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The Personal Based Factors Determinants of Child Labour in Tanzania

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Abstract
This paper examined the personal based factors which are determinants of child labour in small scale gold mining in Tanzania. Specifically, the study examined age, gender and education of the respondents which influence child labour practices in small scale gold mining (SSGM) in Geita region. Furthermore, the study used the case of Nyang'hwale district which is one of the districts in Geita region where SSGM activities are rampant compared to the rest of the districts. The study used a cross-sectional survey researches design. The primary data were collected by using questionnaires from 209 individuals who were randomly sampled from Nyang'hwale district in Geita region. Moreover, the study applied a newly developed method of measuring the age risk of children working under 18 years known as Eta Value. The researcher analyzed the data using the Structural Equation Modeling Partial Least Square (SEM PLS) with a combination of analytic techniques - statistics and artificial intelligence software. The study found that the child labour determinants under personal based factors were age, gender and education level of the respondents Moreover, the researcher found that micro-sociology focuses on the individual's micro aspects which are personal based – age, gender and education. The study concludes that the fundamental determinants of child labour practices in small scale gold mining in Tanzania are personal based factors. The study recommends prioritizing age, gender and education analysis for solving individual problems so as to eradicate child labour practices in Geita.

Keywords: Personal Based Factors, Age, Gender, Education, Child Labour

1. Introduction

Children are among the vulnerable groups despite the laws that protect their development. Meanwhile, child labour is a social problem which affects the development of the child mentally and physiologically. Sociologists widely apply child labour to study the children's engagement in activities that eventually lead them into child labour in small scale gold mining. The personal based factors such as age, gender and education have both direct and indirect (hidden) effects on child labour practices particularly in small scale gold mining. It is a common or traditional way of studies assessing the direct impact of personal based factors such as the gender and education that directly influence the child to join into labour practices. The hidden effect of the individual is likely overlooked. Most of the studies are limited on the direct effect of the socio-cultural factors. Therefore, this study aimed to examine the hidden or indirect effect of the child labour practices in Tanzania. Specifically, the study examined the indirect effects which are age, gender and education. There are large differences in child labour especially in small scale gold mining across regions in Tanzania. The Geita and the Manyara regions stand out as having the highest level of child labour due to having small scale gold mining activities that make them to have 56.4 per cent and 53 per cent respectively. At the other end of the spectrum lie the Mbeya and Njombe regions having 7 per cent of children involved in child labour activities being accelerated by small scale mining while the Dar es Salaam region the child labour incidence is just 1 per cent.

The study critically reviewed the empirical literature involving global, regional (Africa), and country (Tanzania) studies. This approach helped to get a broad knowledge of the understanding of the research problem from the global to the country level, from general to specific. Child labour is a problem not only in the small-scale gold mining sector but is a global social problem which harm children rights and endanger the life of the children at large. The ILO and UNICEF (2020) report shows 160 million children, of whom 63 million girls and 97 million boys are in child labour or 1 in 10 children worldwide. History reveals that children's participation in child labour in developed countries, such as Europe, Britain and North American nations like the United States of America, has existed for years (Radfar *et al*., 2018) [22].

2. Empirical Studies

Personal based factors as determinants of child labour

Abebe, and Fikre (2021) conducted a study on "individual, household, and community level factors of child labour in rural Ethiopia". The study aimed to develop frameworks (cause effect relationship), which could distinguish three levels of the factors namely individual, household, and community level factors for child labour. They used household surveys conducted in 2004, 2011, and 2016 by central statistical agency from 35, 827 children living in rural Ethiopia and the data were analyzed using Logit model. They found that child labour was influenced by number of factors which arose from child themselves, household, and community level impediments. The study concluded that child labour was a combination of individual, age, gender and education factors. At individual level the gender of child and biological relationship to the children were significant determinants of child labour. Female child engaged more in child labour than male in rural Ethiopia. They commended for the government to monitor, provide primary education and create awareness to minimize child labour in rural Ethiopia. The weakness of this study is that it put more emphasis on the personal based factors of the individual as the main factors pushing children into child labour. From the global perspectives the literature on personal based determinants of child labour leaves gaps which require further studies like this one. It failed to connect the cause-effects to the personal based factors so as to harmonize the determinants for child labour practices in small scale gold mining.

