



RESEARCH PAPER

The Development of Adaptive Behavior Scale

Kanwal Ejaz¹ Dr. Muhammad Arshad Dahar^{*2}

Dr. Muhammad Imran Yousuf³

1. Ph. D Scholar, Department of Education, PMAS Arid Agriculture University, Rawalpindi, Pakistan
2. Assistant Professor, Department of Education, PMAS Arid Agriculture University, Rawalpindi, Pakistan.
3. Chairman/Associate Professor, Department of Education, PMAS Arid Agriculture University, Rawalpindi, Pakistan

DOI

[http://doi.org/10.35484/pssr.2022\(6-I\)11](http://doi.org/10.35484/pssr.2022(6-I)11)

PAPER INFO

ABSTRACT

Received:

October 17, 2021

Accepted:

January 15, 2022

Online:

January 20, 2022

Keywords:

Adaptive Behavior, Learning Disabilities, Adjustable and Non-Adjustable Behavior

***Corresponding Author**

drarshad1969@uar.edu.pk

The current research is essential for parents, teachers and experts to diagnosis the adaptive behavior problems among students with and without learning disabilities. Firstly, 20 experts were interviewed to generate pool of 64 items. After elimination, 44 items was piloted on 100 student's teachers, as a report measure of 5-point rating scale. Lastly, 10 teachers of 100 students were given the final list of 44 items, Vinland Adaptive Behavior Scale (Saleem & Mahmood, 2011). In the result, Factor analysis distributed the scale into two factors, Adjustable Behavior and Non-Adjustable Behavior. Factors correlation shows that (AAB) scale significant negatively correlated with (NAAB) scale. Scale shows high reliability i.e. Adjustable Adaptive Behavior (.95), Non-adjustable Adaptive Behavior (.61), and total reliability is (.86). Factors show a negative correlation with each other and with overall Adaptive Behavior. Thescale shows a significant correlation with Vinland (ABS). The results revealed that the developed scale is valid.

Introduction

Adaptive behavior is a unique term, which defined behavior which being learned by all individuals, moreover wisely done by each children separately to meet the needs of our society across living situation`s that includes the household, institute, work area, and other community settings (Schalock et al., 2010). In a society, we have expectations which varies from person to person of our society as they age that`s why Adaptive behavior remains indexed on chronological age.

Adaptive behavior is considered as an essential measure of all diagnostic systems which defines intellectual, developmental and learning disability (American Psychiatric Association, 2000; Schalock et al., 2010; World Health Organization, 1992). According to the American Association, adaptive behavior in the sense of cognitive growth and Learning Difficulties is the combination of Conceptual, Practical and social Skills which have been seek and performed by every individual to spend their lives for survival. (Luckasson et al., 2002; Schalock et al., 2010). Adaptive behavior has three main domains that are as follows:

First is Conceptual abilities which contains communication abilities, practical academic abilities, and self-maintenance; Second domain is social abilities which contains personal abilities, communal responsibilities as a good citizen, succeeding directions, self-confidence, and avoiding harassment; Lastly, Practical abilities contain major personal care abilities, For instance, self- maintenance, domestic abilities, safety and fitness.

Several numbers of assessment procedures have been established to evaluate children's growth of intellect, adaptive behavior, and social communication. However, usage of valid and reliable measures of capabilities in children with growing issues is a difficult work for psychologist and investigators.

There is another challenge of measuring special need children with mental growing and learning disabilities. Usually their results on assessment measures are frequently delayed, which are because of behavioral problems that are main issue in these children. (Baker, Blacher, Crnic, & Edelbrock, 2002; Hauser-Cram & Woodman, 2016). As per Keller & Fox, (2009) High amounts of challenging behavioral problems that includes aggression, short temper, ADHD, dis-obedience have been founded in special need children with overall delayed disabilities which are because of genetic syndromes and unfamiliar etiologies.

As per Sparrow and Cicchetti (1985) Convert cognitive 'ability' into life 'experiences' in owns life is called adaptive behavior abilities, so assessment of adaptive behavior complements this framework. Growing recognition is given to the variability of developmental and learning disabilities in the adaptive behavior field (Szatmari et al. 2015). Mainly in higher-functioning persons the assessment of adaptive behavior as part of continuing results is currently supposed a serious situation (Magiati et al. 2014, Kanne et al. 2011). Though fewer documents are available on adaptive behavior and methods for adaptive behavior (Jones et al. 2014). Typically most commonly listed as a contributor in the diagnostic process is the Vineland II (Vineland Adaptive Behavior Scales, VABS, Sparrow et al. 2005)

