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DEVELOPING A RISK ASSESSMENT MATRIX TOWARDS BETTER CHILDCARE SERVICES IN SELANGOR



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**DEVELOPING A RISK ASSESSMENT MATRIX TOWARDS BETTER
CHILDCARE SERVICES IN SELANGOR**

NURUL ADILA BINTI IDRIS

**DISSERTATION TO QUALIFY FOR A MASTER'S DEGREE IN EDUCATION
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SULTAN IDRIS EDUCATION UNIVERSITY**

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ABSTRACT

The growth of women's participation in the labour force raises the number of childcare centres that compete relentlessly. To remain competitive, childcare centres need to systematically assess childcare risks because a safe and healthy environment is vital in parents' childcare choices. Therefore, this study attempts to develop a risk assessment matrix for childcare services through a modified Delphi technique that combines two Delphi rounds with a focus group discussion. Twenty experts participated in the first round of Delphi and eighteen continued to answer the second round of Delphi. Focus group were held with six experts as a replacement of third round of Delphi. Twenty-two childcare risks were assessed, and experts agreed that choking and drowning were the most critical risks in terms of risk severity. Conversely, runny nose, flu and cough, and lice infection had insignificant risk severity. For risk likelihood, experts agreed that runny nose, flu and cough, skin changes, bleeding nose, fall, and collision with objects were likely to occur. On the other hand, sexual or unintended assault, choked, burning and self-harm rarely happened. The interview data revealed that experiences, knowledge sharing, and common sense guided the caregivers in assessing risks in childcare centre. In conclusion, this study has identified childcare risks contributing to frequent and critical harm to children. Thus, childcare providers can develop an effective preventive risk mitigation plan based on a risk assessment matrix to mitigate risks in childcare environments. Moreover, adequate health and safety training relevant to the respective risks are crucial so that caregivers are prepared for harmful incidents.



MEMBINA MATRIKS PENILAIAN RISIKO KE ARAH PERKHIDMATAN PENJAGAAN KANAK – KANAK YANG LEBIH BAIK DI SELANGOR

ABSTRAK

Peningkatan keterlibatan wanita dalam tenaga buruh meningkatkan bilangan pusat jagaan kanak-kanak yang bersaing tanpa henti. Untuk kekal berdaya saing, pusat jagaan kanak-kanak perlu menilai secara sistematik risiko penjagaan kanak-kanak kerana persekitaran yang selamat dan sihat adalah penting dalam pemilihan pusat penjagaan kanak-kanak. Oleh itu, kajian ini cuba membangunkan matriks penilaian risiko untuk perkhidmatan penjagaan kanak-kanak melalui teknik Delphi yang telah diubah suai yang menggabungkan dua pusingan Delphi dengan perbincangan kumpulan fokus. Dua puluh pakar telah menyertai pusingan pertama Delphi dan lapan belas terus menjawab pada pusingan kedua Delphi. Perbincangan kumpulan fokus dilaksanakan sebagai pengganti pusingan ketiga Delphi bersama enam pakar. Dua puluh dua risiko penjagaan kanak-kanak dinilai, dan pakar bersetuju bahawa tercekik dan lemas adalah risiko paling kritikal dari segi keterukan risiko. Sebaliknya, hidung berair, selesema dan batuk, dan jangkitan kutu mempunyai tahap risiko yang tidak ketara. Untuk kemungkinan risiko, pakar bersetuju bahawa hidung berair, selesema dan batuk, perubahan kulit, hidung berdarah, jatuh, dan pelanggaran dengan objek berkemungkinan berlaku. Sebaliknya, serangan seksual atau tidak disengajakan, tercekik, membakar dan mencederakan diri jarang berlaku. Data temubual mendedahkan bahawa pengalaman, perkongsian pengetahuan dan akal fikiran membimbing penjaga dalam menilai risiko di taman asuhan kanak-kanak. Kesimpulannya, kajian ini telah mengenal pasti risiko penjagaan kanak-kanak yang menyumbang kepada kemudaratan yang kerap dan kritikal kepada kanak-kanak. Oleh itu, penyedia penjagaan kanak-kanak boleh membangunkan pelan pengurangan risiko pencegahan yang berkesan berdasarkan matriks penilaian risiko untuk mengurangkan risiko dalam persekitaran penjagaan kanak-kanak. Selain itu, latihan kesihatan dan keselamatan yang mencukupi berkaitan dengan risiko adalah penting supaya penjaga bersedia terhadap kejadian yang berbahaya terhadap kanak-kanak.



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CHAPTER 1

INTRODUCTION

Malaysian government has strengthened women's participation in the country's economic activities through the National Women's Policy in 1989 and its amendments in 2009. The implementation of this policy had a significant impact on childcare. Generally, women are the main caregivers of children in households in Malaysia. When this policy was implemented, the responsibility of caring has been transferred to childcare centres and kindergarten as opposed to parents. Accordingly, the number of childcare centres throughout the country increased. With the growing number of working women, the private sector is also competing to offer childcare services.

