Effect of Occupational Stress of Working Women on Cognitive Development of Children

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ABSTRACT:
Aim- The aim of the present is to find out how occupational stress of working women effects cognitive development of children.
Methods-The occupational stress of working women were divided into high and low stress according to job they do. All women belonged to nuclear families. They were measured using Occupational Stress Index (OSI). The children’s cognitive development was measured by Piaget’s Level of Cognitive Development by Bakken (1995).
Results-The findings indicate that the two groups differ significantly. Further analysis have shown that in few cases the scores are found to be insignificant at 0.05 and 0.01 levels
Conclusion-The present study indicates that there exists a relationship between occupational stress and cognitive development of children.

INTRODUCTION:
Occupational stress and burnout have become the buzz words of the 1990’s for human resource departments throughout all of industry and in particular of the human service industry. According to the National Institute for Occupational Safety and Health(NIOSH), one-fourth of employees view their jobs as the number one stressor in their lives and, three-fourths of employees believe that the worker has more on-the-job stress than a generation ago (NIOSH. 1999).

Occupational stress has become a serious health issue, not just in terms of an Individual’s mental and physical wellbeing, but also for employers and governments who have begun to assess the financial consequences of work stress.

Cognitive development is a field of study in neuroscience and psychology focusing on a child's development in terms of information processing, conceptual resources, perceptual skill, language learning, and other aspects of brain development and cognitive psychology compared to an adult's point of view. A large portion of research has gone into understanding how a child imagines the world. Jean Piaget was a major force in the discovering of this field study, forming his "theory of cognitive development". Many of his theoretical claims have since fallen out of favour. However, his description of the tendencies of cognitive development (e.g., that it moves from being dependent on actions and perception in infancy to understanding of the more observable aspects of reality in childhood to capturing the underlying abstract rules and principles in adolescence) is generally still accepted today

Besides, many of the phenomena that he discovered, such as object permanence in infancy and the conservations in school age children, attract the interest of current researchers. In recent years, alternative models have been advanced, including the neo- Piagetian theories of cognitive development which aim to integrate Piaget's ideas that stood the test of time with more recent theorizing and methods in developmental and cognitive science

Jean Piaget (1896-1980) believed that people move through stages of development that allow them to think in new, more complex ways. Many of his claims have fallen out of favour. For example, he claimed that young children cannot conserve number. However, further experiments show that children did not really understand what was being asked of them. When the experiment is done with candies, and the children are asked which set they want rather than tell an adult which is more, they show no confusion about which group has more items.
Balancing work and family roles has become a key issue for women in many key societies. Work and family are the two most important aspects in people’s lives and, contrary to the initial belief that they are distinct parts of life; these domains are closely related (Ford et al., 2007). Traditionally, the major responsibility of women has been perceived to be the maintenance of the family including home and childcare and breadwinning was the main responsibility of men. However, with more and more women entering the workforce and pursuing careers, these clearly defined gender roles were forced to change (Sevim, 2006). Most women do not have responsibility only in one domain anymore; they have to balance the competing demands of both work and family domains (Biçaksız, 2009).

This topic was chosen by me to see why children mature so easily. Nowadays, most women are working. However the census reports of major countries have a different story to tell (India, Japan, and U.S.A) has a major proportion of women as housewives whereas only in United Kingdom majority of women are working. Further, how a child deals with his/ her problems when mothers are not present need to be assessed in the study. Sometimes mothers are often preoccupied with the occupational stress related to work place. Whether occupational stress affects the child’s decision making processes is indeed an area which has to be explored here.

Since mothers are still primary caregivers and more or less children spend most of their time with their mothers. So, it may be an issue of interest whether mothers and can who are working can give that much attention to a child and can provide support to the child in the same way. It would be interesting to see in this study whether mothers with high occupational stress can influence the child to develop. However, in India not much research has been done in this field so this research would be done particularly in Kolkata to see whether research supports the findings explored elsewhere in the world.

