



Academic Learning and Early Childhood Behavior

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Dr. Uma Shankar Singh Ms. Aryan Kamaran

Department of Business and Management-ISHIK University
umashankar.singh@ishik.edu.iq aryan.kamaran@ishik.edu.iq

Abstract

Early childhood development is the most crucial time in the human development and learning. Academic learning makes an individual more competent for the higher development in life. The paper aims at the basic learning behavior of a child and measuring this impact on academic learning. The literature reviewed and it finds that poor development in early childhood have life-long consequences, setting children on a lower trajectory and adversely impacting a country's social and economic development. The research problem formulated based on the extensive literature review "Childhood care is the most important care in the human life development; it needs to get measured and fill the gap found for the transformation in childhood behavior that can have the positive impact on academic learning". Three objectives set to study the research problem are to know the early childhood behavior pattern, to understand the early childhood academic learning, and to find the impact of early childhood behavior on academic learning. The study is descriptive in nature with the sample size of 146 children; ages selected ranges in between five years to fifteen years. To balance the study both genders male child and female child have included in study. The geographic scope of the study is Erbil in Kurdistan. As the study is based on the concept of social development with behavior development and academic learning, so the study is implemented using a pretested measurement scale having all the components needed for the study. The data analysis is done using statistical techniques like t-test and regression using SPSS 20. The outcome of the research can help in parental care for the academic learning of their children in their academic development.

Key Words: Childhood, behavior, learning, academic, parental, development

Introduction

Investing in young children is one of the smartest investments that countries can make for the sustainable growth of the country. Around the world, young children are growing up in disadvantaged circumstances, where the growth is under question mark. In developing countries, nearly 40 percent of all children younger than five years are stunted or living in poverty (Grantham-McGregor et al., 2007). These children are more likely to demonstrate lower academic achievement outcomes and exhibit poorer cognitive ability (Glewwe, Jacoby, and King, 2001; Vegas and Santibanez, 2010). Disadvantaged children are also less likely to have access to quality health services, basic water and sanitation infrastructure, adequate nutrition, and quality childcare and preschools (Cole and Cole, 2000; Grantham-McGregor et al., 2007). These multiple risk factors can lead to poor physical, socio-emotional, and cognitive development and set children on a path to lower achievement throughout life (Cole and Cole, 200; Naudeau, 2009). Cross-country evidence shows that by the time children enter primary school, significant gaps exist in children's development; these gaps widen with time. The effects of poor development in early childhood have life-long consequences, setting children on a lower trajectory and adversely impacting a country's social and economic development. Intervening during early childhood has the potential to mitigate the negative effects of poverty and promote equitable opportunities and better outcomes for education, health, and economic productivity (Heckman, 2008a; 2008b; Naudeau et al., 2011). Development in early childhood is a multidimensional and sequential process, with progress in one domain acting as a catalyst for development in other domains (Shonkoff et al., 2012). Interventions to influence a child's development should address four key domains: cognitive development, linguistic development, socio-emotional development, and physical well-being and growth (Naudeau et al., 2011; Vegas and Santibanez, 2010). Entry points to influence these four domains exist in a range of sectors, including health and nutrition, education, and social protection and can be directed toward pregnant women, young children, and parents and caregivers.



In cross-cultural research measuring toddler's temperaments, it is necessary to have a culture-free psychometric tool. A culture-free tool must also minimize construct, method, and item bias (He & van de Vijver, 2012; Van de Vijver & Tanzer, 2004). If these sources of bias are eliminated, the instrument used to measure cultural differences in temperament can be considered equivalent across cultures. If bias is not eliminated, the tool cannot be considered equivalent and the differences in the measurement scores may stem from contamination by evaluators' cultural beliefs and/or expectations of children rather than reflecting differences in the toddlers' temperaments. The present study sought to eliminate method bias using the same sample attributes and the same form of questionnaire as the original Early Childhood Behavior Questionnaire (ECBQ). The issue of item bias was addressed by using an appropriate translation method. However, as it was not clear if construct bias existed, this bias can be evaluated using social desirability. Caudill and Weinstein (1969) conducted a study comparing toddler's temperaments in the United States and Japan. This study found that Japanese mothers expect their babies to be quiet and content, while U.S. mothers expect babies to be vocal and active (Caudill & Weinstein, 1969). Bornstein (1989), in a later review of the literature, also found that infants in the United States had higher levels of motor activity than those in Japan (Putnam, S. P., Ellis, L. K., & Rothbart, M. K., 2001). Therefore, the present study expected that scores on the temperament scales on the Japanese ECBQ representing toddlers' activity, such as Activity Level and High-Intensity Pleasure (HIP), would be lower in Japan than those reported in the original ECBQ (Putnam, Gartstein, & Rothbart, 2006).

