



STUDIES ON THE CORRELATION BETWEEN GENDER AND SUSTAINABLE ACTIVITIES THAT REDUCE, RECYCLE, REPLACE, AND REUSE

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Abstract:

The promotion of sustainable activities that focus on reducing, recycling, replacing, and reusing (the "4Rs" of sustainability) is essential for environmental conservation, waste reduction, conservation of energy, mitigation of climate change, biodiversity preservation, and many more. This paper analyzes the correlation between how adopting new customs into daily life affects environmental preservation in middle stage students. Reducing our environmental impact and creating a more sustainable lifestyle require us to adopt sustainable practices. This paper evaluates the correlation of 4R in the individual boy and girl groups as well as interconnecting groups in the middle stage of students (N = 476). The studies found a strong positive correlation between reduce and recycle and reduce and replace combinations in the female group. While a strong negative correlation was found between reuse and reduce and reduce and recycle, the coefficient values were -0.36 and -0.60, respectively. Nevertheless, the importance of fostering environmental conservation practices and connectedness to nature as complementary drivers of ecological behavior is that it should encourage more sustainable practices in routine lifestyles as individuals or participatory.

Keywords:

Sustainable practices, environmental correlation, replace, recycle, reuse, and reduce

I. Introduction

In the middle stage students, the level of education and awareness about sustainability issues can influence engagement in sustainable activities. Right education also contributes the implication of sustainable practices in the routine lifestyle and work as a key feature for the environmental protection. Students must be key players in encouraging sustainable activities in the dynamic field of environmental consciousness (Charles et al., 2018). Adopting the "Reduce, Replace, Reuse, and Recycle" (often known as the "4Rs") principles is one of the best ways to promote environmental awareness and conservation efforts. According to Otto and Pensini (2017), this idea inspires people, especially students, to make conscious decisions that reduce their environmental impact and promote a more sustainable and environmentally friendly way of living. Reducing resource usage is the first step in living a sustainable lifestyle. By being careful with their purchases, selecting products that require minimal packaging and staying away from single-use items, students can actively contribute to reducing waste (Ardoin NM, & Bowers AW., 2020).

Living a minimalist lifestyle encourages a more deliberate and mindful manner of living while also reducing the impact on the environment. Adopting sustainable substitutes is an essential component of the 4Rs. By substituting ecofriendly products with conventional ones, students may help preserve the environment. Reusable water bottles can be chosen in place of single-use plastic ones, energy-efficient appliances can be chosen, or products made of sustainable materials can be chosen (Michelsen & Fischer, 2017, Gupta S, 2011; Nayak D., 2012). Together, these little changes have a big impact on how sustainable our lifestyles are as a whole. The idea of recycling highlights how crucial it is to increase a product's lifespan. To cut waste and save resources, students can actively participate

in item reuse (Gupta S., 2011). This may include using cloth bags instead of throwaway ones, recycling old materials for art projects, or lending and sharing goods with friends. In addition to lowering the need for new resources, encouraging reuse also fosters ingenuity and inventiveness. Sustainable living is based on recycling since it makes it possible to reform waste materials into new goods. By taking part in campus recycling programs, sorting waste into recyclables and non-recyclables, and supporting campaigns that encourage proper disposal, students can make a difference. Recycling keeps items out of landfills and lessens the negative environmental effects of garbage (Ishak MH et al., 2016; Boca, G. D., & Saraçlı, S., 2019; Altassan, A. 2023).

The natural world is under stress right now, and the finest people to help improve it are kids. The 4Rs—Reduce, Replace, Reuse, and Recycle—are examined in this essay as a complete framework for helping students incorporate sustainable habits into their daily lives. Students who adopt these values not only help to preserve the environment but also cultivate a responsible and aware mindset that will surely influence the development of a more sustainable future. Significant and long-lasting improvements to environmental well-being can only be made by the student body working together.

II. Rationale of the Study

It is possible to determine whether there are differences in engagement with sustainable practices based on gender through research. To guarantee an equitable allocation of environmental duties and benefits, policymakers should consider identifying potential areas for intervention and developing policies based on whether genders are more inclined to engage in eco-friendly activities. It can offer insightful information on the behavior of consumers. Finally, the current research is essential for advancing inclusion, creating efficient regulations, and cultivating a deeper comprehension of the variables influencing environmental behaviors in various populations.

