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ABSTRACT

Purpose: *The purpose of this study was to develop a comprehensive tool to identify key components of leisure, thereby, examining the relationship between the prevalence of leisure (PLA) and psychological wellbeing (PWB); and its overall effect on the quality of life (QOL) of mothers of children with Autism-Spectrum-Disorder (ASD) with the demanding care of the child with autism.*

Design/Methodology/Approach: *A cross-sectional design with interpretivism and an inductive approach a sample of 140 mothers of children with ASD, in India was used to develop this instrument. Structural equation modeling (SEM), partial least squares structural equation modelling (PL-SEM), and chi-square were used to analyze the scale items. Research data was interpreted by exploratory factor analysis and Confirmative factor analysis. Reliability was explored through split-half and internal consistency estimation using Cronbach's alpha.*

Finding/Result: *The comprehensive outcome of quality of life (QOL) is measured as the result of engaging in the leisure of individual choice for self-replenishment, social connectedness, and happiness in life despite the demanding care of the child with autism. The overall unidimensional reliability with Cronbach's alpha value of the scale is 0.656 having reasonably strong reliability. The construct-wise reliability demonstrated between 0.654 and 0.840 showing a high-reliability level. The validity of the instrument was established by face, content, construct, convergent, and discriminant validity tests. Most importantly the measurement model of the LsPQM-12 instrument has shown 0.935 CFI, 0.097 RMSEA, and 0.053 SRMR.*

Originality/Value: *Leisure-specific quality of life of mothers of children with ASD as an outcome of acknowledgment of prevalence of leisure as well as the absence of leisure made possible by the development of this instrument. Thereby integrating daily leisure of short duration despite the demanding care of the child, towards the psychological wellbeing of the mother was the sequel of this study. Appraisal of time of mother's leisure schedules in parallel with the child's therapeutic interventions to raise overall QOL is the objective of the study.*

Paper Type: *Case study-based analysis.*

Keywords: Leisure, Prevalence of Leisure, Stress, Psychological Wellbeing, Quality of Life, Autism Spectrum Disorder, Mother, Measure, Scale, LsPQM-12.

1. INTRODUCTION :

1.1. Autism Spectrum Disorder:

The most joyous time in a parent's life is when their child is born. Caregivers face new problems and learn new things as their children progress through different phases of growth and development. Children benefit from their caregiver's time and attention, assistance, and guidance. Parenting for individuals with special needs, on the other hand, increases the effort and learning curve. ASD impairs a person's social communication and engagement, resulting in constrained, repetitive behavior or

activities. Although there is no one cause of ASD; better information, earlier diagnosis, intervention, and access to appropriate services can help children and their caregivers have much better outcomes. Inadequacies in social communication, engagement and the appearance of confined repetitive activities characterize ASD as a neurodevelopmental disease. The diagnostic criteria for ASD from the earlier DSM-IV edition were updated and released by the American Psychiatric Association (2013) in the DSM-5[1]. The worldwide estimate of ASD, as per the World Health Organization (WHO), was 0.76, which is approximately 16 percent of the global child population [2]. ASD symptoms vary in terms of basic characteristics, intensity, onset, and appearance, varying from mild to overt. Symptoms are usually seen during the toddler age. Concerns vary based on when parents first see deviances in their children. Autism is currently thought to be a set of neurologically based but behaviorally defined disorders characterized by impairment in three core domains: social interaction, communication, restricted repetitive behaviors, and interests. Autism affects children differently in their families and society.

1.2. Mothers of Children with Autism:

Mothers of children with autism portray multiple functions in the life of the children. In most cases, it is mothers who notice the autistic problems and they seek appropriate diagnosis and obtain treatment. How mothers and fathers interact is fascinating. They still think their child is great, even if he or she is the most revolting tiny blister you have ever seen [3]. It is heartbreaking to witness something that you were waiting for so much, wanted so much, and yet not get it [4]. When the treatment programs are found to be working the mothers are generally motivated and involved constantly in the child's training and make sure that the training skills are transferred to the family setting. Mothers devote much of their time to taking care of their children. The children grow to be independent as they grow old, but in the case of autistic children, they remain dependent on the mother [5]. The corrections for the above to improve the behavior of the affected children can be brought about only by rigorous and persistent interference and guidance. The caregivers need to have proper training, exposure, and an appropriate attitude. As it has been observed it is always the mothers who provide care to children with autism, though most of them are not exposed to formal training. This contributes additionally to increasing the stress level due to inadequate knowledge and unorganized training methods. The mothers of children with Autism are subjected to multiple influences on their psyche and physique. They could be emotional and behavioral, affecting their analytical prowess and normal interactions with the environment and society. This, in turn, leads to multifold adverse effects on the child, and the mother herself, leading to a dismembered scenario of the treatment regimen. Also depending on the severity of the disability, the children may become dependent on their mother, in many cases for the whole of their life [6]. This causes an additional burden on the mother to provide constant care to the child which is over and above the time she must devote to the family [7]. This leads to an imbalance in her time use, which affects her quality of life as compared to that of mothers with normal children [8].

1.3. Leisure:

Leisure is purely subjective and identified as free time as an individual concept that depends on many factors. Per researchers, due to self-imposed constraints, the routine sedentary, life is full of challenges neglecting leisure activities without any excitement [9]. The responsibilities of being a mother increase constraints in leisure activities and hence stop her from seeking opportunities. This may also pose an imaginary sense of opportunities non-existent due to the day-to-day schedules [10]. It requires tremendous efforts in organizing and planning schedules to meet the demands of a child with disabilities but the mothers or the caregivers must find a way to indulge in major activities. Otherwise, the lack of participation will influence the lifestyle. To accommodate and cope and demonstrate adequate adjustments to daily stressors there are a variety of coping strategies that may be used [11]. There is no significant number of studies conducted on the leisure activities of adult caregivers, instead, the studies are focused on disabled children and their leisure activities. These studies are on unimportant physical leisure activities of lower importance to older adult caregivers [12].

1.4. Leisure Activities:

There are various leisure and leisure activities for autism children and disabled persons of other categories that have been conceptualized by researchers and philosophers in India and around the world. They cater to the living requirements and wellness of persons with neurodevelopmental and other disabilities. The available data reflect children with disabilities in various age groups such as childhood,

adolescence, and early adulthood avail leisure activities and leisure time schedules as part of interventions and measures. In general, most caregivers, parents, mothers, medical practitioners, psychologists, rehabilitation professionals, and speech-language pathologists are unaware of the need and importance of leisure time schedules, and their benefits. Our focus and concern always monotonously focused on the welfare of the disordered child and neglected the outcome of such disorders on the primary caregiver exclusively on the mother. Individuals, as well as society, benefits from participating in a leisure activity of its endless advantages. Besides the individual and social benefits, participation in a leisure activity is essential for both physical and mental health. Explaining the main motives that ensure participation in activities, increasing the participation regardless of the leisure activity type, what matters most is that the activity has the main leisure features that will ensure the participation of an individual. Why an individual participates in any type of leisure activity and lays importance on schedule, has been studied through various scales. All we need is to restructure the activity and make it available according to the target group, individualize the activity, and take necessary actions to schedule it regularly. Analyzing the motives of individuals to participate in a leisure activity according to activity features can play a key role in terms of realization of goals and the relationship with participation are important for researchers.

