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The Moderating Effect of Household Income on the Determinants of Parental Contribution to Children in Malaysia

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Abstract

Parents undertake the heaviest responsibility ever to prepare children for a brighter future. The study identified predictors towards parental contribution included parental characteristics, child upbringing, parental purchasing behaviour and financial strain. The moderating role of household income also was addressed. The study surveyed 2,182 respondents from low-income households with children under six years old and found that parental contributions towards their children's upbringing were significantly influenced by household income. Parental characteristics were detected as important drivers of parental contribution; child upbringing and parental purchasing behaviour influence parental contribution positively, but the negative effect of financial strain was revealed. On the other hand, the upbringing of the children and parental contribution made by parents are significant in deciding the household income. The study highlights that parental contributions play a crucial role in shaping children's character and development. Appropriate investments in children are essential to ensure they become decent human beings. Furthermore, the study underlines the practical implications for parents, government, and non-government organizations regarding investment in children. It is suggested that benefits, such as allowances provided by the Department of Social Welfare, should be allocated to needy families so that parents can invest in their children's future. This study emphasizes the importance of investing in children from low-income households to ensure a brighter future, and government and non-government organizations must support these families.

Keywords: child upbringing, financial strain, household income, parental contribution, parental purchasing behaviour

1.0 Introduction

Being a parent involves acquiring and using the knowledge and abilities necessary for conceiving, giving birth, parenting, and looking after one's offspring (Kalil & Ryan, 2020; Hoff & Laursen, 2019). On the other hand, investment is a long-term gamble in which the return on the company's share capital will be higher than its cost. Ditto, both aspects of parenting and investment encourage parents to put their money where their children's futures will be smoother, beginning in the womb. The degree to which parents are involved explains the range of possible outcomes; other factors at play include the quality of the surrounding world of their children and the parent's socio-economic status, among others (Raviv et al., 2004).

Moreover, parents' financial-related characteristics, for example, money attitude, financial practices (Sabri et al., 2020a); financial literacy, debt management (Abdullah et al., 2019); financial management, savings behaviour, investment behaviour (Sabri et al., 2020b); and the accessing ability to financial information sources (Hartini et al., 2021; Kim et al., 2021) are also important determinants of their financial well-being. Consequently, children from families with different socio-economic backgrounds and levels of parental financial security may face unequal access to educational and extracurricular activities.

Parents typically invest a significant amount of time and money in their children so that the latter might acquire the information and abilities necessary to satisfy the standards of the relevant industry (Sutherland & Nicholson, 2021). Due to this, children from wealthy families have an advantage over those from lower-income families since they do not have to concern themselves with money. Parents who earn higher incomes would have a stronger impact on their cognitive education, considering the advantages of that income range (Rizzo & Killen, 2020). Similarly, Cooper and Stewart (2021) highlighted that families with higher incomes are more likely to possess higher levels of human capital, enabling them to provide better academic support for their children and navigate public services more effectively to ensure that their child's needs are met. On the other hand, children born from less privileged households are more likely to have less access to resources like schooling and other opportunities than children whose households are better off (Dearden et al., 2021). Consequently, children born into poverty will perpetuate the cycle of poverty throughout their lives.

Besides parental characteristics, child upbringing is crucial in how parents can express their beliefs by raising their offspring (Chung & Tamis-LeMonda, 2019). However, children who experience a bad childhood will greatly impact their future social, emotional, and cognitive development. Studies indicate that children who undergo adverse childhood experiences, including abuse, neglect, or exposure to violence, are more likely to experience negative outcomes in areas such as mental health, academic performance, and social interactions. Such experiences can have long-lasting effects on a child's development and well-being. As the Department of Statistics, Malaysia (2016) disclosed, 4,569 juvenile offenders were charged with property-related crimes, drugs, and crimes related to people. In line with the study by Herrenkohl et al. (2019), which highlighted the importance of early interventions and prevention efforts to address the effects of child maltreatment on later criminal behavior. The article by Widom (2019) also finds that individuals who have experienced child maltreatment are more likely to engage in criminal behavior as adults, particularly violent and property crimes.

One of the most significant challenges that can arise when trying to raise children is limited access to financial resources. Studies have demonstrated that families who experience financial constraints may encounter challenges in fulfilling their children's essential requirements, such as education, housing, and nutrition. Such constraints can result in detrimental outcomes for children, including health issues and lower academic performance. To ensure that children have equal opportunities to realize their full potential, it is imperative to address financial barriers and offers support to families with limited financial resources. In most cases, children who originate from low-income homes misbehave because their families are struggling economically and are incapable of meeting their basic needs, such as their inability to pay their bills or purchase items that are required on a daily (Yoshikawa et al., 2013). Inescapable, children from low-income families become involved in juvenile delinquency, academic problems, depression, and many more (Labella & Masten, 2018; Shong et al., 2018). There were almost 43,428 cases of children coming from low-income families who dropped out of school in 2013. The hardships faced by the family may have been an obstruction for the parents when it comes to providing the fundamental necessities for their children, which may have a detrimental effect on the children's futures.

There is no denying that children feel the effects of their parent's financial stress. As a result of financial constraints, it can be challenging for parents and children to meet necessities without falling behind or postponing bills and other essentials (Masarik & Conger, 2017). A family's financial strain has a more substantial impact on a child's mental health. According to the National Health and Morbidity Survey report in 2017, 12.1% of Malaysian children ages 5-15 had mental health issues, and 30% were raised in troubled homes, many of which were economically unstable. Research has shown that children from low-income families may experience a range of stressors, including financial instability, lack of access to resources, and social stigma, which can increase their risk of developing depression (i.e. Kim et al., 2021).

Young children, particularly those younger than six years old, rely on their parents to make purchases since they lack the mental capacity to choose what they need or desire (Gopnik, 2020). Because of this, children acquire knowledge and abilities simply by observing their parents' daily lives. Consequently, youngsters frequently engage in a potentially harmful pattern of behaviour known as compulsive buying. In which the children imitate their parents' choices, attitudes towards consuming, awareness about items, abilities, and other buying behaviour. Eventually, these youngsters will become adults dependent on loans and declare bankruptcy, as we see nowadays when at least 25.6% of emerging adults between 18 and 34 were declared bankrupt owing to reckless spending (Malaysia Department of Insolvency, 2017).

