We are IntechOpen, the world's leading publisher of Open Access books Built by scientists, for scientists

6,900
Open access books available

186,000
International authors and editors

200M
Downloads

Our authors are among the

154
Countries delivered to

TOP 1%
most cited scientists

12.2%
Contributors from top 500 universities

CLARIVATE ANALYTICS
BOOK CITATION INDEX
INDEXED

WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index
in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com

An Ecocultural Perspective on Learning Disability: Evaluation of Familial and Cultural Factors and Presentation of an Integrated Model

Suzan Cen-Yagiz and Berna Aytac

Abstract

Ecocultural theory defines culture as a broad context that includes the tasks, goals, beliefs, values, and resources of society. According to ecocultural theory, culture shapes families' resources, routines, goals, and parenting practices. In turn, these characteristics of family ecology and parenting determine child development. Ecocultural theory is one of the modern approaches that examine the adaptation of children with disabilities and their families. This chapter aims to outline the relationship between cultural values and families' support resources, and their influence on adaptation of the families and their children with learning disability (LD) within the framework of ecocultural theory. Previous studies supported that cultural values determine public knowledge, awareness, beliefs, and attitudes about LD. This chapter outlines both the detrimental and positive effects of the public knowledge, beliefs, and attitudes on families' support resources. Also, families' diversified support resources are detailed, and their differential influences on family and child development are elaborated. In the chapter, an integrated model is presented based on findings of previous empirical studies and ecocultural perspective. The model might enhance a culturally sensitive understanding of the experience of families and children. This chapter can also guide researchers in developing more comprehensive and effective intervention programs for the target group.

Keywords: ecocultural theory, learning disability, family support resources, cultural values, causal beliefs

1. Introduction

Learning Disability (LD) is a biologically originated, neurodevelopmental disorder including difficulties across the academic domains of mathematics, reading and writing [1]. Children with LD face different developmental outcomes due to both biological (e.g., neurocognitive and adaptive deficits associated with a significant disturbance of the white matter in the right hemisphere) [2], and environmental factors (e.g., attending to special education) [3]. In other words, the development of the child with LD is also affected by the contextual factors [4]. There are several

studies investigating the effect of contextual factors such as family functionality and school environment on the development of children with LD [5–7]. However, there is a scarcity of studies differentiating the effects of different levels of contextual factors such as familial factors and cultural factors [8].

Ecocultural theory offers a wide theoretical perspective combining the effect of these factors on development of children with neurodevelopmental disorders like LD [9–11]. According to ecocultural theory, family's practices, activities, and resources of support are organized and shaped by the characteristics of the culture (e.g., culture values); in turn influencing child developmental outcomes, such as child daily living and communication skills, and developmental status of children with disabilities [11, 12]. In the chapter, the effect of familial and cultural factors in determining the family practices and development of children with LD are examined within the perspective of ecocultural theory.

At the cultural level, the role of cultural values in determining family social support resources is evaluated. At the familial level, the association between family social support resources and the adjustment processes of parents and children is covered. It has been thought that investigation of these factors in the light of ecocultural perspective would (1) contribute to develop an understanding of contextual effects on child development, (2) guide future studies and researchers in developing more comprehensive and effective intervention programs for the target group.

In the chapter, the definition of LD is presented and the importance of evaluating LD within a contextual perspective is discussed. Subsequently, the link between culture, family and child development is addressed in the history of developmental psychology. In the following parts, the basic assumptions of ecocultural theory, contextual factors and associations among these factors along with studies about LD are summarized. Finally, in the scope of the chapter, an integrated model is presented based on findings of previous empirical studies and ecocultural perspective.

2. Learning disability (LD)

According to DSM5 [1], individuals with learning disability (LD) demonstrate cognitive abnormalities, impairments in verbal and nonverbal information processing of brain, and/or disruption in processing abilities of individuals. These impairments in development of the brain result in difficulties in the acquisition and use of academic skills such as reading, writing, reasoning, and/or mathematical abilities [1]. Five to fifteen percent of school-aged children in the world exhibit low performance on some of these skills [1, 13].

The subtypes of LD have been defined in DSM 5 as; (1) reading disorder "dyslexia", (2) writing disorder "dysgraphia" and mathematics learning disorder "dyscalculia" [1]. While one of the subtypes of the expressed disorder is observed in children with mild LD (e.g., dyslexia), the severity of the difficulty increases if children experience difficulties in more than one academic area (e.g., dyslexia and dyscalculia together). Children with severe LD were more prone to demonstrate an increased number of social skill deficits, hence they reported more problem behaviors compared to children with mild or moderate LD [14–16]. Within the scope of the chapter, previous studies including children experiencing problems in at least one of the subtypes of LD are covered.

3. Culture, family and child development

The earlier studies of human development have been argued to be based on the perspective where the genetic influences are dominant [17, 18]. However, when

anthropologists (e.g., Malonowski Trobia Islands) began to study culture in the 1920s with World War I, cultural and contextual influences also started to dominate explanations of human development (e.g., ecocultural models). In those years, Vygotsky was one of the foremost theoreticians emphasizing the indispensable role of sociocultural factors for elementary nature of human development as well as biological processes. He defined human development especially cognitive and language development by integrating cultural and hereditary influences [17]. According to Vygotsky, the life-span development (ontogenetic) should be examined within the framework of both genetic/evolutionary changes (phylogenetic) and the cultural context/historical times (e.g., symbols, technology, values, norms) in which the individual is living. Vygotsky claimed that it is not possible to separate these levels from each other because interaction between these levels also determines the structure of human development [17].

Vygotsky's emphasis on the importance of cultural-historical effects in understanding human development had also influenced the views of many developmental theorists [17]. Many developmental theorists' precious works have led to the accumulation of knowledge in terms of elaboration of contextual factors [19–21]. They examined the differential roles of contextual factors such as distal (e.g., values, beliefs, social politics, welfare, child-rearing customs) and proximal process (e.g., physical and social context of children living, parenting practices, families' support resources). Inspection of the theories indicated that these distal process shape the family environment that plays an active role in the development of the child. In other words, child development is embedded in the context in which the child lives. However, these contextual developmental theories generally focused on examining the characteristics of cultural and familial factors on development of children with typical development. Ecocultural theory suggests examining the role of contextual factors on the development of both children with and without developmental disabilities. Taken together, evaluations presented in the chapter aimed to incorporate examining the role of familial and cultural factors on development of children with LD within the perspective of ecocultural theory.