**LITERATURE REVIEW:**

There have numerous studies in India and abroad regarding the effect of parental employment on a child in a developmental process. A study by Flee, 2009, found that there was a negative impact of mothers hazardous working conditions on the child’s non cognitive development but not on the cognitive development. It was further found that the personality development of children with high verbal skills was affected and the reduced mother child interactions facilitated the negative impact. The statistics used in this study were regression and product moment correlation.

Another study was done by Felfê and Hsin, 2002 which found out that time with children is a mechanism through which occupations influence child’s outcomes. It was further seen that bad jobs i.e. those jobs which have a nonstandard working hours, poor working conditions and poor job satisfaction and motivation among the employees exert negative effects due to the exposure of disamenities which changes the distribution of maternal time across structured and unstructured activities and it also alters the effect of maternal time on child’s personality development. The statistics used in this study were product moment correlation and multiple regressions.

There was another study conducted by Nezhad et al, 2010 which have found that there is a significant positive relationship between levels of occupational stress and family difficulties in working women. The statistics were bursarial correlation and regression.

A study was done by Mendelson, Barling, 1999 where it was found that child’s perceptions of their parent’s job insecurity affect their grade performance through the effects of beliefs in an unjust and negative mood. The statistics used were descriptive statistics, reliability and inter correlation of all study variables.

There was another study by Hann, et al 2002 who found out that early maternal employment has an effect on child’s cognitive outcomes. Some persistent adverse effects of first year maternal employment and some positive effects of second and third year maternal employment. Correlation has been used.

Another study conducted by Wen–Jui, 2005 where association of mother’s work schedule with child’s cognitive outcomes were measured. The results varied across developmental stages and dimensions of cognitive performance, the effects of mothers non-standard schedules tended to be negative, particularly if these schedules began in first year of life and particularly for measures of cognitive development at 24 months and expressive language at 36 months. Descriptive statistics suggested that these negative effects might be due to the type of child care used.

There was another study conducted by Praise, Thompson R, 2008 who worked on how children’s achievements differed depending on weather their mothers were employed. Analysis of child’s gender indicate more positive effects for girls. Children’s age was a significant moderator for the outcome of intellectual functioning. The identification of relationships between maternal...
employment and children’s achievements highlight the importance of social content in understanding work family linkages.

There was a study conducted by Howell, 1973 which described the relation between maternal employment and maternal child relationships. It was found that maternal employment has an effect on the relation and on the wellbeing of the children. It was further seen that children are likely be positively affected by maternal employment, if the mother finds satisfaction at work and she is supported by family members. Correlation has been used to understand the relation between two variables.

There was another study conducted by Pett, Cole, Wampold, 1993 which showed the impact of maternal employment, marital status, perceived maternal stress on children’s adjustment and mother child interactions. The results are that maternal employment had little impact on these variables.

There had been limited research in this field which suggests that these stressors may negatively influence both a mother’s perceptions of the child’s adjustment and quality of mother child interaction (Greenberg et al, 1990). The statistics used were correlation. Analysis of variance could have been used better results.

Another study was conducted by Shonkoff, Boyce, 2004 who stated that young children experience their world as an environment of relations virtually affect all aspects of personality. It was found that children can establish healthy relations with one or more adults, prolonged separation from them can be emotionally distressing and can lead to enduring problems.

Gender differences in cognitive skills were found out. Research has identified differences in several cognitive skills. However, the most striking finding is that in the study of gender, most areas of similarities between girls and boys outweigh the differences (Spencer, Steele, Quinn, 1999).

HYPOTHESES:

- There exists a significant difference between the cognitive developments of children of working mothers with high and low occupational stress.
- There is a significant difference in the impact of maternal occupational stress on cognitive development of male and female children.

STUDY AREA:

The data is be collected from mothers living in north, east, west, south Kolkata and their children

SAMPLE:

Purposive sampling technique has been used.
For working mothers

<table>
<thead>
<tr>
<th>Age</th>
<th>Nuclear family</th>
<th>Nuclear family</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-40</td>
<td>40</td>
<td>40</td>
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</tbody>
</table>

For children – cognitive development

<table>
<thead>
<tr>
<th>Age</th>
<th>Male Cognitive development in high stress</th>
<th>Male cognitive development in low stress</th>
<th>Female Cognitive development in high stress</th>
<th>Female Cognitive development in low stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-7</td>
<td>22</td>
<td>22</td>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

TOOLS TO BE USED:

- Occupational Stress Index by Dr. A.K. Srivastava and Dr. A.P. Singh is used to measure occupational stress. The occupational stress index measures the extent of stress which employees perceive arising from various constituent and conditions of their jobs the tool may be administered to the employees of every level operating in the context of industries or other non-production organizations.

