

Autism in Taiwan and Thailand: Influences of Culture

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Abstract: The prevalence of autism is increasing worldwide. The majority of autism research and development of autism assessments and interventions has been conducted in Western cultures. The prevalence of autism is reportedly lower in Asian versus Western cultures, but this is likely due to lack of personnel and uniform criteria for diagnosing autism. This article describes how two Asian cultures, Taiwan and Thailand, are dealing with the increasing identification of autistic children. National universal healthcare in both Taiwan and Thailand provides a mechanism for assessment and diagnosis of young children, but a lack of a sufficient number of trained professionals limits the availability of intervention services. A focus of research in these cultures has been on parents' experiences and coping with the stigma and stress of having an autistic child. Cultural values associated with Confucianism and Buddhism influence attitudes toward persons with disability and how parents of autistic children experience and cope with stigma and stress. Both areas have national laws that provide a range of educational opportunities for autistic children, including inclusion into general education classrooms. Special education and general education teachers, however, have little specific training in autism. Speech and language services are rarely offered in public school programs. Available speech and language services are limited to consultation with teachers a few times a year. In general, parents of autistic children are supportive of inclusion programs, but teachers and parents of both autistic and typically developing children express concerns about the ability to implement such programs in ways that are beneficial to all children.

Keywords: focused review, autism, inclusion, Buddhism, Confucian, culture

Introduction

The prevalence of autism is increasing around the world.^{1,2} The majority of information on autism, particularly its identification, intervention strategies, and attitudes about autism is based on research primarily in a few Western countries. To develop a better understanding of the international response to the increasing numbers of autistic children, the Autism Committee of the International Association of Communication Sciences and Disorders (IALP) organized a symposium for the 2023 IALP congress held in Auckland, New Zealand. This paper is one of several developed by committee members and colleagues that were presented at the congress and published in this journal issue. All authors of this paper and others in this journal issue are speech-language pathologists or audiologists. This article describes how two Asian cultures, Taiwan and Thailand, are dealing with the increasing identification of autistic children. The authors describe cultural attitudes about disability, the stigma and stress experienced by caregivers of autistic children, services for autism assessment and intervention, and special educational programs. (Two authors, Chen and Cheng have personal experience as speech-language pathologists (SLPs) in Taiwan; two authors, Jithavech and Maroonroge have personal experience as an SLP and audiologist in Thailand).

Prevalence rates of autism vary significantly across countries, but are generally found to be higher in higher income countries. Researchers suggest this prevalence increase is due to increased awareness of autism, better identification, and an increase in persons seeking services as well as possibly due to exposure to environmental factors.¹⁻³ From 2000 to 2022, the prevalence of autism in the United States increased from 1 in 150 to 1 in 36.⁴ In a systematic review of

prevalence data published in 2022, Zeidan et al² reported a global prevalence rate of ASD as 1 in 100 persons based on data from the World Health Organization (WHO). In their meta-analysis, Talantseva et al¹ reported that the United States had the highest ASD prevalence rate and Taiwan had the lowest (Thailand was not represented in this systematic review and meta-analysis). Different data reporting websites give different rankings of prevalence. For example, the Wisevoter.com website (<https://wisevoter.com/country-rankings/autism-rates-by-country>) lists the United States among the top 10 areas with the highest prevalence, and Taiwan and Thailand among the bottom 10. In contrast, the worldpopulationreview.com website (<https://worldpopulationreview.com/country-rankings/autism-rates-by-country>) lists Middle East countries as having the highest ASD rates and a number of European countries as having the lowest rates.

Low ASD prevalence rates reported for many countries in the world, in many cases, are due to countries having no country-wide identification system.^{5–7} This is particularly likely in low-income countries. Sun et al⁸ suggest that low estimates indicated a potential under-diagnosis and under-detection of ASD and a need to adopt more advanced methods for research of ASD in these areas. Efforts have been made by the Association of Southeast Asian Nations (ASEAN), of which Thailand is a member, to gather information regarding: autism prevalence, health, education, employment laws addressing autistic persons, numbers of autistic persons receiving health services and enrolled in education programs; and numbers of employed autistic persons.^{9,10} Prevalence data for the countries cannot be compared because they were collected in different ways and in different years. Chen and Jithavech (article co-authors who are Taiwanese and Thai respectively) suggest the reported low ASD prevalence rates for their countries might be due to the way the diagnosis of autism is applied. Both countries have free country-wide screening services for children with any type of developmental delay. Typically, however, even if characteristics of autism are noted in a young child, a diagnosis of developmental delay, rather than ASD is given. These children are re-evaluated at school entrance, at which time they are more likely to receive the ASD diagnosis. If autism is first suspected in school-age children, they must be referred for diagnosis to medical systems outside the public school. The child's autism may be acknowledged within the school, but the child may not receive a formal diagnosis because of challenges in accessing the medical services, particularly in rural areas.

Autism Services in Taiwan and Thailand

The population of Taiwan, which is over 95% Han Chinese, is approximately 23,581,000; Thailand's population of 71,601,103 is three times greater, comprising 95% ethnic Thai who are descendants of Chinese, Mon, Khmer, Lao, and Indian. Identification of ASD is associated with a country's income level; with higher income countries being more likely to have systems in place for diagnosis and treatment of disabilities. Taiwan is rated by the World Bank as a high income area; Thailand is rated as an upper middle income country.¹¹ Both areas have established nationwide health services. In 1994, Taiwan established a single-payer nationwide health insurance (NHI) and created a national health information system, the National Health Insurance Research Database (NHIRD). The purpose of the NHIRD is to promote biomedical and behavioral research and research on health care utilization.¹² The NHIRD has data on nearly all Taiwan residents. An increasingly number of research studies are using the data, but to date, few studies have accessed available data to investigate autism.¹³ The Taiwan government provides financial support for persons with ASD via subsidies for education support and a living allowance. See Table 1.

