

A study on the Relationship between Multitasking Ability and Aggressive Behavior among Adolescents

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ABSTRACT

The study aimed to investigate the relationship among Multitasking ability, creativity, and aggressive behavior among Adolescents. The present study has been conducted on a sample of 605 secondary school students. The Inventory of Multitasking Ability and the Aggression Scale were used to collect data. The statistical techniques employed for data analysis included Mean, Median, Mode, Standard Deviation, Skewness, Kurtosis, Coefficient of Correlation, Critical Ratio, and t-value. The study revealed that the multitasking ability is average, and the aggressive behavior of adolescents is found to be above average. Additionally, a significant relationship exists between Multitasking Ability and aggressive behavior in adolescents.
Key Words: Multitasking ability, Aggressive Behavior, Adolescents.

I. INTRODUCTION

Education is the single most important means for individuals to enhance their personal capabilities, build capacity levels, overcome constraints, and expand their available set of opportunities and choices for sustained improvement. Improvements in educational attainment have invariably been accompanied by improvements in health, longevity, and the economic well-being of the population. Educated individuals are likely to be more productive and contribute more to a country's economic growth. At the same time, education reinforces the socio-economic dynamics of a society towards equality in attainments and opportunities for its people. Adolescence is the span of years during which boys and girls transition from childhood to adulthood, both mentally, emotionally, socially, and physically. It is a period of transition when changes of attitude and behavior are most rapid. In this period, they are more likely to take risks than adults. Without risk-taking, teenagers would lack the motivation and confidence necessary to transition from childhood to adulthood in society. It is a period of heightened emotional tension. Adolescents tend to do multiple things at once. They cannot concentrate on just one thing. They take great pride in being able to multitask. They have a natural tendency to do many

things simultaneously, such as watching movies while eating, reading while traveling, and attending phone calls while studying.

It seems beneficial to be able to do multiple tasks simultaneously. However, switching rapidly between tasks can actually slow us down. Even though modern technology allows and demands people to perform various tasks simultaneously, juggling tasks can cause our brains to lose connections to important information. Technological advancements pose new challenges for adolescents. They must strive hard to become very efficient citizens of tomorrow. Multitasking increases the chances of making mistakes and missing important information. Multitaskers are also less likely to retain information in working memory, which can hinder problem-solving ability. Performing multiple tasks without proper planning can lead to mistakes, and it may result in aggressive behavior if the planned tasks are not executed properly. Multitasking Ability is an essential factor that influences one's aggressive behavior. In this study, the investigator aims to establish the relationship between Multitasking Ability and aggressive behavior in adolescents.

The Impact of Multitasking on Cognitive Processing

Multitasking refers to the ability of an individual or a machine to perform more than one task simultaneously. In the field of human resources, multitasking is a term often used to describe how busy managers or practitioners can accomplish more in the same amount of time. To keep up with new situations, people usually feel that they must multitask. In fact, the term "multitasking" is now used regularly to describe what we do, not only at work, but also in our roles as parents, friends, family members, and in many other capacities as we strive to balance our professional and personal lives. However, it is also taken into consideration that reducing one's own multitasking habits may help increase productivity and reduce feelings of overload.

Types of Multitasking

Multitasking Ability is of various kinds. Some of them are the following:

1. Dual Tasking

If a student is using a computer to enter data while listening to music, then these two activities can be done simultaneously. This is known as "dual tasking". Whenever we are engaged in two tasks at the same time, simultaneous processing, or dual tasking, is taking place.

2. Attention Switching

A student might be using a computer to write an essay, stop to send a text message, check Facebook, return to the essay for five minutes, then stop typing to read the text message, and so on. Delbridge (2001) referred to this switching among sequential "tasks as attention switching" because effectively changing tasks requires a change of attention and focus. Changing attention allows us to switch among activities, but different parts of the brain are involved in the actual performance of each task.

3. Digital Multitasking

The tendency to move between and among electronic and digital devices is especially popular among students and can consume large amounts of their attention and time.

4. Social Multitasking

The art of communicating with numerous friends via different methods simultaneously is Social Multitasking. These methods may include face-to-face communication, Skype, Facebook, email, texting, phone calls, and various other digital platforms. Social multitaskers typically communicate with at least three people simultaneously.

II. METHODOLOGY

The normative survey method was used for the study. Random Sampling Technique was used. The sample for the study consisted of 605 Adolescents from various higher

secondary schools, ensuring representation by gender of students, locality of the school, and type of school management. The tools used for the study included an Inventory on Multitasking Ability and the Buss-Perry Aggression Scale.

Hypotheses

1. There will be significant difference in the Multitasking Ability of Adolescents for their subsamples based on Gender, Locale of School and Management of School.
2. There will be significant difference in the Aggressive Behavior of Adolescents for their subsamples based on Gender, Locale of School and Management of School.
3. There will be a significant relationship between Multitasking Ability and Aggressive Behavior among Adolescents.