Literature Review

Trevarthen (1998) has argued from studies of newborn babies that one of the human infant's most fundamental needs is to become part of a culture. Babies actively engage with their social environment from the start. They are pre-adapted to social relationships, striving to make sense of their surroundings, by sharing with others in a process of inter-subjectivity on which joint activity, cooperation and communication is built. Judy Dunn (1988) worked with an older age group, revealing the way preschool children achieve social understanding in family contexts, negotiating disputes, teasing and joking with adults and siblings, already sharing in conversations about social and moral issues from a very early age. While these studies have been carried out in Euro-American settings they can be the starting point for elaborating the way children become initiated into features of their socio-cultural niche, including the range of settings and relationships, opportunities for sibling and peer interaction, through which they learn about social rules, rituals and meanings. A feature of early learning is young children's capacity to engage in a repertoire of interactive styles according to context and relationship, acknowledging that in complex pluralistic societies, children may encounter multiple, competing and even conflicting developmental niches as a normal part of everyday life.

To date Barbara Rogoff has perhaps gone furthest in elaborating a socio-cultural model with direct applicability to early childhood education (Rogoff, 1990). She elaborated 'guided participation' as a framework for examining the way children are initiated into cognitive and social skills perceived as relevant to their community. Comparing mother-child dyads in India, Guatemala, Turkey and the USA, Rogoff et al (1993) found that 'guided participation' was a feature in all these settings, but that the goals and processes of learning and teaching varied, which in turn was linked to the extent to which children's lives were segregated from the adult world of work. For example, while US mothers were often observed to create teaching situations, the Guatemalan mothers relied on child's engagement with activities of the community. In one sequence of Rogoff's research video; there is a fine illustration of these mothers' different orientation to communication. In the US context, the dominance of verbal



communication is taken for granted. But when a Guatemalan mother wishes her toddler to hand over a toy, she says not a word, but merely touches the toddler's elbow, a simple direct communicative device whose symbolic meaning is already well-understood by the child. Most recently, Rogoff (2003) has elaborated this view that development is naturally social and cultural, and explored the ways children are inducted into communities of learners. Different views on maturity, evolving capacities and developing competencies, are not exhaustive, nor necessarily in opposition. Lansdown (2005) suggests three interpretations of the concept of 'evolving capacities': a developmental concept - fulfilling children's rights to the development of their optimum capacities; an emancipatory concept - recognizing and respecting the evolving capacities of children; and a protective concept - protecting children from experiences beyond their capacities. Attachment theories have made important contributions to the notion of early experience. Attachment theory was developed by British psychologist and psychoanalyst John Bowlby. According to Bowlby (1973, 1980), experience with primary care givers leads to generalized expectations and beliefs "working models" about self, the world, and relationships. He describes these representations as persistent and yet opens to revision in light of experience. Persistent attachment representations allow positive secure base experiences to guide behavior when someone "stronger and wiser" is not at hand (Bowlby, 1985). The growing infant who began being totally dependent on mother for soothing, stimulation and emotional regulation, gradually claims the ability to manage alone. In other words: "early development entails the gradual transition from extreme dependence on others to manage the world for us to acquiring the competencies needed to manage the world for oneself" (Shonkoff and Phillips, 2000). Research on brain development, has shown that "the infant's transactions with the early socio-emotion environment indelibly influence the evolution of brain structures responsible for the individual's socio emotional functioning for the rest of the life span" (Schoore, 1994). The brain is at its most adaptable, or plastic, for the first two years after birth, during which time the primary caregiver acts as an external psychobiological regulator of the 'experience dependent' growth of the infant's nervous system. Scale Definitions: Early Childhood Behavior Questionnaire (Putnam, Gartstein, & Rothbart, 2006).

