

INFLUENCE OF SOCIO-CULTURAL FACTORS AND LOW ENROLMENT OF FEMALE GENDER IN ELECTRICAL INSTALLATION AND MAINTENANCE WORKS TRADE ON WOMEN EMPOWERMENT IN ADAMAWA STATE, NIGERIA

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Abstract

This study determined the perceived socio-cultural factors and effects of low enrolment of female gender in Electrical Installation and Maintenance Works Trade in Government Technical Colleges on women empowerment in Adamawa State. Two research questions and two null hypotheses guided the study. The population of the study consisted of 13 Electrical Installation and Maintenance Work Trade (EIMWT) teachers and 129 parents of National Technical Certificate Two (NTCII) EIMWT students in three Government Technical Colleges of Adamawa State. No sampling was done. The Instrument was validated by three experts and has reliability co-efficient of 0.85. Mean and Standard Deviation were used to answer the research questions while t-test was used to test the hypotheses. The findings of the study revealed that lack of female electrical technicians in the society who should serve as role models as one of the perceived socio-cultural factors affecting female enrolment, and low self-confidence of the female gender in technical education in Adamawa State as one of its influence. The study recommended among others that favourable policies should be made by the Adamawa State Government to encourage the emergence of more female electrical technicians in the society who should serve as role models to female trainees in EIMWT or would-be trainees.

Keywords: *Socio-cultural Factors, Socio-cultural Effects, Low Enrolment, Electrical Installation and Maintenance Works Trade, Women Employment.*

Introduction

In a bid to achieve Sustainable Development Goals (SDGs) 2016-2030 through Technical Vocational Education and Training (TVET), the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2016) has developed a strategy that aims to support the efforts of Member States to contribute to the transition towards sustainable societies and economies. Various priority areas have been developed by UNESCO and it includes promoting equity and gender equality. Additionally, according to the United Nations Development Programme [UNDP] (2019), the belief that education is one of the most powerful and proven vehicles for sustainable development is reaffirmed by achieving inclusive and quality education for all. The UNDP affirms that one objective of the Sustainable Development Goal 4 is to provide equal access to affordable Technical Vocational Education and Training, and to eliminate gender and wealth disparities, among others. Furthermore, mainstreaming gender equality and promoting equity through TVET policies and programmes is one of UNESCO's main priorities. This is achieved by making sure that all youth and adults, including vulnerable and disadvantaged groups, have equal access to learning opportunities and skills development. Therefore, if Adamawa State and Nigeria at large is to achieve SDGs 2016-2030 through TVET, there is need to increase females' enrolment into TVET programmes (especially Electrical Installation and Maintenance Works Trade) with respect to promoting equity and gender equality.

The current National Policy on Education of the Federal Republic of Nigeria (2013) places great emphasis on Technical and Vocational Education as an integral part of national development strategy. The policy describes Technical and Vocational Education as a comprehensive term referring to those aspects of the education process involving, in addition to general education: the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life. One aspect of TVET is the Electrical Installation and Maintenance Works Trade which is an engineering trade that equips students with trade skills, knowledge and attitudes needed in the area of domestic and industrial installation, cable jointing/battery charging and repairs, and winding of electrical machines (NABTEB, 2015).

Enrolment is the act of putting yourself or someone else onto the official list of members of a course, college or university, or group (Cambridge Dictionary, 2020). It can also refer to the number of people on the official list of members of a course (Collins Dictionary, 2020). Female gender on as used in this study is that sex gender of humans or that category of humans that produce non-mobile ova (egg cells) and are characterized by the presence of pronounced mammary glands (Grzimek, 2003; Martin & Hine, 2015). Researches has shown that the participation of females in TVET programmes in Nigeria technical institutions is generally low and very poor when compared to enrolment in general education programmes (Aina, 2006; Adedokun, Oviawe, and Barfa, 2015). Agwi and Puyate (2017) revealed that the poor enrolment into TVET programmes in Nigeria is more disturbing on female gender's participation. This low enrolment of females in TVET programmes have been attributed to several factors. According to Wubon (2013), education has not necessarily been a priority for the female gender because of socio-cultural beliefs and perverted mind-sets. It is believed that the place of the girl-child is in her husband's house. The male child is considered to be superior to the female-child in many aspects especially education, and that is why in most cases, only the male child has access to education.