Other studies on the personal factors that influence child labour especially in small scale gold mining were undertaken by O'Brien, (2020) and Carrasco, (2017). It is observed that these studies were not conducted in Tanzania. They employed a triangulation data collection methodology, which concluded that child labour determinant causes included poverty and lack of access to education. The studies were silent in linking the age, gender and education factors as personal factors that influences child labour practices. Furthermore, while few studies have tried to be specific by examining the linkage of personal based factors to child labour, it is observed that these studies were not conducted in Tanzania. Examples of such studies are those undertaken by Evangelista and Filho (2010); Emerson, and Souza, (2011); and Bahar, (2014) in Brazil and Turkey. Other studies, such as Mazhar (2008), Huesca (2013) and Awotwe, (2020) were conducted in Pakistan and in West African countries like Mali and Ghana which are culturally different from Tanzania; hence, cannot be generalized for Tanzania.

Thiong'o (2020), conducted a study modelling the key determinants of child labour in Kenya using KNBS data-2017 household survey. It used a mixed effects binary logistic regression. The findings of the study indicated that the chance for the child to be engaged in work increased with age and concluded that higher child labour rates were among older children compared to the younger ones. They recommended for improved household living conditions by increasing monthly income. The weakness of this study is that it sampled children aged between 5-14 years leaving the other group of children according to international labour organization definition of a child. Moreover, despite dealing with the modelling of the key determinants of child labour, the study failed to specifically capture the structural micro-macro determinants of child labour making a gap for this study to be conducted in small scale gold mining rather than being too general which is the case with Thiong'o (2020). The study was not critical in terms of the personal based factors of education gender and age particularly on the side of the affected child labourers.

According to the National Bureau of Statistics report (2016) [30] on National Child Labour Survey conducted in 2014, the achievements are very minimal, from 2 million children in 2006 (ILFS, 2006) up to 4.2 million in 2014 (National Child Labour Survey, 2016). Moreover, the evidence presented by ILO (2020) [11] still indicates that in Tanzania, 4.2 million children aged 5-17 years, about 29 per cent of this age group, are caught in child labour. The trend of child labour in Tanzania increased from 2 million children in 2006 (ILFS, 2006) up to 4.2 million in 2014, whereby males were 52.3% and females were 47.7% across all sectors of the economy (National Child Labour Survey, 2016 and ILO, 2020) [11]. The government has tried addressing child labour problem in Tanzania, including implementing the national legal and policy frameworks. The policies include; the Child Development Policy (2008), National Employment Policy (2008), the Employment and Labour Relation Act (2004), and the National Child Labour Act No. 21 (2009). The government has also established Tanzania's Employment and Labour Relations Act No. 6 of 2004, which prohibits employment of children less than 14 years of age. On top of that, in 2009, the government and partners updated and revised the existing legislative and policy framework and programme activities, gathering them into a National Action Plan (NAP) to eliminate child labour (Tanzania national child labour survey, 2014) [30].

According to Johansson (2009) the causes of child labour in Babati town for all the children who were involved in the study were personal based because children were in need of money for food and other basic needs. Johansson (2009) revealed that the underlying cause of child labour was from the children's own perspective. Children worked because of reasons derived from poverty which resulted from many other reasons such as children having family problems-deceased parents, poor caretakers and forced by household head to go for labour. The weakness of the scholar in this part is that she partially was able to explain the personal based factors of the child to involve I child labour. The study failed to consider other personal based factors that forced children to engage in child labour such as gender, age and education. Therefore, the study motivated the researcher to study more on the literature on personal determinants of child labour so as to uncover other factors beneath children personal based factors, thus, fill the gap on personal determinants of child labour.

3. Methodology

3.1 Selection of Case Study Region and Data Collection

Data used in this study were obtained from 209 both children (105) and parents/ guardian (104) involved in small scale gold mining in Nyang'hwale district in Geita region. A cross sectional survey approach was used to collect quantitative information. For sampling, the simple random sampling method was used Tabachnick and Fidell (2007) [28] suggest a sample size of $N > 104 + m$ for multivariate data analysis (where N is the sample size that is the number children and parents in small scale gold mining in unknown target population (Nyang'hwale district of Geita region) and

m is the number of independent variables).