The underlying theory of Human Capital (HCT) developed by Becker (1964) tries to apply economics to explain human behaviour to underline the determinants of individual choices toward human capital, where the investments chosen will decide the outcome later in life. The theory of child quantity-quality (Q-Q) Trade-Off by Becker and Lewis (1973) assumes that parents maximize the utility of child upbringing decisions through the two dimensions of quantity and quality. Trivers (2017) coined the Parent-Offspring Conflict Theory (POCT) to explain parental contribution, especially in human concepts. Lastly, the ABCD-XYZ Resource Management Model of Crisis/Stress proposed by Dollahite (1991) is known as the person to inaugurate the integration model of Family Resource Management Theory (FRMT), including the Family Stress Theory (FST). In the context of this study, Figure 1 shows the proposed research model based on the four theories above

consisting of explanatory variables (parental characteristics, child upbringing, parental purchasing behaviour, and financial strain), moderator variable (household income) and dependent variable (parental contribution).

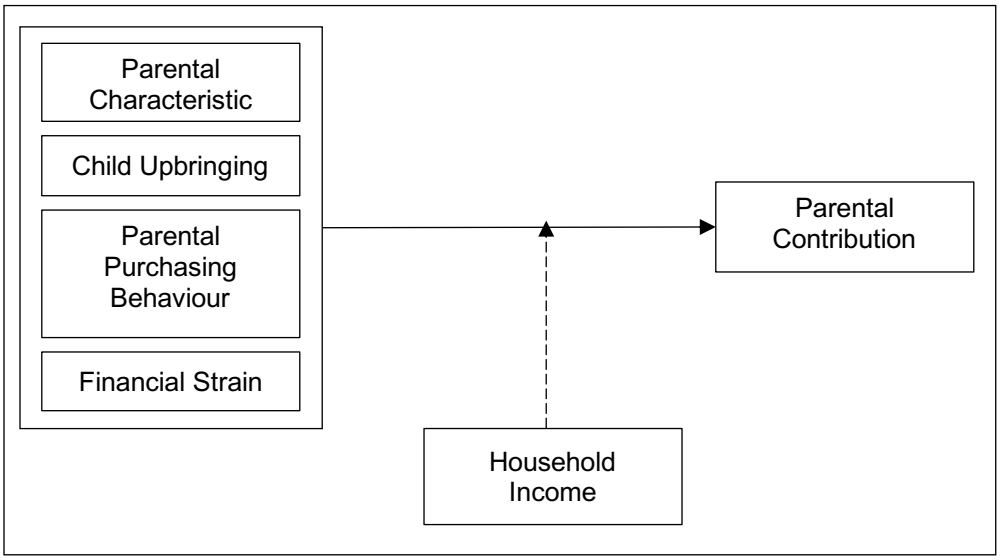

Figure 1 : Research Model

The Q-Q Trade-Off Theory is adopted in this study to clarify the variables such as parental characteristics and the moderation of household income on parental contribution. According to the Center on the Developing Child at Harvard University (2019), child upbringing, parental purchasing behaviour, and financial strain can be justified using POCT. The path of the financial strain and its effect on parental contribution from the 'X' factor to the 'Y' factor is the principal idea on how the ABCD-XYZ Model can explain. The 'X' factor, or the crisis (financial strain), to the 'Y' factor (coping and management) can be interpreted by parents' willingness to invest. Finally, the HCT is the main goal that represents the whole conceptual framework. At present, the parental contribution is complex since it is a dilemma for parents to choose whether to invest in themselves or their current or future offspring (Barrett et al., 2002). These theories are adapted and incorporated to propose the conceptual framework of parental contribution in Malaysia and, most importantly, to serve as a guideline to future researchers to ascertain other possible variables that better influence parental contribution.

It was predicted that there is a positive relationship between child upbringing and parental purchasing behaviour, with the parental contribution to children. However, it was hypothesized that children would contribute less when their parents were under financial stress. We postulated that parents' characteristics, children's upbringing, spending habits, and financial strain would strongly predict parental involvement in their children's lives. In particular, we anticipated that the household's income would strongly moderate the association between parental characteristics, child upbringing, purchasing behaviour, and financial strain on parental contribution to children. In light of the importance of including the moderating factor of household income into the conceptual framework on parental contribution, this paper investigates all the underpinning elements, including child upbringing, financial strain, and purchasing decisions.

2.0 Methodology

2.1 Sampling Technique

This study used a multistage sampling technique when selecting the study's sample. First, the states were chosen randomly to represent each zone, which resulted in the selection of South Perak (Central zone), Kedah (Northern zone), Negeri Sembilan (Southern zone), Terengganu (East Coast zone), Sabah, and Sarawak. Each state was divided into urban and rural areas to capture a holistic representation of the Malaysian household. Third, house-to-house sampling was done during the data gathering. One eligible person per household was interviewed, either the mother or the father, who is the one who dominantly spends on children's wants and needs.

The study received approval from the Universiti Putra Malaysia Ethics Committee (UPMRMC) (Reference number: JKEUPM-2015-F2). This study was conducted according to the ethics stipulated by the Declaration of Helsinki. All recruited respondents had to sign the consent form before proceeding to the questionnaire survey.

2.2 Procedures and Participants

Considering prior research that sheds light on the significant growth in children between infancy and the age of six, the participants in this study were chosen to be parents of young children. According to Ryan et al. (2015), children are in the most delicate era of their development between the ages of five and six. This far more critical

phase begins at birth and continues until the kid reaches the age of three years old. Another criterion is that the households involved in the study were middle (M40) and low-income (B40) earners. Based on the Eleventh Malaysia Plan 2016-2020, the M40 or middle 40% household income group refers to households with a mean (monthly) income of RM3,860 to RM8,319.

In contrast, the B40, or below 40% of the household income group, earns RM2,537 or lower. Middle-income households were chosen because they are thought to struggle more than high- and low-income households, owing to transportation, education, healthcare, and maintenance expenses. Meanwhile, low-income households have been chosen because this group is known for its low chances of attaining higher living quality.

The overall household population in this study for the six states was 2,533,577 people (DoSM, 2010). A suggested sample size of 384 households is enough for an entire study if the population is more than 1,000,000 (Smith, 2013). However, data from 2,400 households were collected during the study. Following the study's criterion, only 2,183 duly completed data sets were used in the analysis; thus, high-income households were removed. According to Tabachnick et al. (2007), a large sample size will increase the statistical power of the technique, meeting the assumptions of the logistic regression analysis.

2.3 Measurements

Five sections of variables were used for the study. The sections comprise respondents' background details (ethnicity, gender, age, marital status, and education level), number of dependents, household income, child upbringing, financial strain, parental purchasing behaviour, and parental contribution. All questions were close-ended except for household income and parental contribution, which are open-ended questions since the respondents needed to fill in the amounts they earned and spent, respectively.

Household income was determined using the 2014 Household Income and Basic Needs Survey (DOSM, 2015). This survey revealed that a household might earn money from four different sources: regular jobs, side incomes or self-employed, investments, and handouts (DOSM, 2016). The head of the household and the spouse (working) were inquired to fill in the income source. The total annual income of the head of the family and his or her spouse was then added to that amount to determine the household's income.