The perception towards female enrolment in Technical Education is deeply influenced by sociocultural factors that we may or may not (as is often the case) be aware of. According to Engineers Without Borders Resources (2018), socio-cultural factors are the beliefs, customs and practices within cultures and societies that affect the thoughts, feelings and behaviours of its citizens. Examples of these cultural aspects according to Engineers Without Borders Resources include concepts of beauty, religious beliefs, material culture, attitudes, role of the family, societal status and perception of time.

Women empowerment is the process in which women elaborate and recreate what it is that they can be, do, and accomplish in a circumstance that they previously were denied (Kabeer, 2005; Mosedale, 2005). Rahman (2013) opines women's empowerment means accepting and allowing people (women) who are on the outside of the decision-making process into it. Rahman's definition puts a strong emphasis on participation in political structures and formal decision-making and, in the economic sphere, on the ability to obtain an income that enables participation in economic decision-making. Bayeh (2016) suggests that people are empowered when they are able to access the opportunities available to them without limitations and restrictions such as in education, profession and lifestyle. Therefore, women empowerment is all about equipping and allowing women to make life-determining decisions through the different problems in society and this can be achieved through an improved female enrolment in TVET and Electrical Installation and Maintenance Works Trade.

Statement of the Problem

Students' enrolment records of the three Government Technical Colleges spread across the three educational zones of Adamawa State shows that there is a decline in the enrolment of female students into Electrical Installation and Maintenance Works Trade. In 2016/2017 session, out of 70 students that were enrolled, 88.57% (62 students) were males and 11.43% (8 students) were females. In 2017/2018 session, there was an increase in enrolment as 146 students were enrolled; sadly, 94.52% (138 students) were males, leaving just 5.48% (8 students) as females. A decrease in enrolment was observed in the 2018/2019 session as 129 students were enrolled; sadly, only 4.65% (6 students) were females and 95.35% (123 students) were males (Adamawa State Post-Primary Board, 2019). The enrolment records therefore revealed that female students' enrolment into Electrical Installation and Maintenance Works Trade in the technical colleges in Adamawa State is low and discouraging. This has raised questions; what could be the cause of this undesired outcome? Could some perceived socio-cultural factors be responsible for the low enrolment? What perceived effects could this low female enrolment had on women empowerment in Adamawa State? Additionally, if this trend in female students' enrolment is not addressed urgently, the Electrical Installation and Maintenance Works Trade of the technical colleges in Adamawa State might end up having no female students enrolled in the programme in the near future, thus leaving the Adamawa community with the dearth of female technicians in electrical installations and maintenance. It is against this background that this study sought to ascertain the influence of socio-cultural factors and low enrolment of female gender in electrical installation and maintenance works trade in government technical colleges on women empowerment in Adamawa State, Nigeria.

Purpose of the Study

Specifically, the study sought to determine the:

1. Perceived socio-cultural factors affecting the enrolment of female gender in Electrical Installation and Maintenance Works Trade in Government Technical Colleges in Adamawa State.
2. Socio-cultural influence of low enrolment of female gender on women empowerment in Electrical Installation and Maintenance Works Trade in Adamawa State.

Research Questions

The following research questions guided the study:

1. What are the perceived socio-cultural factors affecting the enrolment of female gender in Electrical Installation and Maintenance Works Trade in Government Technical Colleges in Adamawa State?
2. What are the perceived socio-cultural influence of low enrolment of female gender on women empowerment in Electrical Installation and Maintenance Works Trade in Adamawa State?

Research Hypotheses

The following null hypotheses (H_0) were formulated and tested at 0.05 level of significance.

H_{01} : There is no significant difference in the mean responses of parents and teachers on perceived socio-cultural factors affecting the enrolment of female gender in Electrical Installation and Maintenance Works Trade in Government Technical Colleges in Adamawa State.

H_{02} : There is no significant difference in the mean responses of parents and teachers on perceived socio-cultural influence of low enrolment of female gender on women empowerment in Electrical Installation and Maintenance Works Trade in Adamawa State.