Scale label	Definition
Activity Level	Level (rate and intensity) of gross motor activity, including rate and extent of locomotion
Attentional Focusing	Sustained duration of orienting on an object of attention; resisting distraction
Attentional Shifting	The ability to transfer attentional focus from one activity/task to another
Cuddliness	Child's expression of enjoyment in and molding of the body to being held by a caregiver
Discomfort	Amount of negative affect related to sensory qualities of stimulation
Fear	Negative affect related to anticipated pain, distress, sudden events, and/or potentially threatening situations
Frustration	Negative affect related to interruption of ongoing tasks or goal blocking
High-Intensity Pleasure	Pleasure or enjoyment related to situations involving high intensity, rate, complexity, novelty, and incongruity
Impulsivity	Speed of response initiation
Inhibitory Control	The capacity to stop, moderate, or refrain from a behavior under instruction



Low-Intensity Pleasure	Pleasure or enjoyment related to situations involving low intensity, rate, complexity, novelty, and incongruity
Motor Activation	Repetitive small-motor movements; Fidgeting
Perceptual Sensitivity	Detection of slight, low-intensity stimuli from the external environment
Positive Anticipation	Excitement about expected pleasurable activities
Sadness	Tearfulness or lowered mood related to suffering, disappointment, or loss
Shyness	Slow or inhibited approach and/or discomfort in social situations involving novelty or uncertainty
Sociability	Seeking and taking pleasure in interactions with others
Soothability	Rate of recovery from peak distress, excitement, or general arousal

Research Problem and Objectives

The literature reviewed and it finds that poor development in early childhood have life-long consequences, setting children on a lower trajectory and adversely impacting a country's social and economic development. The research problem formulated based on the extensive literature review "Childhood care is the most important care in the human life development; it needs to get measured and fill the gap found for the transformation in childhood behavior that can have the positive impact on academic learning". Three objectives set to study the research problem are:

