

Systematic Review of Parents with Autism Spectrum Disorder (ASD) Children in Southeast Asia: Work-related Factors

Khor Siu Gek^{1*}, Harpaljit Kaur²

¹School of Management and Marketing, Taylor's University, 1, Jalan Taylors, 47500 Subang Jaya, Selangor, Malaysia.

Email: siugek_khor@yahoo.com

²School of Management and Marketing, Taylor's University, 1, Jalan Taylors, 47500 Subang Jaya, Selangor, Malaysia.

Email: harpaljtkaur.pritamsingh@taylors.edu.my

ABSTRACT

Considering the rising cases of ASD among children, this paper aims to investigate the extent to which work-related factors have been examined in studies conducted on parents of children with ASD within the Southeast Asia (SEA) region. Using the PRISMA framework, a search was conducted on three databases (Scopus, PubMed, Web of Science), yielding 38 studies that met the following inclusion criteria: (1) focusing on parents of ASD children, (2) conducted in the SEA region, and (3) articles, excluding systematic and meta-analyses. Of the 38 studies, 24 were from Malaysia, 9 from Singapore, 3 from the Philippines, 1 from Indonesia, and 1 from Vietnam. No articles were found for Brunei, Burma, Myanmar, Cambodia, Timor-Leste, Laos and Thailand. The focus, across the 38 studies, was primarily on the effects of the ASD child's therapies and interventions on parents, followed by parenting stress and quality of life (QOL). Employment-related factors were seen in sub-themes of five studies from Malaysia and Singapore. The review showed a limited focus on employment-related concerns amongst working parents with ASD children within the SEA region. The study's limitations include the lack of studies from other SEA countries such as Brunei, Burma, Myanmar, Cambodia, Timor-Leste, Laos, and Thailand. It is suggested that future research should focus on work-related factors for this underrepresented population while considering the roles of individual, gender, cultural, and religious factors.

CORRESPONDING AUTHOR (*):

Khor Siu Gek
(siugek_khor@yahoo.com)

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Contribution/Originality: This study contributes to existing literature through a systematic review of studies focusing on parents of ASD children in Southeast Asia. It highlights the lack of focus on employment and work-related factors in these studies, underscoring the need for further research in this domain for parents of ASD children.

1. Introduction

Autism spectrum disorder (ASD) is a neurodevelopmental disorder that affects one's social development and communication skills (Laili et al., 2021). An ASD child may display atypical behaviors such as extreme hyperactiveness, aggression, abnormal repetitive habits such as head-banging, the flapping of hands, refusing eye contact, and lack of communication (Sadziak et al., 2019; Yaacob et al., 2021; Yee et al., 2020). On the more extreme end, ASD children may end up injuring themselves or others during their bouts of meltdowns. Although it is a generally stable condition, a child diagnosed with ASD lacks the ability to be independent, thus affecting their social and daily life activities (Miranda et al., 2019). Furthermore, these unpredictably can cause immense stress to parents, who need to be present to monitor and care for their ASD child. As contended by Di Renzo et al. (2022), raising an ASD child can be a very stressful experience for parents.

Understandably, the circumstances facing parents with an ASD child are very different from those with a typically developing child. It was reported that the number of hours spent caring for a child with a disability is higher than typically developing children (Bishop-Fitzpatrick et al., 2019; Brown & Clark, 2017; Davy et al., 2022; Liao & Li, 2019). Past research has also revealed that parents of ASD children experience much more stress than parents of children with typical development (Costa et al., 2017; Laili et al., 2021; Padden & James, 2017; Schnabel et al., 2020; Zhou et al., 2019) and parents of children with other disabilities (Abdul Manan et al., 2018; Hayes & Watson, 2013). The increased stress level is derived mainly from increased caregiving demands placed on them on top of the daily stressors from their roles as family members and employees (Frantz et al., 2018). These studies indicated that having a child with ASD resulted in increased levels of family stress, burden, and financial constraints (Chad-Friedman et al., 2022; Di Renzo et al., 2022; Jyoti & Prashant, 2017; McCall & Starr, 2018).

Suffice it to say ASD imposes a heavy emotional, physical, and economic burden on families. This is exacerbated in countries that provide inadequate access to support services, which makes caring for an ASD child a daunting effort. The World Health Organization Regional Office for South-East Asia (2017) highlighted that most individuals and families received insufficient support from health and social care systems. Notably, ASD children require a consistent and supportive environment to make optimal progress. This includes extended care from their parents and caregivers (Callander & Lindsay, 2018) and specialized and professional early intervention solutions (Liao & Li, 2019; Sitimin et al., 2017) such as speech therapies, sensory activities, and applied behavioral analysis therapies. These specialized therapies place an additional financial burden on parents, in addition to the time, physical, and emotional stress of raising a child with autism (Chad-Friedman et al., 2022; Davy et al., 2022; Stewart et al., 2022). Noting that the additional demands in caring for an ASD child entail responsibilities such as accompanying their child to various therapies and medical appointments and supervising their child's day-to-day activities, this may affect the parent's work-related performance such as the ability to work long hours (Chan et al., 2018), and commitment to a full-time job (Crettenden et al., 2014).