Research Methodology

The study adopted a descriptive survey research design. The instrument used for collecting data for this study was a structured questionnaire developed by the researcher titled Influence of Low Female Enrolment Questionnaire (ILFEQ). The questionnaire was divided into two sub-sections based on the two research questions that guided the study. The response options on the questionnaire were structured on 5-point Likert scale of Strongly Agree (SA) = 5, Agree (A) = 4, Undecided (U) = 3, Disagree (D) = 2 and Strongly Disagree (SD) = 1. The questionnaire was validated by three experts from Department of Electrical Technology Education, ModibboAdama University of Technology, Yola, Adamawa State. The population for the study consisted of 142 respondents (13 teachers and 129 parents of NTCII students in EIMWT). There was no sampling because the small and manageable population. Cronbach alpha formula was used to determine the reliability was found to be 0.85, hence the instrument adjudged to be highly reliable. A total of 142 copies of the structured questionnaire were responded to and 100% returned. The data collected were analysed and presented in tables. Mean and Standard Deviation were used to answer the research questions while the null hypotheses were tested using t-test. The data collected for this study was analysed using Statistical Package for Social Sciences (SPSS) version 20.0. In answering the Research Questions, an item with a mean of 3.50 and above was considered as Agreed (A) while an item with a mean less than 3.50 (3.49 and below) was considered as Disagreed (D). In interpreting the result of the t-test analysis as contained in the SPSS output, where the p -value was greater than .05 ($p > .05$), the null hypothesis was accepted and where p -value was less than or equal to .05 ($p \leq .05$), the null hypothesis was rejected.

Results

Research Question 1

What are the perceived socio-cultural factors affecting the enrolment of female gender in Electrical Installation and Maintenance Works Trade in Government Technical Colleges in Adamawa State?

Table 1: Responses of Teachers and Parents on the Perceived Socio-cultural Factors Affecting the Enrolment of Female Gender

| S/N | Items | Respondents | | | | | | Remarks |
|-----|--|---|------------|-------------|------------|-------------|------------|-----------|
| | | n _T = 13, n _P = 129, n _G = 142 | | | | | | |
| | | \bar{x}_T | σ_T | \bar{x}_P | σ_P | \bar{x}_G | σ_G | |
| 1. | Cultural sanctions on women which does not favour female education | 4.30 | 0.85 | 3.87 | 1.40 | 3.91 | 1.36 | Agreed |
| 2. | Cultural practices which are detrimental to the female child education | 4.23 | 0.43 | 3.39 | 1.14 | 3.47 | 1.12 | Disagreed |
| 3. | Cultural norms and values which | 4.30 | 0.85 | 3.80 | 1.17 | 3.85 | 1.16 | Agreed |

| | | | | | | | | |
|----|---|------|------|------|------|------|------|-----------|
| | encourage gender bias in school enrolment | | | | | | | |
| 4. | Societal beliefs that a woman's role lies in the kitchen or home | 4.15 | 0.80 | 3.98 | 1.37 | 4.00 | 1.33 | Agreed |
| 5. | Societal preference of a male child training to that of female | 4.23 | 0.59 | 3.82 | 1.17 | 3.86 | 1.13 | Agreed |
| 6. | Societal perception that a female child will transfer her knowledge and income into the family which they marry. | 3.23 | 0.83 | 3.55 | 1.21 | 3.52 | 1.18 | Agreed |
| 7. | Societal perception that technical careers like Electrical Installation and Maintenance Works is incompatible with a mother's role. | 4.07 | 0.86 | 3.81 | 1.28 | 3.83 | 1.25 | Agreed |
| 8. | Lack of female electrical technicians in the society who should serve as role models | 4.00 | 0.81 | 4.27 | 0.74 | 4.25 | 0.75 | Agreed |
| 9. | Child marriage which leads to teenage pregnancy | 2.76 | 1.16 | 3.06 | 1.32 | 3.04 | 1.31 | Disagreed |

| | | | | |
|-------------------|-------------|-------------|-------------|---------------|
| Grand Mean | 3.91 | 3.72 | 3.74 | Agreed |
|-------------------|-------------|-------------|-------------|---------------|

\bar{x}_T = Mean responses of Teachers, \bar{x}_P = Mean responses of Parents, σ_T = Standard Deviation of Teachers, σ_P = Standard Deviation of Parents, \bar{x}_G = Item mean of means, σ_G = Item Standard Deviation of means.