4. Ecocultural theory

The term ecocultural or ecological/cultural refers to the physical and social characteristics of the environment surrounding the families [12]. Thus, the theory defines culture as a broader context that includes societal tasks, goals, believes, values, resources, and traditions. These factors constitute the cultural trajectory of families and their life, activities, parenting practices, relationships, support resources, etc. [9–10, 22]. Each family organizes its daily activities, routines, and resources. Since the main goal of development is to ensure and maintain individuals' well-being, for example, families' resources are equally distributed concerning the needs of members within the family [9, 22]. According to the ecocultural theory, the activities, routines, and resources of the family help the child to internalize cultural values and beliefs. Through this way, the child can participate and adapt to the culture where s/he is living, which in turn linked with child's well-being [11].

4.1 Culture, family and disability in ecocultural theory

The previous studies investigating children with disabilities and their families were criticized for including mostly univariate variables, distal measurements of family characteristics, and being pathology-oriented [12]. However, the new social and ecological views trivialized old approaches, conceptualized the disability as a

multidimensional issue and guided the development of comprehensive applications for children and their families [12, 23, 24]. Ecocultural theory is one of these new approaches that integrates family ecology, members and culture into one ground for the children with developmental disabilities [19, 24].

Individuals with disabilities are seen passive, and disability is seen as only medical or social issue in medical and social models. However, ecocultural theory takes explanatory model as its basis. In explanatory model, the meaning of developmental disabilities in a cultural context is shaped by cultural values, beliefs, meanings and tools in which individuals are embedded [25, 26]. Therefore, the explanatory model provides an extensive perspective for researchers on individuals' and families' understanding and experiences related to disability within different social contexts (e.g., schools, social services, institutions, etc.). Although this theory takes the perspectives of professionals in this field into consideration, it emphasizes families' perspectives more, especially for children with disabilities. According to ecocultural theory, professionals in this field should analyze the risks (necessities) and opportunities (supports) of the family, and how family interprets and perceives these factors [12]. For example, Kellegrew [27] found that mothers of children with disabilities who considered to send their children to a regular preschool seemed to be more focused on their children's self-care and social skills. On the other hand, mothers whose children were attending to a special education center showed greater interest in their children's academic skills or school works. Also, one of these mothers stated that she did not have to worry because her child was learning self-care skills in the special education center. Professionals in this field should assess the parents' internalized beliefs in terms of child-rearing as it seems that they shape the family's practices, which in turn influence child development. As a whole, families' values, goals, support resources, and practices are dynamic processes that interact with each other rather than passive processes seen in other models. It can be speculated that professionals in this field could design integrative intervention programs for families by assessing both ecological characteristics of families and their perception about the disability.

4.2 Ecocultural theory and learning disability

Ecocultural theory captures many disabilities and discusses the effects of familial and cultural characteristics on the developmental outcomes of children; LD is one of them. Although, ecocultural theory assumes that LD is a neurobiologically originated problem, it also stresses that the assessment process of the LD can be influenced by the cultural characteristics such as values, goals and beliefs [4]. For example, ecocultural perspective argues the diagnosis criteria of LD in different contexts. To explain, literacy and academic achievement are the main goals of the families for their children in western countries. Therefore, academic abilities in reading, writing and mathematics are taken as the diagnosis criteria of LD. On the other hand, in agricultural societies, criteria of intelligence or competence of a child is whether s/he is doing a task independently or/and behaving appropriately according to his/her developmental age group [4]. Diagnosis criteria for LD could change due to ecological characteristics (e.g., resources, services), customs in child rearing, the nature of individuals' early experience of literacy and learning process, expectancy concerning child development etc. Inspection of cultural differences pinpoints the necessity of providing culturally sensitive assessment and intervention services to these children [4].

In recent years, the effects of the relationships between the different individual and contextual factors on developmental outcomes of children with LD have also started to attract researchers' attention more [8]. One of the reasons for this is that

different contextual characteristics of individuals have divergent consequences on the adaptation processes of children and families. Another point is that interventions based on the improvement of children's abilities and environmental conditions (e.g., cognitive schemas, family resources) are seen to have positive effects on the adaptation processes of children and families [28, 29]. As a result, the evaluations of contextual factors and the presented model within the scope of the ecocultural theory would provide a comprehensive perspective for future studies.

4.3 Contextual factors in ecocultural theory

The relationship between culture, family resources, and child development was emphasized and analyzed for children with developmental disabilities in ecocultural theory [12, 23]. However, integrating the role of these factors on the development of children with LD was mainly overlooked. We aim to outline these factors within the scope of ecocultural theory and with previous findings of studies in LD. At the cultural level, we detailed the role of cultural values on families' support resources. In the context of the family, specific support resources are examined since families' specific support resources are emphasized to have different roles on families' adaptation process and child development [23].

4.3.1 Cultural values

According to ecocultural theory, parenting practices and families' daily activities are influenced by cultural values [12, 22]. Values are described as the concepts that guide and explain people's desirable actions, such as cognitive, emotional, and motivational processes [30, 31]. Link of the values with different cultural interests have been guided researchers to study relation of values with family processes or parenting behaviors. The individualistic and collectivistic values are the cultural parameters that has been used to determine the tendency of societies or/and individuals [32]. Collectivistic values are mostly related with social harmony, dependency, compliance and maintaining close ties [32]. On the other hand, in individualistic cultures, individuals tend to strive for autonomy, openness to change, self-direction and independence [32]. Since individualistic and collectivistic values have significant effects on families and parenting practices, we presented the findings based on individualistic and collectivistic cultural values in the chapter.

4.3.2 Cultural values and social support resources

There have been many studies examining the role of support resources in families with children with LD. However, there are limited cross-cultural studies that aim to elaborate the process of determining these resources. The existing studies indicated that there is a link between familial support resources and cultural values. Families have more chance to attain social and educational support resources in individualistic cultures, compared to collectivistic cultures [33–35]. Also, families achieve a greater chance of social inclusion in individualistic cultures. To explain, competence and autonomy are believed to be essential aspects of the self in individualistic cultures [30]. Therefore, people who score higher on individualistic values might believe more in the role of providing help to people with disabilities for improving their autonomy and self-competence. This belief might lead to a decrease in their desire for social distance towards these families and children in daily life [36, 37]. Regarding collectivistic cultures, for example, Taiwanese families reported that they have limited social support resources and social networks, and they have also less interaction with their close relatives [38]. On the other hand,

Fatimilehin and Nadirshaw [37] found that Asian and African families received more support compared to British families. The contradictory findings about collectivistic cultures could be explained with vertical and horizontal collectivism [33]. In horizontal collectivism, each member has equal status in the group [39]. Emphasizing equality might lead to increase tolerance and acceptance of families of children with disabilities. On the other hand, in vertical collectivism, there are differences between status of the group members, namely hierarchy [39]. People with mental health problems are believed to violate social harmony or negatively influence families' reputation in these collectivistic cultures [40]. These thoughts lead to feelings of shame, fear and blame, which in turn linked to increased social distance and negative relationships with people with disabilities [41]. The dominance of hierarchy among group members in Thailand compared to other African countries also supports these findings [42]. The principle of equality between members in collectivistic cultures increases the likelihood of individuals being accepted and supported within the group, independent of their cognitive functionality [37].