The Protection of Children and Youths Welfare and Rights Act passed by the Taiwan government in 2011 established an assessment mechanism and intervention services for children under age 6. Developmental screenings are to be conducted with children aged 2–3 years, and again at 4–6 years.¹⁴ Typically, children under age 6 are given a diagnosis of developmental disability (DD), even though autistic characteristics may be noted. Infants, toddlers, and preschool children with DD, can receive speech and language services provided at hospitals or medical clinics covered by the national health insurance. At school entry, children may receive both a medical and educational evaluation and diagnosis. Children diagnosed with autism at school entry can receive a disability card that enables them to receive funding for speech and language services in a medical setting. No nationally funded speech and language services are provided after age 12.

Thailand is considered to have one of the world's best healthcare systems in the world.¹⁵ The country began its health coverage program in 2002, providing universal healthcare to all citizens. The Thai government provides a disability grant

Table I Taiwan Financial Support for Persons with ASD

Disability pension	Amount	Qualification:
Medical education subsidy (<6 years) transportation subsidy + therapeutic training fees	All families eligible. Low- and middle-income households: Up to 3000–4000 NT monthly (92–123 US Dollars) /person per month Low-income households: Up to 5000–6000 NT monthly (154–184 US Dollars)/person per month	Children who are under school age and are suspected of having developmental delays or mental or physical disabilities
Medical education subsidy (>6 years) in some places transportation subsidy + therapeutic training fees	Low- and middle-income households: Up to 3000–4000 NT(92~123 US Dollars) /person per month	Children who have received a certificate of developmental delay or a certificate of physical or mental disability from a physician, have entered elementary school, and are under the age of 13. Not eligible if the school provides services. Subsidy can be extended through 17 years of age
Living allowance for people with disabilities	Low-income households renting 1. Moderate disability and above: 9485 NT(292 US Dollars) 2. Mild disability: 5437 NT(167 US Dollars) Low- and middle-income households own home: 1. Moderate disability and above: 5437 NT(167 US Dollars) 2. Mild disability: 4049 NT(124 US Dollars)	Have a disability certificate

of 800 Thai Baht monthly (\$23 US dollars) for persons with disabilities, including ASD. This is doubled at age 60. University tuition is waived for students with disabilities, including ADHD and ASD, who qualify for admission.

The royal Thai family has played a significant role in the field of disabilities, launching a rehabilitation program to provide services for children with physical disabilities and supporting foundations for the blind, the deaf, and the intellectually impaired. The involvement of the royal family with the field of disabilities became even more prominent when Khun Poom Jensen, the king's grandson was diagnosed with autism. He attended a special education program, Kasetsart University Laboratory School in Bangkok, where an American educator coordinated his program and trained Thai teachers to support him. His story brought hope to Thai parents that children with autism could learn and contribute to society. Poom drowned in the Thailand tsunami in 2004. After his death, his mother established the Khun Poom Foundation to provide financial support for educational purposes to low SES autistic children.

In 2013, the Thai Pediatric Society produced guidelines for developmental screenings that are conducted on children at well-child visits. A national universal developmental screening program (DSPM) was initiated in 2015.¹⁶ The intent of these screenings is to provide early identification of children with developmental disorders and referrals for intervention. Children are evaluated by trained nurses or primary care workers at well-baby clinics of local, provincial and university hospitals.

The national health systems in both Taiwan and Thailand facilitate access to developmental assessments for children. If the primary care provider suspects a developmental delay, the child is referred to a developmental pediatrician for further evaluation. If a developmental delay is confirmed and the child exhibits communication difficulties, the child may be referred to an SLP. If autism is suspected, the child may be referred to a psychologist or psychiatrist. If a speech and language disorder is confirmed, the child may receive therapy at a medical setting. Although the need for speech-language therapy may be recognized, the availability of SLPs is limited in both countries; consequently many children who are eligible for services may not be able to access them.

ADS is always accompanied with some difference, delay, or disorder in communication skills. Consequently, SLPs are critical to the diagnosis and interventions of persons with ASD. Both Taiwan and Thailand have educational programs to train SLPs. Taiwan has five training programs for speech-language pathologists (Chung Shan Medical University,

National Kaohsiung Normal University, National Taipei Health University, MacKay University, and Asia University); Thailand has three SLP training programs (Mahidol University, Chiang Mai University, and Khon Kaen University). Taiwan has 2000 SLPs. The majority work in hospitals and medical centers with children under age 8.¹⁷ In the public schools, SLPs serve on multidisciplinary teams that provide educational diagnostics. They do not provide any direct SLP services in the schools. If a child is diagnosed with autism, every several months, SLPs provide consulting services to general education and special education teachers who are working with autistic children.

In Thailand, with a population three times greater than Taiwan, there are only 266 speech-language pathologists (this probably does not include expatriates working as SLPs). As in Taiwan, nearly all the Thai SLPs are employed in public and private hospitals. Speech-language pathologists are rare in schools and rehabilitation settings, but SLPs do provide consulting services for parents and teachers of school-age children. In many regions, the number of speech therapists is fewer than 5, resulting in intermittent access to speech therapy services. The length and frequency of services is contingent upon the quantity of caseloads at each specific location. The frequency can vary from biweekly to monthly, bimonthly, or quarterly. Schools do not provide diagnostic or assessment services. If a teacher is concerned about a child's skills or behaviors, they recommend the parent take the child to a hospital setting for evaluation, which will be covered by national health insurance. If a diagnosis of any type of developmental disorder, such as autism, is confirmed, the child can receive therapy in the hospital. Because of the limited availability of SLP services in the public hospitals, parents who are financially able may seek therapy from a private hospital or a number of private clinics that specialize in working with children with developmental disabilities and specifically autism. There are a number of expatriate SLPs who provide therapy services, particularly in the Bangkok area. In some areas of the country, there are no SLPs. Consequently, parents of autistic children may have to travel to another province to receive speech-language intervention. Face-to-face therapy is preferred, but there is increasing use of telepractice.