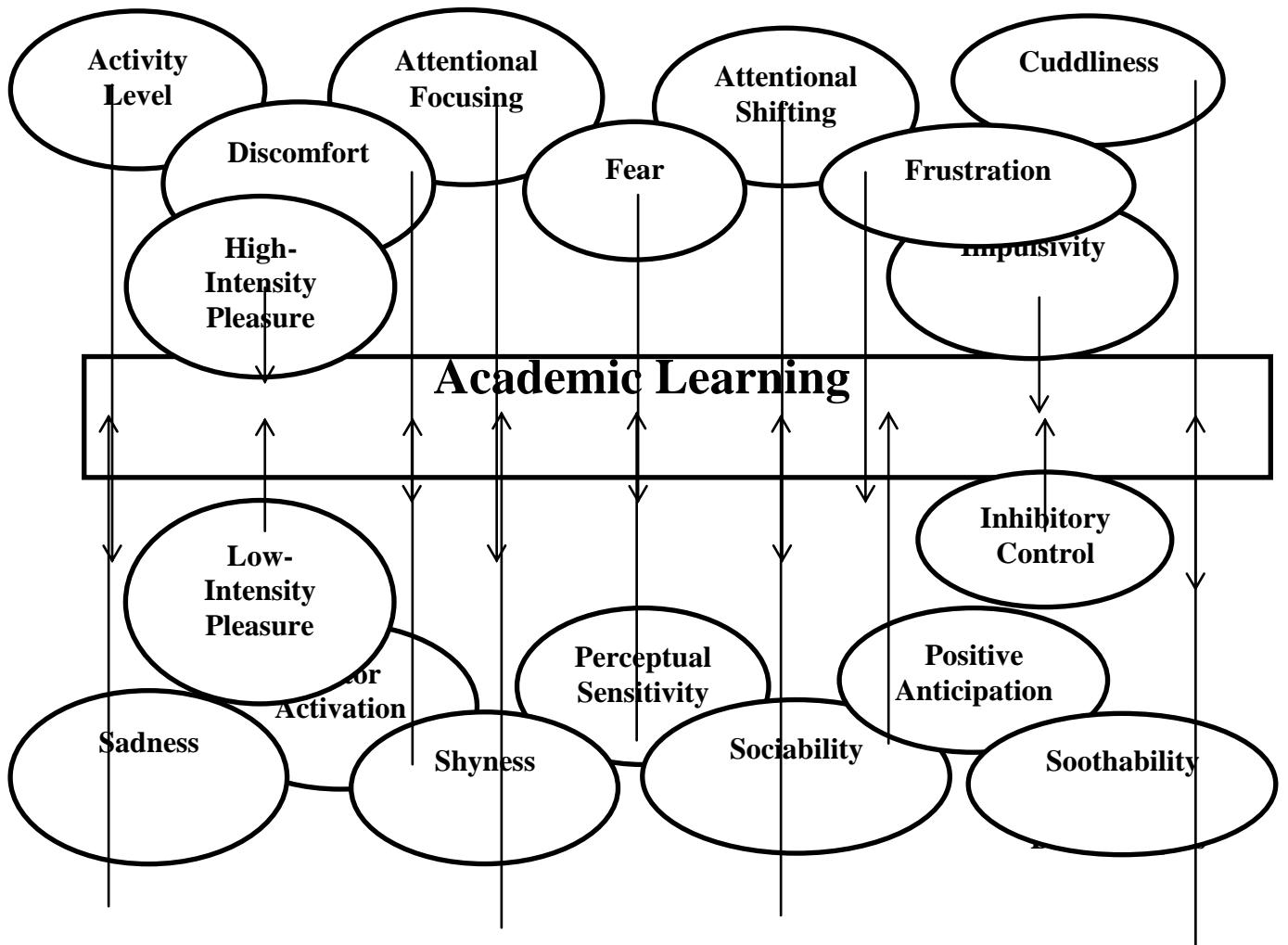
- To know the early childhood behavior pattern,
- To understand the early childhood academic learning
- To find the impact of early childhood behavior on academic learning.

Research Methodology

The study is descriptive in nature with the sample size of 146 children; ages selected ranges in between five years to fifteen years. Simple random sampling method is adopted for sample selection, for the sample size selection (Cohen, J., 1992) statistical technique has been used. To balance the study both genders male child and female child have included in study. The geographic scope of the study is Erbil in Kurdistan. As the study is based on the concept of social development with behavior development and academic learning, so the study is implemented using a pretested measurement scale having all the components needed for the study (Putnam, Gartstein, & Rothbart, 2006) is explained in literature review. The data analysis is done using statistical techniques like t-test and regression using SPSS 20 to get the result that can help in parental care for the academic learning among children and their academic development. Research methodology is designed to keep the research objective in the mind.



Conceptual Model (Based on Theory)



Data analysis is performed very carefully. Firstly the data is tested for reliability analysis. It shows a considerable Cronbach's Alpha value of 0.734 on 18 items selected as shown in the next table (Table I).

Table I Reliability Statistics

Cronbach's Alpha	No. of Items
.734	18

Table II One-Sample T- Test

	Test Value = 5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Activity Level	.180	145	.858	.021	-.21	.25



Attentional Focusing	-5.106	145	.000	-.616	-.86	-.38
Attentional Shifting	-4.205	145	.000	-.397	-.58	-.21
Cuddliness	-.528	145	.598	-.062	-.29	.17
Discomfort	-2.623	145	.010	-.315	-.55	-.08
Fear	-6.990	145	.000	-.918	-1.18	-.66
Frustration	-6.076	145	.000	-.774	-1.03	-.52
High-Intensity Pleasure	-4.998	145	.000	-.432	-.60	-.26
Impulsivity	-9.260	145	.000	-.747	-.91	-.59
Inhibitory Control	-8.449	145	.000	-1.164	-1.44	-.89
Low-Intensity Pleasure	-4.809	145	.000	-.568	-.80	-.33
Motor Activation	-7.774	145	.000	-1.048	-1.31	-.78
Perceptual Sensitivity	-5.965	145	.000	-.767	-1.02	-.51
Positive Anticipation	-10.569	145	.000	-1.144	-1.36	-.93
Sadness	-11.922	145	.000	-1.349	-1.57	-1.13
Shyness	-8.607	145	.000	-.986	-1.21	-.76
Sociability	-3.893	145	.000	-.377	-.57	-.19
Soothability	-5.165	145	.000	-.623	-.86	-.38

