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ABSTRACT
This study explored self-injurious behaviour (SIB) of autistic children in Vietnam through a cross-sectional design. 60 informants, including 57 parents and 3 caregivers completed the questionnaire on problem behaviour consisting of aggression, self-injury, stereotyping, property destruction, other problem behaviours and their functions. Results revealed that children experienced all mentioned problem behaviours, especially self-injurious behaviour. The topographies of self-injurious behaviour of the children included head-hitting, head-scratching, head-banging, hair-pulling, face-hitting, face-puncturing with a pen, ear-scratching, lip-picking, hand-biting, hand-scratching, hand-pinching, and belly-scratching. The most common area of self-injurious behaviour is the head. The functions of these problem behaviours were expressed in four types (social positive reinforcement, social negative reinforcement, automatic positive reinforcement and automatic negative reinforcement). Social positive reinforcement appeared as a prominent function. Out of these 57 children, 21 of them who were autistic with self-injurious behaviour went through a functional behaviour assessment (FBA) in which the four conditions known as attention, tangible items, escape from task/activities, automatic stimulation were tested. The results of functional behaviour assessment (FBA) further indicated the correspondence between the FAST-R and FBA outcome on function of problem behaviour, especially self-injurious behaviour. The research concluded that the prominent function of these self-injurious behaviours was social function. It means self-injurious behaviours usually occur within a condition of social interaction, especially, in this present study, in the tangible condition. The antecedent of self-injurious behaviour is the removal of tangibles (e.g. food, preferred items). This paper contributes to our knowledge of self-injurious behaviour of children with autism in Vietnam where empirical research of this field was still very rare.

Keywords: self-injurious behaviour**,** autism, children, Vietnam

INTRODUCTION

Children with autism spectrum disorder (ASD) have challenges in social communication, social interaction and (APA, 2013). Moreover, ASD children often engage in self-injurious behaviours (e.g. head banging, biting the wrist) (Shkedy et al., 2019; Nguyen et al., 2019; Handen et al., 2018). Children with autism is at risk with self-injurious behaviour because SIB is common in people with serious delay with communication (McClintock et al., 2003), social kills (Matson et al., 2009), and repetitive behavior (Oliver et al., 2012). That's is why self-injurious behaviour is common in autism. Indeed, approximately 30 % of ASD exhibit self-injurious behaviour (Soke et al. 2017). Also, Soke et al. (2018) confirmed higher prevalence of SIB in ASD versus other developmental delays. Not surprisingly, children with self-injurious behaviour (SIB) may have their access to schools limited, or if they are accepted, their SIB inhibit their engagement in regular peer interactions (Nguyen et al., 2019). Although SIB appear as common behaviours in the autistic children population, SIBs are considered non-suicidal self-injurious behaviours because the behaviour were made without self-harm intentions (Shkedy et al., 2019).

SIB is also defined as "a class of behaviours, often highly repetitive and rhythmic, that result in physical harm to the individual displaying the behaviours" (Shkedy et al., 2019). SIBs are commonly classified according to different topographies and functions.

Topographies of self-injurious behaviour

The most common category of SIB is head- hitting, head-banging or head against with another object (Erturk, Machalicek & Drew 2018). Research concludes that 66% of children engaged in self-injurious behaviour, with 50% displaying self -head hitting and head-banging against a wall, or pillow, or floor (Berkson et al. 2001; MacLean & Dornbush, 2012; Kurt et al., 2012). Other SIBs include self-biting, body scratching and self-gaging. These are often observed in the initial stages of child development (Berkson et al., 2001; MacLean & Dornbush, 2012; Kurt et al., 2012).

Functions of self-injurious behaviour

The SIB functions in children with ASD are simpler than those exhibited by others. SIB in children are classified into two types: socially-mediated SIB (dependent from social interactions) or automatic reinforced SIB (independent from social interaction). Social mediated SIB are influenced by their antecedents and consequences. Social interactions include getting attention, escape from demands, and getting tangible (Beavers, Iwata & Lerman, 2013; Hanley, Iwata & McCord, 2003 cited in Hagopian & Leoni, 2017).

Approximately 65% children demonstrate mediating behaviours with mediating factors (Hagopian & Leoni, 2017).

Attention/tangible: A functional analysis of self-injurious behaviour concludes that SIB usually occurs when children attempt to either attract the attention of others or obtain preferred items such as food, toys… (Oliver, Hall & Murphy, 2005; Richman & Lindauer, 2005; cited in Mahatmya, Zobel & Valdovinos, 2008).

Escape is a negative reinforcement function aimed at escaping certain stimuli, perceived by the child as "toxic". These include commands uttered by certain adults or interacting with certain children Mahatmya, Zobel & Valdovinos (2008).

Automatic reinforcement: Self-injurious behaviour with "automatic" reinforcement is independent of social interactions. The behaviours is itself reinforced by biological processes. About 25% of self-injurious behaviour are reinforced automatically (Hagopian et al., 2017)

The onset of self-injurious behaviour

Approximately 80% SIB appear before 24 months of age; 12% appear between 24 and 35 months of age, while about 8% appear at about 36 months of age. Nevertheless, some autistic children experience SIBs from 6 to 18 months of age (Dimian et al., 2017; Fodstad, Rojahn, & Matson, 2012; Richman, 2008). Moreover, SIB is commonly experienced by children with ASD. In addition, 50% of the children had autism spectrum disorder related to self-injurious behaviour, with 14.6% severe (Fodstad, 2012; Sarris, 2017). Regrettably, these behaviours have inhibited children's development.