Both Taiwan and Thailand have developed autism assessment tools specific to their cultures. Taiwan has a validated Mandarin version of the Autism Diagnostic Observation Schedule for children and adults.¹⁸ A multidisciplinary group of Thai specialists developed the Thai Diagnostic Autism Scale for diagnosis of children aged 1–5 years.¹⁹ A number of Western autism intervention programs are employed in both Taiwan and Thailand, such as Floor Time, Social Skills, Hanen, Picture Exchange Communication System, Applied Behavior Analysis, TEACCH, AAC, JASPER, and Social Stories.^{17,20–24} There is awareness that these programs may need to be modified because of cultural expectations.²⁵ Some data is available on the effectiveness of these programs in Taiwan and Thailand.²⁶

In both Taiwan and Thailand, it is often psychologists who offer these autism intervention programs. Some psychologists, SLPs, and teachers using these methods have received specific training in the methods, but the majority have gained knowledge of the programs through their own study. In Thailand, professionals who have knowledge of these programs have provided training for teachers in school settings. All of these intervention programs are based on Western values and beliefs regarding how children best learn and what are the expected desired outcomes of intervention. The majority focus on increasing child-adult engagement through following the child's interests and leads. This is likely to contrast with the expectation of Asian parents for direct instruction. The World Health Organization developed a Caregiver Skills Training (CST) program for children with autism and other disabilities based on parent-mediated interventions such as *Dir/Floortime*, Hanen, and JASPER.²⁶ The WHO CST program is being implanted in a number of countries and is modified for the cultures implementing the program. Quantitative data from an implementation study of the Taiwan adapted version, the CST-Taiwan, indicates significantly improved caregivers' knowledge and confidence and reduced severity of the children's autistic symptoms.²⁷

In both countries, traditional medicine is also used by parents, eg, Qigong massage in Taiwan and Thai massage in Thailand.^{28,29} Thailand has emerged as a leading destination for stem cell therapy designed for autism, although at this time there is no evidence for its effectiveness.³⁰

Both Taiwan and Thailand have professional Speech Language Hearing Associations and a number of support organizations for parents of children and adults with autism. Examples of parent associations in Taiwan include the Roc Foundation for Autistic Children & Adults, Taipei Parents Association of Autism, and Taipei Autism Children Social Welfare Foundation. In Thailand parent associations include the Center for Autism and Education (CARE; which collaborates with the Center for Autism and Related Disorders (CARD) in the United States), Thai Autism Foundation (a

public organization accredited by the Thai government), Association of Parents for Thai Persons with Autism (APTA), Autistic Thailand, and the Association for the Persons with Asperger Syndrome.

Cultural Attitudes About Disability

Taiwanese Chinese and Thai cultures influence parents' and teachers' values and beliefs about causes of disabilities and their response to disabilities. Kleinman et al³¹ maintained that successful treatment of a person's illness or disability is dependent on an understanding of how that person or their family explains their condition. Kleinman et al proposed the *explanatory model* interview technique as a means to understand how a client or their family makes sense of/explains their illness or disability – what is the cause of their disability; what treatment do they expect for the condition; what outcome do they expect from the treatment; what have they experienced as a result of their disability. Variations in these values and beliefs about disabilities may affect prevalence rates around the world. If a client or family views an impairment or disability as stigmatizing, the person with the impairment and others in the family are less likely to seek a diagnosis and treatment – and hence their information is not likely to appear in the prevalence data.

National cultures across the world can be placed on a continuum from highly individualistic to highly collective.³² In highly individualistic cultures, people are loosely linked together. A person is responsible only for themselves, and perhaps their immediate family. Their own goals take priority over the needs of others. Children are expected to develop early independence in expressing themselves and regulating their own behavior. In contrast, in highly collective cultures, persons are in tight social networks and are expected to take care of others in those networks. They are motivated by group norms, not their own goals. Children are expected to learn to depend on others and accept the authority of others in managing their behavior. Western cultures (eg, Northern European and predominantly English-speaking countries) tend to be individualistic, while East Asian and Southeast Asian areas are highly collective.³³

Children are socialized into these cultural systems through parental child rearing practices. Parents in individualistic cultures are likely to employ more authoritative methods. They display high affection and responsiveness to their children, while providing clear discipline processes focused on support rather than punishment. Children may question the rules. Parents in collective cultures are likely to employ more authoritarian practices. They have high expectations for children combined with strict rules that permit little compromise. Children are expected to obey without questioning.³⁴ Like individualism and collectivism, authoritative and authoritarian parenting practices can fall along a continuum.³⁵

Persons in collective cultures tend to hold more stigmatizing attitudes towards people who deviate from the norm such as those affected by ASD.^{36–38} They tend to have less tolerance towards diversity than persons in individualistic cultures. Parents in collective cultures may be concerned regarding the stigma a child with ASD might bring to the family, and hence, they may be more likely than families in individualistic cultures to attempt to ignore child differences and less likely to seek an evaluation and diagnosis. The basis for collective cultures can be traced back to the development of Confucianism and Buddhism. Confucianism is a philosophy or ideology that focuses on societal rules and moral values; it emphasizes hierarchical respect (involving filial piety/respect) and continuous improvement in this life. Buddhism is a religion; it emphasizes compassion and alleviation of suffering and encourages understanding, empathy, and support. Confucian principles guide behavior primarily at societal levels; Buddhist principles guide behavior primarily at the individual level. Confucianism and Buddhism frequently are blended together and influence each other. Both have evolved over time and may be practiced in somewhat different ways in different areas. Neither has a concept of the divine or a god, but some varieties of Buddhism are influenced by local religions. The majority of Taiwanese people practice a combination of Buddhism (35%) and Taoism (33%) with a Confucian worldview. Buddhism, practiced by 94% of Thais, may be integrated with folk religion (Bon) or Hinduism, as well as Confucianism. Some principles of Buddhism and Confucianism are listed in Table 2.^{39–43}

