

WCES 2014

Child-friendly Approches: Choosing the Best Educational Psychology Tool to Teach Healthy Behaviour for kids

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Abstract

The ADDIE development model study explored the best tool to educate children about healthy eating and physical activity to prevent obesity. Four educational psychologists were interviewed, and a focus group discussion was conducted with 38 kindergarten children aged between 3-6 years old. We found that 75% of children had unhealthy eating habits. The four psychologists agreed that an educational psychology tool with a child-friendly concept should be used as a teaching-learning method to impart healthy behaviour to children. In conclusion, a child-friendly concept is the best teaching method and we recommend it for any modules, activities, or programs targeted to early childhood education. This can motivate children to implement their knowledge in their daily routines.

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Selection and peer-review under responsibility of the Organizing Committee of WCES 2014

Keywords: child-friendly; child obesity; healthy eating; physical activity

1. Introduction

Obesity is a major public health concern. A total of 18 million children worldwide have been identified as overweight; estimates reach crisis proportions in Europe (Ebbeling, Pawlak, & Ludwig, 2002). In Malaysia, obesity among children and adolescents shows an average yearly increase of one per cent (Fazurawati, 2012). The National Health and Morbidity Survey of Malaysian youth aged fifteen years and over indicates obesity has increased sharply from 4.4% in 1996, to 12.3% in 2006 (Lembaga Promosi Kesihatan Malaysia, 2011). A study in 2009 found that

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10% of children aged between 6 and 12 years were overweight, and six per cent were obese (Buletin Kesihatan, 2010; Fazurawati, 2012).

Childhood obesity, if not given serious attention, will lead to various health risks as children mature, such as hypertension, heart disease, gout, cancer, diabetes, or osteoporosis. Besides, obesity is also known as a nutritional disease, resulting from unhealthy eating habits focused on foods that are high in sugar and calories, as well as most of the stalls and restaurants in Kuala Lumpur, Malaysia are open 24 hours, leading to midnight snacking (Buletin Kesihatan, 2010). Malaysian children are generally fond of chocolate and sweets, drink carbonated drinks instead of drinking plain water, do not eat fruits and vegetables, and rarely eat breakfast. Their eating habits would benefit from further research. Studies show that a majority of children consumes insufficient fruits and vegetables (Baranowski, Smith, & Hearn, 1997). In addition, they regularly skip, or eat a meagre breakfast, prefer high-sugar and high-calorie snacks, such as chocolate and sweets, and choose soft drink over water (American Dietetic Association, 2006). Such unhealthy eating habits have been found to be positively associated with an increase in adipose tissue, the cause of obesity among children and adolescents (Boutelle, Neumark-Sztainer, Story, & Resnick, 2002; Nicklas, Yang, Baranowski, Zakeri, & Berenson, 2003; Lin, Huang & French 2004; Welsh, Cogswell, Rogers, Rockett, Mei, & Grummer-Strawn, 2005; American Dietetic Association 2006). Children are individual who have not yet reached the age of puberty and lack the maturity to make their own decisions (Norly, 2010). According to Priya (2010), children and adolescents are at high risk of becoming obese individuals if they are prone to unhealthy eating patterns and activities. Schwimmer (2003) suggested that obesity prevention and treatment programs must be implemented between 3 and 6 years of age, prior to beginning school. Being medically labelled as overweight, and in need of treatment, may lead to embarrassment and can be a cause of social isolation in school. If early prevention is needed, however, what is the most appropriate method to educate these children? To answer this question, we conducted a study to find the best tool in educating children about healthy eating and physical activity in obesity prevention.