Results presented in Table 1 showed that the respondents (teachers and parents) agreed on seven out of nine perceived socio-cultural factors affecting female enrolment in Electrical Installation and Maintenance Works Trade in Government Technical Colleges in Adamawa State base on the item mean of means ranging from 3.52 to 4.25. Given a grand mean of 3.74, the respondents agreed on the perceived socio-cultural factors affecting female enrolment in Electrical Installation and Maintenance Works Trade in Government Technical Colleges in Adamawa State. Furthermore, with standard deviation ranging from 0.75 to 1.36, the results indicate that the respondents shared similar opinions on the questionnaire items.

Research Question 2

What are the perceived socio-cultural influence of low enrolment of female gender on women empowerment in Electrical Installation and Maintenance Works Trade in Adamawa State?

Table 2: Responses of Teachers and Parents on the Perceived Socio-cultural Influence of Low Enrolment of Female Gender

| S/N | Items | Respondents | | | | | | Remarks |
|-----|---|---|------------|-------------|------------|-------------|------------|---------|
| | | n _T = 13, n _P = 129, n _G = 142 | | | | | | |
| | | \bar{x}_T | σ_T | \bar{x}_P | σ_P | \bar{x}_G | σ_G | |
| 10. | Low self-confidence of the female gender in technical education in Adamawa State | 3.76 | 1.16 | 4.32 | 1.04 | 4.27 | 1.06 | Agreed |
| 11. | Little value from the society for the potential of the female gender in Electrical Installation and Maintenance Works | 4.00 | 0.81 | 3.86 | 1.36 | 3.71 | 1.32 | Agreed |
| 12. | Belief by the female gender that Electrical Installation and Maintenance Works Trade is masculine | 3.61 | 1.12 | 4.04 | 0.99 | 4.00 | 1.01 | Agreed |
| 13. | Less female occupational aspiration in Electrical Installation and Maintenance Works in Adamawa State | 3.92 | 0.75 | 4.06 | 0.95 | 4.05 | 0.93 | Agreed |
| 14. | Increased number of non-technical women in the field of Electrical Installation and Maintenance in | 4.07 | 0.75 | 3.71 | 1.35 | 3.74 | 1.31 | Agreed |

| | | | | | | | | | |
|-----|--|------|------|------|------|------|------|-----------|--|
| | Adamawa State | | | | | | | | |
| 15. | Forced child marriage in Adamawa State | 3.23 | 1.48 | 2.51 | 1.35 | 2.57 | 1.37 | Disagreed | |
| 16. | It has made promotion of social inclusion of the female gender in Adamawa State difficult | 2.92 | 1.11 | 2.93 | 1.35 | 2.93 | 1.33 | Disagreed | |
| 17. | Inability for the female gender in Adamawa State to command respect from their male counterparts | 3.00 | 1.08 | 2.97 | 1.30 | 2.97 | 1.28 | Disagreed | |
| 18. | It has contributed to the declining number of economically empowered females in Adamawa State | 3.61 | 1.12 | 3.43 | 1.33 | 3.45 | 1.31 | Disagreed | |
| 19. | Growing societal ideology that places less value on female education in Adamawa State | 3.38 | 0.96 | 3.44 | 1.17 | 3.44 | 1.15 | Disagreed | |

| | | | | |
|-------------------|-------------|-------------|-------------|---------------|
| Grand Mean | 3.55 | 3.52 | 3.51 | Agreed |
|-------------------|-------------|-------------|-------------|---------------|

\bar{x}_T = Mean responses of Teachers, \bar{x}_p = Mean responses of Parents, σ_T = Standard Deviation of Teachers, σ_p = Standard Deviation of Parents, \bar{x}_G = Item mean of means, σ_G = Item Standard Deviation of means.

Results presented in Table 2 showed that the respondents (teachers and parents) agreed on five out of 10 perceived socio-cultural effects of low enrolment of female students in Electrical Installation and Maintenance Works Trade in Government Technical Colleges on women empowerment in Adamawa State base on the item mean of means ranging from 3.71 to 4.27. Given a grand mean of 3.51, the respondents agreed on the perceived socio-cultural effects of low enrolment of female students in Electrical Installation and Maintenance Works Trade in Government Technical Colleges on women empowerment in Adamawa State. Furthermore, with standard deviation ranging from 0.93 to 1.37, the results indicate that the respondents shared similar opinions on the questionnaire items.