In addition, studies indicated that cultural values may have indirect effects on social support resources. In this context, researchers claimed that beliefs about the causes of LD play a significant role in explaining the relationships [37, 38, 43, 44]. Belief is the mental representation of people about what is right or wrong [45]. These mental representations might be based on scientific or non-scientific knowledge [46]. Recently, efforts to generate a comprehensive understanding of public responses to disabilities resulted in assessing the role of beliefs about causes of disabilities on families in various cultures. Based on lay people's causal attributions of disability, researchers have defined some basic causal beliefs in the literature; biomedical (e.g., genetic mutations), environmental (e.g., lack of daytime occupation), supernatural/fate (e.g., being punished by God), adversity (e.g., suffering abuse as a child) [47]. The scientific evaluations of the disability (biomedical) decreased people's anxiety levels and stigma hence increasing their skills for providing effective social support. On the other hand, non-scientific attributions to the causes of disabilities result in higher endorsement of social distance by increasing negative reactions such as anger and anxiety [36]. Regarding cultural differences, studies indicated that individuals scored higher on collectivistic values tended to attribute disability to religious and environmental causes, and report less biomedical causes of the disability in comparison to people scored higher on individualistic values [37, 48]. Similarly, in collectivistic cultures, families emphasized that their relatives strongly believe the child's diagnosis is a God's plan of punishment for their past wrongdoings [38]. They also expressed these beliefs as the source of perceived stress, stigma, and social distance. In turn, stigma and social distance had adverse effects on families' help-seeking behaviors and their attainment to support services.

Parents' own non-scientific beliefs might also negatively influence their professional and educational help-seeking behaviors [49]. To illustrate, parents' beliefs about the role of self-discipline, an imbalance between body fluids and organs, and supernatural influences on disabilities shaped their understanding about LD and their help-seeking behaviors in China. These beliefs were linked with parents' preferences for searching religious (e.g., seeing a religious person) and lifestyle (e.g., diet to balance foods and drinks) interventions instead of professional, educational and rehabilitation services. In all, causal beliefs determine families' and public reactions to disability, which in turn linked with their help-seeking behaviors for attaining professional and social support resources [49, 50].

When the link between cultural values and beliefs examined, it was seen that there were also cross-cultural differences in terms of the meanings attributed to success and failure. Given that LD are described with academic failure, such references to success and failure may also change public attitudes towards families

of children with LD. In general, while people attribute success to intrinsic factors (e.g., abilities) and failures to external factors (e.g., bad luck) in individualistic cultures, in collectivistic cultures, it is the opposite. These attributions to failures result in parents to be seen as responsible for children's failure in academic settings in collectivist cultures. Similarly, parents often blame themselves for the failure of their children that lead to decrease families' information-seeking behaviors [49]. In addition, social and interdependent motives for success and failure in collectivistic cultures are argued to be linked with emphasizing less the role of personal effort on change and development [30]. For example, parents believed that failures of their children were the result of unsuccessful parent–child relationship instead of their children's lack of abilities in China [49]. Therefore, mothers give more priority to focus on improving their close relationship by applying parental control for children's academic success [49]. On the contrary, mothers scored higher individualistic values were believing more in the significance of early development in childhood and motivated their children about personal effort or practice for the achievement [48]. Researchers have also found that attainment of children in support resources in different contexts (e.g., home, school) and their academic success decreased, when parents overlooked the role of effort on achievement [51]. In spite of the considerable amount of information accumulated in previous within-culture studies, future studies could enhance our understanding about assessing the cross-cultural differences in terms of the differential role of cultural values on attributions to LD.

In sum, according to ecocultural theory, each culture constructs their own ecological characteristics such as values, beliefs and attributions, and this ecology influences the families' support seeking behaviors, child rearing practices and child development. Inspection of the values, attribution and beliefs contributed to our understanding of how they shape families' daily routines, activities, and relationships [10, 52, 53]. In the context of LD, we believe that causal beliefs and attributions to failure and success might have mediator roles between cultural values and families' support resources. On the other hand, instead of the role of cultural values, researchers discussed the role of education, technology and developmental level of countries in determining public knowledge, attitudes and beliefs about disabilities. Both lay people and families in collectivistic countries reported that they have less knowledge about disabilities, and they have limited chances to get information from professionals [37, 47]. When the participants' educational and knowledge level controlled, the cross-cultural differences in terms of negative attitudes and non-scientific beliefs of disabilities disappeared across groups in previous studies [33, 54]. As a result, it is argued that cross-cultural differences might decrease with the improvement in educational, technological and informational innovations of the cultures. Future studies might examine cultures with a range of ecological factors, from values and beliefs to educational and technological development of the countries.

4.3.3 Family social support resources

Based on the ecocultural theory, Nihira and colleagues [23] formed twelve ecocultural factors (e.g., integration into non-disabled networks) via home interviews of families of children with disabilities; predicting 30–60% variance of the child developmental outcomes. Children usually need help in academic, behavioral and social domains. More commonly, special education and specific education techniques are used for the improvement of academic abilities. LD, with its diagnosis and treatment process, is an impairment that affects an individual's life-span development. With disability, child's necessities, families' needs, well-being, resources, activities, routines and qualities are also influenced [55]. Previous studies

demonstrated that families of children with LD perceive the disability as a source of stressor and experience more stress than families of children without disabilities [2]. Since Hastings [56] proposed that stressful parents developed certain parenting behaviors (e.g., using more control), these parenting behaviors tended to reinforce the child's problem behaviors. Social support resources are linked with higher quality of care, especially by reducing stress levels of caregivers and maintaining their well-being [57–59]. In other words, these ecocultural support resources provide a protective context for the families and children [23]. This linkage forms the basic assumption of the ecocultural theory.

In the LD literature, the relation between total social support score and child outcomes was mainly studied instead of specific support resources. It was seen that the studies mainly overlooked the differential effects of specific support resources on child problem behaviors [8]. Thus, differently from previous studies, the effects of specific support resources were evaluated separately as indicated in the ecocultural theory. Given the importance of these ecocultural factors on the development, the current study covers seven of these factors (e.g., socioeconomic status, multiple service usage), and these resources are conceptualized under four support resources (e.g., financial, informational support) (see **Table 1**). In addition to these resources, emotional support to family support resources also added based on previous work [8].