1.1. Educational Psychology

When we educate children, we need to understand these children and without an understanding of the child, the education received is less effective. Effective education is also correlated with the psychological approach (Adam, Zask, & Dietrich, 2008; Kriember, Zahner, & Schindler, 2010). Consistent with the researcher's goal to ensure children understand, appreciate and implement healthy eating and physical activities in their daily routine to prevent obesity, it is imperative for the researchers to master psychological knowledge in early childhood education, also known as educational psychology. Applying psychological knowledge into learning in the classroom (Tahir, 2010) is needed to assist learning in children that can power the desired behavior, knowledge and thinking skills to be and in the future through experience. Learning may be assessed through a behavioural or a cognitive approach. When using the former, we focus purely on an individual's observable behavior and actions. When using the latter, however, we focus on person's cognitive process. There are four main cognitive approaches to learning: social cognition, information processing, cognitive constructivism, and social constructivism. Social cognition emphasizes the way in which factors of behaviour, environment, and individuals (cognitive) interact in influencing learning. Meaning social cognition acts as determining factor to children learning. Information processing focuses on the ways in which children process information through observation, memory, thoughts, and other cognitive processes. Cognitive constructivism emphasizes on the cognitive approach in children that develops knowledge and understanding. Meaning cognitive constructivism acts as thinking factor that assists children in learning. Social constructivism focuses on the role of collaborating with others in producing knowledge and understanding. These four cognitive approaches, together with the behavioural approach, aims to elucidate how children learn (Santrock, 2011). The question is which concept should be emphasized with children when seeking to motivate them to learn?

1.2. Child friendly concepts

'Child friendly' refers to situations, locations, or activities that have special features that are liked by, and are appropriate for children, fulfilling their needs or facilitating their learning (Cambridge Advanced Learner's Dictionary & Thesaurus, 2012; Cambridge University Press, 2013). Meanwhile, a child-friendly concept, as defined by Horelli (2007), refers to a child-friendly environment. A child-friendly environment is complex,

multidimensional, and multilevel. It also refers to an environmental structure that supports the individual child, and the related groups that are important to the child. The application of this concept successfully helped children in understanding and implementing activities, goals, and projects involving children. The focus of a child-friendly environment is based on the experience of the child. There has been a limited research regarding the usage of the child-friendly concept. A study by John (2004) about Hollywood programs that incorporated the child-friendly concept showed that advertising which included cartoon drawings of children, animation, simple language (e.g. storytelling), and activities with game elements were more likely to raise children learning experiences that were encouraging (Clark, 2004; Chatterjee, 2005). Furthermore, in relation to the child-friendly concept, Woolcock (2008) found that restaurants that provided highchairs had more customers compared to restaurants that did not provide highchairs. Games are also a characteristic of the child-friendly concept. Duncan & Lockwood (2008) and Christie & Roskos (2009) note that children are fond of games because playfulness is a child's natural disposition and during play, children are able to understand their surrounding environment in a state of happiness. A similar sentiment is shared by Puteh & Ali (2011) states that games suit children, and employing games as part of the learning process is a more effective approach to preschool education. In addition, learning through games are a fun and meaningful way to facilitate children experiencing, learning process or fulfilling their basic needs (Almon, 2004; Duncan & Lockwood, 2008; Christie & Roskos, 2009; Puteh & Ali, 2011). In conclusion, child-friendly concepts are suggested as a tool to incorporate into childhood education that may encompass aspects of play, cartoons (animated or otherwise), storytelling, or special equipment (facility) for children.

2. Methodology

This study was designed using the ADDIE development model and involves both qualitative and quantitative data collection methods. Interviews with educational psychologists, focus group discussions with children, and document analysis were employed to explore the best educational tool to inculcate healthy eating habits and physical activity in children. Four psychological experts were interviewed and 38 kindergarten children aged 3–6 years old were involved in a focus group discussion (FGD). Only children who were granted permission by their parents were involved in this FGD session. Interview protocols were set for both psychologist interviews and the FGD (Wiersma, 2002) to obtain needed information regarding best suit tool to teach healthy behavior to young children. Three open-ended questions of psychologists' working experience and the most appropriate psychological methods of education best suits to be an effective approach to childhood education were discussed in interview session with psychologists. During the FGD as many as 22 closed-ended questions were asked to understand these children, that the questions include aspect of children's knowledge, habits and inclination related to eating issues and physical activity. Meanwhile document analysis was conducted to find the key issues related to the best suit psychological methods of education and to support information getting from interview and FGD session. Data were collected using written and audio-recorded notes, as well as a video camera. Data collection sessions continued until each protocol question reached a saturated level (Miles & Huberman, 2003). Research data were analysed using ATLAS.ti version 7.0. We obtained approval to conduct this research from the Medical Research and Ethics Committee of UKMMC (Project Code No. GUP-301-2011).