In line with the earlier discussion highlighting the implications of raising a child with autism, a study on parents with ASD children is warranted due to the growing prevalence of ASD among children. The World Health Organization estimates that 1 in 100 children has ASD globally (World Health Organization [WHO], 2022), while in the

United States, it was estimated that 1 in 44 children have ASD in 2021 ([Center for Disease Control and Prevention \[CDC\], 2022](#)). Within Southeast Asia, difficulties in data collection and inadequate awareness among rural communities have resulted in inadequate statistics on the prevalence of autism ([Thomas, 2019](#)). Although data collection has been less than desirable, the global prevalence of ASD is also reflected in SEA countries such as Malaysia, where the National Autistic Society of Malaysia (NASOM) predicted that 9,000 children are born with autism yearly. While it was estimated that 1 in 150 children are on the autism spectrum in Singapore ([Shafeeq, 2023](#)), 1 in 132 children in Vietnam ([Vui et al., 2022](#)), 1 in 50 in Indonesia ([Daulay, 2021](#)), and 1 in 122 individuals in the Philippines ([Torregoza, 2023](#)).

Consequently, there have been increasing research efforts within the SEA region focusing on ASD interventions, prevalence, parental stress, and well-being, among others. Despite these, [Goh et al. \(2021\)](#) highlighted that parental experience of caring for their ASD child is still relatively understudied in SEA. Within the scope of parental experience, there is a considerable lack of emphasis on parents currently working while caring for their children. In the same vein, [Crettenden et al. \(2014\)](#) highlighted that the ways caregivers in employment manage their work-home responsibilities are not well understood. In this aspect, the inability to balance work and home demands may result in possible implications on their work-related performance, ranging from lowered productivity to frequent absenteeism, and, ultimately, reaching a point where they would develop turnover intentions and quit altogether ([Brown & Clark, 2017](#); [Larson, 2022](#); [Liao & Li, 2019](#); [Ozdemir & Koc, 2022](#)). This is consistent with studies highlighting adverse occupational impact ([Callander & Lindsay, 2018](#); [Liao & Li, 2019](#)), especially on mothers of ASD children who are less likely to work, or work fewer hours, and earn less than mothers of children with other disabilities or disorders ([Autism Speaks Inc., 2022](#); [McCall & Starr, 2018](#); [Paula et al., 2020](#)).