Many Assessment challenges faced by psychologist and researchers face while conducting assessment of special need children. Psychologist or researcher's

ability to distinguish profiles of developmental assets and flaws in special need children with learning difficulties is influenced by the worth or quality of the measurement scales used (Ben-Sasson & Gill, 2014; PlesaSkwerer et al., 2016). For psychologist it's a challenge to conduct valid and reliable assessments in special need children having learning and developmental disabilities. These challenges include test's psychometric limitations available for special need children. Influence of deficits in one area. For instance, motor abilities, on a child's performance in other areas, like nonverbal intellect which requires motor skills to complete some scale items (Bradley-Johnson, 2001; Brady, Anderson, Hahn, Obermeier, & Kapa, 2014; DeVeney, Hoffman, & Cress, 2012). Test performances also can be impacted by problem behaviors, e.g. tantrums and non-compliance that are common in toddlers with DD (Baker, Blacher, Crnic, & Edelbrock, 2002; Hauser-Cram & Woodman, 2016; Keller & Fox, 2009). Results of some researches showed difficulties in maintaining children's attention throughout test process, and problems with understanding of test instructions (Tager-Flusberg, 2000).

There are two types of measures that can be part of a multi-method assessment. First is direct observation measurement that is managed by expert and trained clinicians. Second is a parent or caregiver report measure. Clinician-administered assessments of special need children which provide a structured protocol. In this assessment trained experts explicitly provoke skills and behaviors from a child. This type of assessment benefits from standardized administration and the analysis of a trained professional. Furthermore, the validity of these scales is impacted by a student's attention while doing test session, severity of disabilities, and discomfort with the unfamiliar testing situation. (PlesaSkwerer et al., 2016).

As per Charman, (2004) and Scattone et al., (2011) caregiver report measures can interpreted for a child's performance throughout daily life. Though, these measures can be influenced by inaccurate reporting and may be particularly problematic when caregivers report about the intellectual capacity skills of their special need children.

The Vineland Adaptive Behavior Scales

Vineland Adaptive Behavior Scales are the authentic and common tools used for persons from birth through age of 90 years. Conceptual, practical and public abilities are well defined domains of adaptive behavior which are acquired and accomplished by persons on daily life. (American Association of Intellectual and Developmental Disabilities AAIDD, 2010). Samples of Adaptive behaviors contains social and communication abilities, confidence, societal problem management abilities and own health-care abilities. Vineland ABS/II scale contains there major domains: Socialization, Communication, Day-to-day Living abilities and Motor Abilities.

As per *Individuals with Disabilities Education Act* (IDEA, 2004), measurement of adaptive behavior considered a vital and essential measurement portion, identification of developmental and learning disability. Furthermore, it is considered highly reliable for measuring overall developing delay. Additionally, main target of this measurement is identifying adaptive behavior difficulties related with ID and LD. According to Gleason & Coster, (2012). Vineland ABS/II scale is similarly used for person's preparation with academic, learning and developing disabilities. It has been generally used in search with populations of developing and children with special need.

Researchers Carpentieri and Morgan (1996) found that children with Autism spectrum disability (8 years of age) and children with developmental and learning disability (9 years of age), special need children revealed a form of lesser Social and conversation abilities as compared to Day to day Living Abilities, assessed by the Vineland Adaptive Behavior Scale.

Furthermore, special need children with development deficiencies (DD) revealed a broad range of problems in diverse domains of functioning. Ability deficits continue all over later development of learning, and these students frequently face deficiencies in various developing domains: includes cognition, motor skills, adaptive behaviors and communication (Shevell, Majnemer, Platt, Webster, & Birnbaum, 2005). Accurate assessment of these problems in special need children is significant for reporting intervention strategies (Ben-Sasson & Gill, 2014; PlesaSkwerer et al., 2016); According to researches initial treatment has progressive results in development of learning delay's children (Buschmann, Multhauf, Hasselhorn, & Pietz, 2015; Ciccone, Hennessey, & Stokes, 2012). Assessment procedures are needed to access the abilities of children with learning difficulties and developmental disorders, by experts, specialist and psychologist. There is emerging need of such kind of measures, expert observation and parent meetings.

Literature review

Numerous items were acknowledged after reviewing prior literature about mental indicators, psychological, practical and social difficulties. After reviewing 70 articles, on Google, books and other media this literature was gathered. According to literature, these students face mental difficulties, for example conceptual, ADHD, slow or delayed physical attention, less communication, and other behavioral problems. Psychological difficulties involved depression, nervousness, ADHD, anger, low mood, hopelessness, short temperament, powerlessness, less interest in school's education. From the environment and society they have less social support.

Unstructured Interview by Experts

Three out of several special education specialists were asked for an interview to share their knowledge about the indicators of adaptive behavior about these students who suffer in throughout their life (n=3).

