

Enhancement of The Physical Environment toward Supporting Autism Care Through Parents Financial Status and Government Support

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Abstract

The physical environment is an important part of autism care. Creating care environments tailored towards the individual with autism needs is essential for high-quality care and is increasingly recognised as being associated with improved health and well-being among them. Nowadays, care should be holistic and view the person behind the disability, taking that their perspective and treating them as a unique individual. Despite the emerging focus on autism care approaches, the physical environment is still not considered as an integral part of care, and relatively little attention has been paid to environmental aspects. However, the physical environment has a great potential to facilitate or restrict care processes in a broad range of care settings, not least in care centre facilities for people with autism. The research focuses on ways to determine the inclination on the physical environment to support the autism individual among parents. Structural equation modelling using the partial least squares method with bootstrap will be used to test the research model. The findings of this study indicated that government support received are critical in determining parents' attitude but there is no substantial relationship between their financial status and attitude. Likewise, parental attitudes play an important role in enhancement of the physical environment toward supporting autism care.

Keywords: Behavioural Inclination, Physical Environment, Support, Autism Care

Introduction

The physical environment is an important element of autism care. Despite the emerging focus on autism care approaches, the physical environment is still not considered as an essential part of the care. In fact, there has relatively little attention paid to this issue. Until now, the physical environment has a great potential to facilitate care processes in a broad range of care settings, not least in care centre facilities for people with autism spectrum disorder (ASD).

This kind of practice includes overall design and layout of a room, classroom, including its learning centres, materials, and furnishings. This environment, influence of a person's

potential and well recognized for most childhood disabilities, especially children with ASD. Creating care environments for children with ASD is essential for high-quality care and is increasingly recognised as being associated with improved of their health and well-being. Thus, this study intends to determine the factors that can contribute into an enhancement of the physical environment toward supporting autism care among parents of children with ASD.

The variable that has been used in this study is governmental support, financial status, attitude, and behavioural intention. There is strong significant relationship between attitude and behavioural intention among parents. This study also assumes and proved that governmental support is one of the factors need to be empirically tested to determine the relationship between attitude. Another independent variable which is financial status is categorised under the individual characteristic. This variable refers to the level of income into which applicants are categorized for purposes of determining the extent of their eligibility to receive financial assistance. However, there is no significant relationship between a financial status and attitude among parents of children with ASD.

Literature Review

Physical environment is defined as the overall design and layout of a room, including its learning centres, materials, and furnishings. The influence of a person's environment and its modifying potential of participation is well recognised for most childhood disabilities, but scarcely studied for individual with autism spectrum disorder (ASD). The physical environment is an important part of autism care. Creating care environments tailored towards the individual with autism needs is essential for high-quality care and is increasingly recognised as being associated with improved health and well-being among them.

Nowadays, care should be holistic and view the individual behind the disability, taking that their perspective and treating them as a unique individual. The influence of a person's environment and its modifying potential of participation is well recognised for most childhood disabilities, but scarcely studied for adolescents with autism spectrum disorder (ASD). A scoping review was conducted, the aim of which was to map the existing literature about supporting and hindering environments for the participation of adolescents with ASD.

The term *physical environment* refers to the overall design and layout of a given classroom and its learning centres. Teachers should design the environment by organizing its spaces, furnishings, and materials to maximize the learning opportunities and the engagement of every child. To effectively do so, teachers can apply a concept known as Universal Design for Learning (UDL), which stresses that the environment and its materials in it should be accessible to everyone.

Creating this accessibility might involve providing books at different reading levels, placing materials within easy reach on a shelf, or creating ample space so that a child who uses a wheelchair can maneuver around the classroom. When they set out to design an effective physical environment, teachers should consider all that environment's various aspects. Once they have selected child-sized, age-appropriate furnishings, teachers should then think about arrangement of furnishings and floor coverings, selection and placement of materials, design and display of visual materials, and lighting and sound.

Attitude toward the physical environment to support autism care variables in this study refers to the stage when someone's behavioural belief which represents the perceived outcome or attribute to the behaviour. Numerous studies have proven that there is strong significant relationship between attitude and intention-behaviour. This variable explains the degree to which a person has a favourable or unfavourable evaluation or appraisal of the

behaviour in question (Kautonen et al., 2011). A study by Ajzen et al (2004) stated that attitude can be rated by endpoint like harmful to beneficial, undesirable to desirable, unpleasant to pleasant, good to bad, reasonable to unreasonable, comfortable to uncomfortable, negative to positive, fair to unfair, enjoyable to unenjoyable and wrong to right.

