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Contributing Factors of Excess Calorie Consumption in Children
An Integrative Literature Review
Frank Edwards & Tessa Cappel

**Background:** Childhood obesity is a growing epidemic that affects nearly every demographic in the United States (U.S.). The risk factors are often unavoidable without proper education and awareness to parents, caregivers and children alike (CDC, 2018). The phenomenon of chronic overconsumption may play a profound role in chronic overconsumption.

**Objectives:** To explore potential factors leading to chronic excess calorie consumption (chronic overconsumption) in school-age children.

**Methods:** An integrative literature review was conducted to explore the factors leading to chronic excess calorie consumption in school-age children. The review was performed using the integrative literature review framework established by Whittemore & Knafl (2005). Fifteen research studies were examined and analyzed from 2003-2018.

**Results:** The research study selected were broken up into factors based five themes regarding overconsumption leading to childhood obesity. The themes were the following. **Energy gap** is the difference between calorie consumption and calorie expenditure. Increased caloric consumption is positively correlated to an increased energy gap and led to increased weight gain, quantifiable through the energy gap value. **Lack of exercise** was also found to overlap with energy gaps resulting from sedentary activities such as watching television, playing video games, and surfing the internet. **Calorically dense snack foods** were found to have low nutritional value, with overlapping results with data pertaining to the energy gap. **Marketing & advertisement** retail stores were found to have high caloric and energy dense snack foods by the check-out counters, dump bins at end of the aisle, promotional deals, toys or prizes with purchase of a product, and packaging decorated with cartoons in bright colors. **Parental knowledge & attitudes** related to the incorrect perception of their children being within normal weight parameters when the child was overweight and was further influenced depending on the parent’s own BMI status. Parents who had a higher BMI were found to positively correlate with their child’s weight. All parents were found to feel a strong degree of responsibility for their children’s weight status but obese parents felt heightened responsibility than overweight (p=0.04) or normal weight parents. Parents reported several barriers in their ability to manage their child’s weight gain: 1) lack of knowledge, 2) issues with portion sizes, 3) cost of food, and 4) lack of time. The major limitations of this literature review was the lack of: a theoretical framework (13/15), relevance (11/15), and methodological quality (7/15).

**Conclusion:** The most impactful determinant of weight gain was found to be the caloric content of food rather than the food group itself. Portion size effect (PSE), a socially acceptable increase in portion-size, was found to be correlated with excess calorie consumption and weight gain, compounded by the human tendency to finish all food on the plate. Increased consumption of high energy dense (HED) foods (foods high in caloric value but low in nutritional value) coupled with the PSE was found to exacerbate the phenomenon of excess calorie consumption in school-age children. The relationship between PSE and HED foods was found to overlap with the
sedentary activity of watching television. Research using the WeCan! Model (Moore et al., 2009) proved useful in determining the necessity for a multiple tiered approach toward reducing childhood chronic overconsumption, requiring personal and systemic interventions. Future research may consider using a socioeconomic theoretical framework through which to further expound upon the relationship between personal agency and a structural framework impacting rates of childhood obesity.

Keywords: overconsumption, food, and children