Objectives

1. To compare the Multitasking Ability of Adolescents for their subsamples based on Gender, Locale of School and Management of School.
2. To compare the Aggressive Behavior of Adolescents for their subsamples based on Gender, Locale of School and Management of School.
3. To examine the relationship between Multitasking Ability and Aggressive Behavior among Adolescents.

Statistical Techniques used

The statistical techniques employed for the analysis of data were Mean, Median, Mode, Standard Deviation, Skewness, Kurtosis, Coefficient of Correlation, Critical Ratio and t-value.

III. ANALYSIS

Analysis of Multitasking Ability of Adolescents

The Multitasking Ability scores of 605 of Adolescents were collected and their measures of Central Tendency, Dispersion, Skewness and Kurtosis were calculated. The statistical details of which are given in table 1.1.

Table 1.1

Result of Measures of Central Tendency, Dispersion, Skewness and Kurtosis scores of Multitasking Ability of Adolescents

| N | Mean | Mode | Median | Standard Deviation | Skewness | Kurtosis |
|-----|------|------|--------|--------------------|----------|----------|
| 605 | 92 | 93 | 88 | 9 | -0.16 | .25 |

From the above table, the value of Mean for the Total Sample is 92 and the Standard Deviation is 9. This indicates that the students' multitasking ability was found to be above average. The median value is 92, which indicates that 50 percent of the pupils scored above 92. The distribution is negatively skewed, as indicated by the value of -0.16. This shows that the number of students who received high scores was comparatively higher than the number of students who

received low scores. The value of kurtosis obtained is 0.25, which is lower than 0.263. Therefore, the distribution is leptokurtic.

The sub sample – wise comparisons of Multitasking Ability scores of Adolescents

The difference between the mean scores of Multitasking Ability of Sub samples were tested for significance, the statistical details of which are given in table 1.2.

Table 1.2
Test of Significance of difference between Mean Scores of Multitasking Ability of Adolescents with respect to the sub samples Gender, Locale and Management (N= 605)

| Category | N | Mean | Standard Deviation | Critical Ratio | Level of significance |
|------------|-----|------|--------------------|----------------|-----------------------|
| Boys | 312 | 92 | 10 | 0 | P>0.01 |
| Girls | 293 | 92 | 9 | | |
| Urban | 295 | 94 | 12 | 4.65 | P<0.01 |
| Rural | 310 | 90 | 9 | | |
| Government | 274 | 93 | 9 | 2.59 | P<0.01 |
| Private | 331 | 91 | 10 | | |

From the above table the Critical Ratio obtained (CR=0, P>0.01) is not significant at both 0.05 and 0.01 levels. This shows that there is no significant difference between the mean scores of Adolescent Boys and Girls with regard to their Multitasking Ability. This means that the girls and boys do not differ in their score patterns. Hence it can be interpreted that the Multitasking Ability is almost the same for Adolescent Boys and Girls. The sub sample locale shows that CR is significant at both 0.05 and 0.01 levels (CR=4.65, P<0.01). It can be interpreted that difference between the mean scores of Multitasking Ability of Adolescents of Rural and Urban schools was significant. The higher Mean score of urban schools reveals that students of urban schools have better Multitasking Ability than students of rural schools. The above table shows that the obtained CR is significant at 0.01 level. (CR=2.59, P<0.01). It can be interpreted that the difference between the Mean scores of Multitasking Ability of Government and

Private School Students is significant at 0.01 level. The higher Mean Scores of Government School Students show that Government Higher Secondary School Students have better Multitasking Ability than Private Higher Secondary School Students.

Aggressive Behavior of Adolescents

The Aggressive Behavior of Adolescents of the total sample as well as the sub samples are examined and analyzed in this section.

Analysis of Aggressive Behavior of Adolescents for the total sample

The Aggressive Behavior scores of 605 Adolescents were collected and their Measure of Central Tendency, Dispersion, Skewness and Kurtosis were calculated, the statistical details of which are given in table 1.3.

Table 1.3
Result of Measures of Central Tendency, Dispersion, Skewness and Kurtosis scores of Aggressive Behavior.

| N | Mean | Mode | Median | Standard Deviation | Skewness | Kurtosis |
|-----|------|------|--------|--------------------|----------|----------|
| 605 | 85 | 85 | 80 | 18 | .09 | .28 |

From the above table, the value of the Mean of the Aggressive Behavior for the total sample is 85, and the standard Deviation is 18. This shows that the Adolescents have above-average Aggressive Behavior. The value of the median is 85, which shows that 50 percent of students got scores above 85. The distribution is positively skewed since the value of Skewness is .09. This shows that those who got high scores were comparatively lower than the number of students who got low scores. The value of kurtosis obtained

0.28, which is higher than .0263. Therefore, the distribution is leptokurtic.