1.5. New Knowledge:

Predominate research has been aimed at the construct of caregiver's stress with various studies focusing on the negative impact of raising a child with autism on mothers, particularly on physical and psychological wellbeing. The research has also been focused on the resilience of family members post diagnosis of the disorder which shows the increased awareness of the disorder towards family adaptation [13]. The whole restructuring of family processes takes place in phases, namely the parental roles, priority of care, division of care among siblings, and consistent and persistent protective factors towards the autistic child, the family adaptation blends. The whole outcome leads to subsequent changes in the family unit. In the face of major life stress, various models providing a framework for identifying stressors have been used to recognize the ongoing impact of risk factors that contribute to family outcomes. Studies have been conducted on maternal views to examine the functioning and adjustment for adaptation in families with autism. There is huge stress in the life of mothers with autism firstly due to the diagnosis itself and the demanding care of the child twenty-four hours round the clock. In Indian culture, the mothers exhibit the highest level of empathy and emotional attachment towards their children either typical or special needs. In due course, they even don't realize that giving an hour or so of their daily time for personal relaxation can add scientific value psychologically that will raise their life quality. In due course of demanding care, if leisure helps to relieve stress, as stress is the main precursor, studying the mother's time use on leisure, is of utmost importance. Hence to understand the relationship between the prevalence of leisure on the psychological wellbeing and quality of life of mothers of children with autism an instrument to survey all these three constructs was the focus. It was confirmed that such an instrument to measure all these four constructs as stress, the prevalence of leisure, psychological wellbeing, and QOL were not available despite the intense literature review. Hence, developing an instrument that aimed to investigate the actual relationship between the independent variable (the prevalence of leisure), and the dependent variables such as psychological well-being and quality of life, was intensely in need of being carried out.

2. LITERATURE REVIEW :

2.1. Quality of Life:

Nancy Grace et al (2021) [14], used a non-experimental descriptive cross-sectional research design and a quantitative research method to measure caregivers' QOL. In the psychological and environmental realms, the caregiver's QOL differed significantly depending on the period of childcare. The research has identified a need for long-term, need-based approaches that could enhance caregivers' QOL. Márcia Cristina Maciel de Aguiar (2018) [15] conducted a qualitative study in Brazil using semi-structured interviews and a narrative technique. In addition to a mother's emotional distress from caring, the additional responsibility of household tasks should be managed. Mothers stopped bringing their kids out because of societal unfairness and embarrassment. As a result, they appeared to separate themselves, resulting in shifts in mothers. Parents broke off those social interactions because they were dissatisfied with others judging their children's actions. Bateman J. K. (2017) [16] looked at how a parent coaching kit based on Positive Behavior Strategy and adult learning theory improved the quality of life for

families with young ASD children. The findings of this investigation suggest that effective parent coaching activities may improve schedules created during early intervention.

2.2. Psychological Wellbeing:

Yorke Isabel et al (2018) [17] in their meta-analysis studied affected Children with the diagnosis of ASD and Psychological affliction in Parents. Family functioning is a challenging factor in families with ASD. Intense stressors lead to higher distress as problem-solving is stressful on a long-term basis. Many parents are at risk of psychological distress due to heightened healthcare expenses, and unemployment due to consistent childcare contributes to depressive illness and psychological distress in parents. Later, another study also by Estes et al., on three comparative groups of mothers of children with ASD, Developmental Delays and typical children of toddler age found to be of little variant. The disruptive behaviors of ASD children were the predictors of stress-related problems especially psychological distress and physical pains [18]. Minz, D. L. explored psychological distress using Parenting Stress Index as inventory and Depression Anxiety Stress Scales-21. A statistically significant finding was that the mothers who participated in parent support groups as availing informal support had better adjustments hence low psychological distress [19].

2.3. Stress:

As per SooHoo A. A (2019) [20], reduced social and recreational opportunities, difficulty managing ASD problem behaviors, and delayed diagnosis were all associated with higher stress levels in ASD caregivers. The quantitative research discovered that caregiver self-efficacy and social networks, as well as social networks and quality of life, have beneficial associations. Self-efficacy, social network, and the quality of life in families and society were found to be negatively correlated with stress, and as a result, the more stress caregivers reported, the lower their quality of life, social network, and self-efficacy. Pisula E. Porębowicz-Do¨rsmann A. (2017) [21]. Family functioning is one of the most important resources for parental change. Family system traits are unbalanced when parenting by different genders. Parental stress was substantially greater in special needs parents than in normal parents. Tung et al. (2014) [22] sought to determine the relevance of the Health Related QOL dimensions to the parents of autistic children as well as any associations between the occurrence of autism, behavioral issues, and parenting stress. The results showed that caregivers of children with autism had significantly poorer scores in the social, psychological, and physical dimensions.

2.4. Leisure:

The relationship between family leisure participation, leisure satisfaction, family functioning, and family life satisfaction was examined by Katherine M. Walton (2019) [23]. Katherine, in her study, found that leisure satisfaction was an important indicator of involvement in leisure. They assessed that family leisure engagement was connected to family complacency mediated by family functioning. The report, however, did not look at leisure satisfaction or family life satisfaction. Due to increased depression in this population and the study that leisure fulfillment improves mental well-being, neither of these studies considered how caregivers' psychological conditions could undermine this view. There is a substantial gap consistent between ASD and general population research and a less rate of active involvement linked to sociodemographic factors according to the study by Memari et al. (2015) [24]. Melton K., K. (2014), [25] surveyed online using FLAP (Family Leisure Activity Profile) shows a correlation linking family leisure participation and aspects of family functioning proposed in the Core and Balance Model. Centered on the incongruity affordances of recreation settings, this study offered a new conceptualization of core and balanced leisure trends (Zabriskie & Mc Cormick (2003), [26]). The goal of this study was to see a correlation linked between leisure engagement and life satisfaction. From the perspective of the parents, leisure engagement as kinship was the best multicomponent of family happiness than from the children's standpoint. Taking part in leisure and life satisfaction are intertwined, especially from the viewpoint of parents and families. If a happy life is largely predicted by family contentment, participation is the most important facet leading to a superior level of family life, according to the parents and families in this study. Mean family-centered and balance leisure habits were positively correlated with mean family satisfaction.

2.5. Leisure Activities:

Two of the earliest leisure researchers, defined the meaning of leisure as the satisfaction individual gains from their favorite leisure activities. The meaning of leisure derived from their research include pleasure, change from work, new experience, contact with friends, achieving something, and passing time [27]. Continuing to add to the understanding of leisure, researcher Iso-Ahola discovered key determinants in the definition of leisure, which includes perceived freedom, intrinsic motivation, and low work orientation [28]. Once having to care for children, parents' and caregivers' time and leisure activities are often forfeited and/or reduced to care for their children and family. Parents, as well as caregivers, need leisure time to do something for themselves. In other words, they need a break from daily obligations, do something that is personally enjoyable and rewarding, and/or an opportunity to maintain their identities. For parents and caregivers to achieve their leisure desires, they must plan and schedule it into their already busy schedules [29]. Living in a productive society, parents tend to neglect the utilization of leisure by ignoring the value of relaxation. People indulge in leisure activities for a major portion of their lives. When resources for leisure are limited or curtailed it may lead to loneliness, boredom, depression, and suicide. Many of the studies have focused on the influence of caregiving on the physical health and psychological well-being of the caregiving. Caregivers certainly experience physical as well as emotional stress because of the demanding nature of caregiving. The leisure activities are generally classified as active (physical activities), social (activities of interaction with others) and mentally stimulating (cognitive) and have positively contributed to a sense of wellbeing. The studies have shown that these activities resulted in long-term increases in self-esteem, a sense of oneness, and happiness.