Research Hypothesis 1

H₀₁: There is no significant difference in the mean responses of parents and teachers on perceived socio-cultural factors affecting the enrolment of female gender in Electrical Installation and Maintenance Works Trade in Government Technical Colleges in Adamawa State.

Table 3: t-test analysis of responses on the perceived socio-cultural factors affecting the enrolment of female gender

| | \bar{x} | σ | n | df | α | t_{cal} | p | Decision |
|----------|-----------|----------|-----|-----|----------|-----------|------|----------|
| Teachers | 3.92 | 0.34 | 13 | 140 | 0.05 | 1.06 | 0.29 | Accepted |
| Parents | 3.73 | 0.62 | 129 | | | | | |

Key: \bar{x} = Mean, σ = Standard Deviation, n = Number of Respondents, df = Degree of Freedom, α = level of significance, t_{cal} = Calculated t-value, p = Significance (2-tailed)

The result on Table 3 reveals a t_{cal} of 1.06 with a p -value of 0.29. Since the p -value is greater than the alpha level of the test ($p > .05$), the null hypothesis is accepted. This means that there is no significant difference in the mean responses of parents and teachers on perceived socio-cultural factors affecting the enrolment of female gender in Electrical Installation and Maintenance Works Trade in Government Technical Colleges in Adamawa State.

Research Hypothesis 2

H₀₂: There is no significant difference in the mean responses of parents and teachers on perceived socio-cultural influence of low enrolment of female gender on women empowerment in Electrical Installation and Maintenance Works Trade in Adamawa State.

Table 4: t-test analysis of responses on the perceived socio-cultural influence of low enrolment of female gender

| | \bar{x} | σ | n | df | α | t_{cal} | p | Decision |
|----------|-----------|----------|-----|-----|----------|-----------|------|----------|
| Teachers | 3.55 | 0.56 | 13 | 140 | 0.05 | 0.21 | 0.83 | Accepted |
| Parents | 3.51 | 0.63 | 129 | | | | | |

Key: \bar{x} = Mean, σ = Standard Deviation, n = Number of Respondents, df = Degree of Freedom, α = level of significance, t_{cal} = Calculated t-value, p = Significance (2-tailed)

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he result on Table 4 reveals a t_{cal} of 0.21 with a p -value of 0.83. Since the p -value is greater than the alpha level of the test ($p > .05$), the null hypothesis is accepted. This means that there is no significant difference in the mean responses of parents and teachers on perceived socio-cultural influence of low enrolment of female gender on women empowerment in Electrical Installation and Maintenance Works Trade in Adamawa State.

Findings of the Study

From the answers provided by the results of the data analysis relating to the research questions and test of hypotheses, the following findings were made:

1. Lack of female electrical technicians in the society who should serve as role models and societal beliefs that a woman's role lies in the kitchen or home are the major perceived socio-cultural factors affecting female enrolment in Electrical Installation and Maintenance Works Trade in Government Technical Colleges in Adamawa State.
2. Low self-confidence of the female gender in technical education and less female occupational aspiration in Electrical Installation and Maintenance Works in Adamawa State are the major perceived socio-cultural influence of low enrolment of female gender on women empowerment in Electrical Installation and Maintenance Works Trade in Adamawa State.
3. There is no significant difference in the mean responses of parents and teachers on perceived socio-cultural factors affecting the enrolment of female gender in Electrical Installation and Maintenance Works Trade in Government Technical Colleges in Adamawa State.
4. There is no significant difference in the mean responses of parents and teachers on perceived socio-cultural influence of low enrolment of female gender on women empowerment in Electrical Installation and Maintenance Works Trade in Adamawa State.