Early signs of self-injurious behavior development

Children who contract ASD within 24 months of age are more likely to be infected with SIB compared to children without ASD (Dimian et al., 2017). These results confirm previous research (Baghdadli et al., 2008; Berkson et al., 2001; Schroeder et al., 2014). Moreover, the onset of SIB varies over time depending on the child's clinical condition and patterns of repetition and stereotypies (Richman & Lindauer, 2005).

There are specific signs which signal the early development of SIB in autistic children (Fodstad et al., 2012; Furniss & Biswas 2012; Richman & Lindauer 2005). These signs include body-moving and hand-shaking repeatedly. Also, there are a positive correlation between stereotypic movements and SIB. Barnard-Brak et al (2015) indicated that stereotypic movements predicted SIB among 69% of the total participants. This study also identified specific stereotypic movements (screaming, body-moving) that predict SIB. However, the correlation of stereotypic movements and SIB invites explanation because these two types of behaviours (stereotypic movements and SIB) are different in behavioural and neurobiological characteristics (Bishop et al., 2013; Mirenda et al., 2010; Wolff et al., 2016, cited in Dimian et al., 2017) and not all stereotypic movements indicate SIB (Dimian, 2017).

From the perspective of the functional behaviour approach, SIB is a communication functional behaviour, because children communicate in order to satisfy a need, or to maintain a particular type of reinforcement (Jennett et al., 2011).

The following are conclusions generated from the research concerning self-injurious behaviours in autistic children

Frequency: SIB occurs twice as often in children with ASD than it does with children without ASD

Time of onset: This has not been clearly clarified, but in general, SIB appears at the time of the child's early development stage (up to 2 years of age)

Topographies of SIB: The most common category of SIB is head- hitting, head-banging or head against with another object.

Characteristics of SIB: Although repetitive and stereotypic movements develop into SIB, the two types of the behaviours differ in their behaviours and neurobiological properties. Self- injurious behaviour appears and

develops, increases or disappears depending on the child's diagnosed clinical condition. SIB may generate from topographies, mental health condition and functions of behaviours.
Hidden risk factors can develop into SIB: stereotypic and repetitive behaviours are shouting, body swaying, hand shaking, rhythmic and repetitive waving. However, not all repetitive and stereotyped behaviours lead to SIB.
Nevertheless, self-injurious behaviour is measured across individuals of all ages (Kahng, Iwata, & Lewin, 2002; Morano et al., 2017; Prangnell, 2010). However, not all research has specifically focused on children (Erturk, Machalicek & Drew, 2018). Consequently, this study is a contribution to address this deficit. Secondly, while available research offers justified understandings of SIB, as well as the classification of it and the models to interpret SIB, there are few studies on SIB in Vietnamese autistic children. This present study adapts the model functional behaviour analysis (FBA) to evaluate the SIB in Vietnamese autistic children. The dominance of FBA motivates clinicians to not only to accurately recognize SIB itself, but also to identify the functions of its behaviours. Understanding the functions of behaviours assists clinicians to develop appropriate behaviours intervention for SIB.
Basically, this present study intended to address the following questions:
1. What are the topographies of self-injurious behaviour of Vietnamese children with autism?
2. How does the self-injurious behaviour occur?
3. Why does the self-injurious behaviour occur?

RESEARCH AND DEVELOPMENT FRAMEWORK

In order to explore the self-injurious behaviour and the functions of behaviour of children with autism, the research plan employed cross-sectional design, particularly the descriptive method. The descriptive method used in this present study mostly aimed to provide estimates of prevalence of self-injurious behaviour and functions of behaviour of children with autism.
In order to address the research questions, the study first employed the revised version of Functional Analysis Screening Tool (FAST-R) and adopted a functional behavioural assessment (FBA) framework to generate and analyse the date. This strategy adopts two initiatives: indirect assessment and direct observation.

Measures

The revised version of Functional Analysis Screening Tool (FAST-R) helped to collect the data on problem behaviour including the self-injurious behaviour and the functions of the behaviour of the children with Autism Spectrum Disorder (ASD). FAST-R was developed by Iwata and Deleon (2005) and validated by the same authors in 2013. This scale was used for this present study to measure the problem behaviour and the functions of problem behaviour of the participants. The scale includes three parts: Informant-Client Relationship; Problem Behaviour Information, including aggression, self-injury, stereotyping, property destruction and others; and the functions of the problem behaviour with 16 items were categorized into four functions as follows: (a) access to attention or tangible items tangible (social-positive reinforcement), (b) escape from task demands (social-negative reinforcement), (c) self-stimulatory behaviour (automatic-positive reinforcement) and (d) alleviation of pain or discomfort (automatic-negative reinforcement). So, the purpose of the scale is to test whether the source of reinforcement was social or automatic. The reliability of the FAST-R is moderate at best. (Iwata, Deleon, & Roscoe, 2013).
The study engaged with Functional Behaviour Assessment (FBA), by employing direct observation (Miltenberger, 2008), in which researchers explored conditions involving relevant antecedents and consequences for self-injurious behaviour. These included tangible, attention, demand and no interaction. Then, the antecedents and the consequences were further analysed to better appreciate the effects. This process adopted the functional analysis method (Cooper et al, 2007; O'Neill et al, 1997; Miltenberger, 2008).