Procedure

From different centers of Lahore, Pakistan, three special education professionals were communicated by the researcher. The approval for the interview was taken by each professional expert, was the first step. A complete and comprehensive interview was directed with these three education professionals to gather information about different difficulties, students with and without learning disabilities face in their lives and about the symptoms of adaptive behavior. Through purposive sampling methods these educational experts were selected who were the professionals in their area. Each expert answered unstructured questions one by one. In a notebook all answers were noted down verbally and then in a written form. All of them stated that the main root of this problem is lack of information and illiteracy about the avoidance measures of adaptive behavior. Many uneducated parents leave child by giving reason that their children don't focusing on studies by blaming teachers as the main cause of this problem is in their teaching methodology. Furthermore, they described several forms of signs including psychological, conceptual, and social-related these special need students face in lives.

Educationist stated that these students bear many mental issues ADHD, Practical daily living problems, delayed communication. Psychological problems include nervous, aggression, uneasy in lifespan, anxiety, bad temper and lack of confidence. Less social support from family, friends and society is also a major factor. Peers often fear of their aggressive, uneasy behavior and due to that often less communicates with them. Some educationists stated that these children have usually extraordinary intelligent level as compare to other normal children.

Focus Groups

For expansion of knowledge about numerous types of adaptive behavior indications between learners with and without learning difficulties, Focus groups were also conducted among these children.

Procedure

Students with behavioral problems to find out additional information on the indicators of adaptive behavior students with age limit of 10 to 14 years, A focus

group was conducted on ten (n=10) students. The age limit was between 10 to 14 just because they can report and clarify their issues more clearly as compare to younger students. Ten female students were part of this focus group. These students were selected from diverse areas of special education in Lahore, Pakistan. Consent was taken from the administration of these special centers. Homogeneous purposive sampling was technique to select these students. These special centers are for these students for special attention and interventions. Aim of this discussion was clarified to these students and that is essential part and children were encouraged to discuss different types of issues usually face in their everyday life. Additional motivation was also given to these children so that they deliver info about the conceptual, practical, and social indicators experiencing by them. These interviews remained safe in audio-recorded form. After obtaining all this information, a list of questions was made to collect data.

All participants of focus groups stated mental issues related to psychological like anxiety, discomfort, delayed mental development, social issues, unable to prepare all nature of effort for themselves because of lack of mental issues. Psychological problems which they mostly reported were ADHD, anxiety, low and short temperament, violence of rules, confusion while taking decisions in mostly situations, absence of attention, fewer interest in life situations, and further house tasks of day-to-day routine. Peers avoid them due to their poor academic result, less interest in extra-curricular activities as compared to other peers.

Step II: Content Validity through Expert Rating

With the help of comprehensive literature review, books, unstructured interviews and group discussions with professional experts, pool of items were generated. Than item content validity index (I-CVI) and scale content validity (S-CVI) for scale items of adaptive behavior scale were established. In this procedure, repetitive and overlapping items were omitted from the scale and 35 items were prepared for the scale of adaptive behavior containing two factors i.e. adjustable adaptive behavior and non-adjustable behavior.

Procedure

Selected items of the list were presented to 6 working special educationist having minimum 10 years' experience in the teaching and training of special need students who were getting special teaching for training. For the approval, Specialists were advised to wisely go through every item on the item's list.

Section II

Determining the Psychometric Properties of the Measure and Factor

Analysis of Adaptive Behavior Scale (ABS)

To identify the psychometric properties of scale factor analysis was done. Factor analysis is a statistical method that helps researchers to understand scale measuring? (Khan, 2006). So it helps in measuring inter-item correlation. A principal component analysis to assess the factorial validity followed by Varimax rotation of the responses of 100 applicants to the indigenous scale was carried out. To retain factors it was tested that Eigen value is greater than 1. The Eigen values were also examined on Scree plot to identify structure of factors and also to decide number of factors in the scale. The psychometric properties of the scale were also determined as the item to total correlation and alpha internal consistency.

Step I: Pilot Study

After successfully scale development, reduced the developed scale amiability by procedure of pilot testing was used. Pilot study is the main stage of scale validation in which data gather from small number of sample to find out scale is giving the appropriate outcome and results. Pilot study was conducted on .15 participants with learning difficulties were selected for pilot study. For this purpose, Data was collected on two scales, Vinland Adaptive Behavior Scale (VABS) and Adaptive Behavior Scale (ABS) from school children. The Teachers were guided about the scale and asked to rate their learning difficulties in the classroom. Both scales were administered with full focus and concentration.

Material and Methods

The essential objective of current research was to find out adaptive behavior problems among students of with and without learning disabilities and check the correlation between adaptive behavior difficulties, conceptual, practical and communication skills among students of both groups by teaching them through model of collaborative team teaching. A finest scale has been developed to conduct this study for measuring the adaptive behavior difficulties among students of with and without learning disabilities.

There are two sections in this chapter. Comprehensive and full information about the development and psychometrics of adaptive behavior problems is in section I. psychometrics of variables of the study has been discussed In section II which is the main study.

Section I

Development of Adaptive Behavior Difficulties Scale

This section includes the developing process of the finest scale as discussed above, that is adaptive behavior difficulties. Investigation of the phenomenology was the first step that was through taking an interview with a professionally expert person, literature review and through students' focus groups discussion.