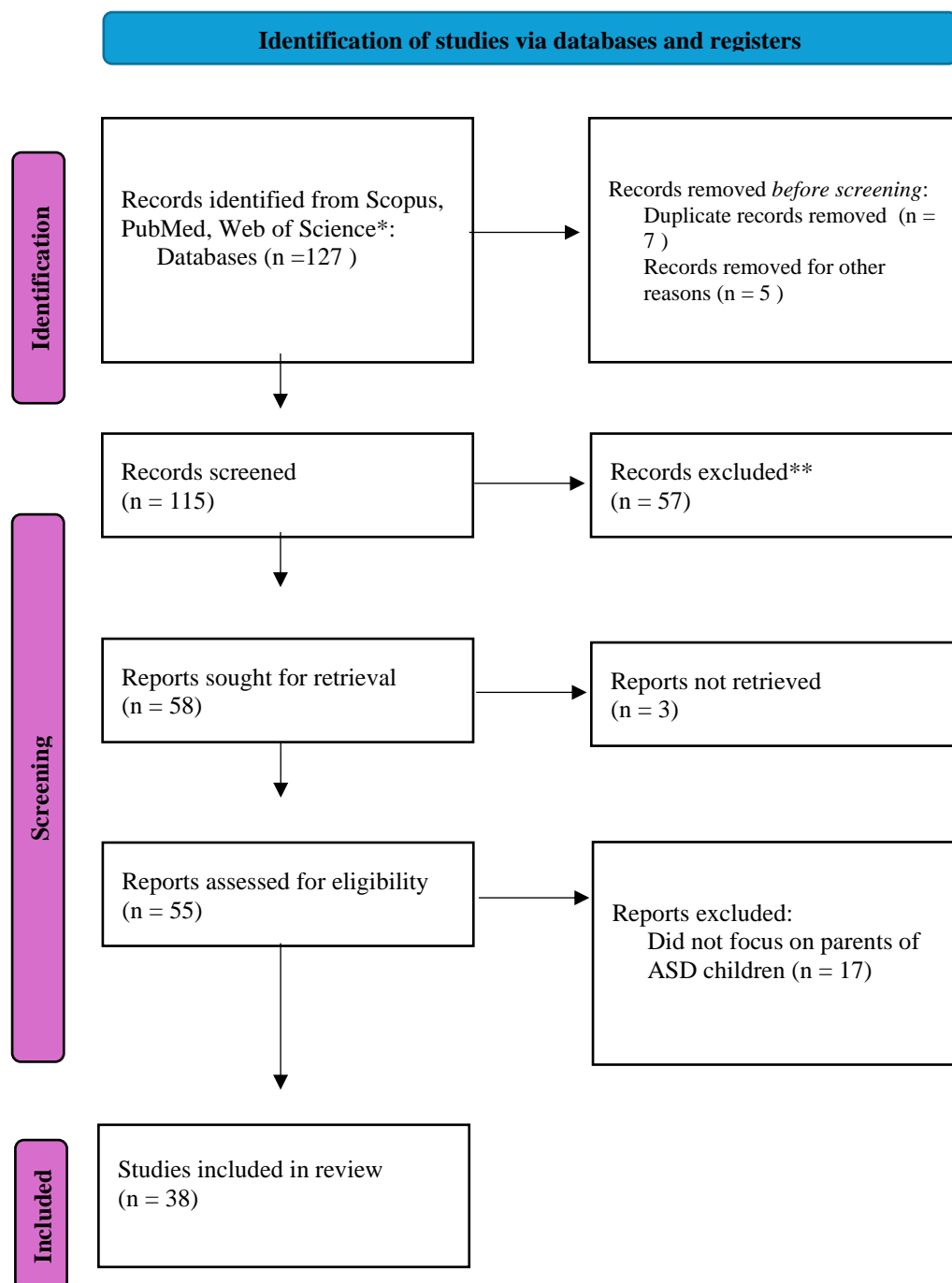
With significant effects of caring for ASD children on their parents' careers and employability ([Ozdemir & Koc, 2022](#); [Picardi et al., 2018](#)) and employers starting to recognize the frequency of workplace interruptions and withdrawal is higher for employees with children of disabilities ([Stewart et al., 2022](#)), this presents an important area of future research. Furthermore, the growing prevalence of ASD among children also reflects the increasing number of employees in the workforce who are parents of an ASD child. Together, this suggests the need for more autism-related research focusing on working parents in SEA. While past studies on the implications of caring for ASD children on their parents' careers and employability have been conducted, such as [Paula et al. \(2020\)](#) in Latin America, [Ozdemir and Koc \(2022\)](#) in Turkey, [Ouyang et al. \(2015\)](#) in United States, [Callander and Lindsay \(2018\)](#) in Australia, [Sitimin et al. \(2017\)](#) and [Yee et al. \(2020\)](#) in Malaysia, these studies are still relatively limited. Comparatively, studies from Western regions were more abundant, where the number of studies conducted in the Western context far outweighs those undertaken in the Asian context ([Ejiri & Matsuzawa, 2019](#); [Makino et al., 2021](#)). In view of the above, this research casts its lens on the underrepresentation of working parents of ASD children within the work-family literature.

The aim of this systematic review is to examine the extent to which work-related and employment concerns have been investigated in studies of parents with ASD children in Southeast Asia. This review provides insights into the scope of these studies while addressing employment-related concerns faced by this underrepresented population.

2. Methodology

The systematic review is conducted based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The process started with an initial search using Scopus, Web of Science, and PubMed. The search query was set at: ("ASD" OR "autism" OR "autistic" OR "Asperger" OR "pervasive development disorder") AND ("parent" OR "mother" OR "father") AND ("southeast Asia" OR "Brunei" OR "Burma" OR "Myanmar" OR "Cambodia" OR "Timor-Leste" OR "Indonesia" OR "Laos" OR "Malaysia" OR "Philippines" OR "Singapore" OR "Thailand" OR "Vietnam"). The search terms were based on the systematic review of parenting stress and resilience in SEA conducted by [Ilias et al. \(2018\)](#).

Figure 1: Systematic review process



The specific countries in the SEA were included in addition to "Southeast Asia" to account for studies that did not include the term. The inclusion criteria were set to SEA countries, English language, and articles only. We did not limit the publication year due to the possibility of a low number of studies conducted within SEA. Furthermore, the non-limitation of publication year allows us to identify the history of different types of studies focusing on this underrepresented population. The search yielded a total of 127 studies. After further review, 89 records were excluded based on the following: (1) repetitive records, (2) systematic reviews, (3) meta-analysis, (4) unavailability of full text, and (5) not focused on parents of ASD children. The remaining 38 records were included in the systematic review. The study's selection process is depicted in [Figure 1](#).