Evidently, attitude is viewed as an important and useful concept to predict. In the Theory of Planned Behaviour (TPB) model, behavioural beliefs or attitude to the action can be interpreted as assumptions about the action's likely consequences. Behavioural values make the actions either favourable or unfavourable. It tests to what extent a person has a negative or positive assessment of his or her behavioural performance (Hoa et al., 2018). However, most studies did not detail physical environment behavioural inclination toward supporting autism care among parents using attitude as the independent variable. Therefore, the relationship among attitude needs to be empirically tested whether this variable is one of the factors affecting physical environment behavioural inclination toward supporting autism care among parents. This relationship was tested through the following hypothesis:

Attitude toward the physical environment to support autism care is significantly related to behavioural intention among parents, H₁

The relationship between financial expenses of family caregiving and caregiver burden has not been well recognised, (Daniel W. L. Lai) which justifies the goal of this study, which is to investigate the impact of caregiver financial status with attitude toward the physical environment to support autism care among parents. Financial status is categorised under the individual characteristic that refers to the level of income into which applicants are categorised for purposes of determining the extent of their eligibility to receive financial assistance. In general, the effect of the individual characteristics on the decision making is significant.

However, study by Barreda-Tarrazona et al (2017) stated that the effect of individual characteristic will fade out with the repetition. Hence, this study predicted the significant relationship between a financial status which is one of the elements of individual character and behavioural intention among parents of children with ASD. In order to identify the relationship, the following hypothesis was proposed:

Financial status is significantly related to attitude toward the physical environment to support autism care among parents, H₂

The policy interest in child welfare and awareness of the nested role of families play in the children's well-being, have prompted many policymakers to actively participate in family welfare (Wollny et al., 2010). Since ASD is a costly disease, past cost studies may overlook the overall lifetime cost of support services and policymakers may undervalue the increasing cost of providing adequate community-based quality-of-life supports. Where price differences exist across the spectrum, families experience many difficulties, and no-care and under-standard-care situations are likely. For those living with individuals with ASD, continuous care is necessary, and they should have enough resources required. Supporting care costs must be clearly communicated such that the burden of treatment is shared between governments and the family in a fair and equitable way. Governments must be prepared to offer sufficient

resources to families and ultimately undertake activities that ensure a decent quality of life for individual with ASD (Dudley & Emery, 2014).

Government support as moderating variables had been implied in many studies in various area such as sustainable construction among contractors Bamgbade et al (2018), research and design activities (Kim et al., 2016), the international tourism demand, furniture manufacturing sector Ramliy (2017), export performance Huoy (2018), a study on the Gulf Cooperation Council countries (Saber & Hamdan, 2019), foreign exit decisions Tan & Sousa (2020), future intention in physical activity Kwon et al (2019), new venture success Anwar et al (2020) and foreign direct investment location choices of firms (Lu et al., 2014).

Kwon, Pyun and Kim's study (2019) confirmed that support from the government is critical for deciding future intention. The path from intrinsic motivation to potential purpose was important and supported the moderating effect of financial support from the government. Meanwhile, the latest research in entrepreneurial finance and new venture success Anwar et al (2020) are in 2020. Different with a study by Kwon et al (2019), this study was focused on the moderating role of government support of both of financial and non-financial. Study of moderation shows that funding from government is improving the relationship between entrepreneurial finance and new venture success. The results confirm the implications for policy makers to implement successful policies and programmes for newly established financial and non-financial support ventures. The incubation services are relevant in this context. This study had been supported by a study by Tan and Sousa (2020), which had stated that, government support refers to how substantial financial and non-financial assistance is offered by the government agencies.