Step1: Item Generation

Review of literature, books, and public articles were sources of item generation. Furthermore, scheduling interviews with professional and focus groups with learners were essential procedures for collection of items. Generation of different items (Adjustable and Non-adjustable behavior) of students with and without learning disabilities was the first stage.

Results and Discussion

Psychometric properties and factor analysis of Adaptive Behavior Scale (ABS)

Factor analysis was applied in an attempt to simplify the data and distribute the items into factors. Exploratory factor analysis on 44 items of scales was used along with Bartlett's test of specificity and Kaiser-Meyer-Olkin KMO. Approach for factor analysis was principle component along with this scree plot was used to find out clear image of factors. The decision of retaining number of factors was crucial which was based on Eigen values to be greater than 1 and a scree plot. Later on, 35 items were retained on 2 factor solution. The KMO value was found to be .77 at $p < .001$. Below is the scree plot.

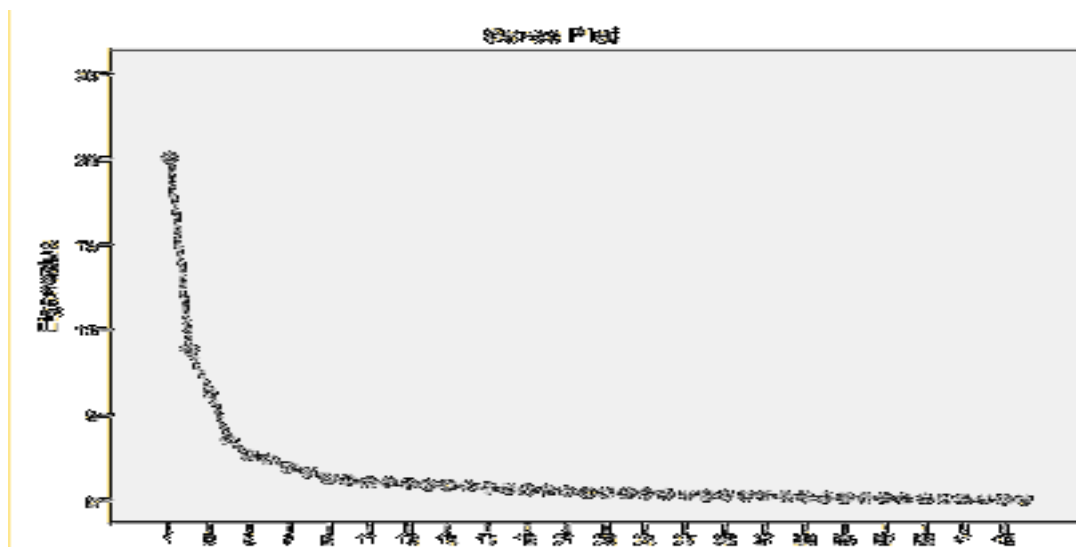


Figure 1. Scree Plot for Factor Structure of Adaptive Behavior Scale

The figure 1 represents the two factors on adaptive behavior scale, with cross loading items where .40 or above. Nine items were excluded from the list of 44 items because that item doesn't load on factors analysis.

After the extraction, two factors were considered in terms of the theme and the content of the factor, so factor one consisted 17 items while factor second consisted 18 items. Below is the table representing the factor loading of item into the factors.

Table 1
Factor Loadings of Adaptive Behavior Scale with Varimax Rotation (N=100)

| Sr No | Item No | F 1 | F 2 |
|-------|---------|-----|-----|
| 1 | 2 | | .57 |
| 2 | 3 | | .66 |
| 3 | 4 | | .60 |
| 4 | 5 | | .73 |
| 5 | 6 | | .66 |
| 6 | 7 | | .54 |
| 7 | 8 | | .65 |
| 8 | 9 | | .66 |
| 9 | 10 | | .56 |
| 10 | 11 | | .62 |
| 11 | 12 | | .62 |
| 12 | 13 | | .67 |
| 13 | 14 | | .55 |
| 14 | 15 | | .59 |
| 15 | 19 | | .38 |
| 16 | 20 | | .42 |
| 17 | 21 | | .51 |
| 18 | 22 | | .35 |
| 19 | 24 | .66 | |
| 20 | 25 | .69 | |
| 21 | 26 | .80 | |
| 22 | 27 | .80 | |
| 23 | 28 | .78 | |
| 24 | 29 | .79 | |
| 25 | 31 | .79 | |
| 26 | 32 | .76 | |

| | | |
|----|----|------------|
| 27 | 33 | .70 |
| 28 | 34 | .54 |
| 29 | 35 | .81 |
| 30 | 36 | .79 |
| 31 | 37 | .77 |
| 32 | 39 | .75 |
| 33 | 40 | .82 |
| 34 | 41 | .81 |
| 35 | 42 | .58 |

Note. Factor loading >.40 have being boldfaced.