The child upbringing instrument was adopted from Rickel & Biasatti (1982) and modified from the original instrument in the Child Upbringing Report (CRPR). The instrument covers the nurturance scale within the dimensions of parents' behaviour and attitudes. The child's upbringing was measured in a six-scale range from (1) "does not represent me at all" to; (6) "highly represents me". The child's upbringing consists of seventeen statements (Cronbach's α=.956). The financial strain was measured by identifying situations that had occurred within the previous 12 months, based on six statements with a three-scale range; (1) Always; (2) Sometimes; and (3) Never. The instrument was adopted from Hilton & Devall (1997) (Cronbach's α=.79).

Parental purchasing behaviour was adopted by Kim et al. (2015), and some were added based on Malaysian parenting styles. This set of self-assessments ranges from (1) "strongly disagree" to (5) "strongly agree," which comprised questions dealing with budgeting, prudent spending, and branding. The ten items were divided into two dimensions with factor loading between 0.489 to 0.883. The dimensions were consumer-related preferences (6 items, Cronbach's α=.91) and consumer skills (4 items, Cronbach's α=.80).

Finally, parental contribution components are based on the Malaysian Household Income, Expenditure, and Basic Amenities Survey, 2014 (DoSM, 2015). However, due to the nature of the study, the questions were only focused on parental expenditures (referred to in this article as parental contribution) for children consisting of(1) foods, supplements, and milk; (2) clothing, footwear, and nappies; (3) healthcare, personal care [hygiene], and insurances; (4) education [tuitions, insurance, or any cognitive stimulation material]; (5) childcare [including housemaid, childproofing for items such as strollers, bedding, etc.]; and (6) extracurricular activities. The respondents needed to fill in the amount of spending for each item. In addition, categories of parental contribution are divided into two, high investment and low investment. The range score of parental contribution was based on Ilias et al. (2017). High parental contribution (RM701 and above) indicates the parents' ability, tendency, and willingness to invest in children, whilst low parental contribution (RM700 and below) indicates the parents' hardship in investing.

2.4 Data Analysis

Binary logistic regression was performed to determine whether the determinants; of parents' characteristics, child upbringing, parental purchasing behaviour (consumption-related preferences and consumer skills), and financial strain predict the parental contribution. According to Pallant (2013), logistic regression analysis is suitable for testing categorical outcomes of two or more categories. The interaction among explanatory variables (only significant after logistic regression was conducted) and the moderator was entered into Hayes et al. (2017) PROCESS Macro version 3.3 for analysis.

3.0 Results and Discussion

The characteristics of 2,183 respondents are summarized in Table 1. The mean age of respondents was 34.15 years old. While the mean number of dependents and the number of children were 4.91 and 1.31, respectively.

Table 1 : Socio-Demographic Characteristics of Respondents (n=2,183)

Characteristic's		**Frequency,**	**%**
Ethnicity	Malay	1247	57.1
	Chinese	269	12.3
	Indian	272	12.5
	Sabah native	234	10.7
	Sarawak native	161	7.4
Age (years old)	18-30	697	32.0
	31-39	1064	48.8
	40-49	377	17.3
	50 and above	41	1.9
Education Level	No formal education	8	0.4
	Primary school (UPSR)	32	1.5
	Lower secondary school (PMR/SRP/LCE)	240	11
	Middle secondary school (SPM/MCE)	1099	50.6
	High school (STPM/HSC)	182	8.4
	Diploma/ Certificate	378	17.4
	Bachelor's Degree	215	9.9
	Master/PhD	19	0.9
Marital Status	Married	2140	98.0
	Divorced	31	1.4
	Widowed	12	0.5
No. of dependents	1	3	0.1
	2-3	424	19.4
	4-5	1107	50.7
	More than 6	649	29.7

Characteristic's		Frequency,	%
No. of children	1	1281	72.6
	2-3	435	24.6
	4-5	42	2.4
	More than 6	7	0.4

The expenditure variables (Table 2) were based on the Household Income, Expenditure, and Basic Amenities Survey by the DOSM (2015). The mean household income was RM2960.18. The highest consumption was on food and non-alcoholic beverages (RM484.59), whereas the second highest was on housing, water, electricity, gas, and fuel, with an estimated average expense of around RM409.92 per month. This is contrary to the report by the Household Expenditure Survey (2015), stating that the main consumption was from housing, water, electricity, gas, and fuels, followed by food and non-alcoholic beverages. Next, transportation, gas, and fuel followed behind with an average monthly expense of RM224.01 and education RM200.10. On the other hand, the lowest contributor to household expenditure was from recreation services and cultures, with RM87.82. The overall mean household consumption expenditure was RM1783.18 per month.

Table 2 : Socio-Economic Characteristics of Respondents (n=2,180)

Respondent's Background	Frequency, n (%)	Average cost (RM)
Household income		
Less than RM3860	1,660 (76.1)	
RM3861-RM8319	520 (23.9)	
Household income adequacy		
Not enough	803 (36.8)	
Enough for most things	1,364 (62.5)	
Enough to buy all the things desired and could save money	16 (0.7)	
Household food adequacy		
Not enough food	44 (2.0)	
Enough for most food	939 (43.1)	
Enough to buy much food	1,195 (54.9)	
Household expenditure		
Food & non-alcoholic beverages	2,147	484.59
Alcoholic beverages & tobacco	654	116.90
Clothing & footwear	1,578	138.42

Respondent's Background	Frequency, n (%)	Average cost (RM)
Housing/rent, water, electricity, gas and fuels	2,110	409.92
Furnishing, household equipment & routine household maintenance	746	107.23
Health	1,230	109.28
Transportation, gas, and fuel	2,130	224.01
Communication	2,108	109.50
Recreation services & cultures	310	87.82
Education	1,168	200.10
Restaurants and hotels	1,650	178.05
Other miscellaneous goods & services	1,305	165.05
Total		1783.18

3.1 Relationship Between Child upbringing, Parental Purchasing Behaviour (PPB) and Financial Strain (FS) with Parental contribution on Children

Table 3 presents the correlation of child upbringing, financial strain (FS), and the parental purchasing behaviour (PPB) (two dimensions, namely consumer-related preference, and consumer skills) with the parental contribution. There is a positive significant relationship between child upbringing ($r=0.110$, $n=2,183$, $p<0.001$), and PPB ($r=0.188$, $n=2,183$, $p<0.001$), PPB (consumer-related preferences) ($r=0.194$, $n=2,183$, $p<0.001$), and PPB (consumer skills) ($r=0.079$, $n=2,183$, $p<0.001$) whereas a negative significant relationship between FS ($r=-0.111$, $n=2,183$, $p<0.001$) and the parental contribution.