Participants

The participants in the FAST-R test were 60. They are Vietnamese. They live in Hue, Vietnam. They were 34 female and 26 male who were the mother or father or caregiver of the 57 children who received treatments at the three centers in Hue.
The participants in the functional behavioural analysis (FBA) were 21 who met the inclusion criteria of the study, meaning they were children with autism and self-injurious behaviour.
These participants are anonymous.

Procedure

The FAST-R scale initially translated into Vietnamese. Later, the Vietnamese version was translated back into English by a native Vietnamese, who is fluent in both languages. Revisions were made, for the Vietnamese version and English version, to ensure that all terms had been accurately translated and understandable for the participants.

For the first phase, the indirect assessment, the FAST-R was first distributed to the informants who were parents and the caregivers of the 57 children with autism. The researchers collected the data in this phase, analysed the results, and then used the results to build on the second phase, the direct assessment. The participants of the direct assessment (observation) were 21 children. The other 36 children were excluded because they did not meet the inclusion criteria of the study. Lastly, the researchers made the functional behaviour analysis (FBA) to find out why the self-injurious behaviour occurred with the children. The study also made a comparison with FAST-R data and FBA data to see whether or not there was a difference in the functions of problem behaviour identified by FAST-R and the functions identified by FBA.

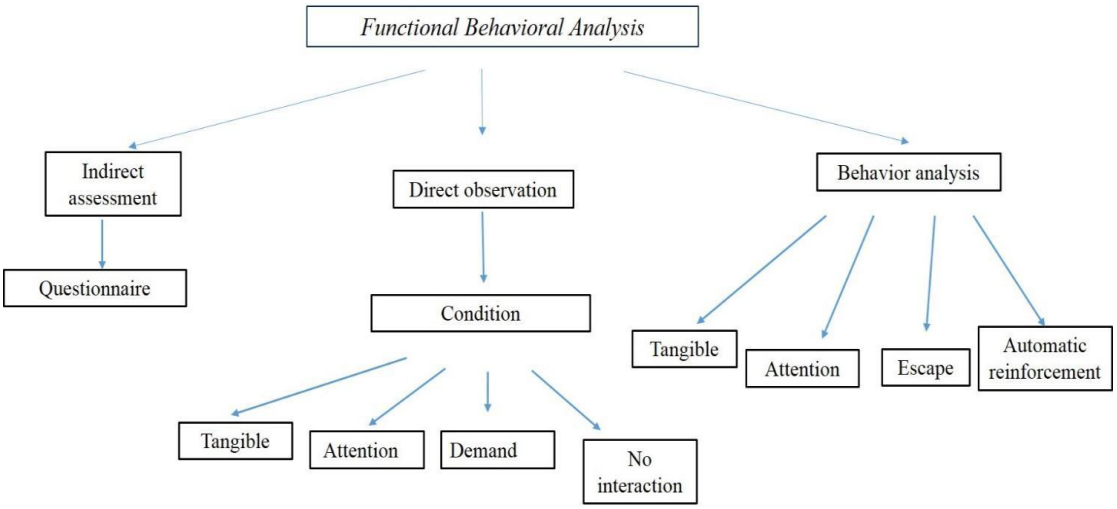

Fig.1: Adapted Model of Functional behaviour analysis (FBA) for the present study

The following stages structure the conduct of the research:
Stage 1: Indirect assessment, using a questionnaire FAST-R of self-injurious of behaviour by engaging with parents and caregivers, who directly care for children;
Stage 2: This involved direct assessment, involving direct observation of adults who interact with children. The process respected the four conditions designed according to research objectives; the four conditions are: tangible, attention (the "gain" function); demand ("the escape" function), and no interaction (the automatic function).
Stage 3: This involves an analysis of function of self-injurious behaviour based on data generated from direct assessment.

Data Analysis
In this study, descriptive statistics were used to analyse the data using SPSS version 25.0.

RESULTS
Indirect assessment
Demographic profile of the participants
The results of descriptive statistics as shown in Table 1 indicated that the selected sample in this study consisted of 57 children with Autism Spectrum Disorder (ASD), who are receiving intervention at three centers in Hue. Their age ranged from 3 to 7 years (M = 4.70 years). They were 47 male (82,5%) and 10 female (17,5%).

Table 1:Demographic profile of the participants

	mean	**SD**
Age	4.70	1.21
Gender	**Frequency (f)**	**Percentage (%)**
Male	47	82,5
Female	10	17,5

Problem Behaviours for which FAST-R were collected
Table 2 presented the problem behaviors collected from FAST-R analysis. Several problem behaviours were indicated such as noncompliance (1%), aggression (20%), self-injury (29%), inappropriate verbal and non-verbal (11%), stereotyping (25%), and other behaviours (e.g. nail-biting, thumb-sucking) (13%). Self-injurious behavior appeared as the highest percentage of problem behaviours (Table 2).

Table 2: Problem behaviors of the participants

Problem behavior	Frequency (f)	Percentage (%)
Noncompliance	1	1%
Aggression	15	20%
Self-injury	21	29%
Inappropriate verbal and non-verbal	8	11%
Stereotypy	19	25%
Other (nail-biting, thing-sucking)	10	13%
Total	74	100%

Frequency, severity, onset of the problem behaviour

To assess on how often the problem behaviour occurred, the behaviour was broken down by frequency as follows hourly, daily, weekly and less often. The result revealed that the behaviour occurred hourly (73,2%), daily (10%), weekly (7,1%) and less often (2%). As such, the frequency of behaviours most reported by parents and caregivers was hourly. In terms of severity, the problem behaviours were reported as mild (73,7%), moderate (19,3 %) and severe (3,5%). The onset of the behaviour appeared more before 24 months (62,5%) of age compared with the other two periods before 12 months of age (8,9%) and 36 months of age (12,5%) (Table 3).