2.6. Mothers of Children with Autism:

Autism produces chronic stress and strain in families while raising a child with its complex and heterogeneous nature. Mothers' adaptation; accounting for stressors, resources, appraisal, and coping strategies; to assist in tailoring supports and services to families in a timely fashion has been overlooked. The review highlights the importance of research investigating the role of the mother in raising an autistic child with complex disorders as a caregiver. Parents especially the mother raising children with autism, have been found to report higher levels of parenting stress, depression, and anxiety, and increased general life stress due to their role in nurturing the children with autism round the clock. Clinical manifestations, the social and communication impairments, stereotyped, repetitive behaviors and interests, which lead to inevitable changes in family life, including the educational needs and demands, and least community support with stigma, compliments to raising a child with autism. The family processes in the adaptation across key developmental periods of child age have been an increased risk for negative family outcomes that pile up on mothers' responsibility in caring for the autistic child. The mother's role in determining the potential risk and protective factors is a needing demand of nurturing not only the child with autism through childhood and adult life but also the other members of the family. This review focuses on the process of the importance of the mother's role in raising the family, identifying important contextual factors that may influence family experiences, in raising the child. Few studies have attempted to understand the significant role of a mother as the prime member of a family in their adaptation to the diagnosis of autism, forefront. Many researchers have researched the benefits of leisure for caregivers and found that quality of life improves concerning the personal relationship with other members of the family. Extensive research on physical pain, fatigue, and chronic physical illness such as carpel tunnel syndrome and sciatica, as an outcome of providing physical support to the disabled, were identified and the advantages of leisure on general wellbeing and stress management were reported.

3. NEED FOR THE STUDY AND OBJECTIVES :

The goal of this study is to gain complete knowledge of the mother's roles, and utilization of time of mothers of children with autism. If provided the breathing space from parenting roles, how and to what an extent would they utilize their time towards self-care and relaxation, detaching the child? There had not been many studies on the topic of mothers' role in raising an autistic child, among the parents' role and caregivers of Autism children. It is not reliably established whether persistent exposure to the care of autistic children as a mother rather than from the responsibilities of nurturing and caring for the autistic child. To maintain such a balance among the mothers, there is a need to diffuse the 'involuntary invasion' by the problems of the children. It is vital to find out the means of achieving it. There could

probably be remedies that may be achieved by diverting away from the association with the children. To maintain the rational and normal thought process and conduct of the mothers there is always an inner urge in them to be away from the children and to engage in activities that would reduce the mental, physical, and emotional burden on them. The purpose of this study is to find how the mothers achieve to maintain themselves the mental status by randomly selecting activities that give them comfort thereby leading to a quality of life. There is insufficient evidence on how mothers of children with autism spend their time and cope with the extra work required by their children's care needs in developing countries such as India. Thus, this study aims to investigate the impact of a child with autism on their mother's time use and the leisure time they spend on their own physical and psychological well-being. With the prevalence of leisure as the primary independent variable, none of the tools were measuring what the researcher intended to evaluate to assess the psychological health and quality of life of mothers of children with ASD. The specific objectives of this study are,

(1) to conceptualize and develop an instrument to measure the prevalence of leisure and its effects on the psychological well-being (PWB) and quality of life (QoL) of mothers of children with ASD.
(2) to establish the psychometric analysis of the developed instrument.

4. METHODOLOGY :

An exploratory cross-sectional study was carried out to develop an instrument to measure the leisure activities of mothers of children with autism as the primary caregivers. A comprehensive Leisure specific, PWB, and QOL measure of mothers of ASD children were developed using the purposive sampling method. 140 mothers of children with ASD were investigated in India. The face validity, construct validity and content validity were assessed by the specialized experts in the field by judgment method. Split-half reliability was 0.771 which was acceptable as per the decision rule and Cronbach's α was 0.656 reasonably acceptable co-efficient as internal consistency. Exploratory and confirmatory factor analyses were used to assess construct validity.

Instrument/Scale Development: A multi-stage approach was followed where the items were refined at several stages to increase the content, construct, and criterion validity in the process of tool development. Respondents of various age groups, mixed geographical areas, various age groups of ASD children, various education, and SES background, along with working and nonworking mothers were considered, to increase the scope of the study.

Generation of Items Pool: The starting step of the study is the identification of leisure participation motives used in leisure engagements. At this stage, the main aim is to develop items that can evaluate a leisure activity itself in an integrative manner. Extensive literature was reviewed to conceptualize the item to describe the motivation for participation in a specific type of leisure activity and the features of that particular leisure activity. At the beginning of the study, there were 54 items in the form of questions in the exploratory stage, without omission of any single leisure activity, to fit with the context of the Indian mothers. It was given to five reviewers with appropriate qualifications in clinical psychology who conducted studies on ASD and profound scale development authors in developmental disorders of various types, to examine the relevancy of the items. Items with 80% or more agreement were retained and the suggestions received for improvisation were incorporated into the final version. Initial data screening was carried out for inconsistencies, missing data, implausible responses, and subsequently for univariate and multivariate outliers. The internal consistency with Cronbach's alpha showed 0.72 on 54 items and Split-half reliability of 0.771 was acceptable reliability.

Refinement of Instrument: In the second stage, structured in-depth interviews were conducted with 20 Indian mothers, with 54 items in the questionnaire, ten each with ASD children and ten with typical children's mothers, with the notion that even the mothers with typical children might not engage in leisure due to their busy schedule and empathy towards their nurturing. As a result of the analysis, the items were removed to raise the construct validity, as the majority of the items were neither used nor seldom used by the Indian mothers. In the second step, the items were carefully refined and brought down to 29 which were specified as five constructs. Using monomethod with structured in-depth interviews 61 participants were surveyed in the pilot stage to get the responses using the questionnaire. The reliability with Cronbach's alpha further showed 0.85 on 29 items with a variance of total scores of 104.58. In the third stage, as the study was exploratory, a principal components analysis was carried out by applying the Promax rotation method. The measure of sampling adequacy (MSA) was 0.711 as acceptable indicating factor analysis. Bartlett's test gave the chi-square number 1164.764 (df 406) <

0.001 significance. As a result of factor analysis, and factor loadings, major five factors were obtained, and 22 items were retained. In the final stage, 12 items were set with Cronbach's α 0.656 reasonably strong coefficient as internal consistency.