Discussion of Findings

Findings with respect to research question one shows that the respondents agreed on seven out of nine perceived socio-cultural factors affecting female enrolment in Electrical Installation and Maintenance Works Trade in Government Technical Colleges in Adamawa State which are: Cultural sanctions on women which does not favour female education, Cultural norms and values which encourage gender bias in school enrolment, Societal beliefs that a woman's role lies in the kitchen or home, Societal preference of a male child training to that of female, Societal perception that a female child will transfer her knowledge and income into the family which they marry, Societal perception that technical careers like Electrical Installation and Maintenance Works is incompatible with a mother's role, and Lack of female electrical technicians in the society who should serve as role models. This finding is consistent with the findings by Adelakun, Oviawe, and Barfa (2015), Dokubo and Deebom (2017), Ayonmike (2014), and Olugbile (2010), who considered poor societal perception, social traditions, and religious and cultural beliefs as factors affecting female enrolments. Furthermore, the respondents did not consider cultural practices which are detrimental to the female child education and child marriage which leads to teenage pregnancy as perceived socio-cultural factors affecting female enrolments. This is in contrast to Afu, Gbobo, Ukofia and Itakure (2017) who found out that pregnancy and early marriages are factors that affect female enrolments. The corresponding hypothesis test shows that the parents and teachers shared similar opinions on the perceived socio-cultural factors affecting the enrolment of female gender in Electrical Installation and Maintenance Works Trade in Government Technical Colleges in Adamawa State.

With respect to research question two shows that the respondents agreed on five out of 10 perceived socio-cultural effects of low enrolment of female students in Electrical Installation and Maintenance Works Trade in Government Technical Colleges on women empowerment in Adamawa State which are: Low self-confidence of the female gender in technical education in Adamawa State, Little value from the society for the potential of the female gender in Electrical Installation and Maintenance Works, belief by the female gender that Electrical Installation and Maintenance Works Trade is masculine, Less female occupational aspiration in Electrical Installation and Maintenance Works in Adamawa State, and Increased number of non-technical women in the field of Electrical Installation and Maintenance in Adamawa State. This finding is in line with Olugbile (2010) who observed that

gender gap in education in Nigeria could be as a result of social traditions and cultural beliefs that limit girls' educational opportunities. The finding is also consistent with that of Usoro, Akpan, and Udoetuk (2014) who identified poor female aptitude for technical education as an influence of low enrolment of female gender. Furthermore, the respondents did not consider forced child marriage in Adamawa State, difficulty in promotion of social inclusion of the female gender in Adamawa State, inability for the female gender in Adamawa State to command respect from their male counterpart, declining number of economically empowered females in Adamawa State, and growing societal ideology that places less value on female education in Adamawa State as perceived socio-cultural influence of low enrolment of female gender on women empowerment in Electrical Installation and Maintenance Works Trade in Adamawa State. This finding is distinct from Hodge (2017) who asserts that investing in the education of females brings high returns in terms of breaking cycles of poverty and aiding economic growth, delays child marriage and early pregnancies, and empowers women both in the home and the workplace. The corresponding hypothesis test shows that the parents and teachers shared similar opinions on the perceived socio-cultural influence of low enrolment of female gender on women empowerment in Electrical Installation and Maintenance Works Trade in Adamawa State.

Conclusion

Based on the findings of the study, it can be concluded that lack of female electrical technicians in the society who should serve as role models and societal beliefs that a woman's role lies in the kitchen or home are the major perceived socio-cultural factors affecting female enrolment in Electrical Installation and Maintenance Works Trade in Government Technical Colleges in Adamawa State. Further, low self-confidence of the female gender in technical education and less female occupational aspiration in Electrical Installation and Maintenance Works in Adamawa State are the major perceived socio-cultural effects of low enrolment of female gender in Electrical Installation and Maintenance Works Trade in Government Technical Colleges on women empowerment in Adamawa State. Therefore, mechanisms should be put in place to adopt to improve female enrolment into EIMWT as a way of investing in the education of females in view of high returns in terms of breaking cycles of poverty and social vices that the females might be lured into, and thus aiding economic growth.

Recommendations

In view of the findings of the study, the following recommendations are made:

1. Provisions and favourable policies should be made by the Adamawa State Government to encourage the emergence of more female electrical technicians in the society who should serve as role models to female trainees in EIMWT or would-be trainees.
2. EIMWT teachers in Adamawa State in collaboration with corporate bodies should organize career seminars in order to enlighten the female gender on prospects of the trade and increase female occupational aspiration in Electrical Installation and Maintenance Works Trade.

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