Objectives of the Study:

1. To study the correlation of sustainable practices in 4R activities in an individual group of girls and boys
2. To study the correlation among boys and girls in various sustainable practices of 4R

Hypotheses

- There is a strong positive correlation between individual groups in 4R activities
- There is a strong negative correlation between individual groups in 4R activities
- There is no measurably huge correlation in between the variety of sustainable practices among both genders

III. Methodology

Data Collection

The survey research method was used for the study and the nature of the study was purely quantitative. The population of the study comprised 476 students from 10 schools of Gandhinagar Gujarat. The probability sampling technique was used to select the representative sample, and simple random sampling was then used to select the students. In all, 476 students out of which 217 girls and 259 boys were selected from 10 schools of Gandhinagar, India were selected as samples for the study.

Analysis Process

A self-constructed and validated rating scale on regular lifestyle sustainable practices was used to collect the data from the sample. The individual group practices as well as combinational practices between two groups were analyzed using a correlation matrix in Microsoft excel.

IV. Analysis and discussion

Table 3.1 – Correlation matrix in the boys group

	<i>Reuse -m</i>	<i>Replace-m</i>	<i>Recycle-m</i>	<i>Reduce-m</i>
Reuse -m	1			
Replace-m	0.16642657	1		
Recycle-m	0.4175835	0.198187	1	
Reduce-m	-0.369855	-0.1291569	-0.601791668	1

The correlation matrix shows the strong positive correlation found between recycle and reuse (0.41) and the weak correlation coefficient found between replace and reuse (0.16) and replace and recycle (0.19). Reduced activity has shown a strong negative correlation in between recycle, reuse and replace activity as -0.60, -0.36 and -0.12.

Table 3.2 Correlation matrix in girls group

	<i>Reuse-f</i>	<i>Replace-f</i>	<i>Recycle-f</i>	<i>Reduce-f</i>
Reuse-f	1			
Replace-f	0.00598213	1		
Recycle-f	-0.042259	0.3227443	1	
Reduce-f	-0.0172073	0.5408266	0.682765935	1

The correlation matrix reveals that there is strong positive correlation coefficient between reduce and recycle (0.68), followed by reduce and replace (0.54) and recycle and replace (0.32). While, modest negative correlation identifies amongst recycle and reuse and reduces and reuse.

Table 3.3 Correlation matrix between both groups

	<i>Reuse-m</i>	<i>Reuse-f</i>	<i>Recycle-m</i>	<i>Recycle-f</i>	<i>Replace-m</i>	<i>Replace-f</i>	<i>Reduce-m</i>	<i>Reduce-f</i>
Reuse-m	1							
Reuse-f	-0.0165	1						
Recycle-m	0.4175	-0.0690	1					
Recycle-f	-0.0798	-0.0422	-0.0483	1				
Replace-m	0.16642	0.04704	0.1981	-0.01458	1			
Replace-f	-0.0779	0.0059	0.0224	0.3227	-0.0470	1		
Reduce-m	-0.3698	0.0797	-0.6017	0.02821	-0.1291	0.0648	1	
Reduce-f	-0.06562	-0.0172	-0.1029	0.6827	-0.1345	0.5408	0.07077	1

The red color indicating values shows an inter correlation difference between both genders. The table shows four R activity values revealing that six observations found the lowest positive correlation in between gender differences and ten strongest negative correlations obtained in the entire analysis.

V. Key findings

- In the boys group the value of coefficient indicate less interconnectivity amongst 4R activities in the daily lifespan which conclude the sustainable practices do not have significant correlation in an individual group.
- While in comparing with boys in girls group shows higher connectivity between all 4R activities which indicate the activities has strong interconnectivity in the sustainable practices.
- The huge difference was identified in between group comparisons activities. Amongst the sixteen combinations, ten combinational activities have negative correlation and six activities have moderate positive correlation in interlink connection. The study found that there is no significant correlation identify amongst both groups connectivity.

VI. Implications & Suggestions:

- The 4 R activities enable the students to be sensitive towards various environmental practices
- The sustainable practices on 4 R enable the boys to be an Ideal Citizens of the nation
- Boys should be provided more sensitization exposure in the school
- There should be equal opportunities and exposure be provided among the students to develop environmental practices
- The school requires to provide the curricular and extra-curricular activities through projects and field based activities to get sensitized with 4 R activities

VII. Conclusion:

The research that has been carried out on sustainable practices utilization in the routine life style of both genders students, it is conclude that girls are more contributing in compare with boys. The findings suggest that girls have more concern for environment protection and conservation while boys activities do not have noteworthy contribution in environment conservation.

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