All 18 variables taken in the study and measured by (Putnam, Gartstein, & Rothbart, 2006) instrument checked for its acceptability in the study. Sixteen variables namely Attentional Focusing, Attentional Shifting, Discomfort, Fear, Frustration, High-Intensity, Pleasure, Impulsivity, Inhibitory Control, Low-Intensity, Pleasure, Motor Activation, Perceptual Sensitivity, Positive Anticipation, Sadness, Shyness, Sociability, Soothability having very significant outcome where Discomfort has 0.010, except this rest fifteen are having 0.000 as shown in the Table II. So these 16 variables are further taken for study. Out of eighteen variables two variables namely Activity Level and cuddliness are not having the significant results like 0.858 and 0.598 respectively as shown in the Table II, so discarded from the further study and conceptual model reformed. Academic Learning is formed as latent variable and formed with all 18 independent observed variables.



Conceptual Model (Reformed)

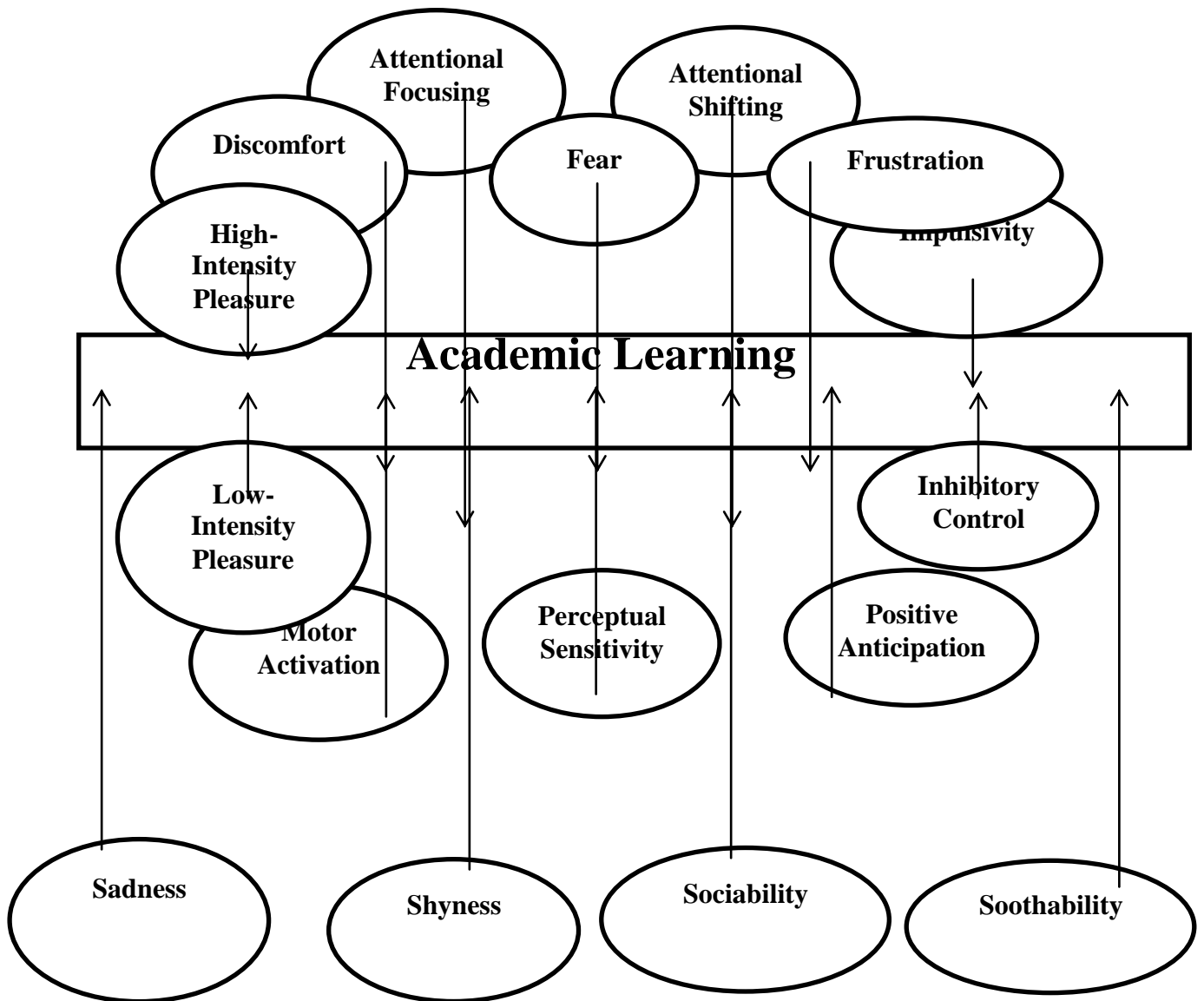


Table III Regression Analysis

Dependent Variable	Independent Variable	R ²	β	Sig.
Academic	Attentional Focusing	0.252	0.507	0.000
	Attentional Shifting	0.078	0.291	0.000
	Discomfort	0.115	0.348	0.000
	Fear	0.209	0.463	0.000
	Frustration	0.311	0.562	0.000
	High-Intensity Pleasure	0.200	0.453	0.000
	Impulsivity	0.304	0.556	0.000
	Inhibitory Control	0.310	0.561	0.000



Learning	Low-Intensity Pleasure	0.041	0.217	0.008
	Motor Activation	0.186	0.437	0.000
	Perceptual Sensitivity	0.454	0.677	0.000
	Positive Anticipation	0.262	0.517	0.000
	Sadness	0.265	0.520	0.000
	Shyness	0.203	0.457	0.000
	Sociability	0.018	0.157	0.058
	Soothability	0.436	0.663	0.000

The data analysis continued further, based on cause effect relation using regression technique. All sixteen independent variables are checked and explained here based on R squared and Beta value, where R square explains how much is the dependent variable getting explained by independent variable and Beta explains what would be the change in dependent variable with the change