Parent’s Self-Control and Self-Regulation of Their Children’s Diet

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ABSTRACT

Child obesity is on the rise worldwide. Parents play an important role in curbing child obesity by nurturing healthy eating. Studies focusing on adult’s self-regulation of their own weight or self-control of dieting decisions are available in plenty. However, studies specifically considering parent’s self-regulation in the provision of healthy food for their children could not be located in the literature. This study suggests an integrated theory with the aim to investigate parent’s self-control and self-regulation in the provision of healthy food for their children.

Keyword: Child obesity, Parent’s self-regulation, Children’s consumption behavior
1. INTRODUCTION

Nutrition professionals assert that children in the age range of 2 to 11 years should attain a healthy weight as this is a crucial development stage (American Dietetic Association, 2008). Obesity during childhood has serious health implications (Daniels et al., 2005; Must & Strauss, 1999). A further impetus to maintaining a healthy childhood weight is that studies have found that 70% of obese children grow up to be obese adults (Nicklas, Baranowski, Cullen, & Berenson, 2001; Parsons, Power, Logan, & Summerbell, 1999; Whitaker, Wright, Pepe, Seidel, & Dietz, 1997). Worldwide, the prevalence of overweight and obese children increased by 47.1% between year 1980 and 2013 (Ng et al., 2014). Meanwhile, according to a South East Asian Nutrition Survey, one-in-five Malaysian children are diagnosed as overweight or obese (Poh et al., 2013). Their study further reports that Malaysian children have undergone the transition from under-nutrition to over nutrition. The prevalence of overweight (14.4%) and obesity (20.1%) for the age group of 7 to 12 years old in urban areas were reported to be the highest obesity rate among the population of children aged 6 months to 12 years old (Poh et al., 2013).

Parent’s choice of food has been reported to shape children’s dietary habits and is associated with child weight (Birch, 2006; H. R. Clark, Goyder, Bissell, Blank, & Peters, 2007; Faith et al., 2004; Johannsen, Johannsen, & Specker, 2006). Thus, parents play an imperative role in combating childhood obesity by cultivating healthy eating. To the best of the researcher’s knowledge, there have been no studies specifically considering parental self-regulation in the provision of healthy food for their children. Previous behavioral studies have concentrated on adult’s self-regulation of their weight or self-control of food consumption decisions (Bagozzi & Edwards, 1998, 2000; Bagozzi, Moore, & Leone, 2009; Perugini & Bagozzi, 2001). In the absence of any tested theoretical model linking behavioral theory with parental dietary
provision for children, this article suggests an integrated conceptual model to investigate parental self-control and self-regulation in the provision of healthy food for their children. Two research questions are raised in this study. First, what are the antecedents influence parental provision of healthy food? Second, how the antecedents influence parents to provide healthy food for their children? To answer these research questions, the key research objective is to examine the effects of parent’s prefactual attitudes (attitude toward success, failure and process) in the provision of healthy food for children; subjective norms; and resistance to temptation of providing unhealthy food to children on the parent’s intention to provide healthy food for their children that leads to their trying to provide healthy food for their children which in turn influences their actual behavior of providing healthy food to their children. Study will also attempt to examine the effects of frequency and recency of past healthy food provision behavior on parent’s actual behavior of providing healthy food to their children.

2. BACKGROUND

2.1 Parental Role in Food Choice throughout a Child’s Development

There are three critical periods in children’s lives for the development of obesity: (i) infancy; (ii) toddlers and preschoolers; and (iii) middle childhood and adolescence (Dietz, 1994). Obesity that occurs at these stages is found to raise the risk of persistent obesity and its complications (Dietz, 1994). Parental role in food provision differs within each period but is vital throughout each of these three phases of a child’s development.

Infancy

An individual’s food intake at the beginning of the life is partly controlled by internal cues and natural biological systems (Davis, 1928, 1939). The infants exhibits with inborn
preference for sweet taste and dislike bitter or sour tastes (Rosenstein & Oster, 1988). These inborn preferences can be changed via learning processes (Westenhoefer, 2002). Parents have a significant role to play while building the foundation of the dietary habits for the infants as they have direct control on the child’s food intake.