However, childcare centres have been linked to increasing child health and safety risks. Caregiver-related factors such as poor risk perception, and the lack of



supervision due to distraction, fatigue, confusion, multitasking, and child-caregiver ratio are among the factors that can cause child health and safety risks. Besides, child injuries have been linked to the lack of injury prevention, risky play, and child-related factors such as cognitive development and behaviour, besides childcare environmental factors.

Accordingly, childcare centres implemented various standard operating procedures (SOP) to control risks occurrence at childcare centres. However, rather than depending on the SOP, caregivers should also have accurate information about the likelihood and severity of risks in order to create a mitigation plan. As a result, this study proposes a risk assessment matrix to assist childcare centres operators and caregivers in making informed decisions about health and safety prevention. Childcare centres could develop competitive advantage by ensuring children health and safety through appropriate risk assessment.

1.2 Research Background

Women play multiple roles in social and economic development whether as mothers, wives or workers. In the pre-colonial era, women mostly involved in rearing children apart from working for the agrarian economy (Hirschman, 2016). However, growing opportunities for better education and employment increased women labor participation rate from 37.2 percent in 1970 to 46.7 percent in 1990 (DOSM, 2020). Recently, women labor force participation raised to 55.2 percent in September 2020 (ILOStat, 2020). Women generally showed higher contribution to agricultural activities in rural areas.





They also involved in social services, textile and electronic industries and public sectors.

According to Department of Statistic Malaysia (2020), the Malaysian government further accelerated women involvement in national development activities through various initiatives. For instance, the government established National Women's Policy in 1989 and revamped this policy in 2009. This policy aims to:

- 1) empower women from various walks of life and in all sectors as an agent of change to society that contribute to the country's economic and social development.
- 2) provide a conducive environment, including the formulation of women- friendly policies and legislation, to enhance the dignity and well-being of women's lives in all aspects including physical, economic, social, political, health, psychology and spirituality.

Additionally, the government structured several agencies to support Women in Development (WID) program (Ministry of Women and Family Development, 2003). The Department of Agriculture and the Federal Land Development Authority (FELDA) empowered women by providing entrepreneurship opportunities for targeted group, financial assistance and training. Meanwhile, the Community Development Division, KEMAS, encouraged home economics through tailoring, handicraft and farming, and also introduced community preschool and childcare centers to assist childcaregiving for working mothers. Such policy and initiatives significantly altered women gender-based roles, from housewives and child bearer, to co-earner of households.



Women transition from the traditional roles caused them to transfer the responsibility of caregiving to childcare centers during working hours. The number of childcare service providers blooming as a result of the increase in dual-income households. Parents will send their children to childcare centers as early as 7.30 am to ensure that they will arrive at work by 8.00 am. Then, they will fetch their children at childcare centers after work. On that account, variety of childcare packages are offered by childcare service providers to accommodate different needs of parents, which result in relentless business competition. However, childcare services in Malaysia are generally divided into registered and unregistered childcare, or *Taman Asuhan Kanak-Kanak* (TASKA) and *Taman Didikan Kanak-Kanak* (TADIKA), which are the terms used in childcare act in Malaysia.

1.2.1 Registered Childcare Services

According to the Department of Social Welfare of Malaysia (Jabatan Kebajikan Masyarakat Malaysia, JKMM), every childcare services in Malaysia should registered with the JKMM. Section 6 (1) in Childcare Center Act 1984 states that no person shall operate or take part in the management of a childcare center which is not registered under the provision of this act, and any person who violates this act and found guilty, will be fined not exceeding ten thousand ringgit or will be imprisoned not more than two years or both.



1.2.1.1 Taman Asuhan Kanak-Kanak (TASKA)

Nurseries (*Taman Asuhan Kanak-Kanak*) or better known as TASKA is a childcare center that care for 0-3 years old children at one time. According to JKMM, there are four categories of TASKA as can be seen in Section 5 of Childcare Centers Act 1984 (CCCA) which includes:

- i. Institutional – receives 10 or more children in custody and established on the initiative of private sector and non-government organization (NGO).
- ii. Workplace – receives 10 or more children in custody and established on the employer's initiative for welfare of their employees.
- iii. Community-based – receives 10 or more children in custody and established on the community initiatives for low-income parents in urban and rural areas. The community-based nurseries also receive cooperation from federal government and state government.
- iv. Home-based – receives only four to nine children in custody and their own home is based for childcare services.

Based on the Table 1.1, registered caregiver was categorized by Institutional, Work Place, Community and Home Based. Selangor recorded in 2020 for Institutional (4,643), Work Place (379), Community (41) and Home Based (380) with the total caregivers are 5,443.