Table 3 : Correlation of Child Upbringing, Parental Purchasing Behaviour, And Financial Strain with Parental Contribution

Variables	Value (r)	p-value
Child upbringing	0.110	<0.001*
Parental purchasing behaviour	0.188	<0.001*
Consumption-related preferences	0.194	<0.001*
Consumer skills	0.079	<0.001*
Financial strain	-0.111	<0.001*

* Significant at p <0.001

In the relationship between child upbringing and the parental contribution, it can be deduced that child upbringing influences

children's future achievements through parental contribution. This is because good interaction and communication between parents and children are very important for the development of the children. This is supported by Sultana et al. (2013) in her study on child upbringing and satisfaction among working women in Kedah, which disclosed that working mothers had not neglected their children but showed affection and commitment to their offspring by contributing knowledge and investing in them in education, nutrition, and intellectual development.

Parental purchasing behaviour (PPB) also correlates positively with parental contribution. Though, Wiese & Kruger (2016) suggested that parental influence may decrease with the growth of the children, and the elements of the essential part of purchasing components do not end there. Moreover, Wiese & Kruger (2016) in their study also concluded that students' behaviours of consumption patterns were based on their family's preferences. Furthermore, parents, peers, media, brands, and celebrities are primarily influential and/or role models to children, influencing their purchasing behaviour (Dwivedi et al., 2015; Wiese & Kruger; 2016). Parents' lifestyle through purchasing behaviour will influence children later in adulthood, where they become excessive spenders and engage in debts that may or may not lead to bankruptcy.

Besides that, the financial strain (FS) negatively correlates with parental contribution. Commonly, financial strain in the family may lead to high levels of stress and dissatisfaction in the family's relationship. Several researchers explored the potential effects of parental stress among low-income families on children's outcomes since low-income parents are associated with nonstandard work schedules. Previous studies have shown that financial stress can lead to negative outcomes for children, including behavioural problems such as aggression, anxiety, and depression. Parents who are struggling financially may experience heightened stress levels, which can affect their ability to provide emotional support and engage in positive parenting practices (Goodman et al., 2018; Yoshikawa et al., 2012). They reported that successful students with academic achievement come from families with less financial strain, i.e., from households where parents know how to manage family money through savings, punctual bill payments and avoidance of any unnecessary credit.

3.2 Relationship Between Parental Characteristics, Child Upbringing, Parental Purchasing Behaviour (PPB) and Financial Strain (FS) towards Parental Contribution on Children

Table 4 shows that only three of the five factors of parental characteristics were statistically significant in determining parental contribution. These were the parents' level of education, their race, and the number of children living in the family. Parents' education level plays a vital role in predicting parental contribution in children (B=-.880; Wald=57.36; p<0.001). Parents from lower and middle incomes who have completed higher education are equipped with the information necessary to nurture and self-educate their children, eliminating the need for the children to participate in additional classes. Looking at the negative significance suggests that although parents with higher education levels are supposed to be better at parental contribution, this study posits that household income is still a limitation. Therefore, as discussed before, these parents might decide that it is better to fulfil basic needs for the family instead of focusing on their young children.

Table 4 : Logistic Regression Predicting Likelihood of Parental Contribution

Predictor Variables	**Model 1**				
	B	**S. E**	**Wald.**	**p-value**	**Exp. (B)**
Parental characteristics					
Age (≥41 years old)	0.317	0.183	3.01	0.083	1.37
Level of education (high education)	-0.880	0.116	57.36	<0.001**	0.415
Ethnicity (Malay)	-0.467	0.109	18.46	<0.001**	0.627
No of children per household (3-4 persons)	-0.862	0.326	6.99	0.008**	0.422
Income inadequacy (Not enough)	-0.102	0.114	0.810	0.368	0.903
Child upbringing	0.013	0.005	7.13	0.008**	1.013
Parental purchasing behaviour					
Consumption related preferences	0.021	0.007	8.47	0.004*	1.021
Consumer skills	0.006	0.019	0.105	0.746	1.006
Financial strain	-0.092	0.036	6.45	0.011**	0.912
Constant	-0.152	0.671	0.051	0.821	0.859
Consumption related preferences	0.021	0.007	8.47	0.004*	1.021
Consumer skills	0.006	0.019	0.105	0.746	1.006
Financial strain	-0.092	0.036	6.45	0.011**	0.912

Significant levels; ***p<.001, **p<.01, *p<.05
B = B value, S. E = Standard Error, Wald. = Wald test, p = p-value, Exp. (B) = Odd ratio Cox and Snell R^2 = 0.093, Nagelkerke R^2=0.126, Omnibus Test χ^2 =161.61, p<0.001, df = 9, Hosmer-Lemeshow Test, χ^2 = 10. 195, p=0.256

Ethnicity (B=-0.467; Wald=18.46; p<0.001) shows a negative significance in predicting parental contribution. The parents' involvement and willingness to invest in their offspring might depend not only on the family form (e.g., single-family, dual-career family, divorced family) but also on the family's ethnicity (Schwartz & Finley, 2005). Ethnicity may affect parenting styles and socio-economic status (Keshavarz & Baharudin, 2013). The number of children per household indicates negative significance (B=-0.862; Wald=6.99; p=0.008) in predicting parental contribution. In contrast to Zeljo (2001), as his study found that the number of children was not associated with parents' involvement whereas study from Shao, He, Zhao & Su (2022), indicate that the number of the children in the family associated with the parental involvement, the higher the number the more involvement there will be. However, some studies concerning the number of children and parental contribution can be reviewed, such as the study by Datar et al. (2010) discovered that parents do not transfer their resources equally; some parents might invest in children based on age, achievement, health, and other potential factors. Nevertheless, Hepburn (2018) stated that young children below school age (below 6) need more care and extra investment from parents.

The level of parents' education predicted the likelihood of parents' investments towards children almost 1.3 times more than it did not invest towards children. Other than that, parents' ethnicity was 0.62 times more likely to predict a high level of parental contribution. Meanwhile, the number of children per household was 0.42 times more likely to predict parents who invest than to predict parents who do not invest. The other parental characteristics, age and income inadequacy, did not significantly predict parental contribution.