The sub sample – wise comparisons of Aggressive Behavior scores of Adolescents

The differences between the mean scores of Aggressive Behavior of Sub Samples were tested for significance, the statistical details of which are given in table 1.4.

Table 1.4

Test of Significance of the Difference between Mean scores of Aggressive Behavior of Adolescents with respect to their Gender, Locale and Type of Management.

| Category | No. of pupils | Mean | Standard Deviation | Critical Ratio | Level of significance |
|------------|---------------|------|--------------------|----------------|-----------------------|
| Boys | 312 | 89 | 13 | 7.2 | P<0.01 |
| Girls | 293 | 82 | 11 | | |
| Urban | 310 | 82 | 12 | 5.04 | P<0.01 |
| Rural | 295 | 88 | 17 | | |
| Government | 274 | 83 | 14 | 2.85 | P<0.01 |
| Private | 331 | 87 | 23 | | |

The table shows that the obtained critical Ratio is significant at both levels. (CR= 7.2, p<0.01). Hence, the difference between the mean scores of Aggressive Behavior of Adolescent Boys and Girls is significant. Hence, it can be interpreted that the Aggressive Behavior of Boys is higher than that of Girls. It can be observed that the obtained critical Ratio is significant at both levels. (CR= 5.04, p<0.01). Hence, the difference between the mean scores of Aggressive Behavior of Adolescents students from Rural and Urban schools is significant. Hence, it can be interpreted that the Aggressive Behavior of Urban students is higher than that of rural Adolescent students. The above table shows that the obtained CR is significant at 0.01 level. (CR=2.85, P<0.01). It can be interpreted that the difference between the Mean scores of Aggressive Behavior of Government and Private School Students is significant at 0.01level. The higher Mean Scores of Private School Students show that Private Higher Secondary School Students are more aggressive than Government Higher Secondary School Students.

Relationship Between Multitasking Ability And Aggressive Behavior of Adolescents

In this section, the relationship between Multitasking Ability and Aggressive Behavior of Adolescents are examined. The subsection deals with relationship between Multitasking Ability and Aggressive Behavior about the Total Sample using simple statistical techniques like Coefficient of Correlation and t-value.

Relationship between Multitasking Ability and Aggressive Behavior of Adolescents

To find out the relationship between Multitasking Ability and Aggressive Behavior of Adolescents, the Coefficient of Correlation ‘r’ was calculated and was tested for significance by using t-value. The obtained ‘r’ is .92, which indicates a significant relationship between the two variables. It was also found that the relationship is positive, which denotes a marked positive relationship between Multitasking Ability and Aggressive Behavior of Adolescents. Positive correlation indicates that any increase or decrease in Multitasking Ability will result in a corresponding increase or decrease in Aggressive Behavior of Adolescents. Details of the statistical calculations are given in table 1.5.

Table 1.5

Result of Test of Significance of ‘r’ between Multitasking Ability and Aggressive Behavior of Adolescents

| Variables | N | Coefficient of Correlation | t-value | Level of Significance |
|----------------------|-----|----------------------------|---------|-----------------------|
| Multitasking Ability | 605 | .92 | 58.60 | P<0.01 |
| Aggressive Behavior | | | | |

The figures in the above table show that the t-value obtained is 58.07. From the t-table, the value of t with df 603 at 0.01 level is 2.58 and at 0.05 level is 1.96. The calculated t-value is higher than the value set for significance at 0.01 level. Hence, 'r' is significant at the 0.01 level. Thus, it can be interpreted that there exists a significant relationship between Multitasking Ability and Aggressive Behavior of Adolescents.

Findings of the study

1. Adolescents have above-average Multitasking Ability, while they differ significantly according to their Gender, Locale of school, and Management of Schools.
2. Adolescents have above-average Aggressive Behavior, while they differ significantly in their Aggressive Behavior with respect to Gender, Locale of Schools, and Management of Schools.

3. There exists a significant relationship between Multitasking Ability and Aggressive Behavior of Adolescents.

Educational implications

The study's findings indicate that multitasking ability and aggressive behavior are prevalent among adolescents

1. Teachers should encourage children to set goals and work towards achieving them.
2. Help children plan their daily routine, utilize their time wisely, and do all tasks in an effective manner.
3. Use stimulating starting points such as artifacts, problems, stories with human interest, and topical events.
4. Build on what pupils find interesting and have already experienced both in and out of school.
5. Arrange programs to improve the social skills of Adolescents.
6. Give pupils opportunities to reflect on and share personal experiences and feelings.
7. Teachers should try to develop healthy habits among students.
8. They should teach children to avoid unpleasant situations effectively and try to reduce aggression and other behavioral problems by taking appropriate measures.

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