Table 1.1

Number of caregivers at Registered Childcare Center by State and Category

Negeri/ State	Kategori/ Category				Jumlah Total
	Institusi/ Institution	Tempat Kerja/ Work Place	Komuniti/ Community	Rumah/ Home based	
Johor	1,037	95	17	54	1,203
Kedah	738	78	14	20	850
Kelantan	705	41	8	3	757
Melaka	453	78	3	38	572
Negeri Sembilan	589	65	24	43	721
Pahang	702	139	7	61	909
Perak	1,172	144	28	60	1,404
Perlis	125	10	8	15	158
Pulau Pinang	603	114	0	56	773
Sabah	1,078	131	25	77	1,311
Sarawak	698	57	27	122	904
Selangor	4,643	379	41	380	5,443
Terengganu	683	34	20	12	749
W.P. Kuala Lumpur	1,201	418	16	108	1,743
W.P. Labuan	61	16	4	6	87
W.P. Putrajaya	310	312	8	47	677
Jumlah Total	14,798	2,111	250	1,102	18,261

Sources: Laporan Statistik JKM (2020)

Based on Laporan Statistics JKM 2020 also recorded 1,777 total registered childcare in Selangor. Institutional shows 1,329 number following by 46 number of registered childcare workplace (Government Agency) in Selangor. Work place (Private Agency) shows 29 registered childcare and community based shows only 3 registered following by home based with 371 registration as shown in Table 1.2:





Table 1.2

Registered Childcare Center by State and Category, 2020

Negeri State	Kategori Category					Jumlah Total
	Institusi Institution	Tempat Kerja [Agensi Kerajaan] Work Place [Government Agency]	Tempat Kerja [Agensi Swasta] Work Place [Private Agency]	Komuniti Community	Rumah Home based	
Johor	329	8	2	2	60	401
Kedah	234	11	0	2	21	268
Kelantan	202	11	3	2	0	218
Melaka	94	18	3	1	11	125
Negeri Sembilan	228	11	1	1	43	284
Pahang	165	18	4	1	53	241
Perak	345	12	3	0	56	416
Perlis	43	1	1	2	10	57
Pulau Pinang	139	20	1	0	34	194
Sabah	301	18	0	3	49	371
Sarawak	134	11	1	3	44	193
Selangor	1,328	46	29	3	371	1,777
Terengganu	176	3	4	3	18	204
W.P. Kuala Lumpur	217	56	17	1	128	419
W.P. Labuan	26	3	0	1	11	41
W.P. Putrajaya	45	30	0	0	42	117
Jumlah Total	4,006	275	69	25	951	5,326

Sources: Laporan Statistik JKM (2020)

1.2.1.2 Taman Didikan Kanak-Kanak (TADIKA)

Early childhood education for children aged 5-6 years old is placed under three ministries, namely the Ministry of Education, Ministry of Rural and Regional Development, and the National Unity Department. Pioneering in preschool was the



Ministry of Rural Development that began in the early 1970s. To date there are 8,307 TADIKA established by this ministry commonly known as TADIKA KEMAS. TADIKA KEMAS are located in rural or suburban areas and are established at the request of local authorities.

TADIKA PERPADUAN are established by the Department of National Unity focusing on the urban area where 'Neighbourhood Guards' exist. Currently, there are 1,496 TADIKA PERPADUAN. In 1992, the Ministry of Education Malaysia began establishing preschool in addition to the existing primary schools through pilot projects. It was expanded nationwide in 1993 and currently there are about 5,905 preschools in Malaysia. Other preschool education providers include the State Religious Department and ABIM (Malaysia Islamic Youth Force).

KEMAS also introduced a childcare transit service, an after-school childcare facility for children starting from 1:00 P.M. to 5.30 P.M. Economic status of families that requires both parents to join the workforce encourage them to send their children to childcare that provides transit services. The advantages of this transit services are likely to ensure childcare and early childhood development needs are in a balanced environment other than to assure the safety of the children outside of the school time. Every transit service is supervised by teachers and caregivers that adaptable to the children.

Based on the Ministry of Education Malaysia, the total number of preschools registered in Malaysia until Jun 2019 is 6,185. From that total, there are 207, 227 students registered in 9, 506 classes throughout Malaysia. Department of Statistics

Malaysia (2018), increasing enrolment recorded in 2017 for private kindergarten at 364,000 compare with 332,600 in 2016.

There were only 483 registered childcare centres in 2010. However, from June 2011 to May 2012, the figure increased by 124% to 1,086 (Parliament, 2012). Furthermore, JKMM reported in 2014 that there were 3,760 registered childcare centres (JKMM, 2014). Despite this, the number of unregistered or illegal childcare centres continues to rise. Since 2014, 1,685 illegal childcare centres have been discovered in Malaysia (Bernama, 2016). Failure to comply with the ministry's requirements is one of the reasons why childcare operators are hesitant to register their centres (Bernama, 2016).