3.2 Population of the Study
According to Kothari (2007), the term population means an entire group of individuals, events or objects that have common observable characteristics. It refers to all elements that meet certain criteria for inclusion in a given universe. The study used case study-based approach and targeted population was children and parents /guardian who were engaged in small scale gold mining in Nyang'hwale district. The Tanzania population census (2022), show that Nyang'hwale district council has a total population of 225,803. Of the complete population estimates, the age groups 5-17 years which constitute the study group have 67,250 children out of which the sample was taken.

3.3 The Study Area
The study was conducted in Nyang'hwale district council in the Geita region in Tanzania. Administratively, Nyang'hwale district is one of the five districts in Geita region, including Bukombe, Chato, Geita, and Mbogwe. Its administrative centre is the village Kharumwa. It is bordered to the north by Sengerema district, to the east by Misungwi district and Shinyanga rural district, to the south by Kahama rural district, and to the west by Geita district. According to the 2022 Tanzania national census, the population of the Nyang'hwale District was 225,803 of which 112,495 are male and 112,308 female. (URT, 2022). The study took place in the wards of Nyijundu at the village of Kasubuya; Busolwa ward at Ifungadi village and hill; Kafita ward at Lushimba village and Mwingiro ward at Nyamikonze village where small scale gold mining takes place involving child labourers.

3.4 General Model Specification
The study used the following general model specification to determine the general objective of the study. That is, to develop the structural personal based model of child labour determinants.

Personal-Based Factors Model

$$PBF = \beta_0 + \beta_1 ED + \beta_2 GE + \beta_3 Age + \varepsilon$$

Where:

β_0 is the constant linear value at $\beta_1 = 1$,
ED is the education score,
GE is the gender score,
Age is the age score,
ε is the error terms, and
$\beta_1, .. \beta_n$ are the coefficient of the linear model.

4. Results and Discussion
4.1 Demographic Characteristics of the Respondents
Demographic and socio-economic characteristics of the respondents include gender, age, education, marital status, family status and work status, presented in Table 1 above. These characteristics provide the demographic descriptions of the respondents in the study. The research had 220 respondents' questionnaires to fill out at the Nyang'hwale district council in Geita region. Out of 220 respondents, only 209, equal to 95%, filled out and returned the questionnaires. According to Mugenda and Mugenda (2003) [17], a questionnaire return level of 50% is enough to analyse quantitative research. The same source also stipulates that a response rate of 70% and over is excellent.

Similarly, Hartman (1979), as used in Waziri (2019), argues that a 50% return rate is adequate, 60% is good, and 70% is perfect. Similarly, Saldivar (2012), as employed in Mussa (2020) [18], an acceptable or desirable response rate of 50% is deemed adequate for data analysis. Also, 60% is suitable for data analysis, and 70% is regarded very well for data analysis. Therefore, based on acceptable rate theory, the respondents' rate, which was 95%, is excellent to enable the researcher to analyze the data.

4.2 Descriptive Statistics

Table 2: The summary of the descriptive statistics for personal based variable

variable	Obs	Mean	Std. Dev.	Min	Max
CLI	209	0.6034	0.3765	0.0556	0.9815
PBF	209	8.0078	8.0936	0.13	23.11
GE	209	0.5837	0.4941	0	1
AGE	209	22.9771	24.1448	0.39	68
ED	209	0.4616	0.3220	0	1

Source: Author (2022)

Table 2 shows the descriptive statistics of the variables of the data sampled in the study. The table indicates that the child labour age index (CLI) averages 0.6034, ranging from 0.056 to 0.981. It means that the problem of child labour in the Geita region is great. The index evidences that most children of less age are involved in small scale gold mining activities. It indicates a value of 0.6034, which equals the age of 7 years, which is extremely risky. In other words, the CLI indicate the risk level relative to the age of the child. Moreover, the table indicates that, the personal-based factors score averages 8 with a range from 0.13 to 23.11. This value indicates that the people who engage in child labour practices are less educated and male with less age. The score range evidences this from 0.13 (minimum) to 23.11 (maximum). The personal based factors imply that 80. 07 percent of the respondents are influenced by personal based factors to join into child labour practices while only 19.03 percent are not pushed or pulled by their age, gender or education factors to enter into child labour practices in small scale gold mining. Therefore, personal factors are significant factors in causing children to opt for child labour.

