

A REGRESSION ANALYSIS ON ACCESS POINTS FOR CLOSER FAMILY INTERLINKS

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ABSTRACT

The study determined the positive access points to closer family interlinks. The variables taken into consideration were workday and weekend alcohol consumption, father and mother's education, free time, current health status and quality of family relationship. The study made use of the data mining approach utilizing specifically the loading plot, and regression analysis. Results revealed that access points as to free time and quality of family relationship were evident as positive link and contributed an added value to closer family interlinks. In contrast, alcohol consumption posed an inversely related link while, parent's education was deemed to have no relational access point to closer family interlinks. On the other hand, current health status evidently manifested a direct proportional relation to fortify family relationship and functioning. Positive access points over the weaker ones, the closer the family relationships. Hence, it bears positive ripple effects towards children's academic performance and success.

Keywords: *access point, closer family interlinks, loading plot, regression analysis*

1.0 Introduction

Across cultures and history, the family is considered as the most enduring social institutions. Hence, a closer family interlinks ensures a strong societal foundation that can withstand the ever changing environment and other forms of emerging factors that may bring about social change. There are identified positive access points that ensures close family interlink like availability of free time, especially if it is spared for family bonding, quality relationship, health status including parent's education. Fahey et al. (2013), resonated that the structure and quality of relationships between family members are fundamental elements of family functioning which in turn has a major influence on the well-being of parents and children.

According to Bluma and Ivanova (2013), respective families know what is best for their children, and they can make a major influence to their children's education. Furthermore, it is important to build a close relationship between the school and family. Abed (2014), emphasized that individuals raised in a cohesive family structure are more likely to develop feelings of empathy and assume responsibility for their feelings. As affirmed by Gunjan (2012), it is necessary for today's society to understand the importance of having a healthy family relationship that neither successful career nor financial stability brings as much happiness our closest people do. Moreover, when healthy relationships with parents in family prevails the adolescents feels secure, well adjusted and feels that society accepts him. Father and mother's education has attributes to positive and negative measures. As a support, Berger, as cited by Lareau (1987), stressed that increasing parental participation in education can promote educational achievement while absence or less involvement of parents can destroy solidarity in the family.

On the contrary, there are negative access points that can deter in fostering closer family interlink particularly weekday and weekend alcohol consumption. It is hypothesized that the longer the time spent for alcohol consumption can lead to deteriorating family closeness and that the increased mobility of young people for recreation and leisure manifests further that the young are becoming more independent and are allowed greater freedom which may even result to juvenile delinquency.

Hence, this study determined the positive access points that were associated to closer family interlink. The negative access points threatened strong family relationships which in effect can influence the academic achievement and emotional stability of the children. From here, compensatory measures can be designed to address the identified gaps and regain ways to fortify close family interlinks

2.0 Methodology

There were seven identified variables, namely; workday alcohol consumption, weekend alcohol consumption, father's education, mother's education, free time, health and family relationships in a data set with 340 sample size taken from an educational study using data mining. It was subjected to analysis primarily using the loading plot to determine the collinearity of the identified variables. It was accompanied by a regression analysis, which analyzed the displayed pattern, extracted the P-value and R-squared to determine if the relationships are significant or not.

Table 1, shows the variables for analysis and its description with its corresponding rating scale.

Table 1. Variables, Description and its Rating Scale

Variable	Description	Rating Scale
Dalc	workday alcohol consumption	1 - very low 2 - low 3 - moderate 4 -high 5 -very high
Walc	weekend alcohol consumption	1 - very low 2 - low 3 - moderate 4 - high 5 - very high
Fedu	father's education	0 - none 1 - primary education (4th grade) 2- 5th to 9th grade 3-greater than 9 th grade
Medu	mother's education	0 - none 1 - primary education (4th grade) 2- 5th to 9th grade 3-greater than 9 th grade
Free time	free time	1 - very low 2 - low 3 - moderate 4 - high 5 - very high
Health	current health status	1 - very bad 2-bad 3-moderately good 4-very good 5- excellent
Family Relationship	quality of family relationship	1 - very bad 2-bad 3-moderately good 4-very good 5- excellent

3.0 Results and Discussion

Figure 1 depicts the number of collinearity variables which aided in eliminating the variables of the same representations to the study.