1.2.2 Unregistered Childcare Services

Parents are luring to choose unregistered childcare center because sometimes they trying to cut cost due to family economic problem. Women street vendors and waste pickers in South Africa reported using unregistered home-based childcare services because they are close to their homes and often cheaper than registered center-based childcare services (Moussie, 2021). Ruban (2018) reported that a husband and wife cannot afford to pay the fees of childcare which is above RM 600 per month therefore they chose to send their children to elderly neighbor as an alternative.

Other than that, difficulties and long procedure facing by operators of childcare center to get approval from authorities are one of the factor that operators tend to open



unregistered childcare center. A study from Aziz et al. (2021) showed that according to the operators, opening new TASKA or TADIKA is difficult because the registration process must go through four agencies, the process and approval of which are complicated and time-consuming.

However, previous studies indicated safety and healthy environment is vital in parental childcare choice. An earlier study reported parent quality was important in childcare choice which include the provision of safety and health care to children (Rentzou & Sakellariou 2013). Early childhood education has become synonymous with quality in recent decades. Meanwhile, a study about Latino families revealed almost all parent in the sample considered safety measures as critical to their satisfaction with childcare (Ansari et al., 2020). In consistent, Davidson et al. (2021) found parents' strong preferences for licensed childcare service that indicate high safety standard. Similarly, Salem et al. (2021) highlighted that an addition of unhealthy and unsafe childcare environment in parents' Childcare preference model would instantly drown out all other favorable Childcare characteristics.

1.2.3 Childcare Policy and Initiatives

Childcare policy and initiatives have been established to ensure child health and safety, and supported by several government agencies. First, Childcare Center Act 1984 was established in response the registration, control and inspection of childcare centers for children from birth to four years old with the Department of Social Welfare and the Ministry of Rural and Regional Development. This act was established for





developmental program with a focus on health and safety, in order to support the child sufficiently to promote holistic development and fulfil their potential as an individual within their cultural surroundings.

Childcare Center Act 1984 outlines the minimum standards that should be fulfilled by childcare service providers to have sufficient experience in the care of children, for example, Basic Childcare Course (KAAK) that recognized in Childcare Centre (Amendment) Regulations 1993. Providers need to attend 103-hour course with 31 modules of classroom instruction that must be completed within 17 to 19 days. The course provides fundamental knowledge of child development, childcare for example, activities for children, healthcare, and safety measures and administration. Even if they have a degree or diploma in early childhood education or related fields, the regulations require all those who want to work in institution-based childcare centers to take this course accredited by the Department of Social Welfare.

In 2007, Childcare Center Act 1984 was amended following the modern era that parents needed to concerns about the quality childcare for their children. Parents were satisfied if their children get the good custodian from the aspect of physical needs, health and safety however providers are not striving for the higher qualifications and professionalism and the government were contented to do the bare minimum in terms of improving childcare quality. The amendment introduced improvement in terms of categories of childcare centers which in Childcare Centre Act 1984, there were only two categories; home-based childcare center and institution-based childcare center. Childcare Centre Act 2007 was then revamped and therefore, four categories of childcare services were introduced; home-based childcare center, institution-based





childcare center, workplace-based childcare center and community-based childcare center. Other than that, the license to operate a childcare center, which will be issued for 60 calendar months rather than 12 and the display of the license in a prominent location on the premises as improvements made in Childcare Centre Act 2007.

Childcare Center Act 1984 and the amendment are also supported by the Ministry of Health Malaysia through TASKA Monitoring Inspection Guidelines 2012. It aims to monitor medical facilities, building safety, sanitation facilities and food nutrition at TASKA. Using standard checklists, the District Health Officer is responsible for ensuring the implementation of the visit, environmental safety monitoring, infectious disease prevention, and provision of nutrition monitoring for all TASKA in the operating area respectively. Infectious disease prevention and monitoring visits must be implemented at least once a year.

Fire and Rescue Department of Malaysia also play a role in ensuring child safety besides the Ministry of Health. The Fire and Rescue Department of Malaysia inspects the building safety specifications including emergency exits and evacuations, as well as operational aspects of the childcare service involving fire and electric shock risks. This inspection is carried out before the establishment of a TASKA or TADIKA.

Additionally, local authority will examine building specifications prior to TASKA and TADIKA establishment. For example, two staircases should be installed in case of fire or any other emergencies, which should have railings that will prevent children from accidents. Furthermore, the facilities should have proper ventilation and lighting, doors and windows with specific grill and access, designated areas for play,





learn, and napping according to different child group (toddlers and infants). Moreover, childcare facilities must have specific sick bay, food preparation area and pantry that could not be easily accessed by children.