3. Results

A total of 38 studies from SEA countries were reviewed, ranging from 1992 to 2023, of which 24 were from Malaysia, 9 from Singapore, 3 from the Philippines, 1 from Indonesia, and 1 from Vietnam. The lack of studies from other SEA countries in the records could possibly be attributed to studies focusing more on ASD children instead of their parents. Similarly, [Ilias et al. \(2018\)](#), in their systematic review of SEA countries, also noted the possibility of a lack of funding leading to the absence of publication in certain SEA countries.

Of the 38 studies, 20 employed the quantitative, 17 qualitative, and one mixed method. Most of the qualitative studies employed the semi-structured interview, with one study focusing on reviewing messages and comments from online social platforms. Survey questionnaires were used for quantitative analyses, while questionnaires and face-to-face interviews were utilised for mixed-method studies.

Of the 38 studies, a total of 2325 parents participated. Out of which, 1432 were mothers, and 439 were fathers. Seven studies did not report parents' gender in their studies, with a total of 448 parents. As this review focuses on employment or career issues of parents with ASD children, a special note was taken to identify the number of parents who are working (full-time, part-time, or self-employed). Studies that captured employment details revealed that 824 out of 1270 participants were working. The employment of the remaining 1055 participants was not reported in the studies.

The summary of the studies is presented in [Table 1](#) below.

Table 1: Respondents' gender and employment status.

Author & Year	Country	Type	Caregivers			Employment	
			Mother	Father	Other	Yes	No
Abd Latif et al. (2023)	Malaysia	Quantitative	75	36	0	77	34
Abdullah et al. (2022)	Malaysia	Qualitative	3	0	0	3	0
Adib et al. (2018)	Malaysia	Quantitative	87	23	0	77	33
Adib et al. (2019)	Malaysia	Quantitative	170	57	0	148	79
Amini et al. (2020)	Malaysia	Quantitative	82	24	5	Not stated	
Ang and Loh (2019)	Singapore	Quantitative	97	106	0	160	42
Anuar et al.	Malaysia	Quantitative	195	35	0	Not stated	

(2022)							
Bakar and Bakar (2019)	Malaysia	Qualitative	3	1	0	Not stated	
Basri and Hashim (2019)	Malaysia	Quantitative	16	5	0	14	0
Bernard-Optiz and Kok (1992)	Singapore	Quantitative	32		0	Not stated	
Daulay (2021)	Indonesia	Qualitative	5	0	0	1	4
Eow et al. (2020)	Malaysia	Quantitative	224	0	0	127	97
Fazree et al. (2023)	Malaysia	Qualitative	7	0	0	2	5
Foo et al. (2015)	Singapore	Qualitative	3	3	0	Not stated	
Goh et al. (2021)	Singapore	Qualitative	11	2	0	10	3
Ibrahim, Rahman & Dahlan (2021)	Malaysia	Qualitative	7	1	0	6	2
Jardenil and Madrigal (2022)	Philippines	Qualitative	0	9	0	9	0
Kamaludin et al. (2022)	Malaysia	Qualitative	20	0	0	9	11
Magiati et al. (2014)	Singapore	Quantitative	27	10	1	Not stated	
Mai and Chaimongkol (2022)	Vietnam	Quantitative	4	1	0	Not stated	
Masuri et al. (2023)	Malaysia	Quantitative	52	21	0	59	14
Moh and Magiati (2012)	Singapore	Quantitative	85	17	0	Not stated	
Mohamad Aun et al. (2022)	Malaysia	Qualitative	7	0	0	4	3
Mohd Roffeei et al. (2015)	Malaysia	Qualitative	Not stated			Not stated	
Mutia and Atmi (2018)	Malaysia	Qualitative	7	0	0	Not stated	
Ong (2019)	Malaysia	Quantitative	48		0	Not stated	
Ooi et al. (2008)	Singapore	Quantitative	6		0	Not stated	
Poon (2013)	Singapore	Qualitative	15	5	0	Not stated	
Quilendrin et al. (2022)	Philippines	Quantitative	158		0	Not stated	
Salleh et al. (2022)	Malaysia	Quantitative	144		0	Not stated	
		Qualitative	8	3	0		
Salman et al. (2022)	Malaysia	Qualitative	5	2	0	5	2
Siah and Tan (2015)	Malaysia	Quantitative	72	24	0	45	51
Siah and Tan (2016)	Malaysia	Quantitative	69	23	0	43	49
Tenerife et al. (2023)	Philippines	Quantitative	30		0	Not stated	
Teo and Lau (2018)	Malaysia	Qualitative	30		0	Not stated	
Xue, Ooh & Magiati (2013)	Singapore	Quantitative	46	19	0	Not stated	
Yaacob et al. (2021)	Malaysia	Qualitative	15	6	0	12	9