Child upbringing (B=.013; Wald=7.13; p=0.008) showed significant value in predicting parental contribution. The odd ratio indicated that the parenting style was 1.01 times more likely to engage in a high level of parental contribution than parents with low parental contribution. Thus, it is assumed that parents would offer better parenting style, such as nurturance and support for their children within the context of encouraging self-resilience, skills for helping others and sharing would have a better interaction with their children and turn out to have less prone to crime and violence (Keshavarz & Baharudin, 2013). Next, two dimensions of parental purchasing behaviour were tested in this model, but only one was significant, i.e. consumption-related preferences. Parents concerned with consumer-related

preferences can be influenced in predicting parental contribution, as seen in model 1 (B=0.021; Wald=8.47; p=0.004). The findings suggested that parents who prefer branded products were 1.02 times more likely to invest in their children. This result is in line with Ferguson & Brown (2018) study that emphasized parents who exhibit responsible and ethical purchasing behaviour can impart valuable lessons to their children about the importance of informed and ethical choices and responsible spending. This positive parental influence can help prevent negative behaviours in the younger generation such as materialism, overspending, and unethical purchasing practices. Children who grow up with positive attitudes towards money and financial responsibility are more likely to benefit in the long term, making good financial decisions throughout their lives. Sharma & Sonwaney (2014) also agreed that materialism and the parents' communication style, especially mother-child interaction, are vital to modelling children's behaviour in the future.

Alongside other variables, financial strain indicates a negatively significant (B=-0.092; Wald=6.45; p=0.011) in predicting parental contribution. Parents need to satisfy both the household and the children. Focusing only on children's needs would cause essential tasks, like paying utility bills, housing, and car instalments, to be delayed, especially among families with insufficient income resources. The negative relationship explains how parents must reduce or cut back on children's investments when financial strain exists. The ability to control financial strain is almost 0.9 times more likely to predict parents' willingness to invest.

3.3 The Moderating Effect of Household Income

Household income was added as an interaction term to identify the effect of household income on explanatory variables and parental contribution. According to Table 5, the value of the Likelihood Ratio Chi-Square test (Omnibus Test of Model Coefficient) is statistically significant. It indicates that the model was significant and fitted [χ^2 (df=3, n= 2,173) = 312.07, p<0.01]. On the other hand, the effect of parents' level of education was positive and significant (b=0.660, S.E.= 0.114, p<0.001), while the conditional effect of household income was also positive and significant (b=0.001, S. E. =0.000, p<0.001). The interaction term, however, was statistically insignificant (b =0.000, S.E. =0.000, p = -0.507) in the model. This indicated that household income

was not a significant moderator of the parents' level of education and parental contribution.

Table 5 : Interaction Effect of Household Income in the Relationship Between Parental Characteristics (Education Level) and Parental Contribution

Relationship	**-2LL**	**Model LL**	**df**	**p**	**Cox Snell**	**Nagelkrk**
Level of education * Household Income > Parental contribution	2520	312.07	3	<0.001*	0.1338	0.1837

Relationship	**Coeff.**	**S.E**	**z**	**p**
Level of education * Household Income > Parental contribution				
Constant	-0.643	0.051	-12.725	<0.001*
Education level	0.660	0.114	5.787	<0.001*
Household income	0.001	0.000	12.520	<0.001*
Interaction	0.000	0.000	-0.507	0.612

Significant levels; *p<0.001

Table 6 shows an interaction term between parents' ethnicity and household income. The model was statistically significant and fitted [2 (df = 3, n = 2,183) = 297.42, p<0.001] based on the Likelihood-Ratio Chi-Square Test results. Both the relationships between ethnicity and parental contribution [b=0.384, S.E.= 0.098, p<0.001], and household income and parental contribution (b=0.001, S.E. =0.000, p<0.001). were significant but when the interaction term was entered into the model, the interaction effect was not significant (b = 0.000 S. E. = 0.000, p = 0.285). Therefore, household income did not moderate the relationship between ethnicity and parental contribution.

Table 6 : Interaction Effect of Household Income in the Relationship Between Parental Characteristics (Ethnicity) and Parental Contribution

Relationship	**-2LL**	**Model LL**	**df**	**p**	**CoxSnell**	**Nagelkrk**
Ethnicity* Household Income > Parental contribution	2549.74	297.42	3	<0.001*	0.1274	0.1748
Relationship		**Coeff**	**S.E**	**z**	**p**	
Ethnicity* Household Income > Parental contribution						
Constant		-0.643	0.048	-13.32	<0.001*	
Ethnicity		0.384	0.098	3.91	<0.001*	
Household income		0.001	0.000	15.23	<0.001*	
Interaction		0.000	0.000	1.06	0.285	

Significant levels; *p<0.001

Parents practised negative parenting styles or harsh parenting styles from traditional beliefs in raising children, and how it may also be influenced by the families' financial instability, parents' age, ethnicity, and parent's level of education was pointed out by several previous research (Maduro, 2016). However, this study did not detect a significant moderating effect of household income on the relationship between ethnicity and parental contribution.

Another association that did not reach statistical significance in the interaction effect was the number of children per family (Table 7). Numbers of children and parental contribution (b= 0.918, S. E.= 0.333, p =0.006), and household income and parental contribution (b= 0.001, S. E.= 0.000, p <0.001) had significant positive relationships. However, a significant relationship was not found with the interaction term (b= 0.000, S. E.= 0.003, p=0.682). This negative correlation was explained by Blake (2020), who concluded that the number of children would be compromised by parents' time, emotional and physical energy, attention, and ability to communicate with each child in the household.

Table 7 : Interaction Effect of Household Income in the Relationship Between Parental Characteristics (Number of Children) and Parental Contribution

Relationship	**-2LL**	**Model LL**	**df**	**p**	**Cox Snell**	**Nagelkrk**
Number of children *Household Income > Parental contribution	2117.86	241.61	3	<0.001*	0.1279	0.1735
Relationship		**Coeff**	**S.E**	**z**	**p**	
Number of children * Household Income > Parental contribution						
Constant		-0.4833	0.052	-9.20	<0.001*	
Number of children		0.918	0.333	2.73	0.006**	
Household income		0.001	0.000	13.74	<0.001*	
Interaction		0.000	0.000	0.41	0.682	

Significant levels; *p<0.001, **p<0.01

The total value of household income in the model's representation of the correlation between raising children and the model was significantly fitted [χ^2 (df=3, n= 2,141) = 303.40, p<0.001] (Table 8). The relationship between child upbringing and parental contribution had a significant positive effect (b=0.017, S. E.=0.004, p=0.000), and the direct effects of household income and parental contribution also had a significant positive effect (b=0.001, S. E.=0.000, p<0.001). Furthermore, adding the interaction term (household income) significantly positively affected parental contribution (b=0.000, S.E.=0.000, p<0.001).