Despite the childcare center policy and initiatives to protect children from health and safety risks, evidence pointed that safety and health issues are still concerning in Malaysian childcare centers. Child and safety remained the most important factor valued by parents. The mainstream and social media spread the news about cases of injuries and the spread of disease among children in childcare centers easily. As a result, childcare service providers are affected due to the loss of parental trust. Although increasing number of childcare services would correspondingly improve the quality of childcare services, it further created business competition between providers.

Therefore, childcare providers should be able to demonstrate the ability to systematically assess child safety and health risks to gain parents' trust. Risk assessment is important as an early intervention to determine the likelihood and severity of risks. Accordingly, risk mitigation plan can be prepared and safety prevention can be adopted to increase parents' trust towards childcare service providers.

1.3 Problem Statement

Rapid changes in the current business platform demanded business to remain competitive and responsive to customers' needs. In childcare services, the number of registered and unregistered childcare services skyrocketing, thus created fierce



competition between providers. In Malaysia, childcare services are going through a tectonic shift in terms of education philosophy and revolution in the quality provided to the children which among others underscores the magnifying importance of addressing parents' concerns about child health and safety. The need to develop a systematic risk assessment is rising particularly due to increasing number of mortalities, injury and epidemic disease experienced by children at the childcare centres.

Malaysia employment rate rose by 0.1 percentage point to 66.2 percent in January 2022 as compared to 66.1 percent in December 2021 (Department of Statistics Malaysia, 2022) despite all the economy fluctuations in Malaysia. Increasing percentage of employment draw on parents in labour force and does not have options except to sending their children to childcare centre. These choices are actually concern their children health and safety.

Children spent most of the time at childcare centre when their parents are at work, where they can be exposed to different hazards (Charlesworth, 2017). As a result, child safety and health emerged as an important factor for childcare arrangement options among parents. Safety features such as CCTV (Lily Muliana, Nek Kamal & Mohamed Nor Azhari, 2014; Dahari & Ya, 2011) and mandatory requirement for caregivers attended and certified *Sijil Kursus Asuhan dan Didikan Awal Kanak-Kanak PERMATA* (KAP) authorized by JKMM could reduce risks related to child safety and health.

Although there is no aggregate national data on child health and safety issues at childcare centres, the abundance of news reporting incidents at TASKA and TADIKA

indicate a significant problem that yet to be solved. Ironically, regulated childcare centres are not always as safe as they could be. Similar with Malaysia, most states in US do not keep detailed records on deaths in childcare (Curie & Hotz, 2003).

Abdullah (2022) reported in New Straits Times that according to Deputy Minister of Women, Family and Community, there was 217 abuses cases at childcare centre between January to December 2021 recorded by the Department of Social Welfare. These childcare centres were registered under the authorized department. These shows that abuse cases may happen under legal supervision although they are registered as legal guardian. Despite that, the news stated that childcare operators should run a thorough caregivers' background check before hiring them especially that relates to criminal activity.

A case in February 2022 shocked everyone when a post-mortem on the remains of a 15-month-old toddler found dead at a childcare centre, revealed her death was due to compression of the neck (Singh, 2022). The toddler was fed with milk by a babysitter and left without supervision in a room. She was found dead and her head was dangling from the cloth cradle after one hour when the babysitter went to check on her.

Year 2022 shows the increasing cases of COVID-19 among children in Malaysia since earlier this year as reported in press statement by Director General of Health Malaysia in February 2022. There has been 160% rise in the number of COVID- 19 cases among children below 12 years old (Anis & Carvalho, 2022). Parents were afraid to send their children to childcare centre because of arising cases, but they do not have a choice and took a risk to send their children to caregivers.

Basyir (2022) reported that Hand, Foot and Mouth Diseases (HFMD) cases were in rises as Selangor recorded third highest cases in Malaysia after Kuala Lumpur and Putrajaya. Tan Sri Dr. Noor Hisham as Director General of Health Malaysia stated that the majority of the outbreaks occurred in kindergartens, nurseries and preschools with 600 cases followed by private homes with 186 and 26 cases in childcare centres.

HFMD is an infection caused by viruses from the enterovirus group which includes enteroviruses, coxsackieviruses, echoviruses and polioviruses and most likely infected children younger than five years old. HFMD can be spread through direct contact with nasal fluid, saliva, blisters and faeces of those infected. Regardless the on rises cases, Tan Sri Dr. Noor Hisham advised parents to take precautionary measures such as washing their hands before using the toilet, preparing food and changing diapers, and not bringing children with symptoms to crowded public places such as swimming pools, markets and shopping malls (Basyir, 2022).

In a global comparative study of low- and middle-income countries, Columbia, Egypt and Pakistan were 95%, 87% and 83% respectively less likely to require hospital admission in treating children unintentional injuries compared to Malaysia (He et. al., 2014). Series of children mortality including Adam Rayqal Mohd Sufi (5 months old), Naufal Amsyar (10 months old) (Yong, 2018), Farisha Mohd Hasmuni (5 months old) (Nor Hayati Zainudin, 2016), Muhammad Aidil Amsyar Muhammad Hafizuddin (18 months old) (Muhammad Apendy Issahak, 2019) and many more which happened at childcare centres further strengthen the indication that risks are poorly assessed by childcare providers in Malaysia.