4.3.3.1 Informational support

Multiple service usage (accessibility and utilization of services), variety and amount of formal and instrumental help (support received from professionals, programs or partners), and the use of information from professionals (information-seeking for child prognosis and well-being) are described as *informational support*. Families of children with LD reported that they did not receive sufficient information and support from professionals [38, 49, 59]. Therefore, they have difficulties in understanding the diagnosis and they concern about the prognosis [38, 52]. Lack of information about the diagnosis and prognosis might negatively influence families' help-seeking behaviors for attaining in educational and psychological services [43, 52].

Informational support was argued to motivate parents in guiding their children for academic achievement. For example, groups of mothers with and without familial risk for dyslexia (having parent or close relative with dyslexia in family history) were examined in a longitudinal study in terms of their causal attributions concerning their children's success and failure. For the group of children with familial risk of dyslexia, researchers found that mothers tended to attribute their children's success less to

Ecocultural Support Resources	Families Support Resources
1. Family socioeconomic status 2. Parent's occupation or employment status	Financial support
3. Connectedness of family (e.g., spousal relationship)	Intimate relations support
4. Supplemental help for family 5. Help available within family	Caregiving support
6. Multiple service usage 7. Variety and amount of formal and instrumental help 8. Use of information from professionals	Informational support
9. The availability and satisfaction of emotional support from significant others	Emotional support

Table 1.
Families Social Support Resources within the Framework of Ecocultural Theory.

children's own reading and writing ability and effort, and they were less confident with their children's abilities during the first grade [60]. They argued that mothers' beliefs about improvement of children's literacy skills decreased, and feelings of hopelessness increased during the first grade. It has been stated that mothers' lack of knowledge, and their own negative experiences about dyslexia lead to low motivation and negative attributions for success, which in turn linked with children's lower academic achievement [60]. Emphasizing the role of special education methods, effort and practice on the improvement of literacy skills can contribute to parents' awareness and supportive behaviors. Parents might be motivated to rearrange their home environment which can be sensitive to the needs of their children [54, 60]. Intervention programs also indicated that supporting parents in terms of guiding their children resulted in the improvement of children reading and writing skills [61].

Informational support is also linked with socio-emotional developmental outcomes of children. For example, it was found that children of parents who reported higher information support demonstrated less internalization problems [7]. Perceived informational support could help parents how to deal effectively with disability and to understand child's emotions related to failure. This may result in guiding the child about regulating their negative emotions and learning to express their feelings. In conclusion, it was mainly argued that information and support taken from professionals were generally inadequate [49, 59]. Getting informational support about diagnosis, prognosis and intervention strategies were especially emphasized to be beneficial for patents in dealing with behavioral, educational and emotional needs of the children [8, 53].

4.3.3.2 Caregiving support

Supplemental help for family (additional help in child care received from relatives or grandparents) and help available within family (availability of help received from husband or other children at home) are called as *caregiving support*. Studies indicated that caregiving support have a significant role for primary caregivers of children with LD [23]. School and educational workload make it difficult for caregivers to find enough time to meet their basic needs (e.g., visiting a doctor), which in turn associated with caregivers' feelings of burnout [52, 62, 63]. For example, full-time working parents experiencing a range of home-, work- and child-related difficulties have reported more concerns about their physical and psychological health and less interest in social activities [52]. When a caregiver shares the daily care burden with a significant other, this support might be protective for the psychological and physiological well-being. Since mothers are usually the primary caregiver in all over the world [64], mothers who are not receiving adequate caregiving support can be regarded as a risky group in terms of psychological and physical health. Social policies providing services for fulfilling mothers' physical and social needs can also support their participation in social life [63]. Researchers should elaborate on what kind of resources mothers of children with LD need or use in case of a lack of caregiving support in future studies.

4.3.3.3 Financial support

Nihira and colleagues [23] assessed socioeconomic status as income level and parent's occupation or employment status. However, instead of assessing only income level and parents' employment status, we have also evaluated families' perception and satisfaction of this support resource and its effect on child development. Experiencing economic difficulties or low financial support can influence child development directly or indirectly. It is important for families to access psychological, special education, and sometimes medical services to support their

children's social, emotional, cognitive, and biological development. The access to these resources has a direct effect on child development; however, this can be costly for families. Financial support would create the chance for the child in attaining additional educational or psychological support services [23, 59]. Experiencing economic difficulties could have indirect influences on families and children by increasing family stress and certain parenting behaviors (e.g., strict discipline, low warmth). The elevated family stress negatively affects parents' involvement and investments in education of the children [29]. Also, children of mothers reporting low financial support demonstrated more problem behaviors such as externalizing problems [8, 65]. We can speculate that mothers might focus more on children's educational and socio-emotional needs, and cope better with the problems when they have low financial stress and chance to attain additional support services.

4.3.3.4 Intimate relations support

Connectedness of family, the quality of relationship between parents and father's help in child care are described as *intimate relations support*. Researchers claim that marital satisfaction spills over to parenting by increasing parents' self-efficacy, and reducing parenting stress and depression [66, 67]. In other words, a consistent and supportive close relationship supports both the well-being of the caregiver and parenting behaviors, which in turn linked to an increase in children's academic achievement and well-being [68, 69].

More broadly, studies involving the mothers of children with LD examined the marital relationship from a different perspective and indicated that this close relationship could be also affected by the diagnosis process [38, 62, 70]. In a qualitative study, parents reported that the disability had both positive and negative effects on their family relationships. While disability results in an increase in family harmony, awareness, and supporting each other in the majority of families, some families reported that blaming the child as a source of distress and difficulties in communication between family members negatively influenced the family system [38]. Researchers assessed deeply the causes of negative effects of disability on family relationship. Denial of the child's diagnosis, differences in parent's developmental expectations, inequalities in shared care arrangements, and financial problems lead to decrease in the quality of marital relationship [67]. Since parents of children with LD reported higher anxiety and depression levels compared to parents of children without any developmental disabilities [71], we can speculate that parental stress, economical handicaps and negative reactions to diagnosis would be negatively associated with marital quality in families of children with LD. According to family system theories, if the individual is the part of an organized family system, he or she is never truly independent and can be understood in the family context [72, 73]. Families are composed of subsystems such as marital subsystem, parent–child subsystem, male and female subsystems that are nested structures and influence each other. When one of the parents could not deal with a stressful condition, this parent would have difficulty in providing support to other family members in coping with their negative emotions. As a result, developing a new working mechanism of the family and connectedness of the family becomes even more significant for these families.

To summarize, although spousal or close relationship support is an important support mechanism for parents in dealing with disability, the quality of close relationship seems to be related to many factors such as reactions to diagnosis process. In future studies, researchers should examine why some families have such a positive experience while others do not. In other words, future works should focus on the role of individual and contextual factors in determining the nature of intimate relations support.