of 1 unit in independent variable. Academic Learning is the dependent variable in all sixteen cases, the Perceptual Sensitivity is the independent variable with the highest R squared and Beta value 0.454 and 0.677 shows that out of sixteen variables first is considering the Perceptual Sensitivity is the most important and affects the academic learning. The second is the Soothability with 0.436 of R squared and 0.663 of Beta value are followed with Frustration, Inhibitory Control and Impulsivity with 0.311, 0.310 and 0.304 value of R square respectively and 0.562, 0.561 and 0.556 is the value of Beta respectively. The next category formed with Sadness, Positive Anticipation, Attentional Focusing, Fear and Shyness with 0.265, 0.262, 0.252, 0.209 and 0.203 are the values of R squared respectively and 0.520, 0.517, 0.507, 0.463 and 0.457 respectively. The last category can get considered as Motor Activation, Discomfort, Attentional Shifting, Low Intensity Pleasure and Sociability with 0.186, 0.115, 0.078, 0.041 and 0.018 of the value of R Squared and 0.437, 0.348, 0.291, 0.217 and 0.157 respectively.

Conclusion and Recommendation

Based on the data analysis it is very clearly observed that the sixteen independent variables are getting clubbed in four different categories, where the last category of independent variables have the least effect on dependent variable (Academic Learning). Another way, it can get concluded that the independent variables having the Beta value more than 0.5 means showing 50% change on the variation of 1 unit. So Out of sixteen variables, eight variables have the higher impact on Academic Learning are Perceptual Sensitivity (0.677), Soothability (0.663), Frustration (0.562), Inhibitory Control (0.561), Impulsivity (0.556), Sadness (0.520), Positive Anticipation (0.517), Attentional Focusing (0.507). The outcome of this study suggests parents to take care for these eight variables in their children that can help them to do better in academic learning performance.



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