Consequently, repeated injury cases increased parents' concern about sending their children to childcare centres. Based on prior studies, safety measures are essential element in determining parents' childcare choices for their children (Ansari et. al., 2018; Dahari & Ya, 2011; Davidson et al., 2021; Mustafa, Yunus, & Azman, 2014; Salem et al., 2021). Therefore, to gain parents' trust, childcare providers need to address all associated risks and prepare corresponding mitigation strategies. Nevertheless, childcare service providers are contingent upon limited funding restriction (Majzub, 2013); thus, wise decision have to be made on which risks should be mitigated first.

To simulate, consider two types of risks; A and B as follows; (1) A is a risk with high likelihood of occurrence but mild severity, while (2) B is a risk unlikely to occur but the severity is catastrophic. In this situation, a childcare service provider is constrained by limited managerial funds but she needs to choose between risk A or B to allocate a budget for preventive mitigation strategies. On that account, both risks need to be assessed to determine the most appropriate action.

Earlier studies, however, proven that and layman risk perception is irrational and heavily influenced by subjective perceptions of risk (Carlson, 2015; Paek & Hove, 2017). In addition, less experienced caregivers, felt that they could not rely on their professional discretion to make situationally specific judgments in exposing children to risk (Connolly & Haughton, 2017). For example, certain caregivers resisted new educational technologies because of faulty risk perception (Demirbağ & Kılınç, 2018).

Ariff and Schattner (1998) claimed that incidents happened when caregivers had unrealistic attitudes to injury prevention. Risk perception is expected to increase



subsequent to an incident that give “teachable moments” to caregivers (Foettinger et al. (2020). Moreover, certain caregivers value the benefits of risky play higher than child injury risk and believed safety rules were too strict (Jelleyman et al., 2019). Risk perception was also influenced by children’s personality specifically when playing with others (Foettinger et al., 2020). Despite that, risk assessment was underutilized (Schwalbe, 2004) in assisting caregivers to assess risks.

Therefore, a typical decision maker will choose either risk A or B arbitrarily without having complete awareness about the priority of each risk. The impact of this action could be devastating and may affect the trajectory of children development. Resilience sometimes cannot be achieved when dealing with the dynamic of human and could results in death, injuries and traumatic experiences among children in childcare centres until the later stages of their lives.

For that reason, developing a risk assessment matrix is extremely crucial to help childcare service providers systematically prioritize risks affecting the children which later can be translated into stronger competitive position in this industry. Risk assessment matrix is a visual tool which can help decision makers take the most appropriate action on regards to risks and their treatment (Popov, Lyon, & Hollcroft, 2016). It applies a colour coded system with red, yellow and green area which represents high-risks, medium-risk and low-risk respectively.

Risk assessment matrix is designed to serve two major purposes; (1) to reduce uncertainties across decision makers, and (2) to neutralize the weak ability of human to predict important outcomes of interest (Schwalbe, 2004). Without having a

standardized risk matrix, decision makers are subject to individual risk perception in preparing risk assessment. Overall, past studies concluded that risk assessment matrix promotes better decision making and improve distribution of resources to mitigate the loss (Zaky, 2018), practical, useful and logically structured input and perspectives on risks (Kadir et. al., 2017), and helps to prioritize and manage key risks (Domínguez et. al., 2019).

1.4 Purpose of the Study

Based on the abovementioned problem, the aim of this study is to explore and understand risks inherent in childcare services in Malaysia. By understanding the types of risks in Malaysian childcare services exhaustively and how risks are assessed in the existing situation, a risk assessment matrix for Malaysian childcare services will be proposed. A risk assessment matrix should be able to help childcare service providers prioritize risks which required further mitigation to remain competitive in this industry.

1.5 Research Objectives

The objectives of this study are:

1. To understand risk assessment practices among Malaysian childcare service providers.
2. To explore the risks inherent in Malaysian childcare services.



3. To develop a risk assessment matrix for childcare services.

1.6 Research Questions

Since this research is about to explore the most probable risk in childcare centers, the research questions of this study are:

1. How do Malaysian childcare service providers assess risks?
2. What are the risks inherent in Malaysian childcare services?
3. How to develop a risk assessment matrix for childcare services?



1.7 Scope of the Study

There are many childcare service providers in Malaysia. However, this study only focuses on childcare service providers registered with the Department of Social Welfare and the Malaysia Ministry of Education. Specifically, only childcare service providers in Selangor were sampled due to the high children enrolment in childcare services in this state. Requirement by Department of Social Welfare and the Malaysia Ministry of Education have certain standard that need to follow by all teachers, caregivers and founder of childcare centre to ensure child safety and health. The act, which was passed with the primary goal of establishing minimal standards and requirements (Chiam,



2008), should be improved to ensure that more quality protection of children is provided, especially by childcare centres.