The teachings of Buddhism and Confucianism affect parenting styles within Asian cultures. Beliefs and values associated with Buddhism and Confucianism also influence attitudes toward disabilities in Chinese and Thai cultures. The values of Confucianism are integral to Chinese culture and society. Confucian values are intertwined with societal attitudes toward people with disabilities. Confucian philosophy presents conflicting ideologies with regard to societal

Table 2 Principles of Buddhism and Confucianism

Principle	Buddhism	Confucianism
Origin	Began in India 5th century BCE; entered China in 1st century AD	Began in the 6th-5th century BCE in China. With entry of Buddhism into China, a hybrid mix of Confucianism and Buddhism developed
Religion vs Philosophy	A religion that guides behavior primarily at the individual level	A philosophy/ideology that guides behavior primarily at the family and society level
Goal of the religion/philosophy	Eliminate suffering; achieve enlightenment through meditation, physical labor, and good behavior	Create a harmonious structured society; fulfill one's social roles and responsibilities
Societal hierarchy	Principle of equality: all living entities are equal; men and women are equal; all persons worthy of concern	There is a natural human hierarchy; humans should respect those who are superior to them; women socially inferior to men; those with disability have lower status.
Purpose of education	Moral development important, but integrated with spiritual well-being	Focus on intellectual and moral aspects of development
Role of teacher	Mentor and guide in children's intellectual and ethical development, not just instructor; more emphasis on compassion, mindfulness	Mentor and guide in children's intellectual and ethical development, not just instructor; more emphasis on respect for society and societal roles
Cause of disability	Karma, which arises from actions in past lives, can be a cause of disability	Previous wrongdoing of the person or family member
Response to disability	Compassion, pity – take care of basic needs; not an expectation that persons with disabilities should/could be educated	Tolerate and care for the disabled; disability viewed as shameful because person fails to achieve harmony
Expectations for students	Emphasis on right effort and diligence, eg, speak truthfully/kindly, have proper intentions, act ethically, be mindful	Continuous persistence and effort; strive for achievement and success

attitudes toward people with disabilities. The following Confucian values can result in stigmatizing attitudes toward persons with disabilities:

- **Ren (benevolence/virtue):** Ren is considered to be the foundational virtue of Confucianism. It represents love for self and love for others and involves living a virtuous life. One is to have compassion for all. In Confucian belief, people with disabilities are a part of society and therefore should be respected and loved; but at the same time, they may be rejected because the disability is viewed as “inharmonious” with the ability to live a good and worthwhile life.
- **Jun zi (superior man):** Confucian ideology maintains that persons are to become a “person of virtue” or a “superior person”. Everyone has the same responsibility to become a person of virtue or a superior person. However, if a person has a disability, they may not be able to develop the knowledge, skills, and behaviors necessary for that level of achievement. Consequently, persons with disabilities are not considered to have the same rights as non-disabled persons, including the right to receive an education. Traditional Confucian beliefs see the birth of a child with a developmental disability as a punishment for parental violations of traditional teachings, such as dishonesty or misconduct. The child's disability may also be seen as punishment for ancestral wrongdoing. The wider community may feel that the parents are responsible and be less likely to provide the family with sympathy or support.
- **Tian ming (heaven's mandate):** The belief in heaven's mandate in early Confucian documents referred to divine-ethical sanctions of political rulers. It later developed multiple implications such as an individual's destiny or fate. In Confucian thought, people with disabilities are sometimes viewed as receiving their disability as something

special from God, but more frequently their disability is viewed as penalty for a past misdeed of the person or a family member. Hence, they and/or their families may be blamed for the disability. The idea that the person or family is the cause of the disability has been quite common in Asian cultures and has been used to justify discrimination against disabled individuals and their families. Because the community may feel that the parents are responsible, they may be less likely to provide the family with sympathy or support.

- Xiao ti (filial piety and fraternal love): The values of collectivism are intertwined with Confucian thought. Both emphasize the role of the family and the relationship between family members. Everyone in a family is to take the responsibility of looking after each other. This collective value assures the disabled individual a place of acceptance in their family when they are excluded from broader society. Although this collective value reflected in family support and togetherness provides a safe haven for the disabled individual, it may result in further isolation of the individual from society. Because the family may feel shame for the child's disability, they may keep the child away from the community to avoid discrimination to both the child and family. As a result of the community having less interaction with disabled persons, everyone in society fails to develop an understanding of disabilities, which in turn results in further stigmatization of disabled persons.

In Thailand, Buddhism dominates everyday practice and guides social life. Karma, a central belief in Buddhism, offers a way to explain good and bad cause-effect relationships in peoples' lives. Karma influences all that people do; if people do good, they will benefit; if they do bad, they will experience misfortune in some way.⁴⁰ Like Confucianism, Buddhism also presents conflicting ideas about persons with disabilities. Bad, or retributive, karma, which arises from immoral actions, is believed by many Buddhists to be the cause of disability. Consequently, the individual is blamed for having their disability; the bad they have done in the past is the cause of their present disability. Showing compassion towards disabled people, can build one's good karma, but this has mixed consequences for people with disabilities. Although they may be treated with compassion, they may not be encouraged or assisted to become more independent or to participate in social activities with non-disabled persons.

Chayathonthanawat and Chatsuphang⁴⁴ interviewed 84 Thai parents who are Theravada Buddhist and have autistic children. Although they may have had some belief in karma, the majority did not believe that karma from a previous life caused their children's autism. These parents believed that autism could be due to heredity, child rearing practices, or environmental factors. Consequently, they were accepting of a number of factors that could have caused the autism and open to relationship interventions to promote their children's development. Yet, at the same time, those parents who incorporated Buddhist practices related to childcare into their daily lives (eg, believing in virtuous karma, praying to the Buddha, hearing and studying the teachings of Buddha, and engaging in meditation) had better parenting behaviors with their autistic children than those who were not incorporating Buddhist practices.