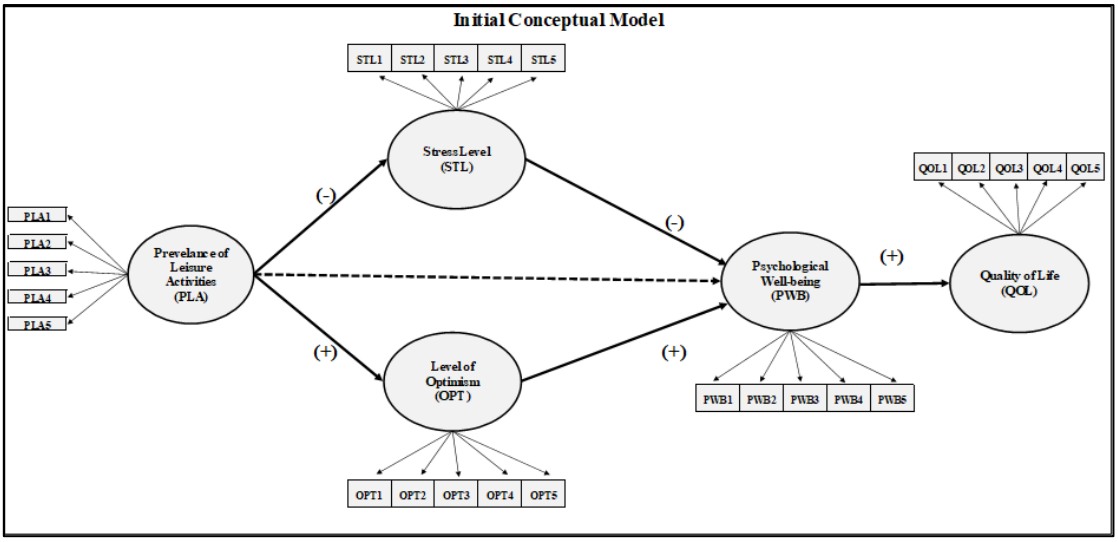

Fig. 1: Initial conceptual model

Construct Domain: The instrument with 29 items was specified as; construct (1) the 6-item Stress Level measure (STL) that measure stress on the physical, psychological, emotional, social, and sexual component of the respondents due to the demanding care of the child with ASD; Construct (2) the 6-item Prevalence of Leisure (PLA) that measure the entertainment activities, arts and intellectuals, sports and physical exercises, homemaking and other fruitful involvements, outings or social events, resting and relaxation, as diversionary activities to energize, divert, relax as fun and free-time. Construct (3) the 6-item Optimism measure (OPT) that measures the level of optimism raised by indulging in the leisure of individual choice as a stress reliever. Construct (4) the Psychological Wellbeing (PWB) measure, which measures psychological health as they engage themselves in leisure/diversional activities despite more demanding care than normal, by realizing, that leisure is a stress reliever. Construct (5) the 5-item Quality of life (QOL) leisure-specific measure that measures the overall quality of life of the respondents as they receive home support, financial resources, reach out leisure schedules, maintain close relationships, personal endeavors, and self-actualization as they indulge in leisure activities despite demanding care. The five constructs in the exploratory stage STL, PLA, OPT, PWB, and QOL were developed to measure their relationship as a conceptual framework. Hypothetically, STL has a negative relationship with PLA, and PLA has a positive relationship with optimism. The STL also has a negative relationship with optimism, and optimism has a positive relationship with the PWB. PWB has a positive relationship with the quality of life (QOL) construct. This was the initial conceptual model required to prove as depicted in figure 1.

The Pilot Data Collection Stage: Sociodemographic questions enhance the characteristics of the data and are hence used to identify and understand these variables of the sample regarding their involvement and participation in leisure. They included the location of residence, respondents' age, marital status, family income, educational background, type of respondent's occupation, type of spouse occupation, housing type, the total number of children, number of children with ASD, age, order, educational level of the ASD children, and additional home support. 61 participants were surveyed using monomethod with structured in-depth interviews to get the responses using the questionnaire. As there is immense difficulty in collecting data and its particular and highly clinical in certain ways in-depth interviews as counseling and deep discussions were carried out to evoke the responses. The responses were graded on a 5-point Likert frequency scale as regularly, frequently, occasionally, rarely, and never. Telephonic interviews and a few face-to-face interviews were conducted indicating the intent to participate with informed consent. The potential stressful events and the stressors specific to ASD-related were identified and their outcome on positive change and coping skills in the life of ASD mothers were measured. The 6-item Stress Level measure (STL) was responded to as "frequently" by most of the

respondents and demonstrated construct-wise good reliability, with Cronbach's α 0.855 as evidence of construct validity. The 6-item Prevalence of Leisure (PLA) measured involvement in leisure activities individually done for self-care and nourishment either with family members or with friends without any obligations as parenting roles. The PLA6, Resting and relaxation, where the free time used could be just to energize the daily workload either by tea-coffee breaks, meditations, just relaxing on a reclining sofa, or by taking a nap or sleep for the physical and mental relaxation were "regularly" indulged followed by PLA1, Entertainment activities such as any mode of visual entertainment as watching, auditory entertainment or listening, and reading as fun "frequently". PLA2, PLA3, PLA4, and PLA5 were "rarely" participated. The PLA construct showed 0.598, Cronbach's alpha coefficient as construct-wise reliability. In consideration of the unique benefit of direct and indirect positive outcomes, raising the optimism of a mother who takes care of an autistic child, to confront challenges, paved the necessity of measuring the mediator role of optimism in the caregiver's or mother's life. The construct Optimism, a 6-item optimism level measure (OPT), demonstrated fair reliability Cronbach's α 0.654 as construct validity. OPT measured their energy level, the alternatives that they could produce, to handle tough challenges, identify their self-confidence level, avail the degree of the best possibilities to solve immediate problems, to examine the increase in hope and the strength gained as they were involved in leisure activities were all had responded "frequently". The 6-item Psychological Wellbeing (PWB) measured the fulfillment of personal desires, meaning and acceptance of life, learning new experiences in life, connectedness or positive relations, goal settings, achievements, and satisfaction [30]. All 6 items were responded to as "frequently" as the outcome and had good reliability, with Cronbach's α 0.783 as evidence of construct validity. The last construct QoL was constructed to measure positive emotions, acquired additional skills and knowledge, support system, and social relationships that improve their quality of life. The 5 items of the QoL construct demonstrated construct-wise reliability with Cronbach's alpha -0.217. The overall reliability of the whole instrument with Cronbach's α 0.719. The factor analysis was carried out using Pearson product-moment correlations between all variables. Since the study was exploratory, a principal components analysis was carried out following the rule of Kaiser and the solution was obtained by rotating all factors by applying the Promax rotation method. Kaiser-Meyer-Olkin sample sufficiency index O is 71.1 percent, and it is reliable because it exceeds 70 percent. Bartlett's test gives the chi-square number 1164.764 with the degree of freedom 406 with less than 0.001 significance. Confirmatory factor analysis gives the chi-square value 530.304 with a degree of freedom of 242 with less than a 0.001 p-value. Which says that this model is significant even at a 99% confidence level. Comparative Fit Index (CFI) 0.573, Root mean square error of approximation (RMSEA) is 0.140. The standardized root means square residual (SRMR) is 0.122. These should be less than 0.10. Structural equation modeling (SEM) was carried out to identify the structural relationships in the modified model as a research model. Confirmatory factor analysis of both the proposed and modified models, convergent validity assessment, and research model analysis. The goodness of fit criteria was set as $\chi 2$ value: 392.557 with 176 df at <0.001 significance. Comparative Fit Index (CFI) 0.927, and Bentler-Bonett Non-normed Fit Index (NFI) at 0.904. Root means a square error of approximation (RMSEA) of 0.083, Standardized root mean square residual (SRMR) of 0.082 of model 2. The convergent validity criteria such as average variance extracted, statistically significant z values 1.96, reliability higher than 0.7 and above, and standardized factor loading of 0.4 or above were set.

6. FINDINGS, RESULTS, AND ANALYSIS :

6.1. Findings:

The Analysis of Jeffreys's Amazing Statistics Program (JASP) Version 0.16.3 [31] was used to develop and examine the structural equation model for mothers of ASD data. Each structural equation model has 12 latent or unobserved variables, four latent variables, and 16 error terms (see Figure 3). Hoyle recommended determining the magnitude of each latent variable to accurately identify models. This scaling requirement is met by restricting one-factor loading in each set of loadings intended to measure the same factor to some non-zero value (often 1.0). This constraining process is frequently somewhat random, it is desirable to constrain the variable with the highest reliability [32]. Based on reliability, the next four parameters (regression coefficients) were limited to 1.0. The predictor the stress level (STL) being the independent variable and psychological wellbeing (PWB) being the outcome as the dependent variable, is significant at -0.482 (see table 3). The established relationship can be viewed as minus 0.482. Which says that the stress being the predictor affects the psychological well-being negatively of

the respondent. More the stress level, the lower the psychological well-being. Similarly, predictor Prevalence of Leisure (PLA) has a positive effect on PWB showing a positive correlation of 0.649 at 0.001. And the best relationship is higher the PWB and better the QOL, having more than 1 correlation significant at 0.001 as 1.058. Parameters for all error terms were also constrained to 1.0. The guiding premise for assessing model fit was Hu and Bentler's suggestion to use the standardized root mean residual (SRMR) in conjunction with one of nine specific indicators [33]. The SRMR, the comparative fit index (CFI), Bentler-Bonett Normed Fit Index (NFI), and the root mean square of approximation (RMSEA) were all utilized in this work to assess fit. What values represent a good model fit varies somewhat between authors. Hu and Bentler indicated SRMR values around 0.053 [33]; Kline recommended values under 0.10 [34] and Hoyle, also noted values under 0.05 as indicating "a well-fitting model." CFI and NFI values can range from 0 to 1, with values near 0.95 being preferred [32]. In general, values for the RMSEA below 0.05 are considered to indicate a satisfactory match. According to Hoyle, values up to .08 represent a reasonable fit. To test the structural relationships between the PLA, STL, PWB, and QOL construct a theoretical model was created and tested. This study focused on developing baseline models as a necessary step before conducting a comparison analysis [32].