In this study, governmental financial support refers to financial and resources that are provided by Malaysian government to facilitate ASD children. Thus, government support was proposed in this study as a moderator because government support in helping individual with ASD is one of the most effective measures as it is more result-oriented toward caregivers. Therefore, such consideration could increase understanding by providing theoretical and empirical evidence on how government support could affect the direction and/or strength of the relationship that exists between financial behaviour and well-being among caregivers of children with ASD. This study assumes that governmental support is one of the factors need to be empirically tested to determine the relationship between physical environment behavioural inclination toward supporting autism care among parents of children with ASD. Therefore, this study fills the gap empirically testing of the relationship through the hypothesis below

Government support is significantly related to attitude toward the physical environment to support autism care among parents, H₃

Methodology

A survey was conducted to evaluate the impact of financial status, government support, attitude, and level of behaviour intention in providing a physical environment to support children with ASD among parents and caregivers that registered at one of the children development centres in Melaka. The respondent was chosen based on characteristic of having children with ASD in the age of 12 years old and below and registered with the Department of Social Welfare. This study used the technique from probability sampling which used random sampling techniques to create a sample. Parents of children with ASD selected

on a stratified random basis, the stratification based on sent their children to an ASD institution in Melaka.

A stratified sampling method was used to find respondent populations. Accordingly, only those who could provide the detailed information needed were selected as respondents. This is increasing the sample's representativeness of the population and decrease sampling error and sampling bias. The questionnaires were administered to the parents or caregivers with the help of one research assistant were divided into three sections. Section A of the questionnaire comprised the participants' demographic information. Only 53 percent of 100 copies of the distributed questionnaires to the participants were found usable for data analysis. Structural equation modelling using the partial least squares method with bootstrap was used to test the research model.

Results

The questionnaire contained questions about the personal information (relation with ASD children, child's gender, parents / caregivers age, educational qualifications, occupation, and numbers of dependent family). The results on frequency and percentage for this socio-demographic characteristic are presented in Table 1. Table 1 showed that, respondents are educated enough to register their children with ASD to receive early intervention programs in any children's development centre. Master's degree represents 13.2 percent of total respondents and both diploma and bachelor's degree represent 39.6 percent, 5.7 percent of the respondents have secondary education 1.9 percent have a doctorate philosophy qualification.

Table 1
Socio-demographic characteristics of the respondents

Characteristics	Frequency	Percent (%)	Characteristics	Frequency	Percent (%)
Relationship			Occupation		
Parents	50	94.3	Self-working	9	17.0
Caregivers	3	5.7	Government student	28	52.8
Children gender			Housewife	1	1.9
Male	31	58.5	Private	7	13.2
Female	22	41.5	Not working	7	13.2
Age			Numbers of dependent		
20-29 years	4	7.5	1 person	8	15.1
30-39 years	36	67.9	2 persons	9	17.0
40-49 years	12	22.6	3 persons	11	20.8
50-59 years	1	1.9	4 persons	10	18.9
Education			5 persons	7	13.2
Doctor philosophy	1	1.9			
Master	7	13.2			
Bachelor's degree	21	39.6			
Secondary	3	5.7			
Diploma	21	39.6			

In the category of gender, a total of 58.5 percent of the respondents is male and 41 percent is female. A total of 94.3 percent are parents while the lowest proportion of the respondent's is caregivers. More than half of the respondents had three and above of the number of financially dependent on their family. 15.1 percent have only one and 17.0 percent have two people that depend on their finances. The highest proportion of the respondents mentioned that they were working with the government, while 17 percent self-working. Students and housewives stand for 1.9 percent. Meanwhile, the total of respondents that were not working and working with private showed 13.2 percent. This is evidenced by the fact that the respondents who had attained the age of at least 30 years constitute 92.45 percent. The high proportion of the respondents' age category can be as a result of their maturity in handling their special needs children.

Estimation of outer measurement model involved indicator reliability measurement through factor loadings, internal reliability measurement through composite reliability, convergent validity measurement through average variance extracted (AVE), and discriminant validity measurement through the Fornell–Larcker criterion. Table 2 below showed that all the variable or construct involved had composite reliability ranging from 0.705 to 0.964. The result had exceeded the recommended values by Hair et al (2006) which stated that 0.70 as the statistical criterion for composite reliability.

Meanwhile, the method to assess the discriminate validity (Square-root of AVE) should be more than the correlations of the latent variables which is at the value of 0.887 to 0.903. The threshold for the Fornell–Larcker criterion is that the square-root of the AVE should be more than the correlations of latent variables (Hair et al., 2006). The AVE of this study constructs succeeded the passing acceptance level of 0.5. This has been suggested by Barclay et al (1995); Hair et al (2006) and confirmed that the results meet this criterion. The reliability of each variable is accepted though the result of Cronbach's alpha (> 0.70) and VIF (< 5.0) has surpassed the recommended value (Kock & Lynn, 2012; Kock, 2015). The results of the outer measurement model indicate that various validity and reliability criteria are satisfactory. Therefore, constructs developed in this measurement model could be used to test the structural model.