- Cognitive development can be seen by a test of Piaget’s level of cognitive development by Bakken (1995). Children ability to think in general, about themselves, their own needs, observations about the environment around them that would develop their thought about learning and knowledge. A plausible hypothesis is that there is a link between cognitive stages of development in general and the evolution of how a child thinks specifically about knowledge and the nature of learning in the acquisition of epistemological belief system.

ADMINISTRATION AND COLLECTION OF DATA:

- Occupational Stress Index (OSI)
  Occupational Stress Index by Dr. A.K. Srivastava and Dr. A.P. Singh is used to measure occupational stress. The occupational stress index measures the extent of stress which employees perceive arising from various constituent and conditions of their jobs the tool may be administered to the employees of every level operating in the context of industries or other non-production organizations.

  Data can be collected firstly by establishing rapport with the working women and then by giving proper instructions. Then Occupational stress index by Dr. A.K. Srivastava was given to the working women whose reliability is done by the split half method and Cronbach’s alpha-coefficient for the scale as a whole were found to be 0.935 and 0.90 respectively.

- Piaget’s Level of Cognitive Development Questionnaire
  The Bakken Test of Piagetian Stages (1995) was utilized to measure stage of cognitive development and consisted of 21 multiple-choice questions composed of Piagetian tasks (e.g. conservation of numbers, area, liquid, length, weight and volume). Other items include problem-solving items involving classification, right-left relationship, perspective taking, reasoning, and logic. Since it is administered on children only 12 items are used. Piaget’s level of cognitive development questionnaire by Bakken (1995) was administered after establishing rapport with the child and giving the child proper instructions. The reliability is found to be for preoperational stage is 0.70 and for formal operational stage it is 0.52.

STATISTICAL TREATMENT:

Statistical Analysis of the data was done with the help of Microsoft Excel. At first means and standard deviations for the obtained scores with respect to each of the variables were calculated. Those two descriptive statistics taken
together provides some indications, about the distributions with respect to different variables for the mothers and their children. Then an attempt was made to test the significance of means between high stress and low stress of working women and the cognitive development of their children by using t-test which helps to know the significance difference between two sample means (William Sealy Gosset, 1908). Then ANOVA is done to check whether the differences between the two means i.e. High and low stress of women and cognitive development of their children is significant or not.

RESULTS:

Keeping the aims and objectives of the research in mind, the findings will be narrated in the results section. Mean, Standard Deviation and Mean differences will be discussed

Section 1:

TABLE 1: Showing mean and standard deviations of both high stress and low stress with cognitive development,

<table>
<thead>
<tr>
<th></th>
<th>High occupational stress(female)</th>
<th>High occupational stress (male)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>135.0526</td>
<td>125.5333</td>
</tr>
<tr>
<td>Standard deviations</td>
<td>364.6814</td>
<td>734.9156</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Cognitive development(female)</th>
<th>Cognitive development (male)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>73.24158</td>
<td>58.33</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>808.3641</td>
<td>1009.307</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Low stress (male)</th>
<th>Low stress(female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>126.8636</td>
<td>112.2727</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>461.845</td>
<td>205.3802</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Cognitive development (female)</th>
<th>Cognitive development (male)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>80.30045</td>
<td>69.69409</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>521.1325</td>
<td>710.6787</td>
</tr>
</tbody>
</table>