In a study of the experience of stigma for Chinese parents of autistic children, Ng and Ng³⁶ suggested parents' susceptibility to feeling stigmatized was associated with their Confucian, Buddhist, or Tao beliefs and related "face concern". The concept of "face" in Asian cultures involves presentation of oneself so as to maintain one's social reputation, dignity, and honor. To maintain one's face or image, one seeks to avoid behaviors or situations that may cause embarrassment, shame, or loss of respect. Parents may ignore or excuse a child's behavioral and developmental differences and wish to avoid a diagnosis of ASD for several reasons related to their desire or need to maintain face and avoid stigma:

- In Confucian and Buddhist cultures, it is important to have sons to carry on the family name. Parents may wish to avoid diagnosis to avoid criticism from other family members that their son is unable to maintain the family lineage.
- Because a child with a disability may be viewed as punishment for a past sin or bad luck, parents may wish to avoid the stigma of being blamed.
- An autistic child is not capable of fulfilling social obligations and, consequently, may stigmatize the entire family by bringing dishonor and a bad reputation.
- The emphasis on compassion has been linked with a reluctance to encourage independence and social participation in people with disabilities.

- The collective nature of Confucian and Buddhist cultures requires all within the family to be supportive of one another. Parents may have concerns regarding the reactions of extended family related to expectation of filial support. Parents must support both their children and their own parents. Grandparents expect support from their children and grandchildren. If a grandchild has a disability, the grandchild is less able to provide grandparent support and because of the needs of the disabled child, the parents of that child are less able to provide support to their parents.
- Educational achievement is highly valued in both Confucian and Buddhist cultures. Children are expected to learn the societal norms and expectations through hard work. If children cannot do so, parents may be hesitant to draw attention to a child through special education services.

Caregiver and Child/Adolescent Response to Stress and Stigma

Caregiver Stress

Research on autism has been conducted in both Taiwan and Thailand. Studies in both countries have investigated how culture may influence the ways autistic children and their parents experience stress and stigma.^{45–51} Compared with parents of children with other disorders, parents of autistic children experience higher levels of stress.^{52,53} Understanding stressors for children with ASD and their caregivers is essential for implementing interventions. Caregivers with a child with disabilities who are living in a collective, Buddhist, or Confucian culture are more likely to experience stigmatization than caregivers living in an individualistic culture. Lim et al⁴⁸ investigated the impact of Taiwanese caregiver stigma on the social experiences of their children. For 7 days, autistic adolescents, with no comorbid disorders, carried mobile device. Seven times a day, they were prompted to record three aspects of their interactions: with whom they were interacting, what they perceived, and how they felt about the interactions. Their caregivers completed a scale that measured their sense of stigma. The recorded data indicated that when caregivers reported high levels of stigma, the autistic adolescents spent less time with family members and interacted less with people at school. At the same time, these adolescents registered greater anxiety when they did interact with their family. Lim et al⁴⁸ hypothesized caregivers might be experiencing anxiety in response to their own sense of being stigmatized because they felt shame for having a child with a disability. Furthermore, caregivers might have wanted to protect their autistic children from stigmatization and they did so by restricting the child's social interactions in the community. In response, adolescents may have sensed their parents general anxiety, and they may have interpreted restrictions on social interactions outside the home as indicating those environments are unsafe.

Lin⁴⁹ investigated to what extent stressors experienced by Taiwanese mothers of autistic children reflected elements of Chinese culture and how cultural values related to maternal well-being. The mothers completed the Chinese Values Survey which is based on Confucian concepts and participated in a semi-structured interview describing their perceptions of how traditional Chinese family values influenced their experience. Four dimensions of Chinese cultural values were incorporated into the questionnaires: integration (importance of family), Confucian work dynamism (hierarchical social relationships and a strong work ethic), human-heartedness (being caring and peaceful), and moral discipline (moral restraint and self-controlled behaviors). The intent of the research was to understand how culture affected the coping of mothers of autistic children so that they could be provided with more appropriate intervention services.

Cultural stressors from extended family and concerns about disgracing the family name may lead to increased caregiver burden for these mothers. The majority of mothers (71.6%) reported they had moderate to extremely heavy caregiver burdens and over half of the mothers (50.7%) reported clinical levels of depressive symptoms. Over one half of the mothers indicated that they had much difficulty in educating or instilling their autistic children in culturally appropriate behaviors. The Chinese cultural value of Integration (ie, a value which focuses on the importance of family) was significantly associated with caregiver burden. Mothers who rated themselves higher on valuing the Integration dimension reported less caregiver burden. Lin⁴⁹ suggested the Chinese cultural value of Integration may help some Taiwanese mothers reevaluate the stress of caregiving, viewing the stress as part of the expected task of supporting the family. The Integration dimension could also be positively influenced if mothers received support from spouses and parents-in-law. For some mothers, the Confucian belief in fate appeared to provide them a source of emotional support in adapting to adversity. Although Confucian beliefs may contribute to stigmatization of an autistic child and their families and, consequently, additional stress, in some cases, Chinese family caregivers with Confucian beliefs may be better able to endure hardship and accept a family member with a disability. Lin⁴⁹ cautions that social changes in Taiwan are shifting family structure

and opportunities for women outside the home. As a result, it is likely that families are less influenced by traditional Confucian family values.

In a 2023 study, Chin et al⁴⁶ explored the strategies Taiwanese Chinese parents used to cope with the inappropriate behaviors of their autistic children. They asked parents “What situations are particularly stressful?” “What steps did you then take?” and then “Tell me how you felt when that happened.” Analysis of the interviews showed the strategies parents reported could be described in five themes that could be placed in two categories. A category for problem-focused coping strategies that parents used to modify the child’s behaviors included themes of communication, support, and management. A category for emotion-focused strategies the parents used for themselves included the themes of acceptance (of their child’s unique needs) and adaptation (changing their expectations for situations). The Taiwanese parents in this study made greater use of problem-solving strategies to modify their children’s behavior than emotion-focused strategies to cope with their own stress. The authors commented that previous studies of this nature had found that parents from Western cultures made greater use of emotion-focused strategies than problem-focused strategies.