Yaacob et al. (2022)	Malaysia	Qualitative	15	6	0	13	8
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3.1. Overview of focus area

Based on the review, the following are the focus areas of the studies conducted on parents of ASD children. They are; challenges faced by parents ([Abdullah et al., 2022](#); [Fazree et al., 2023](#); [Yaacob et al., 2021](#)), quality of life ([Mai & Chaimongkol, 2022](#); [Mohamad Aun et al., 2022](#); [Siah & Tan, 2015](#)), parenting stress ([Basri & Hashim, 2020](#)), satisfaction ([Moh & Magiati, 2012](#)), stress and coping strategies ([Anuar et al., 2022](#)), resilience ([Jardenil & Madrigal, 2022](#); [Yaacob et al., 2022](#)), direct costs of raising an ASD child, psychological experience ([Foo et al., 2015](#)), effects of training conducted on parents of ASD children ([Bernard-Optiz & Kok, 1992](#)), emotional states and quality of life ([Masuri et al., 2023](#)), experiences and support needs ([Goh et al., 2021](#)), parents perception, attitude and involvements in interventions ([Teo & Lau, 2018](#)), gender in mental health outcomes and coping ([Ang & Loh, 2019](#)), awareness and perception of medical genetic services ([Amini et al., 2022](#)), information sharing among ASD parents ([Mutia & Atmi, 2018](#)), sociodemographic, parental and lifestyle factors with autism severity ([Eow et al., 2020](#)), parental adjustment to ASD diagnosis ([Abd Latif et al., 2023](#)), demand, social support, coping strategies ([Xue et al., 2014](#)), stigma ([Salleh et al., 2022](#)), mother's effort in home education ([Daulay, 2021](#)), sense of coherence and QOL ([Siah & Tan, 2016](#)), expectations on child postschool social attainments ([Poon, 2013](#)), parenting experience in sex education ([Kamaludin et al., 2022](#)), satisfaction with healthcare ([Adib et al., 2018](#); [Ong, 2019](#); [Adib et al., 2019](#)), social support ([Mohd Roffeei et al., 2015](#)), experiences using telehealth ([Salman et al., 2022](#)), experience on employment issues faced by young adults with autism ([Ibrahim et al., 2021](#)), support group ([Bakar & Bakar, 2019](#)), among others.

[Table 2](#) presents a summary of the focus areas of the studies. The highest number of studies were on the effects of interventions, therapy, education, training, and medical services among parents, followed by parental emotion, psychological impact, and anxiety. Several studies focused on parents' attitudes, perceptions, expectations, and quality of life. Notably, although these aspects were not the focus of the studies, employment, financial concerns, lifestyle, and cultural factors were highlighted in a few studies. Employment issues were highlighted by [Abdullah et al. \(2022\)](#), [Goh et al. \(2021\)](#), [Salleh et al. \(2022\)](#), and [Teo and Lau \(2018\)](#). These studies also pointed out financial concerns, including [Jardenil and Madrigal \(2022\)](#) and [Quilendrin et al. \(2022\)](#). Additionally, the influence of cultural and religious factors on parental coping and acceptance was observed in [Goh et al. \(2021\)](#), [Jardenil and Madrigal \(2022\)](#), [Ong \(2019\)](#), [Salleh et al. \(2022\)](#), [Teo and Lau \(2018\)](#), and [Xue et al. \(2014\)](#). Additionally, four studies were focused on parents during the COVID-19 pandemic ([Daulay, 2021](#); [Jardenil & Madrigal, 2022](#); [Masuri et al., 2023](#); [Salman et al., 2022](#)).

3.2 Overview based on country

3.2.1. Malaysia.

A total of 24 studies were conducted on parents of ASD children in Malaysia. 11 were quantitative, 12 were qualitative, and one mixed method. Notably, the research focus in Malaysia was on the (1) effects of interventions and therapies, (2) the attitudes, perceptions, and expectations of parents, (3) the psychological and emotional effects of

parenting, and (4) QOL. Employment concerns were underscored in 4 studies, including [Abdullah et al. \(2022\)](#), [Eow et al. \(2020\)](#), [Salleh et al. \(2022\)](#), and [Teo and Lau \(2018\)](#), while financial concerns were highlighted in studies by [Abdullah et al. \(2022\)](#), [Fazree et al. \(2023\)](#), and [Teo and Lau \(2018\)](#). Understandably, the employment and financial concerns in Malaysia align with the rising costs of living, propelling dual careers, where both fathers and mothers need to be in the workforce to sustain their families and afford interventions ([Teo & Lau, 2018](#)).