Unregistered childcare centre will not be part of this study because of the quality standard especially on caregivers and childcare facilities. There are no governing bodies for unregistered childcare services. Thus, it is assumed that childcare facilities, caregivers' knowledge, attitude and behaviour towards risk prevention varies greatly depending on caregivers' personal disposition and motives in child caring. Unregistered childcare certainly is not monitored by the authorities and improvements at childcare centres will not be possible. With parents sending their children to their neighbour to save childcare costs, the risks will also arise due to not having appropriate environment. As a result, risks at unregistered childcare centres are expected to rise along with the growing number of children being cared for to achieve economic benefits.

This study will also consider TASKA and TADIKA operating in Selangor only because Selangor has the highest child birth rate, i.e., 93,257 live births, compared to other states in Malaysia (Department of Statistics Malaysia, 2021). Accordingly, Selangor recorded the highest number of children registered in TASKA (11,617 children in institutional and 905 children in work place) based on the latest data published by *Laporan Statistik JKM* (2020). Table 1.3 shows the details of Children at Registered Childcare Center by State, Category and Age Group.

Table 1.3

Children at Registered Childcare Center by State, Category and Age Group, 2020

Negeri State	Institusi Institution				Tempat Kerja Work Place			
	Bawah 3 tahun Below 3 years	3 - bawah 4 tahun 3 - below 4 years	4-6 tahun 4-6 years	Jumlah Total	Bawah 3 tahun Below 3 years	3 - bawah 4 tahun 3 - below 4 years	4-6 tahun 4-6 years	Jumlah Total
Johor	1,139	864	1,030	3,033	98	62	93	253
Kedah	994	677	535	2,206	200	95	93	388
Kelantan	1,113	744	420	2,277	64	44	29	137
Melaka	495	405	329	1,229	104	87	67	258
Negeri Sembilan	774	498	301	1,573	97	54	45	196
Pahang	841	539	239	1,619	214	104	65	383
Perak	957	1,017	991	2,965	99	76	79	254
Perlis	290	135	77	502	31	5	0	36
Pulau Pinang	492	596	889	1,977	137	84	85	306
Sabah	1,046	1,133	1,072	3,251	173	112	97	382
Sarawak	469	424	446	1,339	44	59	59	162
Selangor	5,213	3,216	3,188	11,617	354	273	278	905
Terengganu	913	599	399	1,911	22	18	17	57
W.P. Kuala Lumpur	614	608	1,011	2,233	386	251	393	1,030
W.P. Labuan	89	55	53	197	27	24	25	76
W.P. Putrajaya	445	243	115	803	455	443	465	1,363
Jumlah Total	15,884	11,753	11,095	38,732	2,505	1,791	1,890	6,186

Sources: Laporan Statistik JKM, 2020

Although the highest number of enrolments in TASKA and TADIKa does not necessarily indicates the highest child health and safety cases occurred, the Ministry of Health Malaysia, particularly the Family Health Development Division and emergency department of local hospitals confirmed that they do not have standard records and accurate data regarding the occurrence of injuries and diseases specifically at childcare centres. Selecting childcare centres in Selangor would be the best possible option to pursue with this constraint.



These studies focus on two major risks that are safety and health of the children as in the Childcare Centre Act 1984 insistence for children's safety and health. The Act needed all employees who want to work at childcare centre have adequate knowledge about children and they need to be fit and proper person, whether by reason of age or otherwise, to operate, take part in the management of or be employed at the childcare centres. The providers also need to ensure all the equipment are adequate and maintained, ensuring the children will get the suitable arrangement for feedings, resting and recreation those who stay there for more than four hours a day. The childcare centre also need to comply with any requirement relating to the building structure, fire precautions, health, sanitation and safety as a basic in order to get maximum development for children.



Children's care should provide them with affection, protection, stimulation, and nutrition while also allowing them to develop social, emotional, and cognitive skills (Gromada et. al., 2020). Parents are concerns about the safety and health of their children as these are the main aspects they want to look after to get the best quality childcare providers. According to previous studies, safety measures are a critical factor in parents' decisions about which ECCE institutions to send their children to (Noraine Salleh Hudin et. al., 2019; Ansari et. al., In press; Mustafa et. al., 2014; Dahari & Ya, 2011). However, the safety and quality of childcare centres in Malaysia require further improvement, given the rising number of negligent and maltreatment cases, which can be fatal to children. Zahyah Hanafi (2015) conducted the research which concludes that even though the childcare providers thought the centre's protective care and safety were high, these aspects were concerning the children, the building, and the equipment yet,





they felt the centre did not do enough to promote employee occupational health and safety procedures.