The above table showed that adaptive behavior scale has been divided into two factors on the bases of their themes and content.

Table 2
Variance and Eigen Values Explained by 2 factors of Adaptive Behavior Scale (ABS)(N=100)

| <i>Factors</i> | <i>Eigen Values</i> | <i>% of Variance</i> | <i>% of Total Variance</i> |
|----------------|---------------------|----------------------|----------------------------|
| 1 | 13.21 | 30.03 | 29.95 |
| 2 | 4.17 | 9.47 | 9.56 |

Table 2 represents the factorial structure of adaptive behavior scale that distributed into two factors. This is also shown in Scree plot. The first factor has Eigen value 13.21 and second factor has Eigen value 4.17. Factor 1 described 30.03% of the variance, whereas factor 2 described 9.47% of variance. Each factor was assigned a label that explains the theme of the each factor.

Factor Description

By in depth study of items matching to each factor and the theme, Factors were created. Both factors were given a label on the basis of the cohesion of the themes developed by the researchers.

Factor 1: Adjustable Adaptive Behavior. This scale's first factor was adjustable adaptive behavior that is consisted of 17 items. It was emerged on the base of common theme and content of the items. In this factor items were included related to adjustable behavior of the children with environment, social gathering, social situation and positive attitude towards the environment.

Factor 2: Non Adjustable Adaptive Behavior. 18 items were considered second factor of the scale. It was emerged on the common theme given in the items

of the scale. Items were related to non-adjustable behavior of the children towards environment and social situation.

Psychometric Properties of Adaptive Behavior Scale

Internal consistency of Adaptive Behavior Scale (ABS). Cronbach's Alphacoefficient was calculated to establish the internal consistency of the 35 items of ABS.

Table 3
Cronbach's Alpha of 2 factors (Adjustable and Non Adjustable Adaptive Behavior) and Total of Adaptive Behavior Scale (N=100)

| Factors | No of items | A |
|----------------------------------|-------------|-----|
| Adjustable Adaptive Behavior | 17 | .95 |
| Non-adjustable Adaptive Behavior | 18 | .61 |
| Total Adaptive Behavior Scale | 35 | .86 |

Note. α = Cronbach's Alpha

The above table showed that adaptive behavior scale found to have a high internal consistency. Cronbach Alpha for factors of scale was also computed and internal consistency of the items with in factors is also high. The values in this table reflect that all the items were homogenous The first factor of Adaptive behavior scale that is adjustable adaptive behavior showed .95 reliability that is very highly reliable factor and second factor showed .61 reliability that is also highly reliable factor. The total reliability of the scale is .86 that is highly reliable scale.

Inter-factor Correlation. Inter-factor correlation was calculated to see the relationship between the two factors of the Adaptive Behavior Scale (ABS) and total of Adaptive Behavior Scale.

Table 4
Summary of Mean, Standard Deviation and Inter-factor Correlation, on 2 Factors of Adaptive Behavior Scale (N=100)

| Factors | M(SD) | Factor 1 | Factor 2 |
|--|--------------|----------|----------|
| Adjustable Adoptive Behavior Scale | 28.46(15.94) | --- | -.34*** |
| Non Adjustable Adoptive Behavior Scale | 57.54(5.03) | --- | --- |

Note. *** $p < 0.001$

Table 4 showed a significantly negative correlation between the two factors of Adaptive Behavior Scale. As well as the mean indicates that the most frequent factor reported by the teachers was Non Adjustable Adaptive Behavior Scale 57.54(5.03) and then Adjustable Adaptive Behavior Scale 28.46(16.94).

Split-Half Reliability. To find out split half reliability of adaptive behavior Scale (ABS) scale was divided in terms of two factors (adjustable and non-adjustable behavior) that one highest factor loading item in one half of scale and other in second half.

In the scale ABS total number of items was 35 so first factor contains 17 items and the second contain 18 items. After analysis the results showed that the reliability value of first factor was .95 and the reliability value of second factor was .61 both the forms highly correlate with each other.

Convergent Validity.For establishing the convergent validity of the newly developed tool Vineland Adaptive Behavior Scale was used. Convergent validity tells about the extent to which both measures that are based on similar construct are correlated.

Table 5
Pearson Correlation, Mean and Standard Deviation of Adaptive Behavior Scale and Vineland Adaptive Behavior Scale (N=100)

| Variable | M(SD) | 1 | 2 | 3 |
|----------|-------------|-----|---------|---------|
| 1. NABS | 34.77(6.59) | --- | -.34*** | -.45*** |
| 2. AABS | 24.40(5.54) | --- | --- | .41*** |
| 3. VABS | 30.46(6.31) | --- | --- | --- |

Note. M= Mean, SD= Standard Deviation, *** $p < .001$, NABS= Non-adjustable adaptive behavior scale, AABS= Adjustable adaptive behavior scale, VABS= Vineland Adaptive Behavior Scale

The results in above table showed that correlation among non-adjustable adaptive behavior scale, adjustable adaptive behavior scale and Vineland adaptive behavior scale. The results revealed that non-adjustable adaptive behavior scale significantly negatively correlated with adaptive behavior scale and Vineland adaptive behavior scale while adjustable behavior scale significant positively correlated with Vineland adaptive behavior scale which shows that both scales have convergent validity as they measuring the same construct and have correlation.