Three studies reported on Thai caregivers’ experiences with autistic children.^{54–56} All studies reported that caregivers of autistic children experienced significantly more stress than caregivers of typically developing children. The stress was particularly great on caregivers in a rural area. The authors of the research studies reported that caregiver sense of stigma contributed greatly to the stress they experienced, but unlike the Taiwanese studies, no mention was made regarding how cultural values and beliefs might have contributed to the stigma and stress. Srirath et al⁵⁵ reported that Thai mothers and their autistic children experienced adverse societal reactions because of the ways the children differed from typical children. Because of their unusual behaviors, the children encountered prejudice, rejection, and contempt. The children’s stigmatization led to the mother’s stigmatization, resulting in their own sorrow and embarrassment.

Child/Adolescent Stress

Chin et al⁴⁵ investigated stressors experienced by high-functioning autistic 8–19 year old Taiwanese children and adolescents. In interviews, children and parents were asked “How is your (child’s) life?” and “Is there anything stressful to you (your child)?” Two categories of stressors were identified: stressors of daily living, which were daily activities not involving social interactions; and stressors of socializing, which occurred during interactions with others. Table 3 shows the two stressor categories and the five subcategories of stressors in each category.

Chin et al⁴⁵ noted that all children experience these types of stress, and that autistic children who might have comorbid anxiety and social and communication skills deficits are likely to experience greater stress. However, they also suggested that many of the stressors the children experienced were influenced by the Taiwanese culture. Autistic children’s difficulty in adjusting to new situations or becoming angry with others’ behavior interfered with daily events. Expressing emotions is discouraged in Asian cultures,⁵⁷ so children’s inability to control and manage emotions would be viewed particularly negatively. All but two of the participants in the Chin et al study⁴⁵ reported verbal and non-verbal communication as a stressor. Non-verbal communication and expressing emotions in Taiwan differ from Western cultures, further complicating these interactions and adding unique difficulties for participants. Lowering eyes when meeting someone is considered a sign of respect; frequent eye contact and speaking directly is considered rude. Empathizing with others’ emotions requires recognizing body language;⁵⁸ although lack of empathy is not unusual for children with ASD,⁵⁹ speaking directly to others or looking at their facial expressions to understand emotions is impolite

Table 3 Stressors of Autistic Students

Stressors of daily living not involving social interactions	Stressors of socializing occurring during interactions with others
Environmental stimuli	Bullying
Academic requirements	Communication
Deviations in routine	Personal interactions
Behavioral expectations	Conflict resolution
Emotional control	Difficulty understanding others’ emotions (empathy).

in Taiwan. Although these behaviors were often related to the symptoms of ASD, the additional cultural norms might further increase stress for children with ASD in Taiwan.

Taiwanese parents have a high expectation for their children to excel academically. Children and adolescents with poor writing skills and/or learning disabilities generally indicated a desire for academic achievement, but had difficulty completing homework assignments and reported stress in attempting to meet academic requirements. The children's and adolescents' stress related to academic expectations was compounded by the high standards of conduct expected of them. Limited research has explored Asian child-rearing practices with autistic children. In Taiwan, parents commonly employ a child rearing control practice termed "Guan" which emphasizes parental authority and obedience of children. Guan combines aspects of both authoritarian and authoritative practices. It incorporates both the control of authoritarian parenting with the responsiveness of authoritative parenting. Chinese parents are expected to employ guan strategies to control their children's disruptive behaviors.⁴⁶ When these strategies are not effective with a child and the child behaves in ways that society considers inappropriate, parents are stigmatized.

Special Education

In an earlier section of this paper, the authors discussed how some aspects of both Confucian and Buddhist beliefs can lead to stigmatization of autistic persons and exclusion from social and academic experiences. These attitudes can challenge efforts at inclusive education for autistic children. In collective cultures such as Taiwan and Thailand, education is viewed as a way by which children learn to adapt themselves to the expectations of the community. Children are expected to absorb and display the societal behavioral norms. Children with disabilities, who may not be able to meet such norms and expectations, are stigmatized and marginalized due to their inability to meet cultural expectations. Both Taiwan and Thailand governments are attempting to encourage inclusive education in which children with disabilities are to learn alongside typically developing children in regular classrooms. In practice, even when children with special needs are integrated into regular classrooms, they are not truly included. Instead, they are frequently unengaged or require frequent reminding to participate.⁴² Inclusive special education in Western countries evolved as part of the human rights concept in individualistic cultures. Qu⁴³ suggests that Confucianism emphasizes social stratification and class hierarchies, concepts which are not compatible with inclusive education. To promote educator and parent acceptance of inclusive education, efforts are being made to show how Confucian and Buddhist values can be viewed as compatible with inclusive education and the rights of persons with disabilities.^{41,43,60}

Taiwan Special Education

The governments of both Taiwan and Thailand have sought to provide autistic children with educational opportunities. In 1984, Taiwan passed a Special Education Act, which was largely based on the United States Individuals with Disabilities Education Act (IDEA).^{61,62} The guidelines state the Act was

enacted for the purpose of citizens with disabilities and giftedness/talents to receive adaptive and inclusive education, fully develop their potential, foster their personality, and empower them to serve society.

Article 3 in the Act specifically refers to diagnosis of disabilities including autism and Article 6 requires local authorities to set up a Special Education Students Diagnosis and Placement Counseling Committee.

Taiwan offers four types of educational placements for school-age children with autism:⁶³ centralized special education classes, decentralized resource rooms, itinerant resource programs, or placement in general/regular education classes. To be placed in one of these programs, students must pass placement and assessment examinations. There are government-stipulated quotas for special education and resource rooms, so qualifying for such a placement does not ensure that a child will have access to a program. Resource rooms and itinerant resource programs fall into inclusive education, which places children with disabilities in general education classrooms for most of their schooling with assistance for particular areas in a resource room. Currently, over 90% of students (elementary to high school) with disabilities are put into some type of inclusive education programs.⁶³ Article 18 of the Special Education Act states that all children must receive education "based on appropriateness, individualization, localization, accessibility, and inclusion", putting all children's education at their respective neighborhood schools as a priority.⁶⁴ Table 4 shows the types of educational options available in Taiwan and Thailand.