6.2. Results:

The baseline model was initially examined using the latent variables, and it showed a reasonable fit with the constructs (see Table 1). One structural path, the prevalence of leisure and optimism, which links optimism to psychological well-being, was discovered to be statistically nonsignificant at $p < .05$. Nonsignificant parameters should be eliminated from the model, according to Hoyle [32]. It is significant to highlight that altering the postulated model alters the analysis's character from confirmatory to exploratory. It was eliminated after being made aware of the study's exploratory goal, theoretical applicability, and statistical non-significance. Following that, good fit indices were used to test the modified model. The final structural equation model and the data were rated as having a good fit, χ^2 115.836, df 50 (see figures 2 and 3).

The research model was tested with the good fit model (see Table 1). Examination of the regression coefficients revealed statistically significant ($p < .05$) structural paths: a) Level of stress with psychological well-being, b) Prevalence of Leisure with Psychological well-being, and c) Psychological well-being and Quality of life. A good fit of the data was maintained in the final structural equation model (see Figures 2 and 3). The data for the model indicated that the prevalence of leisure explained 0.65 of the variances in psychological wellbeing and together with the prevalence of leisure contributed to the explanation of variance of the level of stress as bidirectional on STL and PLA, with -0.36 factor loading. Finally, psychological well-being contributed to the explanation of the quality of life explaining 1.06 of the variances. CFI =0.935, TLI = 0.907, NFI=0.885, RMSEA =0.097, SRMR=0.053. The validity and reliability analyses of the tested structural model were performed because the measurement model gave good fit values. As the Comparative Fit Index of the researcher model is 0.930 which is higher than 0.900, RMSEA is 0.097 which is lesser than 0.100, Chi-square is 115.836 which is higher than the critical value, and the calculated p-value is less than 0.001. The dependent variable QOL has R Squared Value of 0.92 (Which is more than 0.90). This further confirms that 92% of QOL can be determined by all the 12 items of the instrument. All the constructs of the model have statistically significant associations. When Cronbach's alpha coefficient for internal consistency is examined, all the dimensions of the scale are above the acceptable limit [35] and the overall unidimensional reliability for Cronbach's alpha value of the scale is 0.656. It can be said that the scale has reasonably strong reliability. The construct-wise reliability demonstrated as Stress Level measure (STL) Cronbach's α = 0.805, PLA= 0.654, PWB = 0.836 and QoL= 0.840 showing a high construct-wise reliability level.

Table 1: Model fit

				Baseline test			Difference test		
	AIC	BIC	n	χ^2	df	p	$\Delta\chi^2$	Δdf	p
Model 1	4282.050	4399.715	140	115.836	50	< .001	115.836	50	< .001

Table 2: Factor Loadings

						95% Confidence Interval		Standardized		
Latent	Indicator	Estimate	Std. Error	z-value	p	Lower	Upper	All	LV	Endo
PLA	PLA1	1.000	0.000			1.000	1.000	0.756	0.832	0.756
	PLA2	1.045	0.127	8.257	< .001	0.797	1.293	0.779	0.869	0.779
	PLA3	0.473	0.112	4.221	< .001	0.254	0.693	0.389	0.394	0.389
PWB	PWB1	1.000	0.000			1.000	1.000	0.797	0.877	0.797
	PWB2	0.997	0.101	9.834	< .001	0.798	1.195	0.761	0.874	0.761
	PWB3	1.005	0.095	10.600	< .001	0.819	1.191	0.807	0.881	0.807
QOL	QOL1	1.000	0.000			1.000	1.000	0.896	0.966	0.896
	QOL2	0.955	0.073	13.150	< .001	0.813	1.098	0.835	0.923	0.835
	QOL3	0.690	0.075	9.158	< .001	0.542	0.837	0.669	0.666	0.669
STL	STL1	1.000	0.000			1.000	1.000	0.692	0.763	0.692
	STL2	1.452	0.171	8.515	< .001	1.118	1.786	0.896	1.108	0.896
	STL3	0.990	0.141	7.023	< .001	0.713	1.266	0.660	0.755	0.660

Table 3: Regression coefficients

						95% Confidence Interval		Standardized		
Predictor	Outcome	Estimate	Std. Error	z-value	p	Lower	Upper	All	LV	Endo
STL	PWB	-0.482	0.107	-4.485	< .001	-0.692	-0.271	-0.419	-0.419	-0.419
PLA	PWB	0.649	0.113	5.728	< .001	0.427	0.871	0.616	0.616	0.616
PWB	QOL	1.058	0.092	11.461	< .001	0.877	1.239	0.960	0.960	0.960

Table 4: Overall Unidimensional Frequentist Scale Reliability Statistics

Estimate	Cronbach's α
Point estimate	0.656
95% CI lower bound	0.572
95% CI upper bound	0.728

Note. The following items correlated negatively with the scale: STL1, STL2, STL3.