Table 3:Frequency, severity and onset of the problem behavior

	Frequency (f)	Percentage (%)
Frequency		
Hourly	41	73.2
Daily	10	17.9
Weekly	4	7.1
Less often	2	1.8
Total	57	100
Severity		
Mild	42	73.7
Moderate	11	19.3
Severe	2	3.5
No answer	2	3.5
Total	57	100
Onset of the problem behaviour		
Before 12 months of age	5	8.9
Before 24 months of age	35	62.5
Before 36 months of age	7	12.5
No answer	9	16.1
Total	56	100

Functions of the problem behaviours for which FAST were collected

The results of FAST-R were analysed separately between the group of parents and caregivers. The result of descriptive statistics showed that: For the group of parents, the total score of attention or tangible items is 150, of escape is 112, of sensory stimulation is 113, and of pain attenuation is 115. For the group of caregivers, the total score of attention or tangible items is 137, of escape is 108, of sensory stimulation is 83 and of pain attenuation is 69. Within these four functional categories (attention or tangible items, escape from task/activities, sensory stimulation and pain attenuation), attention or tangible items appeared to be the highest trend of the children's problem behaviour. It also is interesting to note that in both reports of parents and caregivers the attention or tangible items was reported to be the most common trend of the children's problem behaviour. The total score of 'escape' ranked second in the four functional categories in caregivers' report, the total score of 'pain attenuation' ranked second in the four functional categories in parents' report (Figure 2).

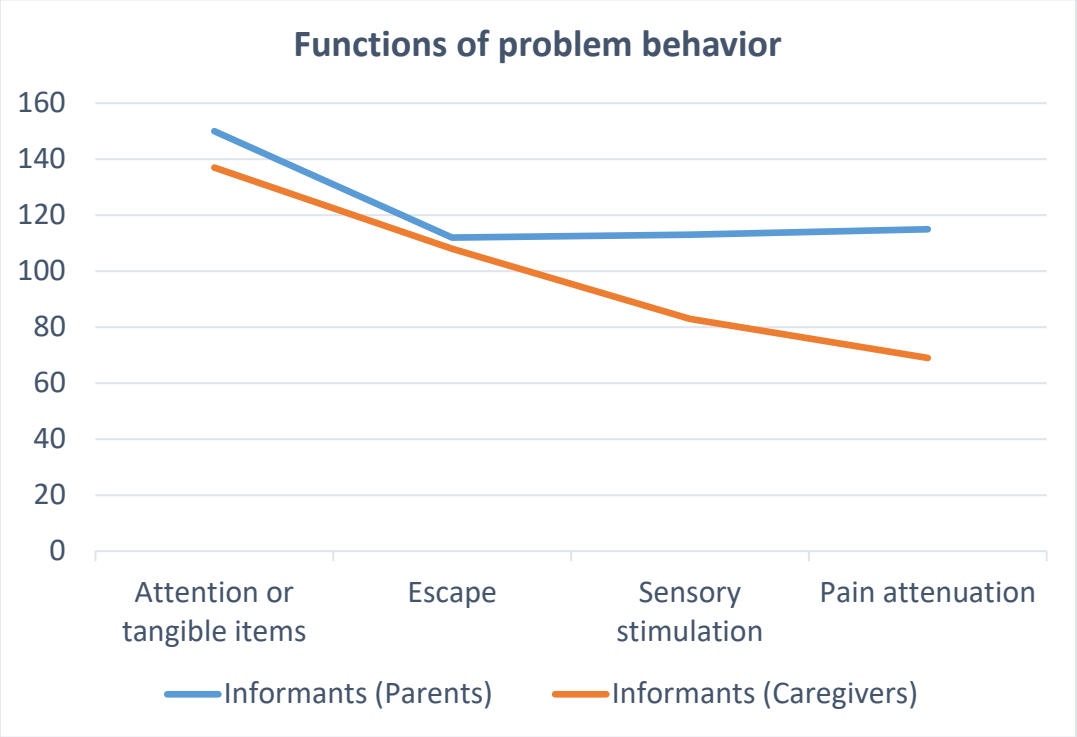

Fig.2: The functions of problem behaviour reported by parents and caregivers

Topographies of self-injurious behaviour

Out of 57 children surveyed, 21 met the criteria of the study (autism with self-injurious behaviour). Results of self-injurious behaviour (SIB) of 21 children indicated different topographies of SIB including head (Head-hitting against the floor, head-hitting against the door, head- scratching, head-banging against the wall, hair-pulling), face (face-hitting, face-puncturing with a pen), ear (ear-scratching), lip (lip-picking), hand (hand-biting, hand-scratching, hand-pinching), belly (belly-scratching). Among these topographies, the position of head is the most common topography (table 4). These results were presented according to the number of children engaging in the position of behaviour: General represented 17 to 21 cases involving in the same topography of behaviour; typical represented 9 to 16 cases involving in the same topography of behaviour and variant represented 2 to 8 cases involving in the same topography of behaviour (table 4).