4.3.3.5 Emotional support

This support captures the availability and satisfaction of emotional support (e.g., sharing one's anxiety, feelings, happiness with someone) taken from close relatives and friends etc. Caregivers of children with LD reported mostly feelings of anger, anxiety, frustration, and helplessness [38, 53, 59]. Karande et al. [74] found that 75% of mothers of children with LD reported mild anxiety levels. Academic failure of children, uncertainty about the future and children behavioral problems resulted in a higher occurrence of anxiety in mothers. Caregivers reported that they generally suppress their negative emotions experienced during and after the diagnosis process, rather than sharing with their families, friends or relatives [38]. One of the reason was that their close environment was not willing to take enough time for listening to their problems [38, 52]. Also, parents clarified that their close environment could not understand themselves emotionally, even if they were able to provide caregiving or informational supports to them. If the mothers have the opportunity to share their negative emotions with their friends or relatives, they will be better in coping with the stress associated with the disability [52]. Receiving emotional support may lead parents to calm down or help them to regulate their negative feelings [75]. In turn, these mothers may deal with both their own and their children's unregulated emotions better and create a warm environment for their children [8].

5. The integrated model

In modern developmental theories, the ecological environment was defined as a set of nested structures, including proximal (e.g., family) and distal (e.g., culture) processes. The ecocultural theory is one of these new approaches that integrate family ecology, members, and culture into one ground [9, 11] and assumes that familial (e.g., specific support resources) and cultural factors (e.g., values) organize and shape family activities, routines, and resources. As mentioned before, researchers greatly increased our understanding of the role of cultural and family factors in determining child development [8, 23, 44]. Based on both findings of empirical studies and ecocultural perspective, we presented an integrated model including both proximal (family) and distal (culture) contextual factors for evaluating child development (see **Figure 1**).

Researchers discussed that children's and families' experiences should be examined with the context of social, economic, educational policies and welfare of the societies [51, 53]. In the cultural level, we included a range of ecological characteristics in predicting child development such as cultural values, education system, economical welfare, technological innovations, educational goals for children with LD, inclusion policy in education system, public knowledge and awareness about LD. To illustrate, a computerized training program implemented at primary schools of Finland has been found to be effective among children with dyslexia [61]. The program included enhancing the accuracy of processing for phonemic sounds and learning to connect phonemes, and this program was implemented with the help of special education teachers. Creating such an enriched environment for supporting children's learning process at homes and schools might also increase collaboration and interaction between parents and teachers [29]. Effective parental involvement in inclusive educational settings could increase their knowledge about interventions and quality of parental involvement in home-based learning situations. This would be one of the key factors that promote child's competence and development.
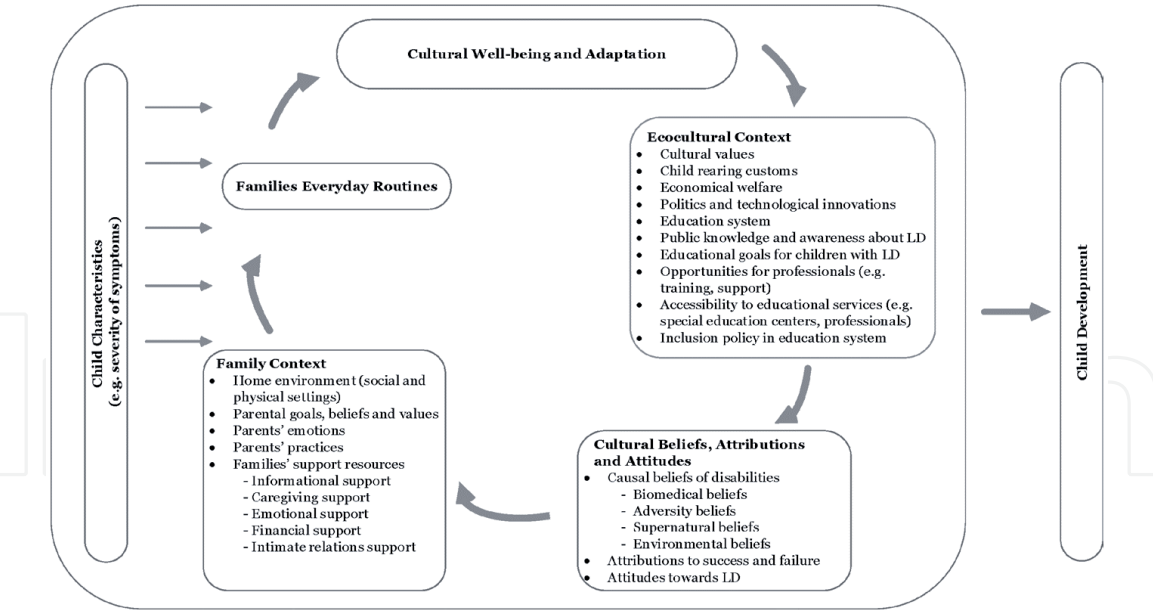
Figure 1.
An integrated model for evaluating the role of ecocultural and family context on child development in learning disabilities within the scope of ecocultural theory. Note. The model was formed by authors based on previous work of assessing child development [10] and disabilities [23, 48] with ecocultural perspective [9, 10, 22].

In addition, the model assumes that linkages between cultural values and family support resources may be traced back, at least to some extent, to the public beliefs about LD, attributions to success or failure, and attitudes towards families of children with LD. To illustrate, vertical collectivism negatively influences the interpretation and attributions of lay people about disability, which in turn linked with more negative attitudes towards families and children. The negative view of LD restricts the support resources and social networks of families in terms of access to professional, educational and social support services [44, 48]. Thus, negative attitudes and unrealistic beliefs about LD could be considered as risk factors for families and children [29, 53]. Inspection of these links would enhance our under-standing of how families' support resources are processed by cultural values, beliefs and attributions in future studies.

In the family level, specific support resources have a significant role on the family system. In particular, each specific support resources compensate different requirements of the family. For example, while emotional support helps family members in dealing with their negative emotions, professional support provides information about diagnosis, treatment processes and formal services to motivate the family for change and adaptation. Future studies might benefit from examining differential role of specific support resources on families, and linkages between spe-cific support resources and cultural factors. In addition, we included characteristics of home environment, parents' emotions and practices in the model to develop a comprehensive evaluation of family environment. For example, chaos and stress in family environment, and parents' unregulated negative emotions would have negative influences on family relationships, parenting behaviors (e.g. strict disci-pline) and child development. Further, Kağıtçıbaşı [32] argued that the values at the cultural level shapes individuals' actions and tendencies, but could not explain all individuals' behaviors and motivations. That's why parents' internalized values, beliefs and goals were included in the family context as determinants of behavior.