TABLE 2: showing the t test values of high stress and low stress

<table>
<thead>
<tr>
<th></th>
<th>High occupational stress(female)</th>
<th>Level of significance at 0.05 and 0.01 level</th>
<th>High occupational stress(male)</th>
<th>Level of significance at 0.05 and 0.01 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>t test</td>
<td>2.45</td>
<td>Significant at 0.05 and insignificant at 0.01 level</td>
<td>2.67</td>
<td>Significant at 0.05 and insignificant at 0.01 levels.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Low occupational stress (female)</th>
<th>Level of significance at 0.05 and 0.01 levels</th>
<th>Low occupational stress (male)</th>
<th>Level of significance at 0.05 and 0.01 levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>t test</td>
<td>2.78</td>
<td>Significant at both levels.</td>
<td>1.87</td>
<td>Insignificant at both levels.</td>
</tr>
</tbody>
</table>

TABLE 3: Indicating the relation between occupational stress and cognitive development
TABLE 4: Indicating the analysis of variance between occupational stress – high &low and cognitive development- male & female respectively.

<table>
<thead>
<tr>
<th></th>
<th>High stress</th>
<th>Level of significance at 0.05 and 0.01 level</th>
<th>Low stress</th>
<th>Level of significance at 0.05 and 0.01 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation</td>
<td>-0.23648</td>
<td>Insignificant</td>
<td>-0.08712</td>
<td>Insignificant</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Low stress</th>
<th>Level of significance at 0.05 and 0.01 level</th>
<th>Low stress (male)</th>
<th>Level of significance at 0.05 and 0.01 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation</td>
<td>0.547</td>
<td>Significant at both levels</td>
<td>0.234</td>
<td>Insignificant at both levels.</td>
</tr>
</tbody>
</table>

DISCUSSION:

The obtained results show that the two groups have a significant difference between them. On the basis of mean and standard deviation, it can be seen that women having high stress related to their jobs have a greater mean than women doing low stress jobs. On basis of cognitive development females have performed better than their male counterparts. Thus it can be interpreted from the findings of the study that working women usually have a lot to look after. They have to look after their homes as well as their jobs.

An increasing number of women nowadays are faced with the task of juggling the roles of mother and employee. Whilst some studies report that working mothers experience high levels of stress as compared to unemployed mothers (Hochshild & Machung, 1989), others conclude that mothers who partake in paid employment benefit greatly for a number of different reasons (Barnett, Marshall & Sayer, 1992).

Recent research indicates that parental work stress has implications for the quality of family interaction and, in turn, children’s and adolescents’ adjustment. Studies in two distinct genres are reviewed: investigations relying on global reports of work demands, family dynamics, and child and adolescent adjustment and studies focusing on within-person comparisons of family interaction on days characterized by high and low work stress. The effects of parental work stress on children’s and adolescents’ adjustment appear to be indirect. Work stress is linked to parents’ feelings of overload and strain, which in turn predict lower parent-child acceptance and higher conflict, processes that in turn are related to less positive adjustment of children and adolescents. In the face of high work involvement may be adaptive in stress, withdrawing from family involvement may be adaptive in the short run but ultimately problematic. The strength of these associations depends on parents’ personality qualities, parent’s coping styles work and family circumstances.

However the literature review relating to this study does not support the findings which may be due to advancement of the children. Nowadays children understand better and can solve problems more easily than earlier.

Two recent studies suggest that Pipher's basic observation about girls' vulnerability to peer pressure remains true, but they emphasize that peer pressure can sometimes are a good thing. The studies examined the academic achievement of high school students and found that being surrounded by underachieving classmates has a negative effect on girls and boys—both genders feel pressure to conform to the lower standards of their peers. But the studies also show that girls are more sensitive than boys to the presence of high-achieving peers. Surround a girl with diligent classmates, and her performance will improve.

