofferth, S. L. 2006. Residential father family type and child well-being: Investment versus selection. *Demography*, 43, 53-77.
- Hofferth, S. L., & Sandberg, J. F. 2001. How American children spend their time. *Journal of Marriage and Family*, 63, 295-308.
- Hook, J. L. 2010. 'Gender inequality in the welfare state: sex segregation in housework. *American Journal of Sociology*, 115(5), 1480-1523.
- Hughes, E.L.; Parkes, K.R. 2007. "Work hours and well-being: The roles of work-time control and work-family interference", in *Work & Stress*, 21 (3), pp. 264–278.
- Huws, U., Korte, W.B., Robinson, S. 1990. *Telework towards the Elusive Office*, Wiley, Chichester.
- Jabs, J. and Devine, C.M. 2006. Time scarcity and food choices: An overview, Appetite, 47(2), 196-204.
- Jacobs, J., & K. Gerson. 2004. "The time divide: Work, family, and gender inequality", Harvard University Press: Cambridge, MA.
- Jamal, M., 2004. Burnout, stress and health of employees on non-standard work schedules: A study of Canadian workers. *Stress and Health*, 20, 113-119.
- Jarvis, H., 2005. Moving to London time household co-ordination and the infrastructure of everyday life. Time & Society 14 (1), 133–154.
- Johnson, J., & Lipscomb J. 2006. "Long Working Hours, Occupational Health and the Changing Nature of Work Organization", in: American *Journal of Industrial Medicine*, 49, pp. 921-929.
- Kalil, A., Ziol-Guest, K.M. & Epstein, J.L. 2010. Nonstandard work and marital instability: Evidence from the National Longitudinal Survey of Youth, *Journal of Marriage and Family*, 72(5), 1289–1300.
- Keh, H.T., Park, S.Y. 1997. "To market to market: the changing face of grocery retailing", *Long Range Planning*, Vol. 30 No.6, pp.836-46.
- Kirkcaldy B, Levine R, Shephard R. *The impact of working hours on physical and psychological health of German managers*. Eur Rev Appl Psychol2000, 50, 443–9.

- La Valle, I., Arthur, S., Millward, C., Scott, J., & Clayden, M. 2002. *Happy families? Atypical work and its influence on family life.* Bristol, UK: Policy Press.
- Lareau, A. & Weninger, E.B. 2008. Time, work and family life: Reconceptualizing gendered time patterns through the case of children's organized activities. Sociological Forum, 23(3), 419-454.
- Lareau, A. 2003. Unequal childhoods: Class, race and family life. Berkeley, CA: University of California Press.
- Lewis, S. 1997. "Family friendly employment policies: a route to changing organizational culture or playing about at the margins?", *Gender Work and Organization*, 4 (1), pp.13-23.
- Lewis, S. 2001. "Restructuring workplace cultures: the ultimate work-family challenge?" *Women in Management Review*, 16 (1), pp.21-9.
- Lewis, S., & Cooper, C. 1995. "Balancing the work/home interface: a European perspective", Human Resource Management Review, 5 (4), pp.289-305.
- Li, J., McMurray, A. and Stanley, F.J. 2008. Modernity's paradox and the structural determinants of child health and well-being, *Health Sociology Review*, 17, 64–77.
- Liu, H., Wang, Q., Keesler, V. and Schneider, B. 2011. Non-standard work schedules, work-family conflict and parental well-being: A comparison of married and cohabiting unions, *Social Science Research*, 40, 473–484.
- Locksley, A. 1980. "On the Effects of Wives' Employment on Marital Adjustment and Companionship." *Journal of Marriage and the Family* 42: pp 337-46.
- Loomis, J., 2005. Economic values without prices: the importance of nonmarket values and valuation for informing public policy debates. Choices 20, 179–182.
- MacInnes, J. 2005. "Worklife balance and the demand for reduction in working hours: evidence from the British Social Attitudes Survey 2002", British Journal of Industrial Relations, 43 (2), pp. 273-95.
- Maggi, S., Irwin, L.G., Siddiqi, A., Poureslami, I., Hertzman, E. and Hertzman, C. 2005. Knowledge network for early child development. Analytic and strategic review paper: International perspectives on early child development, World Health Organisation's Committee on the Social Determinants of Health.
- Major V.S., K.J. Klein, M.G. Ehrhart, 2002. Work time, work interference with family, and psychological distress, *The Journal of Applied Psychology*, 87, pp. 427–436.
- Martin, B. and Pixley, J. 2005. "How do Australians feel about their work?", in Wilson, S., Meagher, G., Gibson, R., Denemark, D. and Western, M. (Eds), Australian Social Attitudes, UNSW Press, Sydney.
- McDowell, L., Ward, K., Fagan, C., Perrons, D., Ray, K., 2006. Connecting time and space: the significance of transformations in women's work in the city. *International Journal of Urban and Regional Research* 30 (1), 141–158.
- Moen and Yu. 2000. Effective work/life strategies: Working couples, work conditions, gender, and life quality, Social Problems, 47 pp. 291–326.
- Moore-Ede, M. 1993. The 24 Hour Society: The Risks Costs and Challenges of a World that Never Stops, Piatkus, London.
- Morley, M.J. and Garavan, T.N. 1995., "Current Themes in Organisational Design: Implications for Human Resource Management", *Journal of European Industrial Training*, 19(1), 1995, 3-13.
- Nachreiner F, Akkermann S, Haenecke K. Fatal accident risk as a function of hours into work. In: Hornberger S, Knauth P, Costa G, Folkard S, eds. Arbeitswissenschaft in der