**Toddlers and preschools**

For young children, parents usually act as final decision makers when it comes to introducing new food to their diets (Lackman & Lanasa, 1993). However, the repeated purchase is subject to children’s liking of the food. Food acceptance of the child can be modified via three major learning processes such as repeated exposure to unknown food, social influences and physiological interactions with food taste (Westenhoefer, 2002). Hill (2002) reports that when parents introduce fruits and vegetables during early years of a child’s life, children would likely consume more of these foods.

**Middle childhood and adolescence**

When the child reaches school age, they will spend more time in school with peers and less on family. Consequently, older children become more exposed to external environments and social influences, and have greater choices in their own diet. Thus, parental roles in food choice eventually become more challenging as the children grow to be more independent and able to make decisions on their own. However, parents can still encourage healthy eating habits at home by making healthy foods available. Cullen, Baranowski, Owens, Marsh, Rittenberry and Moor (2003) discover that accessibility to fruits, fruit juices and vegetables in the home correlated with school children’s consumption of these food.

In a nutshell, parents should understand their own role in shaping their child’s dietary
practices, more importantly serve as role models and create a healthy diet environment at home.

2.2 Behavioral Theories of Consumption Behavior

Ajzen and Fishbein’s (1980) theory of reasoned action (TRA) and Ajzen’s (1991) theory of planned behavior (TPB) are the two prominent theoretical models in the consumer behavior discipline. There have been numerous adaptations of TRA and TPB models in food consumption research (e.g., Ajzen & Timko, 1986; Berg, Jonsson, & Conner, 2000; Padgett, Kim, Goh, & Huffman, 2013; Saba & Di Natale, 1998; Towler & Shepherd, 1991; Tuorila & Pangborn, 1988). Despite of their wide adaptations in literature, these two theories have received criticisms on their limited ability to explain the various types of behavior (Manstead, 2011; Sarver, 1983). Thus, theory of trying (Bagozzi et al., 2009; Bagozzi & Warshaw, 1990), the model for self-regulation of body weight (Bagozzi & Edwards, 1998), and the model of goal-directed behavior (Perugini & Bagozzi, 2001) emerged in order to address various limitations of the TRA and TPB models.

Theory of reasoned action

In reference to figure 1, the TRA suggests that an individual’s behavior is related to their intention, and intention is influenced by their attitude toward the behavior or attitude toward the act (A\text{act}) and subjective norm (SN) (Ajzen & Fishbein, 1980). According to Ajzen and Fishbein (1980), A\text{act} refers to the person’s judgment on the outcomes of performing certain behavior, while SN indicates the person’s evaluation of the social pressures on performing particular behavior. An individual will intend to perform the particular behavior when they hold favorably attitude toward the behavior and when they think that significant others support them to perform the behavior. A main principal underlying TRA is that behavior is
under full control (Ajzen & Fishbein, 1980). TRA appears valid when individual has almost full control over their behavior. However, when the internal and external barriers are expected to occur before the actual action takes place, TRA may not be well fit to handle the decision processes.

Figure 1: Factors determining a person’s behavior

The person’s belief that the behavior leads to certain outcomes and his evaluations of these outcomes. → Attitude toward the behavior

Relative importance of attitudinal and normative considerations

The person’s belief that the specific individuals or groups think he should or should not perform the behavior and his motivation to comply with the specific referents. → Subjective norm

Intention → Behavior

Source: Fishbein and Ajzen (1980, p.8).

**Theory of planned behavior**

The TRA evolved into the TPB to address circumstances in which an individual has only partial control over their behavior (Ajzen, 1991). Within this model, perceived behavioral control (PBC) is the additional antecedent factor on intention and subsequent behavior. In reference to figure 2, a person’s behavior is determined by one’s intention and PBC; and intention is predisposed by A\text{act}, SN and PBC (Ajzen, 1991). There are two essential aspects of PBC in TPB. PBC includes consideration of the motivational implications for intention. For example, an individual is unlikely to engage in a positive behavioral intention when they
think they do not have the resources and opportunities to do so, even though they perceive positively on the $A_{act}$ and there is social pressure to perform the behavior. Secondly, PBC reflects the perceived control that someone has over performing the behavior. PBC can be used to envisage behavior directly because it may be considered a substitution for a measure of actual control. The construct of PBC in the TPB model has been empirically examined by several researchers and developed into the concept of self-efficacy (Bandura, 1997; Terry & O’Leary, 1995).