Table 2

Values of outer loadings, Cronbach alpha, AVE, VIF, R₂ and Q₂

Constructs	Factors loading	Square roots of AVEs	Composite reliability
ATT1- ATT5	0.798-0.950	(0.887)	0.948
INT1-INT4	0.868-0.942	(0.903)	0.946
FS1-FS5	0.705-0.906	(0.831)	0.917
GS1-GS6	0.852-0.964	(0.930)	0.974

Table 3

AVE, VIF, R₂ and Q₂

Constructs	AVE	VIF	R ₂	Q
ATT1- ATT5	0.786	1.874	0.216	0.203
INT1-INT4	0.815	1.874	0.506	0.521
FS1-FS5	0.690	1.078		
GS1-GS6	0.864	1.120		

Inner structural modelling had continued after the result of outer measurement model is found to be accepted. The results for this stage is presented in Table 3 which analysed coefficient of determination or r-square (R^2), predictive relevance (Q^2), and the effect size (F^2) and path coefficients (P-Value). The table indicated that the model explained 21.6 percent and 50.6 percent of the variance in attitude and behavioural intention of the physical environment to support autism care among parents respectively (R^2 , refer table 3). The results showed that the R^2 values (see Table 3) is greater than the recommended value (0.20) suggested by (Hair et al., 2013).

According to Table 4, attitude towards behavioural intention is significant with the path coefficient of $\beta=.32$ and the accepted p-value ($p<0.01$). The significant relationship was also indicated by government support towards attitude ($\beta=.33$; $p<0.01$). The relationship between financial status and attitude ($\beta=.55$; $p=0.02$, on the other hand, is not established. Hence, empirical evidence supports Hypotheses 1 and 3, but not Hypothesis 2.

Table 4

Result of structural model and hypothesis testing path

	Effect size	β	Hypothesis	P-Value	Results
ATT→INT	0.506	0.71	H1	$P < 0.01$	Supported
FS→ATT	0.090	0.27	H2	$P = 0.02$	Not Supported
GS→ATT	0.126	0.33	H3	$P < 0.01$	Supported

Discussion and Conclusion

The path of the analysis showed that the government support either financial or non-financial may influence the attitude. Attitude in turn, have the strongest effect on the parents' intentions toward the enhancement of the physical environment toward supporting autism care. However, the relationship between the financial status and attitude result not supported aspect of effect size and the p-value. The finding of this study was supported by prior studies in predicting the behavioural intention among parents of children with ASD to provide the conducive physical environment to support the autism care.

The contribution of this study can be observed from the practical aspect. Government agencies that related to ASD prevalence are the parties who will gain the most benefit from this research. As for the methodological contribution, this study has applied PLS-SEM which is widely used in behavioural study. These findings add to the body of knowledge by contributing a theory that explains the behaviour of parents and caregivers of children with ASD using a predictive model. If the above-mentioned issues are successfully identified, firstly, it will contribute to the financial behaviour within the target respondents. This will eventually affect the well-being of children with ASD. Secondly, entities such as family institutions will have an instrument to develop plans and guidelines to improve financial and well-being among caregivers of children with ASD. Thus, the outcomes of this study may also be useful and directly beneficial to caregivers in empowering financial capabilities and enhancing well-being performances.

Future research can now determine the specific intervention that will help to increase preservice of the parents' attitude and behavioural intention. Additionally, researchers can also examine other population, such as parents of children with other disabilities includes down syndrome, cerebral palsy, intellectual disability, mental and physical disability. Besides, this study recommends on the fully used of all elements from TPB from the TPB perspective

and focus on respondent who have actual experience in providing the physical environment for autism care for their children. By fully utilizing the TPB, and explanation for the inconsistency found in previous research was answered. TPB was proposed by Icek Ajzen (1991) and it focuses on the relationship between attitude and behaviour. This theory was developed in 1988 and it has been widely used in predicting how an individual sees other individual areas of interest. The behavioural of the individual is the result of the combination of these three aspects, namely the attitude toward behaviour, subjective norm and perceived behavioural control that is proposed in the related studies.

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