Table 4: Topographies of self-injurious behaviour

Topographies	Description	Frequency
Head	Head-hitting against the floor, head-hitting against the door, head- scratching, head-banging against the wall, hair-pulling	General
Face	Face-hitting, face-puncturing with a pen	variant
Ear	Ear-scratching	variant
Lip	Lip-picking	variant
Hand	Hand-biting, hand-scratching, hand-pinching	typical
Belly	Belly-scratching	variant

Note: N= 21; General = 17- 21 cases; Typical = 9 -16 cases; Variant = 2 – 8 cases

Direct assessment (observation)

The direct assessment (observation) on children's SIB was conducted focusing on the four conditions known as tangible, attention, demand and alone (no interaction). 21 children who met the criteria of the study were directly observed using the four designed conditions: tangible, attention, demand, and alone (no interaction).

Tangible: Children are placed in a condition with items they love. During the allotted time (20 minutes), the observer removed the child's preferred item, every 2 minutes and observed whether or not SIB occurs. So, the antecedent o SIB is the removal of tangible (e.g. food, preferred toys, v.v.). This process was repeated 10 times within 20 minutes. The tester observed and recorded the number of times (if any) the child engaged in SIB and recoded observations.

Attention: The observer provided the child with a basket of toys and placed the child next to the observer. Within 20 minutes, the observer ignored the child. In other words, the observer's attention was diverted form the child. Then the tester observed how SIB occurs with the children in order to attract the observer's attention.
Demand: The observer interacted directly with the child through a game for 20 minutes. Through this game, the observer made rules how the SIB occur in orders in this context.
Alone: The child was placed in a room alone without food or leisure items for 20 minutes. The observer then closely watched the child through the camera to assess how SIB occurs (this is the case of automatic positive and negative reinforcement).
As presented in table 5, out of 21 children participating in the study. Within the four given conditions, every single case went through a test with each condition. Antecedents and consequences for self-injurious behaviour were tested. Results showed that 18 children had self-injurious behaviour (SIB) in the tangible condition. In this case, the antecedent events that occurred prior to behaviour were removing the child's preferred items and the consequence was the child was able to get what they wanted; 3 children engaged in SIB to avoid participating in activities they did not like. In this case, the child tried to escape from the demands of caregivers. None of the children engaged in SIB when they were alone. Indeed most of the children's SIB were triggered by social interactions.
Results indicated that children's SIB are generated by social interaction. The highest frequency of SIB was tangible (90%), children exhibited SIB when the observer removed their favorite food or preferred items, following frequency of SIB in demand condition (escape) was 15% and attention (15%), lastly no SIB occurred when children were alone. Consequently, socially-mediated SIB accounts for the highest percentage of SIB (Table 5).

Table 5. Frequency of self-injurious behaviour in different conditions

	Frequency		Percentage	
	Yes	No	Yes	No
Tangible items	18	3	90 %	10 %
Escape	3	18	15%	85%
Attention	3	18	15%	85%
Alone	0	20	0%	100%

Functional analysis
In terms of frequency of SIB in each condition, the results of functional analysis (FA) concluded that in the four different conditions (tangible, attention, demand and no interaction), the frequency of SIB to achieve the preferred items is the highest (130 points), followed by escape function (14 points); social attention (2 points) and automatic stimulation (0). Thus, the prevalence of the highest SIB fell into the target to achieve the preferred items/tangible, with an average of 6.5/10 times in 10 trials; attention occurred with an average of 0.7 times (Figure 3).

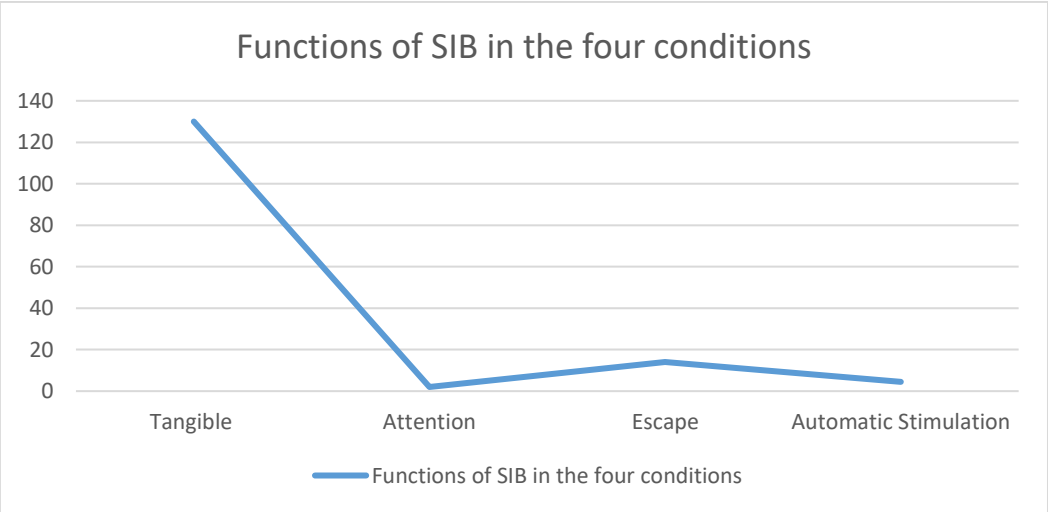

Fig.3: Functional analysis in the four conditions

Comparing the functions of problem behaviour identified by FAST-R and the functions identified by FA, the results revealed that although FAST-R categorized social attention and preferred items or tangibles split in the

same sub-scale namely social positive reinforcement, FA results determined the difference between "social attention function" and "tangible function". The total score of social attention function was only 2 points while the total score of tangible function was 130 points. It means that although, social attention and tangible function are social positive reinforcement or "gain" function, the children in this study were inclined to self-injury to get what they wanted was more dominant. It is also noted that the total score of "attention" function was even less than the total score of "escape" function in FA result.