Recently, the child's influence on the family functioning and parenting have been so widely recognized by researchers [75]. According to modern developmental perspectives, children are active agents in constructing their environment and there is an interaction between children and environment [20]. Studies indicated that

severity of symptoms of LD altered the effect of disabilities on the families and children such as parent–child relationships and child outcomes [8, 76, 77]. For example, it was observed that mothers' perceived emotional support had no significant effect on children externalizing problem behaviors when the severity of symptoms of children increased [8]. Since the severity of symptoms might be an important determinant in assessing development of children and functioning of families, we included the child characteristics (e.g. severity of symptoms) in the model. Future research might benefit including severity of LD when examining the relationship between family contextual variables and child developmental outcomes.

In all, the model presumes that the functioning of families and children are multiply determined, that source of contextual stress and support can directly or indirectly affect parents and children by influencing their family support resources. Assessing the relations with individual and contextual factors along with the interaction between individual-contextual factors would enable us to take different factors into account and help to capture a more comprehensive picture of families' and children's experiences. Since developmental interventions aim to change the links between predictors and outcomes [78], establishing a knowledge about precursors, mediators and/or moderators about families' experiences and resources would increase effectiveness of the future interventions.

6. Conclusion and implications for professionals

Inspection of the influence of contextual factors on beliefs, resources, and development of children provided unique preliminary findings on significant aspects of the experience of children with LD. These findings might guide the practices of the professionals and policies for interventions in this field in different ways. First, the Individualized Education Program (IEP) addresses educational goals for children with disabilities in various academic domains (e.g., mathematic, reading, etc.), and it guides professionals and families in terms of managing, monitoring, and organizing the children's special education process [79]. Researchers clarified that teachers and parents should work together on the development of a comprehensive understanding of the special educational needs of children [79].

IEP is one of the educational procedures in which parents, teachers, and children could meaningfully communicate for academic progress [80]. Parents and teachers seemed to have difficulties in communication with each other for IEP due to a variety of reasons such as parents' lack of knowledge and low motivation for effort and change, teachers' bias about the role of parents in the educational process, and lack of enough time, etc. [80]. Also, as we have stressed before, parents could hold diverse beliefs of disability depending on their cultural orientation, and in these circumstances, these beliefs might limit parents' or families' patterns of behaviors in attaining professional support. Despite a considerable amount of work on parents' beliefs about disability, assessment of teachers' beliefs and attributions have been overlooked in the literature. Even with an educational background, teachers could have contradictory beliefs of disabilities (both biological and environmental) at the same time and biases about the prognosis of disability based on their cultural background and experiences.

In order to increase collaboration between teachers and families, both families and teachers should gain a reflection about their own beliefs and assumptions about disabilities. To achieve this, training sessions and support services for professionals should include raising awareness about their own beliefs and attributions of disabilities, and the role of families' values and beliefs. Through these training programs, teachers might develop their own strategy and guideline for how to

provide effective informational support to families. Also, teachers could improve the involvement of families in children educational program by taking actions in (1) acknowledging families' context, routines, beliefs, values and knowledge about disabilities, (2) improving parent's knowledge, awareness, and information about the disability and prognosis. If parents are able to understand the significance of IEP, they will be more willing to collaborate with teachers in order to monitor their children's progress and inclusion in education. Children should also be included in their IEP program meetings with their parents. Parents and children might be provided with an optimal environment that they can express their views, concerns, and emotions about the progress. Expressing themselves and providing motivation for change and effort to families in school context would spill over to families' experiences in home context such as increasing families coping, children motivation for achievement and doing homework [81].

Recently, based on an education support modeling, teachers, families, volunteers, and peers of children are coming together in social and educational activities to increase collaboration, to deal with learning barriers and communication problems [82]. Through such activities, school community could lead to an increase in their helping behaviors towards families. This participation and awareness might influence parent's perception and attainment to support resources positively, which in turn might also lead to a decrease in rejection, stigmatization, and stereotypes in the society.

In conclusion, ecocultural theory emphasizes the role of family support resources, cultural values and beliefs on families of children with LD. In particular, ecocultural understanding would support our knowledge about (1) the relationship between families' distal and proximal environments, (2) the influence of family and cultural factors on parenting and child development, (3) considering roles of children and families in shaping their environment, (4) guiding researchers in developing intervention programs more sensitive to individual, familial and cultural characteristics of children with LD, (5) developing educational and inclusion policies to increase professionals, school community and public awareness about causal beliefs, attributions and attitudes towards LD.

Author details

Suzan Cen-Yagiz* and Berna Aytac
Department of Psychology, Faculty of Letters, Hacettepe University, Turkey

*Address all correspondence to: suzancen@hacettepe.edu.tr

IntechOpen

References

[1] American Psychiatric Association. Diagnostic and statistical manual of mental disorders 5th ed. Arlington, VA: American Psychiatric Publishing; 2013.

[2] Antshel K M, Joseph G R. Maternal stress in nonverbal learning disorder: A comparison with reading disorder. Journal of Learning Disabilities. 2006; 39(3): 194-205. doi:10.1177/0022219406 0390030101

[3] Lyytinen H, Ahonen T, Eklund K, Guttorm T K, Laakso M L, Leinonen, S., ... Viholainen H. Developmental pathways of children with and without familial risk for dyslexia during the first years of life. Developmental Neuropsychology. 2001; 20(2): 535-554.

[4] Keogh B K, Gallimore R, Weisner T. A sociocultural perspective on learning and learning disabilities. Learning Disabilities Research and Practice. 1997; 12(2): 107-113.

[5] Al-Yagon M, Mikulincer M. Socioemotional and academic adjustment among children with learning disorders: The mediational role of attachment-based factors. The Journal of Special Education. 2004; 38(2): 111-123.

[6] Dyson L L. Children with learning disabilities within the family context: A comparison with siblings in global self–concept, academic self–perception, and social competence. Learning Disabilities Research and Practice. 2003; 18(1): 1-9.

[7] Heiman T, Berger O. Parents of children with Asperger syndrome or with learning disabilities: Family environment and social support. Research in Developmental Disabilities. (2008): 29(4): 289. 300.

[8] Cen S, Aytac B. Ecocultural perspective in learning disability: Family support resources, values, child problem behaviors. Learning Disability Quarterly. 2017; 40(2): 114-127.

[9] Weisner T S. The ecocultural project of human development: Why ethnography and its findings matter. Ethos. 1997; 25(2): 177-190.

[10] Weisner T S. Ecocultural understanding of children developmental pathways. Human Development. 2002a; 45(4): 275-281.

[11] Weisner T S. Essay review making a good thing better: ways to strengthen sociocultural research in human development essay review of children's engagement in the world: Sociocultural perspectives by Artin Göncü. Human Development. 2002b; 45: 372-380.

[12] Bernheimer L P, Gallimore R, Weisner T S. Ecocultural theory as a context for the individual family service plan. Journal of Early Intervention. 1990; 14(3): 219-233.