Figure 2: The theory of planned behavior


Theory of trying

The central activity in the TT (Bagozzi & Warshaw, 1990) is self-regulation, which can be described as the mental and physical processes that an individual strives to accomplish a goal (Bagozzi, 1992). Bagozzi, Moore and Leone (2009) reformulated the TPB to explain three determinants of decision making that lead to self-regulatory judgments: prefactual attitudes that comprise of attitude toward success ($A_s$), attitude toward failure ($A_f$) and attitude toward the process of goal striving ($A_p$); SN; and PBC that translated to resistance to temptation (RTT). In reference to figure 5, the TT advocates that the three aspects of prefactual attitudes have additive effects on intentions, and the PBC in the form of RTT interact with SN to
influence intentions (Bagozzi et al., 2009).

Figure 5: The theory of trying

![Diagram of the theory of trying]

Source: Bagozzi et al. (2009, p.205).

Bagozzi et al. (2009) measured PBC as an element of RTT with a concrete aspect of control in specific situations related to dieting. In food related choice behaviors, the problems encountered are not the difficulties in performing particular behaviors but the problems faced in refraining from temptation (Bagozzi et al., 2009; Sparks, Hedderley, & Shepherd, 1992). Sparks et al. (1992) investigated consumers’ attitudes toward consumption of two common foods. Their findings show that PBC was a function of the problem of resisting eating biscuits which is an internal control and not regulated by external factors such as cost, availability and others’ preference (Sparks et al., 1992). This suggests people are likely to face ‘resisting’ or internal desire control problems when making food behavioral decisions. In this study, RCC is included since the research is related to the purposive selection and provision of healthy food.
Model for self-regulation of body weight

The TRA (Ajzen & Fishbein, 1980) and the TPB (Ajzen, 1991) analyze a small segment of the larger phenomenon of purposive behavior. Bagozzi and Edwards (1998) developed a broader model of goal setting and goal pursuit with respect to the regulation of body weight. This model builds on concept of self-regulation (Bagozzi, 1992) and model of action phases (Gollwitzer, 1990; 1996). In reference to figure 3, goal intention is proposed to be a direct function of desire and an indirect function of SN, goal efficacy and attitudes toward success, failure and the process of goal pursuit (Bagozzi & Edwards, 1998). Goal intention initiates the motivation of trying to reach one’s goals. Instrumental acts, which are goal-directed behaviors, then determine the level of goal attainment. This model incorporates four decision stages include the predecisional phase, preactional phase and action initiation, actional phase, and action outcome. The predecisional phase is initiated by desires to lose or maintain one’s weight and consist of integration of considerations concerning goal efficacy, SN and one’s appraisals toward the goal achievement, failure and process of goal attainment. The culmination of the predecisional stage is the construction of a goal intention, the decision to pursue a goal. The goal intention leads to the preactional phase. The person is trying to figure out how, where and when to act on it, and the preactional phase ends with action initiation. The next phase is the actional phase, where the decision maker pursues the goal by executing and controlling instrumental acts. Finally, the action outcome is an assessment of goal achievement or failure. In this study, trying is adopted as a mediator in the relationship between intention and behavior.
Figure 3: The model for self-regulation of body weight

![Model Diagram]


**Model of goal-directed behavior**

The MGB (Perugini & Bagozzi, 2001) broadens and deepens the TPB by presenting new paradigms that are essential in decision-making (see figure 4). The MGB broadens the TPB by introducing the antecedents of desires, which are the anticipated emotions (AEs) for the goal attainment and goal failure. The MGB deepens the TPB with the addition of a new independent variable that is desires, a proximal causes of intentions. The inclusion of frequency and recency of past behavior are relevant to food behaviors. Frequency of past behavior is expected to be a predictor of desires, intentions and behavior, while recency of past behavior predicts only behavior. Frequency and recency of past healthy food provision behavior will be applied in this study.
Figure 4: The model of goal-directed behavior