Discussion

Development of an Adaptive Behavior Scale for school children and finds out its validity is the main aim of this study. For this purpose, through scale construction process and factor analysis, a scale was developed. Internal consistency of the scale was also finding out. The established scale is the Adaptive Behavior Scale (ABS) for school children which measures Adaptive Behavior in school children.

According to study, Elshani, et al., (2020). Students with learning difficulties face deficits in several domains of adaptive behavior aspects. Vineland Adaptive Behavior Scales were applied on 53 applicants, 5 to 11 years of age. The result of the study shows that motor abilities are extra affected in special need children of developmental and learning disabilities. Deficit in these children appeared within initial stages and remains less as compared to later stages. Adaptive behavior is a challengeable area for students with learning disabilities in development of their life. Adjustable adaptive behavior abilities are highest strength as compared to other domains of adaptive working. In another study, Ahn, S. N., & Hwang, S. (2018) reporting randomized measured experimental researches were involved. The genuine result was 0.06 for refining adaptive behavior subsequent cognitive treatment in students with developmental deficiencies. Adaptive behavior scores were ($p < 0.05$) which was significant in this study. The results of the study revealed that there is no significant statistical biasness and heterogeneity. Conclusion of the study was that, intellectual interventions are very essential in refining adaptive behavior related with developmental deficiencies.

In the result, we find out Adaptive Behavior in school children. Factor analysis distributed the scale into two factors. These are Adjustable Behavior and Non-Adjustable Behavior. Factors correlation shows that adjustable adaptive behavior scale significant negatively correlated with non-adjustable adaptive behavior scale. Both factors and total scale shows high reliability i.e. Adjustable Adaptive Behavior (.95), Non-adjustable Adaptive Behavior (.61), and total reliability is (.86). These two factors show a negative correlation with each other and with overall Adaptive Behavior. The factors of developed scale (Adjustable adaptive behavior and non-adjustable adaptive behavior) show a significant correlation with Vinland Adaptive Behavior scale (ABS). The results revealed that the developed scale is valid.

Development of an indigenous scale was the basic aim of this study to measure the adaptive behavior of students with and without learning disabilities. Identification of the association of their adaptive behavior with their intellectual deficiencies was essential stage. Adaptive behavior has an essential and strong relation with mental health of any children. It is considered strong element to increase or decrease the performance of that child in any stage of life. Conducting an adaptive behavior judgment and assessment, using sources of information are serious components for confirming the reliability of the adaptive behavior information gained (Harrison & Oakland, 2003). Due to the dynamic significance of adaptive behavior, it has been under deliberation, meanwhile to explain in a better way a long time is needed but still there are various controversial issues which are associated with the clarification of this difficult phenomenon.

In literature review, as per Uchida et al., (2008) several researchers considered society as a distinctive supplier in the life of human behavior. According to many philosophies, theories and evaluation techniques which taken from the Western societies are used in our culture. These measurement scales with minor ecological validity were used in our society. Furthermore, these measurement scales has less understanding and significance in diverse societies (Matsumoto, 2000). According to another researcher Stewart et al., (1999) Usage of these socially influenced measurement procedures on our population; definitely we might fail to catch specific significant information and might provide an incorrect sketch which also might misguide the treatment techniques. To conclude, it's the demand of the society to develop socially appropriate measurement techniques using high environmental validity to measure the adaptive behavior of learners with and without learning disabilities.

Many investigators have contributed their work and efforts to define about difficult psychological concept of human social performance. Lev Vygotsky (1934) was on top, his work becomes the foundation of many researches and theories in cognitive development over the past numerous decades, particularly most essential is known as sociocultural theory. According to Vygotsky everything is learned on two stages. First, is through interaction with others, and second integrated into the person's mental structure. His theory's main idea is that, the ways how people interact with others and how they shape mental abilities to live in their culture. Vygotsky believed that parents, families, friends, neighbors and society all have a significant role in establishing advanced levels of functioning. Because of these reasons, the current research is created on Vygotsky's use of the concept of social situations in improvement development to examine social, practical, and concept formation (Vygotsky, 1998, Mahn, 2003).

An effort was made, throughout this article to provide concept of abilities Improvement in the children. In Vygotsky work, he established an idea about static procedure and testing of learners, called intelligence testing. Furthermore, Vygotsky claimed that quantitative methods assess intellectual ability and working that has already developed, to practice Vygotsky's term (1978). Development of mental functions of special need children should be evaluated through combined and not through isolated activities. In his work, he suggested that which students can able to do combine today, they could do individually and expertly tomorrow. As per Cazden, (1980) one aim of the study is to assist "performance before competence".