4.3 Data cleansing report
The study cleansed the data distribution by testing normality, validity and reliability, and Multicollinearity (input correlation). Different software was used to cleanse the data each with its specific advantage.

4.3.1 Normality Test
Shapiro-Wilk did the normality test of the data with the aid of IBM SPSS statistics software. The data is normally distributed because the Shapiro-Wilk indicated the range of 0.002 to 0.021 significant levels. Hence, the researcher accepts the alternative hypothesis that the data are normally distributed because the Shapiro-Wilk significant value is less than the significant critical value of 0.05 (Peng and Finn, 2008) [20].

4.3.2 Multicollinearity Test

The study tested the Multicollinearity problem of the data using neural designer software, which detects the input correlation of the model. The researcher found that the data have no Multicollinearity problem because the input correlations are significantly less (Table 3).

Table 3: The input correlation of the structural socio-cultural child labour determinant model

GE	AGE	ED	PBF
0.0856169	-0.518457	-0.192867	-0.486981
0.0245358	-0.488603	-0.0954627	-0.472957
-0.016139	0.732014	0.395783	0.724292
-0.0193769	0.169101	0.306674	0.158247
-0.00377898	0.212323	0.308988	0.211473
-0.0358974	-0.426202	-0.116642	-0.413747
0.0207064	0.0402427	0.211717	0.0432766
-0.102287	0.116017	0.0463821	0.113931
-0.0449459	-0.362093	-0.0526314	-0.349423
0.0959823	-0.33359	-0.0779013	-0.300576
0.0131739	-0.290569	0.0249397	-0.27041
0.100343	-0.481519	-0.0708766	-0.438062
1	-0.0287663	0.0598506	-0.00756134
	1	0.485156	0.999702
		1	0.527178
			1

Source: Author (2023)

Table 3 show the input correlation of the personal based child labour determinant model which is measured by gender (GE), age (AGE) and education (ED). The table evidences that the data used have no Multicollinearity problem. The red color indicates the weak correlation of the inputs showing no Multicollinearity of the data. The discriminant validity values of the inner structural model of the constructs are less than the critical value of 0.8 hence are acceptable for the study.

4.3.3 Constructs Reliability and Validity Test

The study tested the reliability of the construct socio-cultural factor (SCF) by using Smart Partial Least Squares (PLS) software. Four methods measured the reliability: Cronbach's Alpha, rho_A, Composite reliability and Average Variance Extracted (AVE). Moreover, the validity was measured by discriminant validity. The results show that the construct is discriminant and reliable (Table 3 & 4).

Table 3: Constructs reliability test of the inner structural model

Constructs	Cronbach'	rho_A	Composite Reliability	Average variance extracted AVE
PBF	0.607	0.990	0.773	0.561

Source: Author (2023)

Table 4: Constructs discriminant validity test of the inner structural model

	PBF
PBF	0.749

Source: Author (2023)

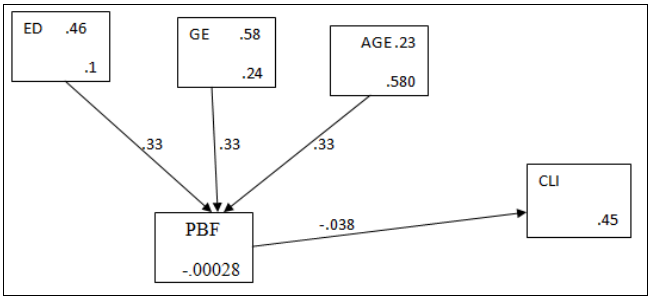
Table 4 show the construct reliability test of the inner structural model. The study was interested in testing the composite reliability of the model. The results show that the constructs PBF have significant composite reliability because its values is greater than 0.5 (Wold, 1982 & Dijkstra, 2010). However, the construct PBF has 0.607 Cronbach, which is acceptable because it is greater than 0.6 for a small sample size (Wold, 1982). On the other hand, the study found that the construct is discriminate because its discriminant validity value is less than the critical value 0.8 (Dijkstra, 2010).

4.4 Model Development

The model development involves the modelling of the basic structural outer model and inner structural model. The researcher aimed to get optimal inner structural model which was developed from the basic outer structural model.