DISCUSSION

This study explored the self-injurious behaviour (SIB) among children with autism in Vietnam. The research concluded, that the children with autism spectrum disorder (ASD) engaged in self-injurious behaviour. This result confirms the previous research that asserted children with ASD are likely to adopt self-injurious behaviour (Alakhzami & Chitiyo, 2021), as well as aggression, inappropriate verbal and non-verbal, stereotyping and other problem behaviours (nail-biting, object-sucking). Out of 21 children with autism, 18 children engaged in self-injurious behaviour (90%). This result confirms previous study that concluded SIB is common in children with ASD (Fodstad, 2012; Sarris, 2017). This also occurred among autistic children (Steenfeldt-Kristensen et al., 2020).

The onset of the SIB before 24 months of age is the primary result of the study. This confirms previous research (Kurtz et al., 2003; Richman & Lindauer, 2005). In terms of gender, ASD occurs more often in boys than it does with girls. This phenomenon confirms other studies (Steinbrenner et al. 2020), which conclude that 1 child in 54 children had autism; in addition for every 4 boys with autism, there is 1 girl; Steenfeldt-Kristensen et al., (2020). In addition ASD occurs less in boys than in girl.

Regarding topographies of SIB, this research concludes that the head is more often the object of self- inflected injurious behaviour of. This confirms previous research (Iwata et al., 1994; Sigafoos, cited in Erturk, Machalicek & Christine Drew, 2018), which concluded these behaviour are head-banging or head-hitting, self-biting, eye-poking, hand-mouthing. However, hand-hitting is the most common behaviour of self-injury (23%), with self-cutting the least common (3%) (Steenfeldt-Kristensen et al., 2020).

The functions of problem behaviour are described as "gain" function (gain tangible/preferred items), "escape" function (escape from demands) or "automatic" function (sensory stimulation or pain attenuation). These functions represent positive social reinforcement or negative social reinforcement or automatic negative-positive reinforcement. In particular, in this research social-positive reinforcement is the prominent function of problem behaviour. Moreover the results of FBA determine that functions of self-injurious behaviour in children with autism are related particularly with preferred/tangible items. These results confirm previous research (Suess et al., 2014; Shamlian et al., 2016; Erturk, Machalicek & Drew, 2018). Indeed, "escape" is also a commonly reported function of behaviour (Hong et al., 2018). In addition, this research identified the "gain" function as the predominant function of SIB among children. Nevertheless, previous studies concluded that "escape" is the common function of SIB in autism. Consequently "social" reinforcement is the most common function of SIB occurring in autistic children.

CONCLUSIONS

This study concludes that many autistic children engage in self-injurious behaviours (SIB). These commonly occur with social functions "gain" preferred items or "escape" from the tasks; The SIB generally occurs in h children, who have demonstrated stereotypic movements during their early stages of development. These findings recommend not only further longitudinal studies investigate the relationship between stereotypic movements and self-injurious behaviour, but also the development of intervention programs for SIB specifically appropriate for promoting social reinforcement in autistic children.

Limitations

This study did not explore the psychological influences that generated self-injurious behaviour. While the study tested conditions relevant to antecedents and consequences for self-injurious behaviour, the test occurred only once for each condition. Clearly functional analysis should have been conducted in more sessions. The participants of the study were limited to one city in Vietnam.

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REFERENCE

1. Adele F. Dimian., Kelly N. Botteron., Stephen R. Dager., Jed T. Elison., Annette M. Estes., · John R. Pruett Jr.., Robert T. Schultz., Lonnie Zwaigenbaum., Joseph Piven8 · Jason J. Wolff. (2017). Potential Risk Factors for the Development of Self-Injurious Behavior

among Infants at Risk for Autism Spectrum Disorder. J Autism Dev Disord, 47, 1403–1415. DOI 10.1007/s10803-017-3057-9.