[13] Kargin T, Guldenoglu B. Learning Disabilities Research and Practice in Turkey. Learning Disabilities -A Contemporary Journal. 2016; 14(1): 71-78.

[14] Bruck, M. Social and emotional adjustment of learning disabled children: A review of the issues. In Ceci S J, editor. Handbook of cognitive, social, and neuropsychological aspects of learning disabilities. Routledge, Taylor and Francis; 1986. p. 361-369.

[15] Al-Yagon M. Perceived close relationships with parents, teachers, and peers: Predictors of social, emotional, and behavioral features in adolescents with LD or comorbid LD and ADHD. Journal of Learning Disabilities. 2016; 49(6): 597-615.

[16] Greenham S L. Learning disabilities and psychosocial adjustment: A critical review. Child Neuropsychology. 1999; 5(3): 171-196.

[17] Rogoff B. The cultural nature of human development. New York, NY: Oxford University Press; (2003).

[18] Trommsdorff, G. An eco-cultural and interpersonal relations approach to development over the life span. Online readings in Psychology and Culture. 2002. Available from: http://kops.uni-konstanz.de/handle/123456789/11063 [Accessed: 2020-11-22]

[19] Worthman C M. The ecology of human development: Evolving models for cultural psychology. Journal of Cross-Cultural Psychology. 2010; 41(4): 546-562.

[20] Super C M. Harkness S. Culture structures the environment for development. Human Development. 2002; 45(4): 270-274.

[21] Bronfenbrenner U. Ecology of the family as a context for human development: Research perspectives. Developmental Psychology, 1986; 22(6): 723-742.

[22] Weisner T S. Human development, child well-being, and the cultural project of development. New Directions for Child Development. 1998; 81: 69-85.

[23] Nihira K, Weisner T S, Bernheimer L P. Ecocultural assessment in families of children with developmental delays: construct and concurrent validities. American Journal on Mental Retardation. 1994; 98: 551-566.

[24] Phenice L A, Griffore R J, Hakoyama M, Silvey L A. Ecocultural adaptive research: A synthesis of ecocultural theory, participatory research, and adaptive designs. Family and Consumer Sciences Research Journal. 2009; 37(3): 298-309.

[25] Skinner D, Weisner T S. Sociocultural studies of families of children with intellectual disabilities.

Mental Retardation and Developmental Disabilities Research Reviews. 2007. DOI: 10.1002/mrdd.20170

[26] Daley T C, Weisner T S. "I speak a different dialect": Teen explanatory models of difference and disability. Medical Anthropology Quarterly. 2003; 17: 25-48.

[27] Kellegrew D H. Constructing daily routines: A qualitative examination of mothers with young children with disabilities. American Journal of Occupational Therapy. 2000; 54(3): 252-259.

[28] Bull L. The Use of Support groups by parents of children with dyslexia, early child development and care. 2003; 173 (2-3): 341-347.

[29] Yotyodying S, Wild E. Predictors of the quantity and different qualities of home-based parental involvement: Evidence from parents of children with learning disabilities. Learning and Individual Differences. 2016; 49: 74-84.

[30] Markus H R, Kitayama S. Culture and the self: Implications for cognition, emotion, and motivation. Psychological Review. 1991; 98(2), 224-253.

[31] Schwartz S. A theory of cultural values and some implications for work. Applied Psychology. 1999. DOI:10.1080/026999499377655

[32] Kağıtçıbaşı Ç. Family, self, and human development across cultures: Theory and applications. New Jersey, NJ: Psychology Press; 2009.

[33] Hampton N Z, Xiao F. Attitudes toward people with developmental disabilities in Chinese and American students: The role of cultural values, contact, and knowledge. Journal of Rehabilitation. 2007; 73(3): 23-32.

[34] Celinska D K. Narrative Voices of Early Adolescents: Influences of

Learning Disability and Cultural Background. International Journal of Special Education. 2009; 24(3): 150-172.

[35] Pestana C. A qualitative exploration of the life experiences of adults diagnosed with mild learning disabilities from minority ethnic communities. Tizard Learning Disability Review. 2011. DOI:10.1108/13595471111185701

[36] Scior K, Hamid A, Mahfoudhi A, Abdalla F. The relationship between awareness of intellectual disability, causal and intervention beliefs and social distance in Kuwait and the UK. Research in Developmental Disabilities. 2013; 34 (11): 3896-3905.

[37] Fatimilehin I A, Nadirshaw Z. A cross-cultural study of parental attitudes and beliefs about learning disability (mental handicap). Mental Handicap Research. 1994; 7(3): 202-227.

[38] Chang M Y, Hsu L L. The perceptions of Taiwanese families who have children with learning disability. Journal of Clinical Nursing. 2007; 16 (12): 2349-2356.

[39] Triandis H C. Collectivism and individualism as cultural syndromes. Cross-Cultural Research. 1993; 27 (3-4): 155-180.

[40] Stone-Mac Donald, A. Cultural beliefs about disability in practice: experiences at a special school in Tanzania. International Journal of Disability, Development and Education; 2012; 59(4): 393-407.

[41] Furnham A, Chan E. Lay theories of schizophrenia. Social Psychiatry and Psychiatric Epidemiology. 2004; 39(7): 543-552.

[42] Schwartz S H. Les valeurs de base de la personne: Théorie, mesures et applications [Basic human values: Theory, measurement, and applications]. Revue Française De Sociologie. 2006; 42: 249-288.

[43] Jorm A F. Mental health literacy: Public knowledge and beliefs about mental disorders. The British Journal of Psychiatry. 2000; 177(5): 396-401.

[44] O'Hara J. Learning disabilities and ethnicity: Achieving cultural competence. Advances in Psychiatric Treatment. 2003; 9(3): 166-174.

[45] Demirutku K. Parenting styles, internalization of values, and the self-concept. [thesis]. Ankara: Middle east Technical University; 2007.

[46] Österholm M. Beliefs: A theoretically unnecessary construct?. In Sixth Congress of the European Society for Research in Mathematics Education; January 28th-February 1st 2009, Lyon, France Institut National de Recherche Pédagogique; 2010. p. 154-163.

[47] Scior K, Furnham A. Development and validation of the Intellectual Disability Literacy Scale for assessment of knowledge, beliefs and attitudes to intellectual disability. Research in Developmental Disabilities. 2011; 32(5): 1530-1541.

[48] Harry B. Trends and issues in serving culturally diverse families of children with disabilities. The Journal of Special Education. 2002; 36(3): 132-140.

[49] Tews L, Merali N. Helping Chinese parents understand and support children with learning disabilities. Professional Psychology: Research and Practice. 2008; 39(2): 137-144.

[50] Jorm A F. Mental health literacy: Empowering the community to take action for better mental health. American Psychologist. 2012; 67(3): 231-243.