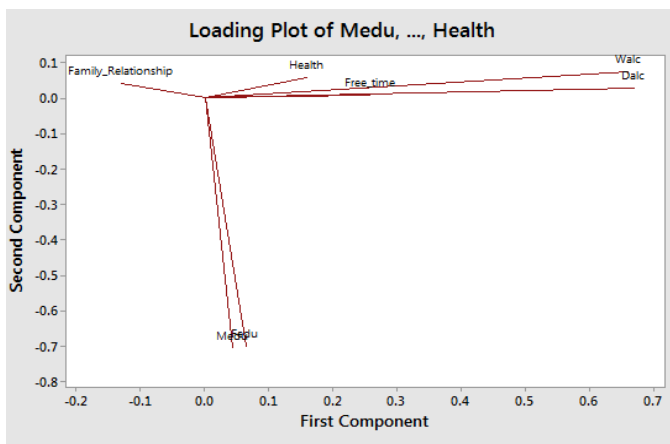


Figure 1. Loading Plot of the Seven Variables

As revealed in figure 1, work day alcohol consumption (Dalc) and weekend alcohol consumption (Walc) are collinear with each other as well as mother’s education (Medu) and father’s education (Fedu). With this, the collinear variables were combined so that Walc and Dalc are considered only as Alcohol Consumption and Medu and Fedu were fused to Parent’s Education. These collinear variables were combined/fused because both are of the same representations to the study. Thus, out of the seven independent variables, only five were retained, Family Relationship, Health, Free time, Alcohol Consumption, and Parents Education. Among these variables, Family Relationship is the variable of interest in this study, the rest are independent variables. These variables were subjected to regression analysis. O’Brien, R. (2016), amplified that multiple regression is designed to examine the association of each of the independent variables with the dependent variable while controlling for other theoretically and/or substantively important independent variables. The regression models used by researchers should be carefully specified to include the variables that need to be controlled in order to provide the information that is theoretically and/or substantively relevant in terms of these partial associations.

On Regression Analysis

Table 2. Effect of Health on Family Relationshipship

Regression Equation	Family Relationship = 3.57 + 0.113 Free time
R-squared	95.6%
P-value	0.004 very significant

Table 2, shows the regression model of Family Relationship versus Free time which is $\text{Family Relationship} = 3.57 + 0.113 \text{ Free time}$. The positive slope (0.113) signifies that free time is very close to family relationship as shown in Figure 2. It displays an increasing pattern and gives a higher P-value of 0.004 deemed as *very significant*. In this model, 95.6% of the deviation of the ratings of family relationship is described by the deviation of free time.

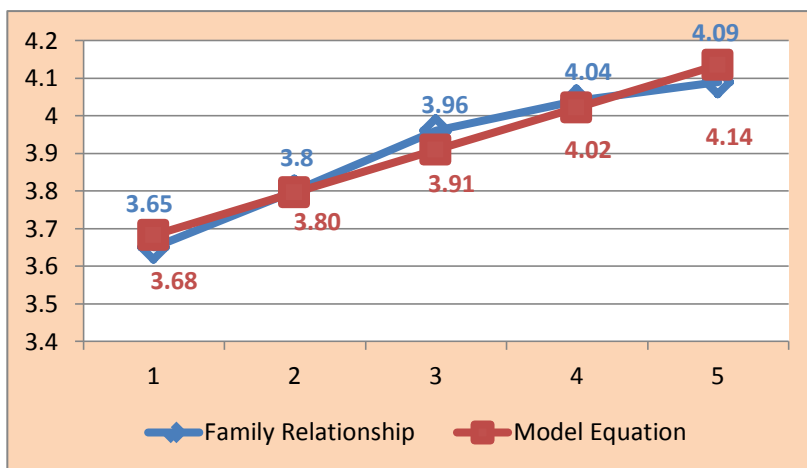


Figure 2. Family Relationship versus Free time

As gleaned in Figure 2, from very low (1) to moderate (3) free time obtained increasing moderately good(3.65, 3.8, 3.96) ratings on family relationship. The family relationship becomes very good(4.04, 4.09) when there is high(4) to very high (5) free time. As such, free time and quality of family relationship were evident as positive link and contributed an added value to closer family interlinks. In like manner, a family recreation and leisure time is one way to enhance family cohesion. Family functioning is strengthened and family members can communicate more effectively and have greater conflict resolution skills. (Borden et.al, 2014).

Table 3. Effect of Alcohol Consumption on Family Relationship

Regression Equation	Family Relationship = 4.11 - 0.0755 Alcohol Consumption
R-squared	81.4%
P-value	0.036 significant

As reflected in Table 3, the linear relationship between alcohol consumption and family relationship follows the regression model, Family

Relationship = 4.11 - 0.0755 Alcohol Consumption. The negative slope (-0.0755) indicates that Alcohol Consumption is far from the Family Relationship. This is manifested by the graph as shown in Figure 3. It displays a decreasing pattern and gives a higher P-value of 0.036 deemed as *significant*. Moreover, 81.4% of the variation of the family relationship rating is explained by alcohol consumption.