Table 4 Educational Options in Taiwan and Thailand

Taiwan	Thailand
<ul style="list-style-type: none"> • Itinerant resource programs: the special education teacher goes to different schools to teach special needs children (small school, few students) • Decentralized resource rooms: the special education teacher teaches special needs children in the same school (big school, more students) • Centralized special education classes: Moderate, severe children who cannot adapt to the general classes attend special education classes. • General education: mainstream classes which include children with special needs 	<ul style="list-style-type: none"> • Special education centers: responsible for education in Early Intervention • Welfare schools: for underprivileged children in remote areas; provide free education, food, clothing, textbooks, and accommodations • Disability-specific schools • General education school with inclusive curriculum for students with autism <ul style="list-style-type: none"> - Students with autism in general education classrooms - Students with autism in parallel classrooms - Students with autism part-time in general education and part-time in resource room

In 2021, autistic preschool children were primarily served in itinerant resource programs or centralized special education classes (65% were in itinerant resource programs and 24% were in centralized special education classes).⁶³ Autistic grade school-age and junior high children were served primarily in decentralized resource rooms (78% grade school; 71% junior high) or centralized special education class (15% grade school; 19% junior high). At high school, an increased number of autistic students were served in general education (27% centralized special education class; 45% decentralized resource rooms; 26% general education).

Taiwan has faced obstacles in effectively managing inclusive educational environments.⁶⁴ Ideally, inclusive educational environments can facilitate acceptance of disabled children by providing non-disabled children with naturalistic opportunities to interact with and learn about differences among children. If inclusion is to be successful, however, children with disabilities must be accepted by their peer group, and teachers must meet their educational needs. This requires genuine caring connections between the teachers and students and considerable knowledge of the teachers regarding the educational needs of students with disability. Training for general education teachers in Taiwan requires teachers to take only three credits of special education courses. This is insufficient training if teachers are to have the necessary knowledge to adapt lessons that are effective for special needs children. Teachers are faced with the challenge of providing typically developing students with an appropriate stimulating curriculum, while simultaneously addressing the specific needs of students with disabilities. With limited or no training in strategies to mitigate difficult behaviors, they must manage a large class with as many as 30 students. In an effort to teach the curriculum content to typical students, teachers may attempt to avoid, minimize, or even ignore disturbances by a disabled student. Rather than teaching the child coping strategies, they may remove the child from the classroom or placate them with a treat or another activity.

Although the belief that children's disabilities are punishment for parental or ancestral violation of traditional Confucian values is less common, there is still a social stigma attached to having a child with a disability. Parents of children with developmental disabilities may be fearful that their child will be stigmatized and a target of disapproval and negative social interactions in an inclusive setting.⁴¹ The public's lack of understanding about the nature of disability has also caused increased opposition directed towards teachers of inclusive classrooms. Parents of typically developing children may perceive a child with a disability as a hindrance to their own child's learning.

Thailand Special Education

Special needs education is more recent in Thailand than Taiwan. Thailand's 1997 Constitution and 1999 National Education Act both legislated that the educational system must become inclusive, and under these laws, schools are required to admit all groups of children, including children with special educational needs.^{65,66} Although the National Education Act required that all children must be admitted to schools, it was not until 2008 that the Persons with Disabilities Education Act mandated specific educational rights for individuals with disabilities. That law stated that "Each individual has rights to select services, settings, systems, and types of education according to one's abilities,

interests, skills, and special needs". Individualized Education Plans, appropriate types of instruction, and environmental and educational supports are required. In 2013, the Ministry of Education (MOE) organized disabilities into nine categories, including autism.^{9,10} Several governmental units are responsible for the education of individuals with disabilities between 3 and 8 years of age. The most common educational options for autistic children are: full-time inclusive education in regular public schools; regular classrooms for part of the day and special classrooms for part of the day; full-time special education classrooms or special education schools; and special education centers which provide early intervention services, support for parents, and support for general education teachers managing inclusive classrooms or resource rooms. In general, parents of autistic and typically developing children are accepting of inclusive educational settings. Thai parents of children with special needs identified social acceptance and improved academic skills as advantages of inclusion for their children. Parents of typically developing children identified social development of their children as the key benefit of inclusion but were concerned about the need for teacher training and the effect that inappropriate behavior of autistic children would have on classroom management.⁶⁷ After high school, a variety of public and private vocational support programs are available for persons with varying developmental abilities, from those who require supportive work environments to those who are accepted into university programs. The Department of Empowerment of Persons with Disabilities has assisted people with disabilities in finding a job. Some, but not all universities, have disability centers to support persons with a variety of disabilities, including autism.

Like Taiwan, there are a number of barriers to inclusive education in Thailand.^{39,66–70}

- In some schools, administrators require children to have an IQ score above 60 to be granted access to inclusive education placements. The number of available placements in inclusive classrooms for children with disabilities is limited. Waiting lists are long.^{69,70} Delays in receiving intervention can result in a rise in severity of symptoms and greater difficulty in managing untreated behaviors; and as a result, less likelihood of the child being able to be included in general education classrooms.
- Teachers, who have had specialized training, are more likely to work in special education schools than in public schools that offer inclusive placements.
- General education teachers in inclusive classrooms have minimal or no training in working with children with disabilities so do not know how to modify curriculum or to manage behavior.⁷¹
- Buddhism is an integral aspect of Thai society. The traditional Buddhist belief that disability is deserved because of failure to lead positive previous lives has led to children's exclusion from schooling. Because of this belief, parents of children with disabilities may be hesitant to place them in inclusive classrooms for fear they may be stigmatized by teachers and peers.
- Compassion is at the heart of Buddhism, but compassion toward those with disabilities is termed *songsarn*, which translates as pity. In a study by She and Yao,⁷¹ Thai special education teachers reported that they wanted to take care of the children with special needs; they mentioned feeling sympathy and pity for the children. One teacher commented, "I know that disabilities come from what was done in past lives. The reason I take care of children with special needs today was that I might have been related to them in a past life. My consciousness tells me that I must treat them sincerely." (p. 45). Larksar et al⁷² reported that Thai students are often taught to feel *songsarn* for persons with disability. Pity and compassion are both feelings of sympathy for someone else's suffering, but they have different implications. Pity is a feeling of sadness or sorrow for someone which may involve a sense of superiority or condescension toward that person. Pity does not involve empathy toward the person, ie, it does not involve an understanding or sharing of the other person's feelings or a concern to change the person's circumstances. In contrast, compassion is a feeling that involves empathy and a desire to help and support the person in need.⁴⁰ A teacher or nondisabled student feeling *songsarn* toward a disabled student would not be unkind to that student, but neither would they feel the need to support or befriend the student.