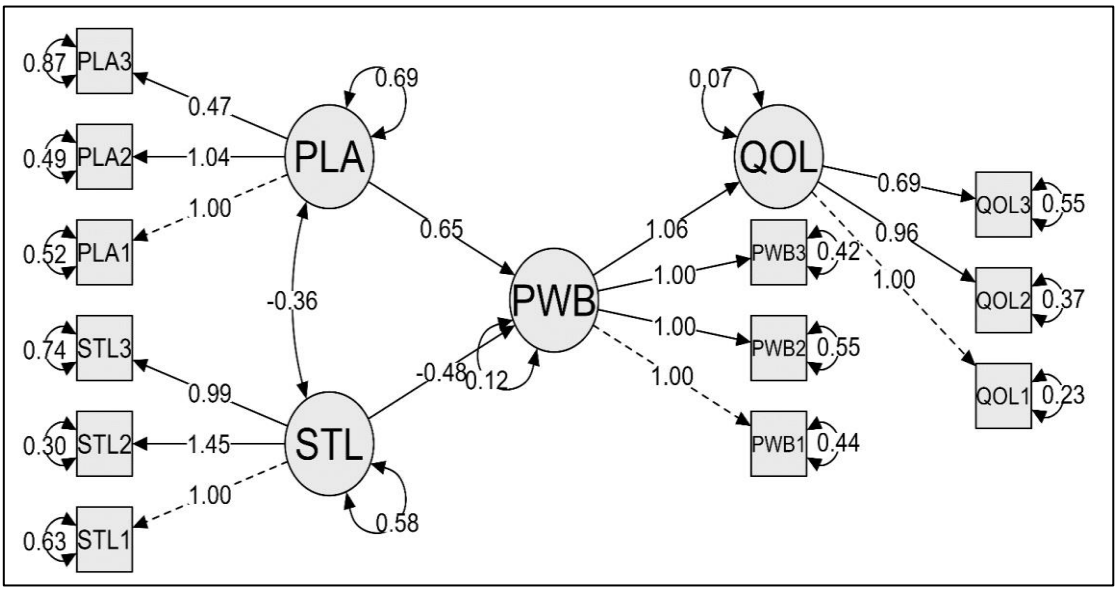

Fig. 2: Path diagram of tested structural equation model

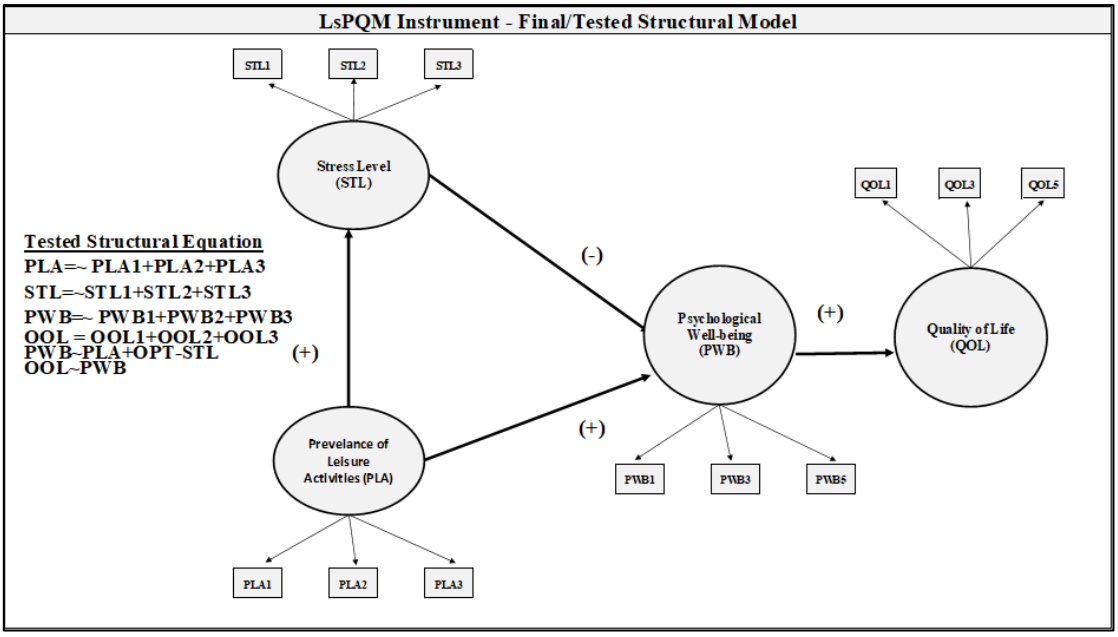

Fig. 3: Tested structural model

6.3. Analysis:

The constructs for this study consist of the Level of stress (STL), the prevalence of leisure (PLA), psychological well-being (PWB), and quality of life (QOL). With the help of JASP, the analysis was carried out. Hypothetically we have created a structural model. Here psychological well-being is related to the level of stress and prevalence of leisure activities, finally resulting in quality of life. There is also a relationship between the Level of stress, the prevalence of leisure, the Level of stress, and psychological well-being. All independent variables affecting the QOL are considered exogenous constructs while the dependent variables are considered endogenous constructs. To complete this analysis, we first tested the confirmatory test analysis (CFA). As a first step, we need to have four latent constructs in our model with covariances. There were six covariance relationships between each construct. Each construct was measured using three items. The construct STL was measured using items STL1, STL2, and STL3. The prevalence of leisure (PLA) construct was measured using items PLA1, PLA2, and PLA3. Psychological wellbeing (PWB) was measured using indicators PWB1, PWB2, and PWB3. And Quality of life was measured using QOL1, QOL2, and QOL3. Similarly, each item's error has been measured adding up to 12 error values. There were two regression relationships created in this model. Psychological wellbeing as an endogenous construct was the effect of the level of stress (STL) and prevalence of leisure activities (PLA). And the quality of life (QOL) is also an endogenous construct as the overall effect of PWB. The Lavaan package was used to run the SEM analysis. The data set measuring 12 items were analyzed using CFA. The chi-square value of 115.836 with degrees of freedom of 50 was higher than the critical value, and the calculated p-value was less than 0.001. The C minimum value as the chi-square ratio value was 2.316, also considered a fit value (should be less than 3). The other fit values were Comparative Fit Index (CFI) is 0.930, Tucker-Lewis Index (TLI) is 0.907, Bentler-Bonett Normed Fit Index (NFI) 0.887, Goodness of fit index (GFI) is 0.992, which are higher than 0.900. Root means a square error of approximation (RMSEA) is 0.097 and Standardized root mean square residual (SRMR) is 0.053, which were lesser than 0.100. The R square values for the endogenous construct show that 85% of the psychological wellbeing (PWB) construct gives variation explaining psychological wellbeing. This further means that PLA and STL constructs are explaining 85% of the psychological well-being. The dependent variable QOL has R Squared Value of 0.92 (Which is more than 0.90). This further confirms that 92% of QOL can be determined by all the 12 items of the instrument. Hence the Path model can be described as; The independent variable, prevalence of leisure was measured using three variances PLA1, PLA2, and PLA3 has a direct effect on the construct STL reducing the stress level, which is a negative value of -0.36. The construct STL was measured using items STL1, STL2, and STL3 which also has a negative effect on the PLA construct. The level of stress will be reduced as the outcome of the prevalence of leisure, which is also a bidirectional effect. Psychological wellbeing (PWB) was measured using indicators PWB1, PWB2, and PWB3. Psychological wellbeing is also measured by stress level as it has a direct negative effect of -0.48. The

next path shows a positive relationship of 0.65 between PLA and PWB confirming that the more prevalence of leisure activities increases the psychological well-being of the respondent. And final path led to Quality-of-life construct. QOL was measured using QOL1, QOL2, and QOL3. And it is the overall effect of all three latent variables of STL, PLA, and PWB is 1.06 significant at 0.01. Similarly, each item's error has been measured adding up to 12 error values.

7. DISCUSSION :

The null hypothesis was, that there is no significant relationship between the prevalence of leisure and the quality of life of mothers of children with ASD. Based on the confirmatory factor analysis (CFA) and Structural equation modeling (SEM), it is statistically rejected. As the Comparative Fit Index of the researcher model is 0.930 which is higher than 0.900, RMSEA is 0.097 which is lesser than 0.100, Chi-square is 115.836 which is higher than the critical value, and the calculated p-value is less than 0.001. All the constructs of the model have statistically significant associations and hence the null hypothesis is rejected.

Research/Alternate Hypothesis 1: An increase in the Prevalence of leisure activities (PLA) decreases the level of stress (STL). Factor loading of -0.36 indicates a poor and negative association between the Prevalence of leisure activities and the level of stress (STL). This association is statistically significant as the Z Value is -4.282 which is higher than the critical value of 1.96 at a 95% confidence level. Thus hypothesis 1, an increase in Prevalence of leisure activities (PLA) decreases the level of stress (STL) is accepted.

Research/Alternate Hypothesis 2: An increase in the Prevalence of leisure activities (PLA) increases psychological well-being (PWB). Factor loading of 0.65 indicates a moderate and positive association between the Prevalence of leisure activities (PLA) and psychological well-being (PWB). This association is statistically significant as the Z Value is 5.728 which is higher than the critical value of 1.96 at a 95% confidence level. Thus hypothesis 2, An increase in Prevalence of leisure activities (PLA) increases psychological well-being (PWB) is accepted.

Research/Alternate Hypothesis 3: An increase in the level of stress (STL) decreases psychological well-being (PWB). Factor loading of -0.48 indicates a moderate and negative association between the level of stress (STL) and psychological well-being (PWB). This association is statistically significant as the Z Value is -4.485 which is higher than the critical value of 1.96 at a 95% confidence level. Thus hypothesis 3 is accepted.

Research/Alternate Hypothesis 4: An increase in psychological well-being (PWB) increases the quality of life (QOL). Factor loading of 1.06 indicates a strong and positive association between PWB and QOL. This association is statistically significant as the Z Value is 11.461 which is higher than the critical value of 1.96 at a 95% confidence level. Thus hypothesis 4 is accepted.