Table 8 : Interaction Effect of Household Income in the Relationship Between Child Upbringing and Parental Contribution

Relationship	**-2LL**	**Model LL**	**df**	**p**	**Cox Snell**	**Nagelkrk**
Child upbringing * Household Income > Parental contribution	2489.01	303.40	3	<0.001*	0.1321	0.1813
Relationship		**Coeff.**	**S.E**	**z**	**P**	
Child Rearing Practice * Household Income > Parental contribution						
Constant		-0.653	0.049	-13.36	<0.001*	
Child upbringing		0.016	0.004	3.88	<0.001*	
Household income		0.001	0.000	14.85	<0.001*	
Interaction		0.000	0.000	2.70	0.007**	

Significant levels; *p<0.001, **p<0.01

The values of LLCI and ULCI used to determine the precise condition for household income to be relevant to child upbringing. The impact that parental earnings have on the behaviours that children exhibit during their formative years is illustrated in Figure 2. The connection between child upbringing techniques and parental contribution was negative but non-significant at -1 SD (at-1369.51) on the centred household income variable (indicating low income) (b=0.0039, S. E.=0.0061, p =0.526). The connection was significant at the mean (at 0) on the centred moderator variable (indicating medium household income) (b =0.016, S.E. =0.0042, p<0.001). Finally, the relationship was positive and significant on the centred household income variable (indicating high household income) at + 1 SD (+1369.51) (b =0.028, S.E. =0.006, p<0.001). Low-income families tend to have low levels of child upbringing and therefore have lower levels of parental contribution towards children. On the other hand, high-income families would have a high level of child upbringing and an investment in children.

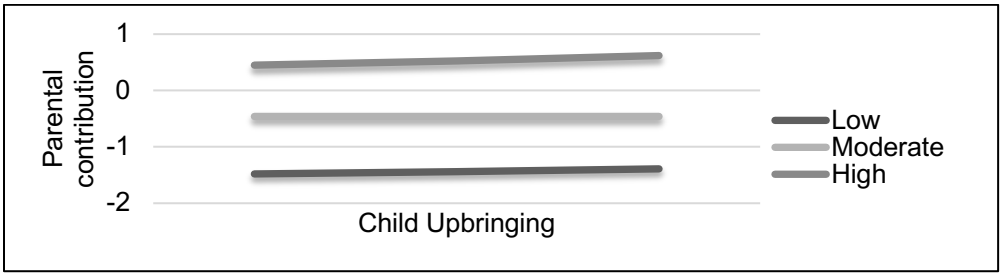

Figure 2 : Moderating Effect of Household Income Between Child Upbringing and Parental Contribution

The Likelihood-Ratio Chi-Square Test (Table 9) demonstrated that the total value of the household income model in the association between parental purchasing behaviour (PPB) and the consumer related preferences dimension was statistically significant, indicating that the model was substantially fitted [χ^2 (df=3, n= 2,161) = 299.52, p<0.001]. A positive significant effect was shown between child upbringing and parental contribution (b= 0.026, S.E. = 0.006, p<0.001), and the direct effects of household income and parental contribution also gave a positive significant effect (b= 0.001, S.E.= 0.000, p<0.001). Moreover, adding the interaction term (household income) displayed a non-significant effect on parental contribution (b = 0.000, S.E.= 0.000, p = 0.102).

Parents with financial insecurity struggle to handle the difficulty of choosing the best method to ensure their children's success in adulthood. Many parents tend to work overtime, part-time jobs, dual careers, etc., to fulfil the family's and children's basic needs. The Likelihood-Ratio Chi-Square Test showed that the overall value of the model of household income in the relationship between financial strain and parental contribution was fitted significantly [χ^2 (df=3, n= 2,137) = 276.74, p<0.001], (Table 10). A negative but significant effect was shown between financial strain and parental contribution (b =-0.040, S.E.= 0.033, p=0.220), and the direct effect of household income and parental contribution was given a positive significant effect (b= 0.000, S.E = 0.000, p <0.001). Furthermore, the addition of the interaction term (household income) displayed a non-significant effect on parental contribution (b= 0.000, S.E. = 0.000, p = 0.346).

Table 9 : Interaction Effect of Household Income in the Relationship Between Parental Purchasing Behaviour (Consumer-Related Preferences) and Parental Contribution

Relationship	**-2LL**	**Model LL**	**df**	**p**	**Cox Snell**	**Nagelkrk**
Consumer-related preferences * Household Income > Parental contribution	2516.44	299.52	3	<0.001*	0.1294	0.1777
Relationship		**Coeff.**	**S.E**	**z**	**p**	
Consumer-related preferences * Household Income > Parental contribution						
Constant		-0.635	0.050	0.001	<0.001*	
Consumer-related preferences		0.026	0.006	0.000	<0.001*	
Household income		0.001	0.000	13.96	<0.001*	
Interaction		0.000	0.000	0.000	0.103	

Significant levels; *p<.001, **p<.01

Table 10 : Interaction Effect of Household Income in the Relationship Between Financial Strain and Parental Contribution

Relationship	**-2LL**	**Model LL**	**df**	**p**	**CoxSnell**	**Nagelkrk**
Financial strain * Household income > Parental contribution	2513.29	276.74	3	<0.001*	0.1215	0.1666

Relationship	**Coeff**	**S.E**	**z**	**p**
Financial strain * Household income > Parental contribution				
Constant	-0.624	0.50	-12.51	<0.001*
Consumer-related preferences	-0.041	0.033	-1.23	0.219
Household income	0.001	0.000	14.36	<0.001*
Interaction	0.000	0.000	0.942	0.346

Significant levels; *p<0.001

Through logistic regression analysis, the overall results showed that parental characteristics such as education level, ethnicity, and the number of children per household could predict parental contribution. Furthermore, the parental contribution model found to be statistically significant between child upbringing, PPB (consumption-related preference) dimensions, and financial strain (FS). Among the parental characteristics, ethnicity and level of education showed the highest value of exp. (B). This indicates that Malay households are 0.63 times more likely to invest in children than other ethnic groups in this study, and parents' education level predicted a 0.415 times higher parental contribution than the other groups. Hong et al. (2012) found that Malays are associated with the permissive parenting style (low demand with high responsiveness), while the Chinese prefer the authoritative style of parenting (providing rules and responsibilities to children). Baker (2000), on the other hand, assumed that education correlates to parental contribution, with a successful career accompanying the education. Therefore, the income stability of the parents will be better and helps to provide economic support for the children to be better than their parents could have ever experienced.

Among other explanatory variables, parental purchasing behaviour (consumption-related preferences) showed a high value of significance, which is 1.02 times higher than other groups. Hence, nurturing children to become future consumers is a part of consumer socialization. The purchasing style of parents will facilitate the children

in making decisions on purchases as they grow older. As a result of their parents' purchasing decisions, children eventually adopt the lifestyle. On the other hand, child upbringing showed a value of 1.01, indicating that parents who applied a positive parenting style tended to invest more in children than other groups. For example, children learn to communicate, behave, interact, and develop their own identity based on their observation of their parents (Patel, 2014). He concluded that children with less interaction or engagement with parents tend to lack interest in school and are at risk of dropping out of school. Therefore, positive child upbringing is necessary for parental contribution.