Help University College's head of psychology and senior lecturer Kenneth Phun says boys and girls do not have the same type of brain. Phun says all one needs to do is look at the corpus callosum. “This bunch of nerves is the highway between the left and right brain. It coordinates both hemispheres of the brain and helps both sides coordinate movement and data. Brain researchers have found that the corpus callosum is thicker in girls and this suggests that girls are better at multi-
tasking." There is also the arcuate fasciculus which is the nerves in the central nervous system. "These nerves develop earlier in girls. They, therefore, develop the speech capability faster. That is why females speak in sentences earlier than males. "The Broca's area is also more active in females. This is the motor area for speech that processes grammatical structures and word production." He says for boys, the right hemisphere of the brain is more dominant spatial relationships like reading maps, measuring and simple things like parking. Therefore, they work better on abstract problems this enables them to be better at for females; the left hemisphere is more developed. "This helps them listen and communicate better as well as perform better at language-based learning, which is the learning that happens in school." Phun says it was, therefore, important to recognise brain-based gender differences in learning. "How boys and girls handle emotions is different and this also affects learning. Girls process their emotions in the upper part of the brain called the frontal lobe which is also known as the executive decision maker of the brain. This is the logical part of the brain and helps girls verbalise their emotive information better." On the other hand, the same process takes a very long time for boys. It can take hours to process the same emotions that girls are going through. "Since boys can't process the emotional distress as fast as girls, they end up holding these negative emotions longer than girls. "And since the emotional distress is processed in the lower part of the brain for boys, namely in the amygdala (which is the early warning system for the brain), and the brain stem, the tendency is for him to react in a more aggressive manner or to go to the other extreme and withdrawing - called the fight or flight response."

From the obtained results it can be seen that there exists a significant difference between the means at high occupational stress of women and cognitive development of females as well as high occupational stress of women and cognitive development of males. The values are significant at 0.05 levels. This can be interpreted as stress plays a major role in influencing cognitive development. Hence the probability of such result is quite high. Thus null hypothesis is rejected and therefore it can be said that true difference is true and it has not come by chance or due to any sampling fluctuations. In case of low stress the significant difference of means exists between low stress and cognitive development of females and so null hypothesis is rejected and therefore it can be said that true difference is true and it has not come by chance or due to any sampling fluctuations. However in case of male's null hypothesis is accepted and thus can be said that it has come by chance or may sampling fluctuations. This me due to the reason that mothers with low stress don't allow stress to affect them and at home their main aim is to look after the child and they help their child in the best possible way.

There exists a negative correlation which shows that an increase in stress leads to a decrease in cognitive development and decrease in stress leads to increase in cognitive development in case of high stress and cognitive development of both males and females. This can be interpreted as that those mothers who are in constant stress are not able to devote much time to their children and they usually have the after effects of stress of jobs at their home and which affects the child very much as he/she spends most of their time with their mothers. However in case of low stress for females the correlation is significant at both levels which indicates that girls at that age want to be independent which leads to solving their problems themselves than those girls whose mothers are mostly home. It is not that they don’t interact with their mothers but they feel that they can do it themselves than disturbing mothers for a menial job even though how difficult it maybe. This was an important finding of the study conducted.

In case of males the relationship is insignificant at both levels which indicate that male child allows stress of their mothers to affect them. They do whatever they want. They become more irritated. Their naughtiness increases. They become more troublemakers in homes as well as schools.

In case of males the relationship is insignificant at both levels which indicate there is significant difference in the effect of four types of DV’s. Here alternative hypothesis is accepted. CONCLUSION:

1. The obtained results show that the two groups have a significant difference between them on the basis of mean and standard deviation, it can be seen that women having high stress related to their jobs have a greater mean than women doing low stress jobs.
2. On basis of cognitive development females have performed better than their male counterparts.
3. From the obtained results it can be seen that there exists a significant difference between the means at high occupational stress of women and cognitive development of females as well as high occupational stress of women and cognitive development of males. The values are significant at 0.05 levels.
4. In case of low stress the significant difference of means exists between low stress and cognitive development of females and so null hypothesis is rejected.
5. Here it can be seen from the obtained results that there exists a negative correlation which shows that an increase in stress leads to a decrease in
cognitive development and decrease in stress leads to increase in cognitive development in case of high stress and cognitive development of both males and females.

6. In case of low stress for females the correlation is significant at both levels.

7. In case of males the relationship is insignificant at both levels.

REFERENCES:


- Wendy A. Goldberg, Jo-Ann Prause, and Rachel Lucas-Thompson(2008)” Maternal Employment and Children’s Achievement in Context “ University of California