3. Research Findings

Table 1. Feedback from 38 children aged 3 – 6 years old regarding knowledge, habit and inclination related to food issues and physical activity during a focus group discussion.

Discussion issues	No. of children	Statements
Child's knowledge regarding 'definition of health', 'definition of play', 'definition of nutrition', and 'definition of obesity'.	35	93.48% of children obtained knowledge from their surroundings: through observation of an object, the behaviour of another individual, through speech, or the words of another individual within the child's environment

A child's physical activity	27	67.09 % of children engaged in physical activity when they were attracted to it that was childish in nature or activities incorporated games and these activities were done without instruction (e.g. being fond of objects that were colourful, watching the latest cartoons, listening to nursery rhymes, watching children's videos, or playing with computerized animations).
Eating patterns and preferences	28	74.73% of children had unhealthy eating habits that included skipping breakfast, being fond of carbonated drinks, dislike of fruit and vegetables, and insufficient water consumption.
Child behaviour	33	89.4% of children behaved according to environmental influences (i.e. a child's environment affects the child's understanding of life, resulting in actions or feedback according to what exists around them).
Child favourites	35	91.2% of children are fond of the latest entertainment (including songs and cartoons), along with fast food that they usually watch on television or see around them in their daily routines.

Table 1 shows feedback from children aged 3 and 6 years regarding knowledge, habits and inclinations related to food consumption and physical activity during a focus group discussion. A total of 35 (93%) children stated that knowledge regarding 'definition of health', 'definition of play', 'definition of nutrition', and 'definition of obesity' was obtained through learning experiences from their daily environments. Only 27 (67%) children stated that they were more likely to be physically active when the activity was childish in nature or activities incorporated games and these activities were done without instruction. Other statements by these children aged 3–6 years old during the FGD's session was regarding 'pattern and eating habits in children', 'child favourites', and 'child behaviour'.

Table 2. Statements from psychology experts regarding educational psychology methods that are most appropriate in application to educate children aged 3 – 6 years

Recommendation for the application of educational psychology methods in educating children aged 3 – 6 years by 4 psychology experts	
Modification process	<ul style="list-style-type: none"> - Assessing the child's readiness to change - Collaborate with the child's parents/guardian - Understanding the child's world by understanding the child's tendency and emotional development
Reinforcement technique	<ul style="list-style-type: none"> - Giving genuine compliments - Giving rewards - Using a behavioural 'star chart' - Observing the child's positive behaviour
Global child indicator	<ul style="list-style-type: none"> - Children are fond of colourful objects - Children are attracted to animated cartoons - Children love cartoons - Children are fond of playing - Children love to be humoured and have satisfying their wants - Children like to interact using childish language (e.g. simple sentences and

- pictures of fruit cartoons, or interacting with children using storytelling)
- Children like stories in the form of videos
- Children like rhythmic music and nursery rhymes
- Children like a ‘child-friendly’ environment
- The application of indicators is important to ensure that children are interested and motivated to explore the learning process

Table 2 shows the opinions of four psychology experts regarding educational psychology methods that are most appropriate for the education of young children. All four experts agreed that the application of educational psychology must include three aspects: 1) modification process, 2) reinforcement technique, and 3) global child indicators. All the recommended aspects had certain characteristics and used a child-friendly concept.