The results of the moderating effect have concluded that only the relationship between child upbringing and parental contribution was moderated by household income. In their study, Ryan et al. (2015) examined the impact of family income as a moderator on the association between family change and children's behaviour. Further, they found that the changes in the family structure (e.g., the transition from two parents to a single parent) influenced children's behaviour differently when family income was considered. Low income and parental contribution in children do not assist children's achievement in the future.

Firstly, this study only selected parents with low and middle income from different backgrounds, for example, age, education, income adequacy, etc. Therefore, the inclusion of high-income parents in future research should be recommended to understand and compare children's outcomes from different perspectives. Even though children from high-income families have many advantages, many cases reported are problematic to society, and not all have become successful in many aspects of their lives.

Secondly, this was a cross-sectional study. A longitudinal study should be conducted to further understand the interaction between parents and children, especially in physical and social environments, health, behaviour, and development. Nonetheless, this study has only targeted children below six years old, where parents influence most of the household decisions. Therefore, future studies should include adolescence as a part of research since this age stage has broader and more complex socialization. Parents (and immediate family members) are not the only socialization agents in children's life but also peers, school environment, home environment, teachers, non-family adults, and most notably, celebrities. They can all influence adolescent

development and eventually lead to better adulthood. Therefore, their effects also should be considered.

Thirdly, the backbone of this study consists of the HC Theory, the Child Quantity-Quality (Q-Q) Trade-Off Theory, the POCT, and the ABCD-XYZ Resource Management Model of Crisis/Stress. All theories have been used in this study to develop parental contribution based on suggested variables. However, other variables may explain the model of parental contribution in the future, for example, the emotional and perceptive aspects of the parents.

4.0 Conclusion and Recommendations

This study aimed to investigate the factors that have a role in determining parental contributions and the effect that family income has on the strength of the correlation between those factors and parental contributions for children living in Malaysia. The study adds to the growing body of evidence that parental characteristics such as education level, ethnicity, and the number of children per household are essential drivers of parental contribution. Further, the parents' age and income adequacy were not significant characteristics of parental contributions. In addition, raising children and PPB (consumption-related preferences) positively affected the beneficial effect of parental contributions, while the negative effect of financial distress was identified. Finally, when the moderation of a family's income was considered, the moderating effect was only seen in the association between the upbringing of children and the contributions made by their parents.

Quality education is the foundation for improving people's lives and sustainable development, as stated in Goal 4 Sustainable Development Goals (SDGs) by United Nations (UN). In addition, ensuring healthy lives and promoting well-being for all ages is essential to sustainable development, as in Goal 3 of SDGs. This includes achieving universal health coverage, including financial risk protection. Unfortunately, in the current research, parents possess low parenting styles. Therefore, by understanding this matter, parents must adopt better parenting styles and establish clear, rational guidelines by allowing their children to have their own opinions without transgressing boundaries. This might ensure the children's psychological well-being and help them increase their self-esteem to become successful, confident adults.

Malaysia aims to achieve zero hardcore poverty by 2025. While SDG 8 aims to promote economic growth and decent work for all. This means opportunities for everyone, including the low education and income parents, **to get productive work that delivers a fair income, security in the workplace and social protection for families.** Thus, t**he** knowledge gained from this study is vital for policymakers and professionals to develop child support and welfare programs, especially for low-income households bringing up their children because Muhsin (2017) found that many parents from low-income families do not have enough money to spend on their children's basic monthly necessities, such as food, school materials, clothing, and medical expenses. Therefore, it is recommended to allocate benefits to needy families, such as allowances by the Department of Social Welfare, so parents can invest in their children's future.

To our knowledge, mechanisms for identifying the support needs and care objectives for needy children are generally lacking. Goal 10 of SDGs aims to reduce inequalities, where suggested policies should be universal, paying attention to the needs of disadvantaged and marginalized populations. Therefore, assessing the needs of low-income families could be undertaken by employing a systemic and contextual approach and considering all the family members. Additionally, the identified determinants that significantly affect parental contributions should be considered for future policy programs to make parents better' equipped' to offer good quality child upbringing.

References

Baker, R. (2000). Sex in the Future: The Reproductive Revolution and How It Will Change Us. Arcade Publishing.

Becker, G. S. & Lewis, H. G. (1973). On the interaction between the quantity and quality of children. *Journal of Political Economy, 81*, 279–288.

Center on the Developing Child at Harvard University. (2019). Brain architecture. Retrieved from https://developingchild.harvard.edu/science/key-concepts/brain-architecture/

Chung, H., & Tamis-LeMonda, C. S. (2019). Childrearing values in the United States and Korea: A comparison of parents' beliefs and goals. *Journal of Cross-Cultural Psychology*, 50(4), 423-441.

Cooper, K., & Stewart, K. (2021). Does household income affect children's outcomes? A systematic review of the evidence. *Child Indicators Research*, 14(3), 981-1005.

Datar, A., Kilburn, M. R., & Loughran, D. S. (2010). Endowments and parental contributions in infancy and early childhood. *Demography, 47*(1), 145-162.

Dearden, L., Greaves, E., & Myck, M. (2021). Socioeconomic inequalities in early childhood development: A UK perspective. *Early Childhood Research Quarterly*, 56, 303-314.

Department of Statistics Malaysia (2016). Children statistics, Malaysia 2016. Retrieved from https://www.dosm.gov.my/v1/index.php?r=column/pdfPrev&id=NVYwaEtwM21MempVbWpBZFpxOFZHZz09

Dollahite, D. C. (1991). Family resource management and family stress theories: Toward a conceptual integration. *Lifestyles, 12*(4), 361-377.

Duncan, G. J., & Murnane, R. J. (Eds.). (2011). Whither opportunity? Rising inequality, schools, and children's life chances. Russell Sage Foundation.

Dwivedi, A., Johnson, L. W., & McDonald, R. E. (2015). Celebrity endorsement, self-brand connection and consumer-based brand equity. *Journal of Product & Brand Management, 24*(5), 449-461.

Ferguson, B. J., & Brown, J. M. (2018). Parental financial socialization and young adults' financial management. *Journal of Family and Economic Issues*, 39(3), 458-469.

Goodman, L. K., Crouter, A. C., & Lanza, S. T. (2018). Longitudinal associations between financial strain, parenting, and young children's behaviour problems. Journal of Marriage and Family, 80(1), 211-225.