1.8 Significance of the Study

The finding of this research is the first risk assessment matrix developed particularly for Malaysian childcare centers. To the researcher's knowledge, there is yet a study investigating risk assessment matrix in childcare centres in Malaysia. Therefore, this study expands the existing risk literatures that heavily focusing on mathematical, business, engineering, and medical risks by introducing risk assessment matrix in childcare research. Risk assessment matrix is a flexible tool to analyse risks semi-quantitatively, and this study shows that it can also be used to analyse child health and safety risks.

Moreover, this study fills the current void in the literature on how caregivers assess risks. Understanding why caregivers have different perceptions towards a certain risk is crucial as it reflects on the consequence of the current caregivers' recruitment policy, that has been briefly stated in the guideline for the establishment of childcare centres. Therefore, based on the findings of this study, more improvement can be implemented to ensure child health and safety.

In terms of practice, the risk assessment matrix developed in this study can highlight key risky areas in the operations of childcare centres for future direction, budget allocation and policy making of governing bodies such as the Ministry of





Women, Family and Community Development, and Department of Social Welfare and Ministry of Education in order to enhance the quality of childhood care and education. Caregivers who have limited knowledge and exposure to systematic practice of risk assessment can make informed and better decision to mitigate risks.

On a different note, risk assessment matrix provides structured, clear and practical solution for childcare service providers in managing their reputations by offering comprehensive analysis that can convince parents about the safety and risk exposure benefits for their children. Risk assessment matrix can be used to assess different kinds of risks affecting children health and safety. The important point here is not to avoid all risks, but carefully taking calculated risks, for example in outdoor play, may provide more engaging and effective lessons for child development. Childcare providers can develop suitable mitigation plan to win parent trusts while proactively anticipating risk occurrence.

1.9 Definition of Terms

This research is using these terms:

1.9.1 Risk

Risk is a situation that may expose to the danger and have the possibilities of loss or injuries. Risk relates to objective probabilities (Holton & Glyn, 2004). A probability is



a ratio of the number of "successful" outcomes to the total number of all possible outcomes, including both "successes" and "failures" (George, 1967). Risks in this research are relating the possibilities hazard that could be happened to children at childcare center.

1.9.2 Risk Assessment

Risk assessment is a process from identifying the risk to profiling the details of risk. Risk assessment can be conducted qualitatively based on experience and expert opinions or quantitatively if large historical data exists. In this study, the researcher assess risk semi-quantitatively based on two key factors, the severity and likelihood of

1.9.3 Risk Assessment Matrix

Risk assessment matrix is a color-coded system with red, yellow and green area which represents high-risks, medium-risk and low-risk respectively. Through this simple color-coded system, risk manager could easily prioritize their mitigation strategies.

1.9.4 Childcare Centre

Childcare center is a facility for caring children from 0 to 6 years old. In this study, childcare center refers to registered TASKA and TADIKA. Childcare Centre Act 1984 defined childcare center as “any premises at which four or more children under the age of four years from more than one household are received to be looked after for reward”. Childcare center is a necessity in this modern era due to growing economy that needed women join work force based on DOSM (2021) that shows in first quarter of 2021, female labour force participation rate was 6.23 million persons, increased by 0.1 percentage in quarter 4 2020 which 55.3 percent.

Caregivers were the personnel at childcare centers who supervise the children at most of time on weekdays; therefore, they should protect children from any risks. They were seen as providers of regular basic need such as food and shelter, and some caregivers making children to share their thought freely (Yendork et. al., 2019). In Malaysian childcare setting, caregivers are known as teachers and teacher assistant in preschools, educators, babysitters or nannies in other types of childcare centers.



1.9.6 Childcare Services

According to Malaysia Child Act 2001 (Act 611), childcare provider means “a person who looks after one or more children for valuable consideration for any period of time”.

Childcare services in Malaysia are divided by two which:

- i. Taman Asuhan Kanak-Kanak (TASKA) – aged 0 to 3 years old
- ii. Taman Didikan Kanak-Kanak (TADIKAN) – aged 4 to 6 years old

Childcare services widely used by working parents to look after the children. The service ranges from basic caring including feeding, cleaning, and supervising child safety and can be extended to religion-based, language-based or other education

packages.



1.10 Summary

The increase in women labour force participation has contributed to the growth of childcare industry in Malaysia. As a result, childcare providers have to compete with each other in gaining parents' trust. Prior studies showed that safe and healthy environment are the top considerations of parents. Therefore, childcare providers have to demonstrate their ability to manage childcare risks appropriately to win parents' trust. Accordingly, this study proposes risk assessment matrix as a tool for managing childcare risk. This study aims to explore childcare risks, understand risk assessment practices among caregivers, and develop a risk assessment matrix for Malaysian





childcare services. Scope of the study are childcare centres in Selangor while only health and safety risks are explored in this study. The next chapter will discuss in greater detail about the research gaps.