Persons knowledgeable of Buddhism and Confucianism realize that some of the beliefs and principles can lead to stigmatization of persons with disabilities and reduced efforts to assist children in reaching their potential. As a consequence, inclusive educational practices are not welcomed or effective. Efforts are being made to reframe or

highlight aspects of Buddhist and Confucian principles to positively reshape attitudes about children with disabilities and inclusive education. Qu⁴³ notes that Confucianism supports a strict hierarchical social order, where education is to train elites. These principles are problematic for children with disabilities who would be viewed at the bottom of the social hierarchy and not capable of becoming an elite. Qu proposes training teachers to focus on Confucian principles that support benevolence, propriety (treating all with respect), righteousness (acting with the intention to be fair and honest and to do good). Ruechai and Numtong⁴¹ from the Panyapiwat Institute of Management in Thailand have also explored how Confucian and Buddhist principles can be positively employed by teachers. They note that in both Confucianism and Buddhism, teachers are highly regarded as critical figures in the moral and ethical development of students. Students view teachers as mentors and guides, not just instructors. Both philosophies seek to foster students' holistic development, combining intellectual, moral and emotional growth.

Future Directions

Taiwan and Thailand have a national health insurance that provides for assessments of all young children who exhibit developmental delays and disabilities and national special education laws intended to provide free public education for all children with disabilities. Although an infrastructure is in place to provide assessments and educational services for autistic children, speech and language services are quite limited and are not provided in educational contexts. The emphasis in intervention has been on young children. Services for school-age and adult autistics are extremely limited. Four of the authors of this article who are SLPs who have worked in Taiwan and Thailand suggest the following future directions:

- Increase the number speech-language pathologists. Taiwan is increasing the numbers of students who can be admitted to university programs in speech-language pathology. Because of the lack of university programs in speech-language pathology and the limited number of faculty, speech-language pathology programs are quite limited in the number of students they can accept. Taiwan is opening more spaces for SLP students in universities. Thailand has sent three Thai students abroad to receive their PhDs with the intent for them to return to Thailand to develop SLP programs. One has already graduated and returned; one is doing their dissertation and plans to graduate this year; the third one has completed their master's degree and will continue with their PhD.
- Modify the training for SLPs and teachers to include more specific training in autism assessment and interventions, particularly for school-age children and adolescents.
- Promote culturally responsive services. There is a trend to implement Western interventions for autistic children in Taiwan and Thailand without consideration for local cultures. Cultural beliefs and child rearing practices significantly influence the ways in which individuals react to the circumstances they encounter. Awareness of the cultural beliefs, attitudes, and child rearing practices of parents of autistic children would enable clinicians and educators to modify intervention programs and curricula in ways that are more culturally responsive to the needs of children and parents. Culturally responsive programs provide better support and empower children and parents more effectively.
- Consider training via telementoring. Thailand has very few SLPs and, at this time, has very limited options for training larger numbers. Nearly all education of autistic children is provided by general education and special needs teachers. It may be more feasible to provide special needs educators with additional training in ASD diagnosis and interventions through specialized workshops to serve as consultants. Such efforts are being done in a number of countries around the world employing a telecommunication model termed ECHO (Extension for Community Healthcare Outcomes). With the ECHO video conferencing model, service provider mentees from a variety of disciplines meet with subject matter mentor experts.⁷³ Sessions involve brief lectures and case-based learning. Although ECHO was initially developed for medical consultations, a number of ECHO projects specific to autism are being implemented.⁷⁴ ECHO could provide a mechanism for increasing the number of personnel capable of providing diagnostic and intervention services to autistic persons and their families in Thailand.

Summary

Taiwan and Thailand exhibit many similarities in their response to the increasing prevalence of autism. Both Taiwan and Thailand rank low in autism prevalence compared to other countries in the world. The four authors of this paper who work in Taiwan and Thailand suggest this is due to how autism is officially diagnosed. Although characteristics of autism are recognized, young children are typically given a diagnosis of developmental delay. School personnel may recognize autistic behaviors, but systems are not readily available for diagnosis. Both Taiwan and Thailand have national health coverage – Taiwan's established in 1994 and Thailand's in 2002. Both have special education laws that require that children with special needs receive adaptive and inclusive education to develop their potential.

Both cultures are highly collective and influenced by Buddhism and Confucianism; Thailand slightly more so than Taiwan. As a result, families with autistic children in both cultures exhibit similar stress responses and concerns regarding stigmatization. Teachers report feeling compassion, but due to beliefs about the hierarchical structure of society, they have not had expectations to promote development of children with disabilities. Furthermore, few teachers have received training in how to promote development in autistic children. Efforts are being made in both countries to increase the numbers of trained speech-language pathologists and teachers and to reframe Confucian and Buddhist principles in ways that will enable educators to conceptualize their role in promoting the holistic development of children with disabilities.

Acknowledgments

The authors thank Dr. Kakia Petinou (chair) and Dr. Yvette Hus (deputy chair) of the IALP ASD committee for their dedication to improving services for persons with ASD and for making this special issue of *Neuropsychiatric Disease and Treatment* on autism possible.

Disclosure

The authors report no conflicts of interest in this work.

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