- betrieblichen Praxis 17:Shiftwork in the 21st Century. Frankfurt: Peter Lang, 2000, 19-24
- Pate, R. R., Pratt, M., Blair, S. N., et al .1995. Physical activity and public health: a recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine. *JAMA*. 273: 402–407.
- Pelfrene, E., Vlerick, P., Mak, R.P., De Smet, P., Kornitzer, M., De Backer, G., 2001. Scale reliability and validity of the Karasek 'Job Demand-Control-Support' model in the Belstress study. Work and Stress 15 (4), 297–313.
- Perry-Jenkins, M., Goldberg, A., Pierce, C.P. and Sayer, A.J. 2007. Shift work, role overload, and the transition to parenthood, *Journal of Marriage and Family*. Vol. 69: pp.123–138
- Presser .H.B. 2005. "Working in a 24/7 economy: Challenges for American families", Russel Sage Foundation, New York, NY.
- Presser, H. B. 2000. Nonstandard work schedules and marital instability. *Journal of Marriage* and the Family, 62, 93-110.
- Presser, H. B. 2003a. Working in a 24/7 economy: Challenges for American families. New York: Russell Sage Foundation.
- Presser, H. B. 2003b. Race-Ethinc and Gender Differences in Nonstandard Work Shifts. Work and Occupations, 30, 412-439.
- Presser, H. B. Working in a 24/7 Economy: Challenges for American Families. New York: Russell Sage Foundation, 2003.
- Presser.H.B. 2004."Employment in a 24/7 economy: Challenges for the family", in A. Booth, A.C. Crouter (Eds), Lawrence Erlbaum Associates, Inc, Mahwah, NJ.
- Raediker, B.; Jansen, D.; Schomann, C.; Nachreiner, F. 2006. "Extended working hours and health", in *Chronobiology International*, 23 (6), pp. 1305–1316.
- Ramey, G. & Ramey, V.A. 2010. The rug rat race. Brookings Papers on Economic Activity, Spring, 129-176.
- Rapoport B, Le Bourdais C. Parental time and working schedules. *Journal of Population Economics*. 2007. 21, 903–932.
- Rapoport, R., Bailyn, L., Fletcher, J.K., Pruitt, B.H. 2002. Beyond Work-family Balance: Advancing Gender Equity and Workplace Performance, Jossey-Bass, San Francisco, CA.
- Rosa R.1995. Extended workshifts and excessive fatigue. J Sleep Res; 4:pp.51-6.
- Schneider, B., Waite, L.J., 2005. Being Together, Working Apart: Dual-Career Families and the Work-life Balance. Cambridge University Press, New York, NY.
- Schneider, N., Ruppenthal, S. and Ha¨user, J. 2006. "Lippenbekenntnis zur Work-Life-Balance?", Personalfu¨ hrung, 1, pp. 26-9.
- Schwanen, T., 2007. Gender differences in chauffeuring children among dual-earner families. Professional Geographer 59 (4), 447–462.
- Sheridan, A., Conway, L. 2001. "Workplace flexibility: reconciling the needs of employers and employees", *Women in Management Review*, available at: www.emeraldinsight.com/ 16 (1), pp.5-11.
- Shonkoff, J.P. and Phillips, D.A. 2000. *From neurons to neighbourhoods,* Washington D.C: National Academy Press.
- Sparks, K.; Faragher, B.; Cooper, C. 2001. "Well-being and occupational health in the 21st century workplace", in *Journal of Occupational and Organizational Psychology*, 74, (4), pp. 489-509.