4. Discussion

We found three key features in our results: children were found to lack a healthy lifestyle in their daily routine; the learning experience in children was influenced by the child’s surrounding environment and conceptual play activities; the appropriate educational tool to teach young children was using educational psychology with a child-friendly concept. In line with previous research (Baranowski et al. 1997; American Dietetic Association, 2006), children stated that they regularly skip breakfast, like carbonated drinks, do not eat many fruit and vegetables, and consume insufficient water. Many children have, according to our results, an unhealthy lifestyle. Unhealthy eating habits such as this are correlated with the increase of bodily adipose tissue, which leads to obesity (Boutelle et al. 2002; Nicklas et al. 2003; Lin, Huang & French 2004; Welsh et al. 2005; American Dietetic Association, 2006). If obesity prevention should be implemented in children as young as 3–6 years, before the condition can set in, it is imperative to find the right educational tools to effectively teach, motivate, and help children practice a healthy lifestyle. Research has shown that routine physical activity in children will become habitual in the child until he/she reaches adulthood (Powell & Dysinger, 1987). Therefore, teaching children about nutrition and healthy physical activity should begin from an early age, and can both motivate and habituate a healthy lifestyle among children until adulthood. We also found that learning experiences in a child are obtained through factors related to the environment and activities with conceptual play, consistent with previous studies (Almon, 2004; Duncan & Lockwood, 2008; Christie & Roskos, 2009), which found that children are naturally disposed to playing. When children play, they are actually trying to understand the issues around them in a fun manner. Accordingly Puteh & Ali (2011) notes that playing as a child’s natural tendency and has become a part of a child’s world. Therefore, teaching will be more effective if learning activities include conceptual play. Our findings thus support an educational program that incorporates playing activities. Playing activities also need to be including as the global child indicator that is known as child-friendly as stated by the four psychology experts in their interviews session. Educational psychology with a child-friendly concept may be defined as a tool to educate children regarding their health, and should be implemented to ensure children receive a meaningful learning experience. If an educational psychology tool with a child-friendly concept is applied in teaching children, they are more likely to accept new learning experiences, be motivated to show healthy behaviours, and practice learning outcomes in their daily routines (Santrock, 2011). Clark (2004) and Horelli (2007) states that the child’s invaluable learning experience will be also a part of the child-friendly environment concept that contributing to a fun learning focus to young children. This situation is similar to the research findings of John (2004), Chatterjee (2005) and Woolcock (2008) regarding the use of child-friendly concepts which notes child-friendly should have special features included cartoon drawings of children, animation, colourful objects, simple language (e.g. storytelling), and activities with game elements. The environment has also been found to influence a child’s thought processes and understanding of their surroundings. According to the psychologists we interviewed, global child indicator, can ensure that children learn in a child-friendly environment. This approach also shows that we understand and appreciate the needs, desires and emotions of a child, and indirectly support children in receiving education and growing in a harmonious, understanding and loving environment (Horelli, 2007; Cambridge University Press, 2013). Educational psychology with a child-friendly concept is, thus, the most appropriate tool to educate young children.

5. Conclusion

This study has given insight to understanding the child that needs early exposure and education in the aspects of health. The use of educational psychology with a child-friendly concept to a health-educational context has been supported by this study, and is the optimal approach to preventing obesity in children. This method enables young children to obtain a quality early learning process in a fun learning environment because such educational activities fulfill the emotional needs of a child. This approach may also influence lifelong behaviour, knowledge, and thinking skills that accompany experiential learning in children. Therefore, we recommend the development of activities, modules, or programs for early childhood education among children aged 3–6 years old using educational psychology with a child-friendly concept. We also suggest that public health nurses use a child-friendly concept when meeting children in the community, in order to decrease their fears and anxieties and boost their motivation to engage in healthy behaviours.

Acknowledgements

The authors acknowledge the provision of a Grant GUP-301-2011 for this study by Research Management and Instrumentation Centre, Universiti Kebangsaan Malaysia.

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