In this present study, the difficulties and problems of adaptive behavior faced by primary school were first collected than assembled them and lastly transformed them into a 5-point self-report scale (ABS). Factor analysis of 35 items exposed results into two factors namely; Adjustable Adaptive Behavior and Non

Adjustable Adaptive Behavior. As per Horowitz et al., (2000). The factor structure of ABS is found to be different from previous measures.

We have found out two factors of the scale in the result that were Adjustable Adaptive Behavior and Non-Adjustable Adaptive Behavior. Having Cronbach's Alpha values higher, these two factors presented a positive correlation with each other, and showed highly reliable factors. These areas of intellect are needed to under attention for cognitive deficiencies progress in school children.

Conclusion

This study was to develop an indigenous Adaptive Behavior Scale for school going children. Adaptive behavior is the major cause of behavioral difficulties and there is not a specific scale to measure behavioral difficulties caused by learning disabilities, so Adaptive Behavior Scale (ABS) for School going children is developed to measure these domains of behavior. The factor analysis method distributed scale into two factors; these were Adjustable Behavior and Non-Adjustable Behavior. Cronbach's Alpha values were high on the other hand factors were also reliable. So, this developed scale (ABS) is a highly reliable and valid scale, its indigenous properties make it valuable and supportive for school children as well as professionals, who can use it to measure Adaptive Behavior in school students and cope those behavioral problems.

References

- Ahn, S. N., & Hwang, S. (2018). *Occupational therapy international*(Vol. 12)Cognitive rehabilitation of adaptive behavior in children with neurodevelopmental disorders: A meta-analysis.
- American Psychiatric Association, A. (1980). *Diagnostic and statistical manual of mental disorders* (Vol. 3). Washington, DC: American Psychiatric Association.
- American Psychiatric Association, A. (2000). *Diagnostic and statistical manual of mental disorders*. Washington, DC: American Psychiatric Association, 107(6), 433-444.
- Baker, B. L., Blacher, J., Crnic, K. A., &Edelbrock, C. (2002). Behavior problems and parenting stress in families of three-year-old children with and without developmental delays. *American journal on mental retardation*, 107(6), 433-444.
- Ben-Sasson, A., & Gill, S. V. (2014). Motor and language abilities from early to late toddlerhood: using formalized assessments to capture continuity and discontinuity in development. *Research in developmental disabilities*, 35(7), 1425-1432.
- Bradley-Johnson, S. (2001). Cognitive assessment for the youngest children: A critical review of tests. *Journal of Psychoeducational Assessment*, 19(1), 19-44.
- Brady, N. C., Anderson, C. J., Hahn, L. J., Obermeier, S. M., &Kapa, L. L. (2014). Eye tracking as a measure of receptive vocabulary in children with autism spectrum disorders. *Augmentative and Alternative Communication*, 30(2), 147-159.
- Buschmann, A., Multhauf, B., Hasselhorn, M., &Pietz, J. (2015).Long-term effects of a parent-based language intervention on language outcomes and working memory for late-talking toddlers. *Journal of Early Intervention*, 37(3), 175-189.
- Carpentieri, S., & Morgan, S. B. (1996). Adaptive and intellectual functioning in autistic and nonautistic retarded children. *Journal of autism and developmental disorders*, 26(6), 611-620.
- Cazden, C. B. (1980). Toward a social educational psychology –with Soviet help. *Contemporary Educational Psychology*, 5(2), 196-201

- Charman, T. (2004). Matching preschool children with autism spectrum disorders and comparison children for language ability: Methodological challenges. *Journal of Autism and Developmental Disorders*, 34(1), 59-64.
- Ciccone, N., Hennessey, N., & Stokes, S. F. (2012). Community-based early intervention for language delay: a preliminary investigation. *International journal of language & communication disorders*, 47(4), 467-470.
- DeVeney, S. L., Hoffman, L., & Cress, C. J. (2012). Communication-based assessment of developmental age for young children with developmental disabilities, 55(3), 695-709
- Elshani, H., Dervishi, E., Ibrahim, S., Nika, A., & Kuqi, M. M. (2020). Adaptive Behavior in Children with Intellectual Disabilities. *Mediterranean Journal of Social Sciences*, 11(6), 33-33.
- Gleason, K., & Coster, W. (2012). An ICF-CY-based content analysis of the Vineland Adaptive Behavior Scales-II. *Journal of Intellectual and Developmental Disability*, 37(4), 285-293.
- Harrison, P. L., & Oakland, T. (2000). *Adaptive behavior assessment system*. San Antonio, TX: Psychological Corporation.
- Harrison, P. L., & Oakland, T. (2003). *Adaptive behavior assessment system*. San Antonio, TX: Psychological Corporation.
- Hauser-Cram, P., & Woodman, A. C. (2016). Trajectories of internalizing and externalizing behavior problems in children with developmental disabilities. *Journal of abnormal child psychology*, 44(4), 811-821.
- Horowitz. (2000). Measuring psychosocial and functional outcomes of a group model of vision rehabilitation services for older adults. *Journal of Visual Impairment & Blindness*, 94(5), 328-337.
- Individuals with Disabilities Education Act(2004): Another round in the reauthorization process. *Remedial and Special Education*, 26(6), 314-319.
- Jones, E. J., Gliga, T., Bedford, R., Charman, T., & Johnson, M. H. (2014). Developmental pathways to autism: a review of prospective studies of infants at risk. *Neuroscience & Biobehavioral Reviews*, 39, 1-33.
- Kanne et al (2011). The role of adaptive behavior in autism spectrum disorders: Implications for functional outcome. *Journal of autism and developmental disorders*, 41(8), 1007-1018.