3.2.2. Singapore.

Nine studies were conducted on parents of ASD children in Singapore. Six were quantitative, and three were qualitative. The studies mostly focused on parental stress, support, services, interventions, and informational challenges, among others. Employment and financial concerns were related in a study by [Goh et al. \(2021\)](#), where parents felt financially burdened by the high costs of intervention programmes. Although parents mentioned adjustments to their careers, some could not afford to quit as they needed the income to cover the costs of therapies. Another critical point was the difficulty of balancing work and home demands.

3.2.3. Philippines, Vietnam, and Indonesia.

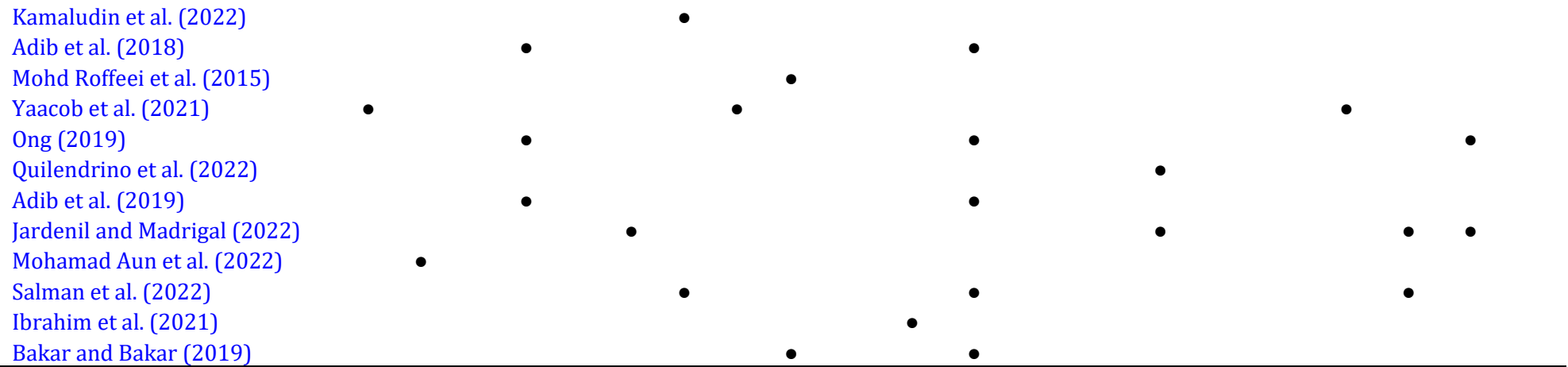
From the review, a total of 3 studies were from the Philippines, while Vietnam and Indonesia had 1 study each conducted on parents with ASD children. Out of which, three were quantitative, and two were qualitative. The focus in the three countries was primarily on the effects of interventions, education, and therapy, with two ([Daulay, 2021](#); [Jardenil & Madrigal, 2022](#)) conducted during the COVID-19 pandemic. Interestingly, none of the studies mentioned employment concerns; however, two studies in the Philippines ([Jardenil & Madrigal, 2022](#); [Quilendrin et al., 2022](#)) highlighted the issue of financial constraints in raising their ASD child.

4. Discussion

Based on the prior discussion, this study aims to shed light on the extent to which work-related and employment concerns were investigated in studies of parents with ASD children in Southeast Asia. Based on the review of the 38 studies, the following areas were observed. The review revealed none of the studies' main focus was parental employment or career-related concerns. Instead, the existing studies mainly focus on the effects of interventions, parental stress, and quality of life, among others. However, it was highlighted as a supporting concern in a few studies, such as [Goh et al. \(2021\)](#), [Teo and Lau \(2018\)](#), [Abdullah et al. \(2022\)](#), and [Salleh et al. \(2022\)](#). For instance, [Goh et al.'s \(2021\)](#) qualitative study in Singapore revealed the sub-theme of financial and employment adjustments where parents revealed employment concerns about quitting their jobs or opting for part-time opportunities to spend more time with their ASD child and family. Interestingly, in the same study, parents revealed that quitting was not an option due to the high costs of therapies and interventions. The difficulties of balancing work and caregiving responsibilities were highlighted. In [Teo and Lau's \(2018\)](#) study, one parent highlighted that they had to quit work to spend time with their ASD child.