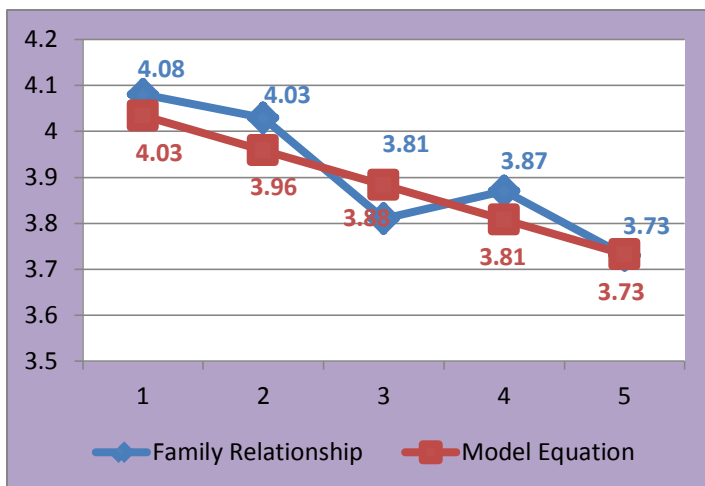


Figure 3. Family Relationship versus Alcohol Consumption

It can be observed from Figure 3, that at a very low (1) alcohol consumption, there is a very good (4.08) family relationship rating. However, as the alcohol consumption rises, the family relationship rating declines. In fact, having moderate(3) to very high (5) alcohol consumption, family relationship became moderately good(3.81, 3.87, 3.73). It implies that Family Relationship against Alcohol Consumption is inversely related. The higher the intake of alcohol, the lower is the family relationship. This further signifies that alcohol consumption is the negative access point to a closer family interlink. Results further connote that a family relationship is negatively affected if alcohol intake is too much. This conformed to the study of Jacobs, et al.(2016), that the alcohol consumption is inversely related to closer family interlink emphasizing that having family members who consumed alcohol and perceived drinking prevalence among peers can increase the likelihood of drinking.

Table 4. Effect of Parents Education to Family Relationshipship

Regression Equation	Family Relationship = 3.65 + 0.100 Parents Education
R-squared	39.6%
P-value	0.255 not significant

Table 4 presents the *not significant* P-value of .255 and lower R-squared values of 39.6 of the Family Relationship against Parents Education. In the study, there is no such interlinks with the parent’s education to a closer family relationships. It was deemed to have no relational access point to closer family interlink. Hence, the family relationship is independent of the education obtained by the parents. This claim of no relational access points to closer family interlinks has dearth of literature to support, thus researchers assumed being observed in today’s environment that family closeness still established or unestablished irregardless of parent’s education.

Table 5. Family Relationship versus Health

Regression Equation	Family Relationship = 3.68 + 0.0750 Health
R-squared	89.2%
P-value	0.016 very significant

Table 5 shows the regression model of Family Relationship versus Health whose equation is Family Relationship = 3.68 + .0750 Health. As depicted by the positive slope, an increasing pattern was displayed which correspond to a higher P-value of 0.016 deemed as *very significant*. This means that health is positively close to family relationship. In addition, 89.2% of the total variation in family relationship ratings is explained by variations in health condition.

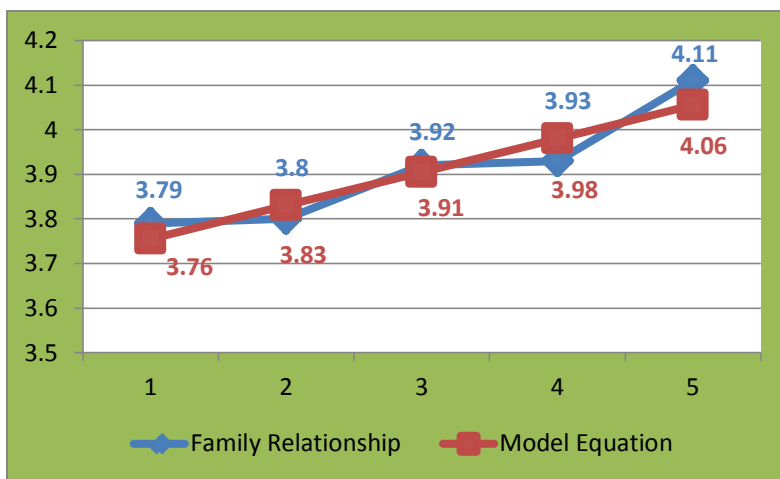


Figure 4. Family Relationship versus Health

As shown in Figure 4, a very bad(1) health correspondingly obtained a moderately good(3.79) family relationship. It can be observed that as the health

status progresses, the family relationship gets better. Besides, when health status reached excellent(5), it obtained a very good (4.11) family relationship. The result signifies that current health status evidently manifested a direct proportional relation to fortify family relationship and functioning. Accordingly, the better is the current health condition, the closer is the family relationship. The outcomes supported the study of Manne, Coups &Kashy (2016). According to them, individuals may be more motivated to adopt health practices if they consider the benefits of these behaviors to achieve close relationships. This connotes that adopting health practices are a matter of motivation that may result to closer family interlink.

4.0 Conclusion

The positive access points contributed to a closer family interlinks on health and free time while alcohol consumption is the negative access point to closer family interlink. Moreover, parent's education does not affect family interlinks. Hence, evidence of positive access points over the weaker ones, the closer the family relationship which in turn bears positive ripple effects towards children's academic performance and success.

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