2. Alakhzami, M., Chitiyo, M. Using Functional Communication Training to Reduce Self-Injurious Behavior for Individuals with Autism Spectrum Disorder. J Autism Dev Disord (2021). https://doi.org/10.1007/s10803-021-05246-8
3. American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA: American Psychiatric Publishing.
4. Baghdadli, A., Picot, M. C., Pry, R., Michelon, C., Burzstejn, C., Lazartigues, A., & Aussilloux, C. (2008). What factors are related to a negative outcome of self-injurious behavior during childhood in pervasive developmental disorders? Journal of Applied Research in Intellectual Disabilities, 21, 142–149.
5. Barnard-Brak, L., Rojahn, J., Richman, D. M., Chestnut, S. R., &Wei, T. (2015). Stereotyped behaviors predicting self-injurious behavior in individuals with intellectual disabilities. Research in Developmental Disabilities, 36, 419–427.
6. Berkson, G., Tupa, M., & Sherman, L. (2001). Early development of stereotyped and self injurious behaviors: I. Incidence. American Journal on Mental Retardation, 106, 539–547.
7. Berkson, G., Tupa, M., & Sherman, L. (2001). Early development of stereotyped and self injurious behaviors: I. Incidence. American Journal on Mental Retardation, 106, 539–547.
8. Cooper, J., Heron, T., & Heward, W. (2007). Applied Behaviour Analysis. New Jersey: Pearson Education.
9. Cooper, J.O., Heron, T.E., & Heward, W.L. (2020). Applied behavior analysis (3rd ed). Hoboken, NJ: Pearson Education.
10. Dimian, A. F., Botteron, K. N., Dager, S. R., Elison, J. T., Estes, A. M., Pruett, J., Network, IBIS. (2017). Potential risk factors for the development of selfinjurious behavior among infants at risk for autism spectrum disorder. Journal of Autism and Developmental Disorders, 47, 1403-1415.
11. Erturk, B., Machalicek, W., & Drew, C. (2018). Self-Injurious Behavior in Children with Developmental Disabilities: A Systematic Review of Behavioral Intervention Literature. Behavior Modification. 42(4) 498–542.
12. Fodstad, J. C., Rojahn, J., & Matson, J. L. (2012). The emergence of challenging behaviors in at- risk toddlers with and without autism spectrum disorder: A crosssectional study. Journal of Developmental and Physical Disabilities, 24, 217- 234.
13. Fodstad, J.C., Rojahn, J. & Matson, J.L. (2012) The emergence of challenging behaviors in at-risk toddlers with and without autism spectrum disorder: A cross-sectional study. Journal of Developmental and Physical Disabilities, 24(3), 217-234
14. Functional analysis of problematic behavior (2015). Retrieved from http://wmuace.com/videos/functional-analysis.
15. Furniss, F., & Biswas, A. B. (2012). Recent research on aetiology, development and phenomenology of self-injurious behaviour in people with intellectual disabilities: A systematic review and implications for treatment. Journal of Intellectual Disability Research, 56, 453-475. doi:10.1111/j.1365-2788.2012.01534.
16. Gorman-Smith, D. & Matson, J. L. (1985). A review of treatment for self-injurious and stereotyped responding. Journal of Mental Deficiency Research, 29, 295 –308.
17. Hagopian, L. P., Rooker, G. W., Zarcone, J. R., Bonner, A. C., & Arevalo, A. R. (2017). Further analysis of subtypes of automatically reinforced SIB: A replication and quantitative analysis of published datasets. Journal of Applied Behavior Analysis, 50, 48–66. doi: 10.1002/jaba.368.
18. Hagopian, L.P., & Leoni, M. (2017). Self-injurious Behavior among Individuals with Intellectual and Developmental Disabilites. Acta Psychopathologica, 3,5, 1-9. DOI: 10.4172/2469-6676.100142.
19. Handen. B. L., Mazefsky, C. A., Gabriels, R. L., Pedersen, K. A., Wallace, M., Siegel, M. (2018). Developmental Disorders In patient Research Risk factors for self-injurious behavior in an inpatient psychiatric sample of children with autism spectrum disorder: a naturalistic observation study. J Autism Dev Disord. https://doi.org/10.1007/s10803-017-3460-2.
20. Hong, E., Dixon, D.R., Stevens, E. et al. Topography and Function of Challenging Behaviors in Individuals with Autism Spectrum Disorder. Adv Neurodev Disord 2, 206–215 (2018). https://doi.org/10.1007/s41252-018-0063-7.

21. Iwata, B., & Deleon, I. (2005). The Functional Analysis Screening Tool. Gainesville: The Florida Center on Self-Injury, University of Florida.
22. Iwata, B.A., Deleon. I.G., & Roscoe, E.M. (2013). Reliability and Validity of The Functional Analysis Screening Tool. Applied Behavior Analysis, 46, 271-284.
23. Jennett, H., Hagopian, L. P., & Beaulieu, L. (2011). Analysis of heart rate and self-injury with and without restraint in an individual with autism. Research in Autism Spectrum Disorders, 5(3), 1110–1118.
24. Kahng, S., Iwata B., & Lewin, A. (2002). Behavioral treatment of selfinjury, 1964–2000. Am J Ment Retard, 107(3), 212–221.
25. Kurtz, P. F., Huete, J. M., Cataldo, M. F., & Chin, M. E. (2012). Identification of emerging self-injurious behavior in young children: A preliminary study. Journal of Mental Health Research in Intellectual Disabilities, 5, 260–285.
26. MacLean, W. E., & Dornbush, K. (2012). Self-injury in a statewide sample of young children with developmental disabilities. Journal of Mental Health Research in Intellectual Disabilities, 5, 236–245.
27. Triawang, G., Kurniawan, E.The Effect of Digital Literacy Towards The Selection of Social Science Teacher Learning Media(2021) Pegem Egitim ve Ogretim Dergisi, 11 (4), pp. 316-319. https://www.scopus.com/inward/record.uri?eid=2s2.085117965727&doi=10.47750%2fpegegog.11.04.30&partnerID=40&md5=0b7bd042b8eeea05af42984f0a424423
28. Mahatmya, D., Zobel, A. M., & Valdovinos, M. G. (2008). Treatment methods for self-injurious behavior in autism: Behavioral and pharmacological methods. Journal of Early and Intensive Behavioral Intervention, 5, 106-118.
29. Matson, J.L., Wilkins, J., & Macken, J. (2009). The relationship of challenging behaviors to severity and symptoms of autism spectrum disorders. Journal of Mental Health Research in Intellectual Disabilities, 2(1): 29–44.
30. McClintock, K., Hall, S. & Oliver, C. (2003) Risk markers associated with challenging behaviours in people with intellectual disabilities: A meta-analytic study. Journal of Intellectual Disability Research, 47(6):405–416.
31. Miltenberger, R. (2008). Behaviour Modification. Belmont, CA. Wadsworth Publishing.
32. Morano, S., Ruiz, S., Hwang, J., Wertalik, J. L., Moeller, J., Karal, M. A., & Mulloy, A. (2017). Meta-analysis of single-case treatment effects on self-injurious behavior for individuals with autism and intellectual disabilities. Autism and Developmental Language Impairments, 2, 1–26.
33. Neidert, P. L, Rooker, G. W., Bayles, M.W., Miller, J. R. (2013). Functonal analysis of problem be havior. In handbook of crisis interventon and developmental disabilites. Springer New York, pp: 147-167.
34. Nguyen, Ngoc Lan. (2019). "Effective evidence-based strategies to minimize self-injurious behaviors in young children with autism spectrum disorders: a practical manual for educators" (2019). Electronic Theses, Projects, and Dissertations. 919. https://scholarworks.lib.csusb.edu/etd/919.
35. Oliver, C., Petty, J., Ruddick, L., & Bacarest-Hamilton, M. (2012) The association between repetitive, self-injurious and aggressive behavior in children with severe intellectual disability. Journal of Autism and Developmental Disorders, 42, 910-919
36. O'Neill, R., Horner, R., Albin, R., Sprague, J., Storey, K., & Newton, J. (1997). Functional Assessment and Programme Development for Problem Behaviour: A Practical Handbook. Pacific Grove, CA. Brooks/Cole Publishing Company.
37. Prangnell, S. J. (2010). Behavioural interventions for self-injurious behaviour: A review of recent evidence (1998–2008). British Journal of Learning Disabilities, 38, 259-270. doi:10.1111/j.1468-3156.2009.00598.x
38. Richman, D. M. (2008). Annotation: Early intervention and prevention of selfinjurious behavior exhibited by young children with developmental disabilities. Journal of Intellectual Disability Research, 52, 3-17.
39. Richman, D. M., & Lindauer, S. E. (2005). Longitudinal assessment of stereotypic, proto-injurious, and self-injurious behavior exhibited by young children with developmental delays. American Journal on Mental Retardation, 110, 439–450.