Table 2: Summary of focus areas

Author & Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Abd Latif et al. (2023)								•								•					
Abdullah et al. (2022)	•							•						•	•			•			
Amini et al. (2022)											•	•									
Ang and Loh (2019)					•											•					
Anuar et al. (2022)			•		•																
Basri and Hashim (2020)			•																		
Bernard-Optiz and Kok (1992)												•									
Daulay (2021)							•	•				•							•		
Eow et al. (2020)														•		•					•
Fazree et al. (2023)	•							•			•				•			•			
Foo et al. (2015)	•					•	•														
Goh et al. (2021)							•		•					•	•		•			•	
Magiati et al. (2014)								•													
Mai and Chaimongkol (2022)	•	•										•									
Masuri et al. (2023)		•						•											•		
Moh and Magiati (2012)			•	•																	
Mutia and Atmi (2018)																	•				
Ooi et al. (2008)			•									•									
Poon (2013)											•										
Salleh et al. (2022)		•				•								•				•		•	
Siah and Tan (2015)		•								•											
Siah and Tan (2016)		•			•					•											
Tenerife et al. (2023)													•								
Teo and Lau (2018)											•	•	•	•	•					•	•
Xue et al. (2014)	•		•		•				•											•	•
Yaacob et al. (2022)					•	•															



Note: 1=Challenges, burdens and demands; 2= QOL; 3= Stress; 4 = Satisfaction; 5=Coping; 6=Resilience; 7=Experiences; 8=Emotion, anxiety, psychological, despair, self-blame; 9=Support; 10=Sense of coherence; 11=Attitudes, perceptions and expectations; 12=Interventions, therapy, education, training and medical services; 13 = Involvement; 14=Employment, 15=Financial; 16=Demographic; 17=Service and information; 18=Stigma and discrimination; 19=COVID-19; 20=Culture and religion; 21=Others (resources, lifestyle, self-esteem)

Similarly, in the study by [Abdullah et al. \(2022\)](#) and [Salleh et al. \(2022\)](#), parents reported sacrificing their career progression to focus on their children. It is noted in [Salleh et al.'s \(2022\)](#) study that although job resignations were highlighted, it was revealed that fathers did not state an impact on their careers, probably due to their main role as primary financial providers.

The review underscored the lack of focus on work-related outcomes for employed parents of ASD children. Additionally, the review of these studies found that out of 1270 parents whose employment status was highlighted, those employed comprised 64.9%, highlighting that most parents are in the workforce and, hence, more focus should be placed on this unique, underrepresented group. As highlighted previously, parents of ASD children are faced with intense caregiving demands, which entail prolonged and excessive caregiving demands. This is significantly different from the caregiving demands of typical development children. Thus, it is important to note that specific studies focusing on this specific and growing group of parents are warranted due to their unique circumstances.

In addition, a significant difference in gender participation was observed, with 71% of mothers participating, while only 29% of fathers were involved in the studies. In their study, [Fazree et al. \(2023\)](#) attributed fathers' low participation partly to the field being feminized, aligning with stereotypical roles assigned to mothers and fathers, where fathers are less involved compared to mothers in caregiving responsibilities. Supporting the notion, mothers continue to be identified as the primary caregivers of ASD children ([Cheuk & Lashewicz, 2016](#); [Di Renzo et al., 2022](#)), especially within the collectivist cultural context of SEA where the cultural expectations of traditional roles are still rather prominent ([Goh et al. 2021](#); [Shorey et al., 2020](#)). In this aspect, the females are usually housewives ([Siah & Tan, 2015](#)) and the ones who face and cope with various problems that arise from caring for their ASD child. While fathers remained the main financial provider for the family ([Salleh et al., 2022](#)), they made fewer adjustments to their careers. Hence, mothers are likely the ones who are more involved in their ASD child and may be in a better position to address their concerns. On a slightly different note, [Ang and Loh \(2019\)](#) highlighted the shifting of traditional roles, with fathers becoming more involved in caregiving responsibilities. The same study revealed that parenting experiences are different for mothers and fathers seen in their interaction with their children, childcare roles, and coping styles. Thus, it is important to capture fathers' perspectives, which may differ from those of mothers. The underrepresentation of fathers in ASD studies, as observed from this review, is a gap that could be further narrowed.

From a cultural perspective, the prominence of mystical and traditional cultural beliefs in SEA has been found to play a significant role in coping with the stress of parents with ASD children ([Daulay, 2021](#)). Religious belief has been helpful for Asian parents in developing a more positive acceptance and perception of their ASD children. It was reported that parents viewed their children as a gift from God ([Basri & Hashim, 2020](#)), which has helped them make positive perceptions of having a child with ASD and accepting their child's condition ([Yaacob et al., 2022](#)). Acting as a coping strategy, [Daulay](#)

(2021) reported that in implementing home education, mothers attempted to control their feelings of resentment, anger, and stress by praying and spending time alone. Abdullah et al. (2022) revealed that mothers developed a more positive and optimistic attitude because they believed they were the chosen ones to care for their special child. As such, strong religious beliefs may play an important role in alleviating the challenges faced by the parents.