8. THE LsPQM-12 INSTRUMENT :

There were various stages to the LsPQM-12 development process. These are briefly explained below.

Quality of Life: An accepted definition of quality of life and a methodology for conducting an international assessment of the quality of life was established during the first stage of concept clarification. A person's assessment of their place in life concerning their objectives, expectations, standards, and worries, as well as the culture and value systems in which they live, is referred to as their quality of life. According to this definition, quality of life refers to a personal assessment that is rooted in a cultural, social, and environmental context. It is not anticipated that this definition of quality of life will offer a way to measure symptoms, diseases, or conditions in any detail, but rather the effects of disease and health interventions on quality of life, as it places a strong emphasis on respondents' "perceived" quality of life.

Psychological Wellbeing: Based on one’s potential in fulfilling the purpose and meaning of life as roots of happiness, cultivating the main elements of psychological well-being is challenging. Managing daily demands, standing on one’s principles, and experiencing positive emotions, with feelings of happiness, describes the well-being of a person, as it exhibits some meaning and purpose. With happiness or satisfaction, people experience positive emotions being the subjective well-being, as a positive mental state. Caring for children with ASD demand high dedication and persistence and managing daily demands in the absence of positive observable outcomes, lowers the meaning and purpose of doing routine tasks.

Table 5: LsPQM Domains

Domain	Facets incorporated within domains
Level of Stress	Emotional stress (Q1)
	Cognitive stress (Q2)
	Physical stress (Q3)
Prevalence of Leisure	Entertainment Activities (Q4)
	Rest (Q5)
	Relaxation (Q6)
Psychological Wellbeing	Personal growth (Q7)
	Competence (Q8)
	Purpose in Life (Q9)
Quality of Life	Life satisfaction (Q10)
	Personal development (Q11)
	Leisure and social interactions (Q12)

Level of Stress: The term stress has been used to describe a variety of negative feelings and reactions that accompany threatening or challenging situations. Family functioning is a challenging factor in families with ASD. Intense stressors lead to higher distress as problem-solving is stressful on a long-term basis. Many parents are at risk of psychological distress due to heightened healthcare expenses, and unemployment due to consistent childcare. These are the major determinants that contribute to depressive illness and psychological distress in parents.

Leisure: The term “leisure” is a complex concept that consists of multidimensional and different meanings depending on the people, place, and time. Leisure is free time in which people are free from obligations. It contains recreational activities that are non-work experiences and attitudes explained from a self-actualized perspective. Leisure as a recreational activity is an experience or participation in an activity that is personally rewarding or of great benefit to someone. Attitude is the main factor when understanding leisure. A person’s leisure experience is something unique and different for each person. This results in having a special attitude and state of mind, which fosters a rewarding, optimistic leisure experience as well as produces meaningfulness in life, self-expression, and self-actualization. Leisure behavior with individual differences and need-satisfying qualities led to the clustering of leisure activities. Leisure that takes place in a social context is usually motivated intrinsically as the structured activities mandate others' presence as well as interpersonal competence. Social interaction and the relational variables hypnotized the significance of leisure participation as, enjoying the company, building networks, and strengthening relationships.

Table 6: LsPQM Items

Level of Stress (STL)	Items 1 to 3 are summed to produce a total level of stress score (range: 1 to 15). The higher the score, the greater the sense of stress level.
Prevalence of Leisure (PLA)	Items 4 to 6 are summed to produce a total Prevalence of Leisure score (range 1 to 15). The higher the score, the greater the prevalence of leisure.
Psychological Wellbeing (PWB)	Items 7 to 9 are summed to produce a total Psychological Wellbeing score (range 1 to 15). The higher the score the greater the sense of positive psychological wellbeing.
Quality of Life (QOL)	The Stress Level scale score is summed with the Prevalence of Leisure and Psychological Wellbeing to produce a Quality-of-Life score (range from 1 to 60). The higher the score, the greater the quality of life.

In the second stage of development, exploration of the construct was carried out to establish a list of areas/facets relevant to the assessment of the quality of life. The items were assessed for face and content validity by specialized experts in the field by clinicians, psychologists, speech-language pathologists, and mothers of ASD by judgment method. A multi-stage approach was followed where the items were refined at several stages to increase the content, construct, and criterion validity in the process of tool development. Extensive literature was reviewed to conceptualize the item to describe the motivation for participation in a specific type of leisure activity and the features of that leisure activity. At the beginning of the study, there were 54 items in the form of questions in the exploratory stage, without omission of any single leisure activity, to fit with the context of the Indian mothers. In the final stage, 12 items were retained with Cronbach's α 0.656 which was a reasonably strong reliability coefficient to test the internal consistency. The LsPQM-12 original conceptual framework classified 29 facets into 5 domains. An evaluation of the given data using structural equation modeling has revealed that a four-domain solution is more suitable. To provide a comprehensive assessment, three items from each of the four domains have been included. Thus, a four-domain structure serves as the foundation for the LsPQM-12. (see Table 6). The method by which these 12 items were selected from 54 items is fully documented in the conceptualization and development of the instrument. The research model has the goodness of fit, χ^2 value 71.129 (degree of freedom 50) with a p-value less than 0.05. The comparative fit index is 0.927 and NFI is 0.800.

Table 7: The LsPQM-12 Instrument

1	2	3	4	5
Never	Rarely	Occasionally	Frequently	regularly

Item No.	Item	1	2	3	4	5
1	Do you experience any of the following mood changes for no reason such as anger, anxiety, fear, sadness, losing temper, irritability, unhappiness, or hopelessness?					
2	Do you feel difficult to make decisions, difficult to concentrate, or easily distracted from the routine of attending to your child's needs?					
3	Do you experience, difficulty sharing feelings, less interest, or intimacy towards your spouse?					
4	Do you commonly engage yourself in entertainment activities such as watching, listening, reading, etc as fun?					
5	Do you take rest such as tea-coffee breaks, meditation, sleep, and others, to energize your daily workload?					
6	How often do you give time for relaxation of any kind?					
7	How often do you feel like you have the potential to learn new experiences in life after you have been involved in the leisure (Entertainment/Rest/Relaxation) of your interest?					
8	How often do you feel strong enough to cope, and solve problems, as you spent time in the leisure (Entertainment/Rest/Relaxation) of your choice?					
9	Being a dedicated parent, do you feel more satisfied with your goal setting and working towards it, after your choice of leisure (Entertainment/Rest/Relaxation)?					
10	How often do you feel happy about achieving something better than usual after you have spent some time for yourself despite the demanding childcare?					
11	How often do you feel that a certain amount of scheduled leisure helped you to replenish yourself and give better nurturing to the child?					
12	How often do you feel more appreciated, connected, respected, loved, and secure in your social life, after you spend more time with your friends and others?					

The LsPQM-12 is available in the English language. The permission for use can be obtained from the author. Under no circumstances should the LsPQM-12 be used without consultation with the corresponding author. Questions should appear in the order in which they appear in the LsPQM-12. The LsPQM-12 should be self-administered if respondents have the sufficient ability: otherwise, interviewer-assisted, or interview-administered forms should be used. The LsPQM-12 has 12 items as illustrated in table 7.

Scoring Instructions: Each item is scored from one 'never' to five 'regularly.' Scores of the twelve items are then summed to give a minimum score of 12 and a maximum score of 60. Based on the final Total score of any respondent the Scale score is converted into a standardization factor of 100/60 = 1.667. One needs to multiply the total score of the instrument by 1.667 to get a standard score and then look for the meaning of this standard score in the Interpretation Table. Low scores indicate low levels of well-being and high scores indicate high levels of psychological well-being and quality of life.

Scoring Norms and Interpretation Table for the LsPQM-12 Instrument: Table 8 illustrates the interpretation guidelines for the LsPQM-12 Instrument.