4.4.1 Basic Structural Outer Model

The basic structural outer model aimed to test the theoretical assumption of the researcher that personal based factors (PBF) influences child labour practices in small scale gold mining. The model was created using Structural Equation Modelling Partial Least Square (SEM PLS) with the aid of Stata software (Fig 1).



Source: Author (2023)

Fig 1: Basic SEM PLS algorithms for a personal based model of child labour

Fig 1 show the personal based model of child labour determinants and indicate the direct and indirect impact of the constructs on child labour practices. Table 5 provides the path coefficients and their significant values (p-value).

Table 5: Path coefficients of the SEM PLS algorithm of the sociocultural model

Structural	Coef.	OIM Std. Err.	Z	P>|Z|	[95%Conf.	Interval]
PBF						
ED	.3330706	.0006546	508.81	0.000	.3317876	.3343536
GE	.3332445	.000372	895.74	0.000	.3325153	.3339736
AGE	.3333523	9.27e-06	3.6e+04	0.000	.3333342	.3333705
_Cons	-.0002805	.000516	-0.54	0.587	-.0012919	.0702003
CLI						
PBF	-0002805	.000516	-0.69	0.489	-.1467855	.0702003
_Cons.	-.0382926	.0553546	-0.54	0.587	-.0012919	.0007309

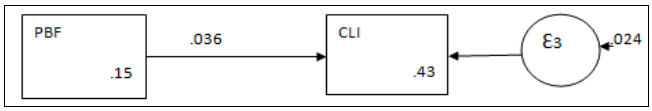
Source: Author (2023)

Table 5 shows the sociocultural model's path coefficients. The path PBF to education (ED) has positive coefficients of 0.3330706 with a z-score of 508.81and a p-value of 0.000. This path is significant because its p-value is less than the critical value of 0.05. Moreover, the path PBF to gender (GE) has positive coefficients 0.3332445 with a z-score of

895.74 and a p-value of 0.000. This path is significant because its p-value is less than the critical value of 0.05. Additionally, the path PBF to age (AGE) has a positive coefficient of 0.3333523 with a Z-score of 3.6e+04 and a p-value of 0.000. This path is significant because its p-value is less than the critical value of 0.05. Apart from that, the path PBF to child labour index has negative coefficient of -.0002805 with a Z-score of -0.69 and p-value of 0.489. This path is significant because its p-value is less than the critical value of 1.0.

4.4.2 New Developed (optimal) Structural Model

The study developed a new or optimal model, which defines the empirical structural relationship between the constructs PBF and CLI (Fig 2).



Source: Author (2023)

Fig 2: SEM PLS Optimal inner structural personal based factors model

Fig 2 shows the optimal inner structural sociocultural model of the child labour determinants and depicts child labour practices' direct impact/effects. On the other hand, Table 6 shows the path coefficients of the SEM PLS algorithm.

Table 6: The optimal SEM PLS path coefficients of the personal based model

	Coef.	OIM Std. Err.	Z	P>|Z|	[95% CONF. INTERVAL	
STRUCTURAL						
CLI						
PBF	.0359383	.0015552	23.11	0.000	.0328901	.0389865
_Cons	.4285161	.0320611	13.37	0.000	.3656775	.4913548
Var(e. CLI)	.0242573	.0023729			.0200252	.029384
Var(e. PBF)	53.99133	5.328719			44.49529	65.51399

Source: Author (2023)

LR test of model vs. Saturated: Chi2 (0) = 0.00, Prob > Chi2 =

Table 6 shows the path coefficients of the sociocultural factors model. The path CLI to PBF has a positive coefficient value of 0.03594, z-score 23.11 and p-value of 0.000. This path is significant at 95 per cent because its p-value is less than the critical value of 0.05.

4.4.2.1 Examination of the Indirect Effect of the Structural Model

The study examined the indirect effects of the personal based model of the child labour determinants to test the level of linearity impact of the construct on the CLI. The indirect coefficients (impact) of each construct are indicated (Table 7).