The differences in coping strategies and utilization of resources among fathers and mothers (Ang & Loh, 2019) draw in the importance and role of individual differences and perspectives. Foo et al. (2015) highlighted themes such as personal strengths, wherein caregivers' internal resources could enhance resilience, especially when caring for their ASD child and managing challenging behaviors. In the same vein, Goh et al. (2021) identified the sub-theme of how parents changed their mindset in their perceptions of ASD and others with ASD, where they became more understanding and less judgmental when encountering other parents in similar situations. In Salleh et al.'s (2022) study, the self-determination sub-theme was identified with the parents' ability to apply personal goals to raise their ASD child. It was further highlighted that parents gained heightened spirituality and personal growth, which could buffer them from the psychological and emotional aspects of caregiving. Ang and Loh (2019) have also highlighted the limitations in their studies where the parental view of their control and self-efficacy were not considered, wherein parental perceptions of their abilities are important to understand its influence on their coping mechanism (Mutia & Atmi, 2018) especially so, for those who are working and managing the demands from work and home responsibilities. Based on the discussion, the role of individual perspectives warrants further examination, especially in terms of how parents handle the conflicting demands of work-home responsibilities.

4.1. Limitations

While the study provides valuable insights, there are several limitations that need to be addressed. Firstly, as the study utilised the databases from Scopus, PubMed, and Web of Science, this could potentially limit the records that could be available through other sources. The second limitation lies in the low number of records obtained from other SEA countries, such as Brunei, Thailand, Cambodia, and Vietnam. This could be attributed to the articles not being indexed in the search databases and possibly low funding for research, as highlighted by Ilias et al. (2018). Thirdly, the lack of participation from fathers may lead to potential biases in the discussion of employment-related problems. As seen in Salleh et al. (2022), fathers' careers were not affected by their child's ASD diagnosis. Furthermore, some studies did not report parental employment, leading to its exclusion from the employment statistics.

4.2. Future research

Interestingly, the review highlighted a few key areas that could be addressed in future studies. Firstly, due to the lack of focus on work-related factors for employed parents of ASD children, future research should explore work-related factors on these employees, including performance, productivity, satisfaction, and turnover intention. Furthermore, parents' experiences juggling work and home demands could be another potential avenue for research. Secondly, the review found that individual factors such as beliefs, perceptions, attitudes, and personality played an important role in minimizing the adverse effects of caregiving. In this aspect, future research could incorporate individual

factors to understand how the strength of different personalities could help in coping with the demands of caregiving and job responsibilities. Thirdly, the relatively large difference in gender participation in these studies is an area that could be further examined. Considering the differences in parenting style and coping strategies and the shift of traditional roles, the perspectives of fathers should also be equally captured to have a more nuanced understanding of both parents in these studies. Finally, cultural and religious factors have also been found to influence parental coping strategies. As such, future studies could explore the cultural influence of Eastern and Western values on parents in work-related settings.

4.3. Implications

In Southeast Asia (SEA) countries, parents of children diagnosed with ASD often face significant challenges due to the lack of adequate social and health support systems. While employment concerns are a recurring theme in several studies, they are not always the primary focus. However, the increasing prevalence of ASD diagnoses among children, alongside their parents' active participation in the workforce, underscores the importance of further research into work-related factors affecting these parents.

Moreover, the review underscores broader implications for employers, HR practitioners, and colleagues. Customized work-related resources, family-supportive programs, and tailored work arrangements such as flexible schedules and home-based working options (Crettenden et al., 2014; Laili et al., 2021) resonate particularly within Asian cultures, where the boundaries of work and family are often blurred.

Additionally, policymakers governmental and non-government organizations could make a significant contribution to the concerns and welfare of working parents with ASD children. A major concern of parents with ASD children revolves around their child's educational needs, reliable caretakers, and access to affordable and high-quality therapies. Additionally, the long waiting list and admission to access the services provided by government agencies may turn these parents to private therapies, which are extremely costly, adding to their growing list of demands. Addressing the concerns faced by this group of overburdened parents would significantly alleviate the burden on working parents, enabling them to balance work and home demands better. In summary, all stakeholders play an important role in creating a more inclusive and supportive environment for working parents of ASD children in SEA countries.

5. Conclusion

This systematic review aimed to examine the extent to which work-related factors were investigated in studies in SEA. In particular, the review revealed that there were limited studies that focus primarily on these parents from a work-related perspective, although several qualitative studies identified it as a sub-theme. Future research could consider casting its lens on this unique population, specifically focusing on work-related factors while considering individual perspectives and cultural beliefs.

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Conflict of Interest

The authors declare no conflict of interest.

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