Table 8: The LsPQM-12 Interpretation

Scale	Norms
0-20	Very Low Quality of Life
21-40	Low Quality of Life
41-60	Moderate Quality of Life
61-80	High Quality of Life

Twelve (12) items have been chosen for the scale. Therefore, the possible Grand Total Score will be between 12 and 60. To get the Total Score of Each Dimension one can multiply the obtained score by 1.667.

9. CONCLUSION :

This study aimed to develop a measuring instrument with strong psychometric properties that would measure the prevalence of leisure in the life of mothers of children with ASD. For this purpose, the validity and reliability of the scale were tested by combining the data obtained with techniques such as a literature review, and expert opinion. Construct validity is specified in terms of the completeness of the abstract or theoretical structure of the items in a scale [36]. Explanatory factor analysis and confirmatory factor analysis were utilized to form the scale structure within the scope of the research. Items that did not have sufficient features were removed from the scale. There are no items with a common variance value below 0.40 on the scale. The common variance of the 12 items on the scale was found to be between 0.473. In addition, it was found that the 12-item scale can be summarized in four factors and discloses 96.725% of the total variance. Therefore, it can be said that the percentage of the total variance is sufficient and construct validity is ensured and the purpose of the study has been achieved. Leisure benefits require knowing the presence of leisure activities and restructuring their schedules depending on the prevalence. However, the literature review shows that there is an absence of a measurement tool that can comprehensively fulfill these needs. The prevalence of these leisure activities should be motivated in the life of mothers with demanding care of ASD children. Considering that besides the prevalence of leisure, features of an activity based on leisure can be a motivator for quality of life. In the present study, the dimensions and questions of the developed scale were formed in a comprehensive manner considering both psychological well-being and quality of life. The main reasons for this structuring can be grouped under four subjects. The first is developing a measurement tool that can be used for leisure activities in terms of the medium of leisure activity (entertainment, rest, relaxation). The second is defining the precursors (stress) which necessitate participation in leisure activity. The third is identifying the prevalence of leisure activity and obtaining its effect (on psychological wellbeing), and finally, the fourth is obtaining the basic knowledge required to understand the overall quality of life as an outcome of structured leisure activities. Because the LsPQM-12 was developed considering these reasons, it contributes to filling a gap in the literature and facilitates the need for the leisure required for the psychological well-being and quality of life of mothers of ASD children. In this context, it can play a key role in terms of the analysis of quality of life as an outcome of leisure activities to reduce stress as a stress reliever, to reach their goals. Therefore, the relationship between the prevalence of activity and quality of life is a significant issue that should be addressed by clinicians, psychologists, and healthcare providers. Researchers have studied the key structures associated with leisure activity participation and developed valid and reliable scales to measure leisure activity participation. And have identified eight dimensions related to a leisure activity that is highly significant [35]. The present study implied these dimensions and tried to incorporate them as per the preference of participation of the highest clinical respondent group. Considering these dimensions, and other from previous researchers, the dimensions were narrowed down into three main categories that validated their application. The leisure dimensions of the developed scale were formed in a way to measure the stress-relieving objectives as well as upraising psychological well-being simultaneously. As a comprehensive tool, it's highly validated in measuring the psychological well-being and quality of

life of mothers of children with an autism spectrum disorder. The need for leisure activities for mothers of autistic children and making time and space to indulge in various types of leisure activities under entertainment, rest, and any kind of relaxation were identified which enabled the participants to relieve their stress levels.

10. SUGGESTIONS :

Major practical implications can be extracted from the study. The development of the LsPQM-12 allows psychologists and healthcare providers to identify participation in leisure among mothers. Doing this can provide psychologists with the opportunity to segment the mothers as distressed or not. Psychologists can use the LsPQM-12 to understand mothers' stress levels, in due course of their handling of an ASD child. Which provides an opportunity to evaluate their psychological well-being and improve their relationship with their children and enhance the effectiveness of the parent-child relationship. Additionally, the LsPQM-12 can be used to understand mothers' prevalence of leisure with the demanding care of the child and weigh the level of stress. This information can help psychologists and healthcare providers to motivate them to participate in the leisure of their choice. Thereby, leisure activities stimulating ones in nature can plan accordingly. In the long run, to combat the routine sedentary demanding care of the ASD child with the unobservable outcome of their efforts, leisure helps to relax mentally and physically to replenish and recharge.

11. LIMITATIONS OF THE STUDY :

While findings represent significant progress in ASD mothers' leisure research, limitations of the study must still be recognized. First, the conceptual model has been developed primarily concerning the prevalence of leisure activity. However, considering the diversity of leisure activities, more work needs to be done to determine whether the proposed frameworks are equally applicable to specialized leisure activities, even if the subdimensions are appropriate for generalization. Second, only three factors affecting participation in leisure activities are taken into consideration. Other factors influencing participation in leisure activities should be sought out in future studies. The sample was perhaps one of the diverse examined in this line of study and somewhat reflective of the Indian population; however, it was not necessarily representative of the population as the respondents were predominately south of India 57.37%, and the distribution was positively moderately skewed at 0.875. This difference was found to be a product of inter-state migration concerning transferrable jobs and metropolitan cities which increased the number of respondents reported as being in the south of India with a mean of 1.88. In future studies, investigations of ASD mothers from rural and urban areas who participate in leisure activities as well as those from other geographical locations. Fourth, it could be important to test the psychometric properties of the scale used in other languages and cultures to increase the generalization, validity, and reliability. Future research may focus on consequence relationships between leisure activity participation and other constructs, such as needs, and satisfaction. Additionally, though there were in-depth structured online interview responses collected, face to face response method may have also resulted in some limitations. While this method facilitated the collection of data from a larger sample, studies addressing similar variables that are focused on specific sub-groups (SES) of families must continue. In summary, despite the limitations of the study, the conceptual model and proposed scale will help clinicians, psychologists, and healthcare providers establish and maintain a competitive edge by identifying their advantages in the personal, family, and societal arena. This will provide a solid experimental base for the potential development of a leisure intervention module.

12. SCOPE FOR FURTHER RESEARCH :

The study's exploratory nature and the fact that it served as a first step in the building of a wide model rather than a final confirmation and test of the model must be acknowledged. Although other analytical techniques would enable item-level analysis and make better use of the rich data gathered, it was impractical to model the prevalence of leisure and quality of life during this initial stage of broad model construction due to the enormous number of variables and the complexity involved [37]. However, recent findings corroborate the structural linkages in the conceptual models put forward and offer suggestions for building substantial baseline models before research model analysis [32]. Therefore, it is advised that these models be utilized as a foundation for direction for additional research and analysis. Utilizing analytical techniques that enable a broad-level analysis of leisure activities for each of the broad model's dimensions, such as entertainment activities, outings, socialization, homemaking, and

other productive engagements, arts and intellectuals, sports, games, and physical exercise, resting and relaxation, should be the first step. Such a strategy would make it possible to analyze data gathered from all aspects of leisure activities and would make it easier to get a more comprehensive picture of each person's leisure experiences and perceptions. Future research on the frequency and duration of leisure will benefit from filling in the gaps created by the extent of leisure activities to significantly improve life quality. Continued qualitative investigations are also highly advised because they will provide better, deeper knowledge and specific meanings relating to some of these broad components relevant to the leisure impact. Following early tendencies and doing similar research among samples of mothers of ASD in various cultures throughout the world are likely to be beneficial for future advancement utilizing this framework. Large Indian sample studies like the one utilized in this study, when compared to samples of mothers who speak various regional languages, are likely to have both culturally specific and general implications. The amount, nature, and standard of leisure activities that have the greatest likelihood of influencing mothers of children with an autistic spectrum disease will become clearer with continued efforts like these.

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