Comparison of classical attitudes, prefactual attitudes and anticipated emotions

There are differences and similarities among the classical attitudes under the TPB, prefactual attitudes and AEs. The first difference deals with general targets. Classical attitudes concern actions, while prefactual attitudes and AEs address goals. However, the goals for prefactual attitudes involve outcomes and processes, whilst goals for AEs consider only outcomes. The second dissimilarity is regarding dimensionality. $A_{act}$ is unidimensional, whereas AEs are bi-dimensional, and prefactual attitudes are three-dimensional. The third discrepancy lies in the aspect of formation and activation of attitudes. $A_{act}$ is a passive response retrieved from memory, opposed to prefactual attitudes and AEs that are dynamic reactions arising from the thinking and evaluation processes that occur simultaneously at the point of decision-making. Fourthly, $A_{act}$ and prefactual attitudes are measured with bipolar semantic differential items, in comparison to AEs which are measured with unipolar items. Fifthly, Act and prefactual attitudes are assessments, whereas AEs are emotional processes. Finally, $A_{act}$ focuses on
behavior but not obviously related to pursue a goal, while prefactual attitudes and AEs approaches pertain to a goal intention. In this study, prefactual attitudes will be applied. The goal intention is to provide healthy food for children, and the implementation intention or behavior is to engage in a healthy diet.

2.3 Conceptual Model

Figure 6 presents a proposed integrated conceptual model built on the earlier established theories (Bagozzi & Edwards, 1998; Bagozzi et al., 2009; Perugini & Bagozzi, 2001). The following explains the resulting hypotheses in examining parental self-control and self-regulation in the provision of healthy food for their children.

Figure 6: Proposed conceptual model for parent’s self-control and self-regulation of their children’s diet
Prefactual attitudes (attitude toward success in the provision of healthy food, attitude toward failure in the provision of healthy food and attitude toward the process of healthy food provision)

Prefactual attitudes are the conceptualized attitudes that address the weakness of the TPB by explaining how the activation of attitudes produces the intention to act (Bagozzi et al., 2009; Bagozzi & Warshaw, 1990). Based on past evidence (Bagozzi & Edwards, 1998; Bagozzi & Kimmel, 1995; Bagozzi et al., 2009; Bagozzi & Warshaw, 1990), the effects of $A_s$, $A_f$ and $A_p$ are shown to be additive in their influence upon intentions. In this study, it is proposed that attitude toward success in the provision of healthy food, attitude toward failure in the provision of healthy food, and attitude toward the process of healthy food provision have an additive effect on parental intention to provide healthy food for their children.

Hypothesis 1: Parent’s attitude toward success in the provision of healthy food has a positive influence on their intention to provide healthy food for their children.

Hypothesis 2: Parent’s attitude toward failure in the provision of healthy food has a positive influence on their intention to provide healthy food for their children.

Hypothesis 3: Parent’s attitude toward the process of healthy food provision has a positive influence on their intention to provide healthy food for their children.

Subjective norms

Subjective norm-intention correlation is reported in several studies to be one of the least significant influential relationships (Armitage & Conner, 2001; Godin & Kok, 1996). Godin and Kok (1996) report that the subjective norm-intention correlation is lowest for
eating-related behaviors amongst all health behavioral categories. However, researchers argue that this variable should be explored in every behavioral study because it is a situational variable and may have strong influence in certain type of consumption situations. Consumption situation being explored is one such situation where we expect SN to play a significant role in influencing the intentions. Because significant others such as spouse, parent and parent in laws have traditionally had significant influence on what parents provide their children to eat. Therefore, we expect that SN will have a positive influence on parental intention to provide healthy food for their children.

Hypothesis 4: Parent’s subjective norms have a positive influence on their intention to provide healthy food for their children.

Based on Bagozzi et al. (2009), the effect of SN on intention is also moderated by the strength of resistance to temptation. Thus, in this study the subjective norms are also envisaged to interact with a resistance to temptation in the provision of unhealthy food for children to influence on the intention of provision healthy food for their children (see hypothesis 5).