Table 7: Indirect effect of the structural micro-macro model of child labour

Indirect effects

	Coef.	OIM Std. Err.	Z	P>|Z|	(95% Conf. Interval)	
CLI						
PBF	.0002766	.000158	1.75	0.000	-.0206487	.0005862
ED	.0000921	.0000526	1.75	0.000	-.000011	.0001953
GE	.0000922	.0000526	1.75	0.000	-.000011	.0001954
AGE	.0000922	.0000527	1.75	0.000	-.000011	.0001954

Source: Author (2023)

Table 7 shows the indirect effect of the SEM PLS paths. The paths CLI to PBF have the indirect effect of 0.00028 in that there are indirect paths. This may also be interpreted that the path has both direct and indirect effects.

4.4.2.2 Evaluation of Mediation Effect

The study examined the mediation effect of the structural model. The researcher used the value account for (VAF) to evaluate whether the PLS paths are full or partial. The VAF is the ratio between the indirect effects to the total effects. It expresses the percentage of effect on the model output that is contributed or explained by the indirect path /relationship (Table 8).

Table 8: The value account for (VAF) of the structural personal based model

SEM PLS paths	Indirect effect	Total effects	VAF	Mediation
CLI-PBF	0.00028	0.00028	100	full

Source: Author (2023)

Table 8 shows the VAF values of the structural model. The table indicates the paths CLI to PBF have a full linear impact and that there are not indirect paths. The path CLI to PBF has VAF values of 100 significantly high, indicating mediation effect or indirect paths required. The full mediation implies that the construct needs another factor to be activated or motivated or pull/push to the child labour practices. In this case, the construct PBF needs other factor for it to influence child labour practices.

4.4.2.3 Test of the Goodness-of-Fit of the Structural Model

To ensure the empirical applicability of the model, the researcher tested the model by the goodness-of-fit statistics of the SEM. The overall statistics tests are provided (Table 10).

Table 9: Test of the Goodness-of-fit of the structural model

Fit statistic	Value	Description
Likelihood ratio		
chi2_ms(0)	0.000	model vs. saturated
p > chi2	.	
chi2_bs(10)	472.080	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.000	Root mean squared error of approximation
90% CI, lower bound	0.000	
upper bound	0.000	
pclose	1.000	Probability RMSEA <= 0.05
Information criteria		
AIC	924.087	Akaike's information criterion
BIC	984.249	Bayesian information criterion
Baseline comparison		
CFI	1.000	Comparative fit index
TLI	1.000	Tucker-Lewis index
Size of residuals		
SRMR	0.000	Standardized root mean squared residual
CD	0.154	Coefficient of determination

Source: Author (2023)

Table 9 shows the goodness-of-fit test statistics. The likelihood ratio reports two tests. The first is a model chi-square test of the structural model, which indicates statistically significant at a 99 per cent level, as the p-value of 0.000 is less than a critical value of 0.01. The saturated model is the model that fits the covariance perfectly. It is accepted at the 1 per cent level that the model fits and the saturated model. The second test is a baseline versus saturated comparison. The baseline model includes the mean

and variances of all observed variables plus the covariance of all observed exogenous variables. Therefore, it is accepted that the baseline model fits the saturated model. Under population error, the RMSEA value and the lower and upper bounds of its 90 per cent confidence interval reports. In this case, the researcher used the upper and lower bounds. As a rule of thumb, if the lower bound is below 0.05, it is accepted that the hypothesis is that the fit is close (Schumacker and Lomax, 2016) [26]. Therefore, it is accepted that the fit is close as the lower bound of this study is 0.000. On the other hand, if the upper bound is above 0.10, it is accepted that the hypothesis is that the fit is poor (Schumacker and Lomax, 2016) [26]; hence, we reject the hypothesis that fit is poor as the upper bound of this study is 0.000, which is less than 0.10. The Pclose is the probability that the RMSEA value is less than 0.05, interpreted as the probability that the predicted moments are close to those in the population (Schumacker and Lomax, 2016) [26]. The RMSEA value of this study is 0.000, indicating that the model fits closely. The Pclose is 100 per cent, which indicates the perfect model fits. In the baseline comparison, there are two indices, the comparative fit index (CFI) and the Tucker-Lewis Index (TLI), sometimes known as the non-normed fit index, both as a rule of thumb, values close to 1 indicate a good fit (Pituch and Stevens, 2016). In this study, the value of CFI is 1.000, and TLI is 1.000, equal to one. This study indicates the structural model is the best fit.