[51] Shifrer D. *stigma* and stratification limiting the math course progression of adolescents labeled with a learning disability. Learning and Instruction. 2016; 42: 47-57.

[52] Chien W T, Lee I Y. An exploratory study of parents' perceived educational needs for parenting a child with learning disabilities. Asian Nursing Research. 2013; 7(1): 16-25.

[53] Katchergin O. Between negative stigma (cultural deprivation) and positive stigma (learning disability): the historical development of two special education tracks. Culture, Medicine, and Psychiatry. 2012; 36(4): 679-711.

[54] Blundell R, Das R, Potts H, Scior K. The association between contact and intellectual disability literacy, causal attributions and stigma. Journal of Intellectual Disability Research. 2016; 60(3): 218-227

[55] Lancaster P E. Parenting children with learning disabilities. In: Fine M J, Lee S W, editors. Handbook of Diversity in Parent Education. 2001. p. 231-252. DOI:10.1016/ B978-012256483- 3/50012-5

[56] Hastings R P. Parental stress and behaviour problems of children with developmental disability. Journal of Intellectual and Developmental Disability. 2002; 27(3): 149-160.

[57] Cantwell J, Muldoon O T, Gallagher S. Social support and mastery influence the association between stress and poor physical health in parents caring for children with developmental disabilities. Research in Developmental Disabilities. 2014; 35(9): 2215-2223.

[58] Chukwu N E, Okoye U O, Onyeneho N G, Okeibunor J C. Coping strategies of families of persons with learning disability in Imo state of Nigeria. Journal of Health, Population and Nutrition. 2019; 38(1): 1-9.

[59] Sandy P T, Kgole J C. Mavundla T R. Support needs of caregivers: Case studies in South Africa. International Nursing Review. 2013; 60(3): 344-350.

[60] Natale K, Aunola K, Nurmi J E, Poikkeus A M, Lyytinen P, Lyytinen H. Mothers' causal attributions concerning the reading achievement of their children with and without familial risk for dyslexia. Journal of Learning Disabilities. 2008; 41(3): 274-285.

[61] Hintikka S, Aro M, Lyytinen H. Computerized training of the correspondences between phonological and orthographic units. Written Language and Literacy. 2005; 8(2): 79-102.

[62] Ciğerli Ö, Topsever P, Alvur T M, Görpelioğlu S. Engelli çocuğu olan anne-babaların tanı anından itibaren ebeveynlik deneyimleri: Farklılığı kabullenmek. Turkish Journal of Family Medicine and Primary Care. 2014; 8(3): 75-81.

[63] Milliken A, Mahoney E K, Mahoney K J, Mignosa K, Rodriguez I, Cuchetti C, Inoue M. "I'm just trying to cope for both of us": Challenges and supports of family caregivers in participant- directed programs. Journal of Gerontological Social Work. 2019; 62(2): 149-171.

[64] Edwards P C, Ren L, Brown J. Early contexts of learning: family and community socialization during infancy and toddlerhood. In: Jensen L A, editor. The Oxford handbook of human development and culture: An interdisciplinary perspective. New York: Oxford University Press. 2015. p. 165-184.

[65] Flouri E, Midouhas E, Ruddy A, Moulton V. The role of socio-economic disadvantage in the development of comorbid emotional and conduct problems in children with ADHD. European Child and Adolescent Psychiatry. 2017; 26(6): 723-732.

[66] Kersh J, Hedvat T T, Hauser-Cram P, Warfield M E. The contribution of marital quality to the well-being of parents of children with developmental disabilities. Journal of Intellectual Disability Research. 2006; 50 (12): 883-893.

[67] Abd Rauf A A, Akmar Ismail M, Balakrishnan V, Cheong L S, Admodisastro N I, Haruna K. Analysis of support for parents in raising children with dyslexia. Journal of Family Issues. 2020. DOI: 0192513X20948925.

[68] Cohen S R, Holloway S D, Domínguez-Pareto I, Kuppermann M. Support and self-efficacy among Latino and White parents of children with ID. American Journal on Intellectual and Developmental Disabilities. 2015; 120(1): 16-31.

[69] Taderera C, Hall H. Challenges faced by parents of children with learning disabilities in Opuwo, Namibia. African Journal of Disability. 2017; 6(1): 1-10.

[70] Kanbir A E. Engelli çocuğa sahip ailelerde evlilik doyumu: Niteliksel bir çalışma. [thesis]. İstanbul: Maltepe University; 2018.

[71] Bonifacci P, Montuschi M, Lami L, Snowling M J. Parents of children with dyslexia: Cognitive, emotional and behavioural profile. Dyslexia. 2014; 20(2): 175-190.

[72] Mandak K, O'Neill T, Light J, Fosco G M. Bridging the gap from values to actions: a family systems framework for family-centered AAC services. Augmentative and Alternative Communication. 2017; 33(1): 32-41.

[73] Minuchin P. Families and individual development: Provocations from the field of family therapy. Child Development. 1985; 289-302.

[74] Karande S, Bhosrekar K, Kulkarni M, Thakker A. Health-related quality of life of children with newly diagnosed specific learning disability. Journal of Tropical Pediatrics. 2009; 55(3): 160-169.

[75] Belsky J. The determinants of parenting: A process model. Child Development. 1984; 83-96.

[76] Cen-Yagiz S, Aytac B. A Multi-Informant Study: Mother–Child relationship and children with learning disability. International Journal of Disability, Development and Education. 2019; 1-16.

[77] Capozzi F, Casini M P, Romani M, De Gennaro L, Nicolais G, Solano L Psychiatric comorbidity in learning disorder: Analysis of family variables. Child Psychiatry and Human Development. 2008; 39(1): 101-110.

[78] Weisz J R, Sandler I N, Durlak J. A, Anton B S. Promoting and protecting youth mental health through evidence-based prevention and treatment. American Psychologist. 2005; 60(6): 628-648.

[79] Connor D J, Cavendi sh W. Sharing power with parent s: Improving educational decision making for student s with learning disabilities. Learning Disability Quarterly. 2018; 41(2):79-84.

[80] Lalvani P. Disability, stigma and otherness: Perspectives of parents and teachers. International Journal of Disability, Development and Education. (2015); 62(4): 379-393.

[81] Hagger M S, Sultan S, Hardcastle S J, Chatzisarantis N L. Perceived autonomy support and autonomous motivation toward mathematics activities in educational and out-of- school contexts is related to mathematics homework behavior and attainment. Contemporary Educational Psychology. 2015; 41: 111-123.

[82] Gómez-Zepeda G, Petreñas C, Sabando D, Puigdellívol I. The role of the Support and Attention to Diversity Teacher (SADT) from a community-based perspective: Promoting educational success and educational inclusion for all. Teaching and Teacher Education. 2017; 64: 127-138.