40. Rojahn, J., Schroeder, S. R., & Hoch, T. A. (2008). Self-injurious behavior in intellectual disabilities. New York, NY: Elsevier.
41. Sarris. M. (2017). Hallenging Behavior in Autism: Self-Injury. Interactive Autism Network at Kennedy Krieger Institute,
42. Sasse, Joshua, "Interventions to Reduce Self-Injurious Behaviors in Youth with Autism" (2018). Culminating Projects in Special Education. 53. htps://repository.stcloudstate.edu/sped_etds/53.
43. Schroeder, S. R., Marquis, J. G., Reese, R. M., Richman, D. M., Mayo-Ortega, R., Lawrence, L. (2014). Risk factors for self-injury, aggression, and stereotyped behavior among young children at risk for intellectual and developmental disabilities. American Journal of Intellectual and Developmental Disabilities, 119(4), 351–370.
44. Shamlian, K. D., Fisher, W. W., Steege, M. W., Cavanaugh, B. M., Samour, K., & Querim, A. C. (2016). Evaluation of multiple schedules with naturally occurring and therapist-arranged discriminative stimuli following functional communication training. Journal of Applied Behavior Analysis, 49, 228-250.
45. Soke, G. N., Rosenberg, S. A., Hamman, R. F., Fingerlin, T., Rosenberg, C. R., Carpenter, L., & DiGuiseppi, C. (2017). Factors associated with selfinjurious behaviors in children with autism spectrum disorder: Findings from two large national samples. Journal of Autism and Developmental Disorders, 47(2), 285–296. doi: 10.1007/s10803-016-2951-x.
46. Soke, G. N., Rosenberg, S. A., Rosenberg, C. R., Vasa, R. A., Lee L.-C., DiGuiseppi C. (2018). Brief Report: Self-Injurious Behaviors in Preschool Children with Autism Spectrum Disorder Compared to Other Developmental Delays and Disorders. Journal of Autism and Developmental Disorders,48:2558–2566 https://doi.org/10.1007/s10803-018-3490-4.
47. Steenfeldt-Kristensen, C., Jones, C.A. & Richards, C. The Prevalence of Self-injurious Behaviour in Autism: A Meta-analytic Study. J Autism Dev Disord 50, 3857–3873 (2020). https://doi.org/10.1007/s10803-020-04443-1
48. Sturmey, P. (2012). Treatment of psychopathology in people with intellectual and other disabilites. Can J Psychiatry, 57, 593-600.
49. Suess, A. N., Romani, P. W., Wacker, D. P., Dyson, S. M., Kuhle, J. L., Lee, J. F., et al. (2014). Evaluating the treatment fidelity of parents who conduct in-home functional communication training with coaching via Telehealth. Journal of Behavioral Education, 23, 34–59. doi:10.1007/s10864-013-9183-3.
50. Treating self-injurious behaviors in autism spectrum disorder, Gary Shkedy, Dalia Shkedy & Aileen H. Sandoval-Norton, Cogent Psychology (2019), 6:1682766. https://doi.org/10.1080/23311908.2019.1682766.
51. Volkmar, F., Siegel, M., Woodbury-Smith, M., King, B., McCracken, J. (2014). Practce parameter for the assessment and treatment of children and adolescents with autsm spectrum disorder. J Am Acad Child Adolesc Psychiatry, 53, 237-257.