On the other hand, the size of residuals is reported as the standardized root mean squared residual (SRMR) and the coefficient of determination (CD). A perfect fit corresponds to an SRMR of 0, and a good fit corresponds to a small value at 0.08. And a value of CD close to 1 indicates a good fit (Pituch and Stevens, 2016). In this study, the structural model has an SRMR of 0.000 which confirms the better fits; the CD of about 0.154 is also a better determination fit of the model (Bundala, 2023).

4.5 Study Hypotheses

The study used three alternative hypotheses to determine if there was a significant relationship between age, gender, education (all of them being embedded within sociocultural factors) and child labour practices. Table 10 provides a summary of the significant test statistics:

1. There is a significant relationship between age and child labour practices.
2. There is a significant relationship between gender and child labour practices.
3. There is a significant relationship between education and child labour practices.

Table 10: Summary of the significant test statistics

hypotheses statement	$\beta - Values$	z-score	p-value	Decision
There is a significant relationship between age and child labour practices	0.036	23.11	0.000	Accept at 95 per cent
There is a significant relationship between gender and child labour practices	0.4891	26.52	0.000	Accept at 95 per cent conf.
There is a significant relationship between education and child labour practices	0.3815	24.62	0.000	Accept at 95 per cent conf.

Source: Field data (2023)

Table 10 shows the summary of significant test statistics: beta values (Coefficients), z-score and p-value of the structural model. The alternative hypotheses assume a significant relationship between age, gender, education factors and child labour practices. The relationship between age factor and child labour practices has a positive beta coefficient of 0.036, z-score of 23.11 and p-value of 0.000. Therefore, the researcher accepts the alternative hypothesis at a 95 per cent of confidence level because its p-value is less than 0.05. Again, the relationship between gender factor and child labour practices has a positive beta coefficient of 0.4891, z-score of 26.52 and p-value of 0.000. Therefore, the researcher accepts the alternative hypothesis at a 95 per cent of confidence level because its p-value is less than 0.05. Moreover, the relationship between education factor and child labour practices has a positive beta coefficient of 0.3815, z-score of 24.62 and p-value of 0.000. Therefore, the researcher accepts the alternative hypothesis at a 95 per cent of confidence level because its p-value is less than 0.05. This result means that personal based factors have a positive impact on child labour practices. The flow of child labour practices increases as much as the personal based factors are not improved. Therefore, it is concluded that the age, gender and education factors are push and pull determinants of child labour practices in small scale gold mining.

4.6 Discussion of the Findings

The study aimed to meet three specific objectives. It aimed to determine the personal based factor (PBF) which are age, gender and education that influence child labour practices in small scale gold mining (SSGM) in the Nyang'hwale district council in Geita region-Tanzania. Hence, the researcher established the personal based factors model of child labour determinants. The study uniquely introduced this model due to existing theoretical gaps in the personal based perspective (Amzat and Abdullahi, 2021) [1]. The researcher used the structural equation modelling partial least squares (SEM PLS) and automatic linear modelling (ALM) analytic techniques to establish the structural model that empirically defined or determined the personal based determinants of the child labour in small scale gold mining.

The model makes it possible to find the determinants or causes of a problem by analyzing the goodness-of- fit of the statistics and detecting the direct and indirect effects of the PLS paths, hence suggest appropriate means to deal with persistent child labour. From a theoretical perspective, personal based factors represent the micro-sociology and the interactionism theory (Amzat and Abdullahi, 2021) [1]. Therefore, it is learnt that in solving the sociological problem, the personal based factors need to be given consideration.

The findings of this study evidence that the personal based factors positively impact child labour practices; therefore, it is interpreted that the personal maturity and intelligence of the child labour practice is deterred or reduced. It is evident that, when an individual lack education, income and being a man (gender), is encouraged to engage in labour practices. The study furthermore examines the specific factors that influence the parent and the children. The researcher clearly distinguished between the parental and childhood determinants of child labour practice. The study found that personal factors are the most determinants of children's

engagement in child labour practices in small scale gold mining. The study considers the maturity of the individual (age), education level and gender to play part on the children to decide to engage in child labour. On the other hand, the findings indicated that being female, educated and mature (high age) reduces the number of child labour practices. These are determinants of the children to opt for child labour or otherwise. It was interpreted that the children only consider themselves capable and motivated to achieve economic survival.