- Keller, K. M., & Fox, R. A. (2009). Toddlers with developmental delays and challenging behaviors. *Early Child Development and Care*, 179(1), 87-92.
- Lidz, C. S., & Gindis, B. (2003). Dynamic Assessment of the Evolving Cognitive. *Vygotsky's educational theory in cultural context*, 99.
- Vygotsky, L. (1934). Fascism in psychoneurology. *The Vygotsky Reader*. Cambridge-Oxford: Blackwell, 327-337.
- Luckasson, R., et al (2002). *Mental retardation: Definition, classification, and systems of supports*. American Association on Mental Retardation.
- Magiati, I., Tay, X. W., & Howlin, P. (2014). Cognitive, language, social and behavioural outcomes in adults with autism spectrum disorders: A systematic review of longitudinal follow-up studies in adulthood. *Clinical psychology review*, 34(1), 73-86.
- Mahn, H. (2003). Periods in child development: Vygotsky's perspective. *Vygotsky's educational theory in cultural context*, 119-137.
- Matsumoto, (2000). A new test to measure emotion recognition ability: Matsumoto and Ekman's Japanese and Caucasian Brief Affect Recognition Test (JACBART). *Journal of Nonverbal behavior*, 24(3), 179-209.
- PlesaSkwerer, D., Jordan, S. E., Brukilacchio, B. H., & Tager-Flusberg, H. (2016). Comparing methods for assessing receptive language skills in minimally verbal children and adolescents with autism spectrum disorders. *Autism*, 20(5), 591-604.
- Saleem, S., & Mahmood, Z. (2011). Development of a scale for assessing emotional and behavioral problems of school children. *Pakistan Journal of Social and Clinical Psychology*, 9, 73-78
- Scattone, Dorothy, Donald J. Raggio, and Warren May. (2011): "Comparison of the vineland adaptive behavior scales, and the bayley scales of infant and toddler development." *Psychological reports*, 109(2), 626-634.
- Schalocket al (2010). *Intellectual disability: Definition, classification, and systems of supports*. American Association on Intellectual and Developmental Disabilities. 444 North Capitol Street NW Suite 846, Washington, DC 20001.
- Sparrow, S. S., & Cicchetti, D. V. (1985). Diagnostic uses of the vineland adaptive behavior scales. *Journal of Pediatric Psychology*, 10(2), 215-225.

- Sparrow, S. S., Cicchetti, D. V., & Balla, D. A. (2005). *Vineland adaptive behavior scales Vineland-II: Survey forms manual*. Minneapolis, MN: Pearson.
- Shevell, M., Majnemer, A., Platt, R. W., Webster, R., & Birnbaum, R. (2005). Developmental and functional outcomes at school age of preschool children with global developmental delay. *Journal of child neurology*, 20(8), 648-654.
- Stewart et al (1999). Functional parenting in Pakistan. *International Journal of Behavioral Development*, 23(3), 747-770.
- Szatmari et al (2015). Developmental trajectories of symptom severity and adaptive functioning in an inception cohort of preschool children with autism spectrum disorder. *JAMA psychiatry*, 72(3), 276-283.
- Tager-Flusberg, H. (2000). The challenge of studying language development in children with autism. In *Methods for studying language production* (pp. 317-336). Psychology Press.
- Uchida, Y., Kitayama, S., Mesquita, B., Reyes, J. A. S., & Morling, B. (2008). Is perceived emotional support beneficial? Well-being and health in independent and interdependent cultures. *Personality and social psychology bulletin*, 34(6), 741-754.
- Vygotsky, L. S. (1934). Problems of the theory and history of psychology. *The collected works of LS Vygotsky*, 3, 91-108.
- Vygotsky. (1978). *Mind in society: Development of higher psychological processes*. Harvard university press.
- World Health Organization. (1992). *The international classification of diseases (10th revision; ICD-10)*. Geneva: Author.