- Speiser, P.W., Rudolf, M.C.J., Anhalt, H., Camacho-Hubner, C., Chiarelli, F., Eliakim, A. and Grp, O.C.W. 2005. Consensus statement: Childhood obesity, *Journal of Clinical Endocrinology and Metabolism*, 90, 1871–1887.
- Spurgeon, A. 2003. Working time: Its impacts on safety and health. (Seoul, ILO and Korea Occupational Safety and Health Research Institute).
- Staines, G.L., Pleck, J.H., 1986. Work schedule flexibility and family life. *Journal of Occupational Behavior* 7 (2), 147–153
- Thomas, L., Ganster, D. 1995. "Impact of family-supportive work variables on work-family conflict and strain: a control perspective", *Journal of Applied Psychology*, 80 (1), pp.6-15.
- Thompson, C., Beauvais, L., Lyness, K. 1999. "When work-family benefits are not enough: the influence of work-family culture on benefit utilization, organizational attachment, and work-family conflict", *Journal of Vocational Behavior*. 54 (3), pp.392-415.
- Totterdell, P. 2005. Work schedules, in J.B. Barling, E.K. Kelloway and M.R. Frone (eds). Handbook of work stress, California: Sage Publications Inc.
- Tregaskis, O., Brewster, C., Mayne, L., Hegewisch, A. 1998. "Flexible working in Europe: the evidence and the implications", *European Journal of Work and Organizational Psychology*, 7 (1), pp.61-78.
- Trinkoff AM, Le R, Geiger-Brown J, Lipscomb J, Lang G. 2006. Longitudinal relationship of work hours, mandatory overtime, and oncall to musculoskeletal problems in nurses. Am J Ind Med 49, 964–971.
- Tucker, P.; Rutherford, C. 2005. "Moderators of the relationship between long work hours and health", in *Journal of Occupational Health Psychology*, Vol. 10, No. 4, pp. 465-476.
- U.S. Department of Labor, Bureau of Labor Statistics. 2005. Workers on flexible and shift schedules in May 2004. USDL 05-1198, BLS News, July 1.
- Ulker, A.D.P.N. 2006. Do nonstandard hours cause negative health effects? Some evidence from panel data (Discussion Paper No.518), *Centre for Economic Policy Research*, Australian National University.
- Van der Hulst, M. 2003. "Long work hours and health", in *Scandanavian Journal of Work,* relationship of long working hours with health status and health-related behaviours", in *Journal of Epidemiology & Community Health*, 63 (7), pp. 521-527.
- Waldfogel, J. 2006. What children need. Cambridge, MA: Harvard University Press.
- Wight, V.R., Raley, S.B. and Bianchi, S.M. 2007. Time for children, one's spouse and oneself among parents who work nonstandard hours, Social Forces, 87(1), 243–271.
- Woods, L., Head, M. 1996. "Employment trends in the LIS sector", *Library Association Record*, 98 (10), pp.528-9
- World Health Organisation. 2003. In Fifty-Sixth World Health Assembly: Provisional agenda item 14.7 (A56/15) WHO: Geneva, 1–7.
- YellowPages,2003.IncreasinglyEuropeanUKembraces24/7lifestyle./http://www.yellgroup.com/english/media-pressreleases-2003- increasingly European ukembraces 247lifestyle.
- Zick, C. D., & Bryant, W. K. 1996. A new look at parents' time spent in child care: Primary and secondary time use. *Social Science Research*, *25*, 260-280.

#### **Acknowledgements**

The authors would also like to acknowledge the contribution and support of Mr I.

Vencatachellum, Dr R. Nunkoo and Ms V. Madoo in making this research successful.