The personal based factors are determinant factors of child labour by having 0.897 scores of empirical importance in the model. This finding means that it contributes about 89.7 per cent of the effect of the structural model or in child labour practices. The finding extended the personal based factors to include age, gender and education to enhance the results and conclusions. The positive impact are interpreted that the constructs age, gender and education accelerates and increases child labour practices whenever not well handled and vice versa. In a society or community that improves the personal based factors of age, gender and education might reduce child labour practices. It is evidenced that the society encouraging age, gender and education has experienced good child care and consequently, the child labour practice decreases.

This study introduces a new way or method of measuring the child labour problem in a country. The key factor in identifying the child labour problem is the relative age: the legal age and the current age of the child. The legal age in Tanzania is 18 years, and most literature report that the issue of child labour is at 5-17 years (ILFS, 2007; Malila & Mnguu, 2015; Idang, 2015; Hilson, 2016; Jeannotte, 2017) [33, 16, 9, 8, 12]. Therefore, this study introduces the child labour age index, Eta (η). It is the proportion or ratio of the difference between the legal age and the child's age to the legal age. This index is straightforward and understandable. The values range from 0.722 (maximum) problem to 0.056 (minimum) problem. These values correspond to the minimum and maximum ages. The values of 0.722 correspond to ages of 5 years. That is, if the country has Eta values of 0.722 in averages indicates that the problem of child labour is at maximum. That is, the children are working starting from the age of 5 years.

On the other hand, the value 0.056 corresponds to the maximum age of 17. That is, a country with an Eta value of 0.056 indicates the child labour problem experienced by children of 17 years. The Eta value in Geita is about 0.61, meaning that most children who engage in SSGM are about seven (7) years old. It indicates that children have a high age risk. This scale is very useful and essential in sociological studies, particularly in detecting the legal-aged determinants such as marriage, retirement age, schooling etc. Eta values measure the age-relative risk of the individual or country, which is age abused or children rights.

5. Conclusion and Recommendation

The study found that age, gender and education factors are the most important and impact child labour practices. The age factors are the foremost important determinant of child labour. It was revealed that whenever age exists, children lack parental care particularly of the father who ought to be inclined to one wife's household leaving the rest helpless. The children of the helpless mother are forced by the circumstances to engage in child labour. Moreover, education and gender are the second the third important child labour determinants respectively. This study established the empirical-importance order of the child labour determinants. This order is a significant help in ranking the empirical relevance of the grand paradigms in sociological studies. The order signifies the relevance in solving social issues. The study shows that the age and education factors positively influence child labour practices. On the other hand, gender factors also do positively impacting child labour practices.

In addition, the study finds that there are two distinctive determinants of child labour practices, parental and childhood determinants. Childhood determinants directly determine or influence the children or motivate the children to child labour practices. This factor is the socio-cultural factor particularly age, gender and education.

The parental determinants are the socio-cultural factors. These factors influence the parent or guardians in deterring child labour in small scale gold mining. These factors describe the two theories of sociology, functionalism and structural conflict, which describe macro sociology. Moreover, the study introduced a new level of social factors, the meso-factors, which take part in the micro and part of macro factors. Therefore, from these findings, the conclusion is that the personal based factors are fundamental childhood determinants of child labour in small scale gold mining and elsewhere.

From the conclusion above, the study recommends that the age, gender and education (personal based) factors are positively impacting the child labour practice in the small-scale gold mining. The study found that the age, gender and education of the respondents are the most determinants of children's engagement in child labour practices. The study considers the maturity of the individual (age), education level and gender to play part on the child labour. On the other hand, the findings indicated that being female, educated and mature (high age) reduces the number of child labour practices. These are determinants of the children to opt for child labour or otherwise. It was interpreted that the children only consider themselves capable and motivated to achieve economic survival.

Moreover, the researcher recommends that the personal based factors such as gender, age and education are significant determinants of child labour practices. Male children between 7 and 13 years and less educated are more likely to engage in child labour practices. Therefore, the study recommends improving education, particularly for males, because males are the future head of the family and are more highly independent than females. This study found that most children engaging in these practices are males.

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