Resistance to temptation of providing unhealthy food to children

Bagozzi et al. (2009) constructed the PBC into the RTT. RTT are situation specific and include the self-efficacy judgments (Bandura, 1991; Clark, Abrams, Niaura, Eaton, & Rossi, 1991). Previous scholars reported that self-efficacy predicted intention much stronger than PBC (Armitage & Conner, 1999). Evidence exists supporting that SN and RTT combine multiplicatively to influence the intention to diet (Bagozzi et al., 2009). In this study, it is anticipated that resistance to temptation moderates the effect of subjective norms and influences parent’s intention to provide healthy food for their children.
Hypothesis 5: Subjective norms and parent’s resistance to the temptation of providing unhealthy food to children combine multiplicatively have a positive influence on parent’s intention to provide healthy food for their children.

**Parent’s intention to provide healthy food for their children**

Past literature supports the contention that goal intention significantly affects activities of trying to achieve one’s goal and commencement of instrumental acts (Bagozzi & Edwards, 1998). In this study, it is hypothesized that the stronger the goal intention, the greater the determination to activate trying act towards achievement of the stated goal (i.e. in this instance provision of healthy food).

Hypothesis 6: Parent’s intention to provide healthy food for their children has a positive influence on the trying act.

**Trying**

Earlier research has highlighted that trying is a set of motivational, volitional and conative processes required to convert a goal intention into action (Bagozzi & Edwards, 1998). It has been shown in the past studies that actual behavior is a function of mental trying for the case on regulation of body weight (Bagozzi & Edwards, 1998). In this study, it is predicted that the greater will power of trying, the more frequently parental behavior of providing healthy food to their children would be seen.

Hypothesis 7: Parent’s trying act has a positive influence on their behavior of providing healthy food to children.
**Frequency and recency of past healthy food provision behavior**

The effects of past behavior has been studied in terms of the frequency and recency of effects (Bagozzi & Warshaw, 1990). Former empirical work substantiates that past behavior predicts intention and behavior in the assessments of TPB (Bagozzi & Kimmel, 1995). A meta-analysis scrutinized 64 studies and reported strong support for the impact of frequency of past behavior on both intention and behavior (Ouellette & Wood, 1998). Our study might be the first to our knowledge to examine the effect of frequency of past behavior on trying act. In this study, it is hypothesized that frequency of past behavior has direct effects on parent’s intention to provide healthy food their children, trying act and subsequent behavior of engaging in a healthy diet.

Hypothesis 8: Frequency of past healthy food provision behavior has a positive influence on parent’s intention to provide healthy food for their children.

Hypothesis 9: Frequency of past healthy food provision behavior has a positive influence on parent’s trying act.

Hypothesis 10: Frequency of past healthy food provision behavior has a positive influence on parent’s behavior of providing healthy food to their children.

Past literature supports that recency of behavior is associated with future performance of behavior (Tversky & Kahneman, 1974). Perugini and Bagozzi (2001) found that recency of past behavior influence on subsequent behavior. In this study, it is predicted that recency of past behavior influence on parent’s behavior of providing healthy food to their children.
Hypothesis 11: Recency of past healthy food provision behavior has a positive influence on parent’s behavior of providing healthy food to their children.

3. CONCLUSION

This paper represents a conceptual paper in which the theory will be tested via a survey instrument. This study is the first, to the researcher’s knowledge, that conceptualizes parent’s self-control and self-regulation of their child’s diet. This study is expected to provide valuable theoretical and practical implications. In terms of theoretical implication, this study contributes towards knowledge building and provides new empirical findings with an integrated conceptual model built on the theory of trying, model of goal-directed behavior and model for self-regulation of body weight. From a practical perspective, the findings of this study may be beneficial to the community, government and commercial players. For the community, more innovative intervention programs can be introduced to transform parent’s attitudes, support behavioral change and tackle child obesity. For the Ministry of Health, implementation of policies to drive positive change of eating behavior can be more targeted by better understanding of parent’s behavior engaging in a healthy diet for their children. For the commercial players and producers of healthy food, various stimuli can be suggested to aid motivational decision processes in the pursuit of healthy food goals.
4. REFERENCES


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