Gopnik, A. (2020). The gardener and the carpenter: What the new science of child development tells us about the relationship between parents and children. Farrar, Straus and Giroux

Hartini, N. N., Hasyim, R. F., & Fattah, M. (2021). Parental financial literacy and children's financial behaviour: A study on Indonesian Muslim families. *Journal of Islamic Accounting and Business Research*, 12(3), 557-570

Herrenkohl, T. I., Hong, S., Klika, J. B., Herrenkohl, R. C., & Russo, M. J. (2019). Developmental pathways from child maltreatment to adolescent criminal offending: A multilevel modeling approach. *Journal of Interpersonal Violence*, 34(6), 1236-1262.

Hibbert, J., Beutler, I., & Martin, T. (2004). Financial prudence and next generation financial strain. *Financial Counselling and Planning, 15*(2), 51-59.

Hilton, J. M. & Devall, E. L. (1997). The family economic strain scale: Development and evalution of the instrument with single and two parent families. *Journal of Family and Economic Issues, 18*(3), 247-271.

Hoff, E., & Laursen, B. (2019). Socioeconomic status and parenting. In *Handbook of parenting* (pp. 421-447). Routledge.

Kalil, A., & Ryan, R. (2020). Parenting practices and socioeconomic gaps in childhood outcomes. *The Future of Children*, *30*(1), 29-54.

Keshavarz, S., & Baharudin, R. (2009). Parenting style in a collectivist culture of Malaysia. *European Journal of Social Sciences, 10*(1), 66-73.

Kim, C., Yang, Z., & Lee, H. (2015). Parental style, parental practices, and socialization outcomes: An investigation of their linkages in the consumer socialization context. *Journal of Economic Psychology, 49*, 15-33.

Kim, D., Dagher, R. K., Chen, Y., & Alphonso, A. L. (2021). Longitudinal associations between poverty and depression among children in the US: The role of family conflict and child gender. Journal of Affective Disorders, 295, 247-253.

Kim, J. H., White, J., Law, D., & Dean, A. (2021). Parents' and students' financial literacy, parental involvement, and financial stress as predictors of college students' financial behaviour*. Journal of Financial Counseling and Planning*, 32(1), 115-128

Labella, M. H., & Masten, A. S. (2018). Family influences on the development of aggression and violence. *Current Opinion in Psychology*, *19*, 11-16.

Lenka, U. (2015). A review on impact of socialization agents in breeding consumerism among children. *Global Business Review,16* (5), 867-878.

Long, P., Forehand, R., Wierson, M., & Morgan, A. (1994). Does parent training with young noncompliant children have long term effects? *Behavioural Search and Therapy, 32*,101-107.

Maduro, R. S. (2016). *Understanding the Determinants of Parental Decision-Making and Harsh Parenting behaviour*. Doctor of Philosophy (PhD), dissertaion, Psychology, Old Dominion University, Doi: 10.25777/)pta-e373. Retrieved from https://digitalcommons.odu.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1030&context=psychology_etds.

Malaysia Department of Insolvency. (2017). Bankruptcy Statistic December 2017. Retrieved from http://www.mdi.gov.my/index.php/about-us/resources/statistics/bankruptcy/1233-

Masarik, A. S., & Conger, R. D. (2017). Stress and child development: A review of the Family Stress Model. *Current opinion in psychology*, 13, 85-90.

McKeown, K., Pratschke, J. & Haase, T. (2003). *Family well-being: What makes difference*. Kieran McKeown Limited: Social and Economic Research Consultant. Dublin.

Pallant, J. (2013). *SPSS survival manual*. McGraw-Hill Education (UK).

Raviv, T., Kessenich, M. & Morrison, F.J. (2004). A mediational model of the association between socioeconomic status and three-year-old language abilities: The role of parenting factors. *Early Childhood Research Quarterly*, *19* (4), 528-547.

Rickel, A. U., & Biasatti, L. L. (1982). Modification of the block child upbringing report. *Journal of Clinical Psychology, 38*(1), 129-134.

Rizzo, M. T., & Killen, M. (2020). Children's evaluations of individually and structurally based inequalities: The role of status. *Developmental Psychology*, *56*(12), 2223.

Schlomer, G.L., Giudice, M.D., & Ellis, B. J. (2011). Parent-offspring conflict theory: An evolution framework for understanding conflict within human families. *Psychological Review, 118*(3), 496-521.

Shao, M. He, W. Zhao, L. & Su, Y.S. (2022). The influence of parental involvement on parent satisfaction: The moderating effect of parental educational level and the number of children. *Front. Psychol. 12*:75202, doi: 10.339/fpsyg.2021.75202

Shong, T. S., Abu Bakar, S. H., & Islam, M. R. (2018). Poverty and delinquency: A qualitative study on selected juvenile offenders in Malaysia. *International Social Work*. Retrieved from https://doi.org/10.1177/0020872818756172

Smith, S. (2013). *Determining sample size: How to ensure you get the correct sample size*. E-Book (c) Qualtrics Online Sample.

Sultana, A. M. (2013). Parenting Styles and Satisfaction among Working Women in Kedah, Malaysia. *Asian Journal of Humanities and Social Studies, 1*(3), 136-141.

Sutherland, M. A., & Nicholson, C. A. (2021). The role of parents in shaping children's postsecondary educational aspirations and expectations. *Social Science Research*, 102668.

Trivers, R. (1972). Parental contribution and sexual selection. In B. Campbell (Ed.), Sexual selection and the descent of man, 136-179. *Cambridge: Biological Laboratories, Harvard University.*

UNICEF (2001). *A rapid assessment of child upbringing likely to affect child's emotional, psychosocial, and psychomotor development: A case study of Kibaha District, Coast Region-Tanzania*. Final Report. Retrieved from https://www.unicef.org/evaldatabase/files/TNZ_01-25.pdf.

Widom, C. S. (2019). Child maltreatment and adult criminal behaviour: A national study. *Journal of Interpersonal Violence*, 34(1), 1-26

Wiese, M., & Kruger, L. (2016). Parental influence on consumer and purchase behaviour of Generation Y. *Journal of Consumer Sciences*, *44,*21-3

Yoshikawa, H., Aber, J. L., & Beardslee, W. R. (2012). The effects of poverty on the mental, emotional, and behavioural health of children and youth: Implications for prevention. *American Psychologist*, 67(4), 272-284.

Yoshikawa, H., Weiland, C., Brooks-Gunn, J., Burchinal, M. R., Espinosa, L. M., Gormley, W. T., ... & Zaslow, M. J. (2013). Investing in our future: The evidence base on preschool education. *Society for Research in Child Development*, 78(2), 1-26.