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Comparing Low-income Mother and Fathers' Concern for Young Children's Weight

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ABSTRACT

Purpose: The objectives of this study were to compare the relationship of mother and father (1) perceived child weight and child body mass index (BMI) *z*-score, (2) concern for child's current weight and child BMI *z*-score, and (3) concern for child's future weight and child BMI *z*-score.
Design and Methods: This cross-sectional study included low-income mothers (n = 30) and fathers (n = 30) with a young child (3 to 10 years old) from the same household. Each parent completed select items from the Child Feeding Questionnaire (CFQ) with a trained interviewer. Child BMI *z*-score was calculated.
Results: There was a significant, positive relationship between fathers' perceived child weight and child BMI *z*-score ($p = 0.006$) and between fathers' concern for a child's future weight and child BMI *z*-score ($p = 0.001$) but not among mothers.
Conclusions: Cohabitating low-income parents of young children may have conflicting appraisals of their child's BMI *z*-score and concerns for their child's future weight, and low-income fathers may be more accurate and concerned about their children's weight.
Practice Implications: Based on findings from this study, healthcare providers including physicians and nurses should attempt to include fathers in discussions regarding their child's weight for obesity prevention, especially in low-income families.

Introduction

While mothers are still primarily responsible for child care responsibilities, fathers may be more involved in household duties and child feeding than previously recognized (Livingston, 2014), and may have a unique influence on a child's weight (Freeman et al., 2012). Because low-income children are at higher risk for obesity (Ogden, Carroll, Kit, & Flegal, 2014) and low-income fathers are rarely represented in research and health education programs (Davison et al., 2016) or childhood obesity prevention efforts (Morgan et al., 2017), it is essential to understand how low-income fathers may have an impact on their child's body weight.

Previous research has shown that mothers inaccurately perceive their child's weight status (Sylvetsky-Meni, Gillepsie, Hardy, & Welsh, 2015). In a study of mostly mothers, it seems that many parents do not recognize overweight or obesity, or parents misperceive weight status in their children (Sylvetsky-Meni et al., 2015). Furthermore, it has been found that a child classified in an underweight status is more concerning than child classified in an overweight or obesity status to low-income mothers (Sherry et al., 2004). This is problematic, especially if the child is overweight or obese (Kral, Moore, & Compher, 2015) because a parent's concern, or lack thereof for his/her child's weight may impact any childhood overweight or obesity prevention or intervention attempts by health professionals, including physicians, nurses, or dietitians (Moore, Harris, & Bradlyn, 2012).

To prevent overweight or obesity, parents' perception must not only be accurate about a child's weight status, but, it is also important that the parent is appropriately concerned about their child's weight. Among a sample of parents of overweight children, <10% of parents were actively attempting to intervene because of their child's weight status, even though almost 90% of parents correctly perceived their children as overweight or obese (Taylor, Williams, Dawson, Haszard, & Brown, 2015). This discrepancy between accurately perceived weight and action is important because parents may have greater motivation to make changes if they perceive their child at a higher weight and are also concerned about their child's weight (Taylor et al., 2015). Therefore, motivation may be highest when parents accurately perceive their child's overweight or obese status and are concerned about their child's weight.

Therefore, the objectives of this study were to compare the relationship of mother and father: (1) perceived child weight and child body mass index (BMI) *z*-score, (2) concern for child's current weight and child BMI *z*-score, and (3) concern for child's future weight and child

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BMI *z*-score. It was hypothesized that mothers' and fathers' concern for their child's current and future weight would be associated with children's BMI *z*-score.

Methods

Design

This study utilized a quantitative, cross-sectional design to assess a parent's perception of their child's weight status and concern for the child's current weight and future weight at one point in time.

Sample

This study was approved by the Purdue University Institutional Review Board for Human Subjects. A convenience sample of low-income mothers (n = 30) and fathers (n = 30) living together in the same household with a young child were recruited. Parents were recruited from low-income proxy sites (i.e. Head Start) as part of a larger multistate project focused on childhood obesity risk factors in young children. Parents were 18–50 years of age; cohabitating father or mother of at least one child between the ages of 3 and 10; able to understand English; living in Indiana; and eligible for certain government assistance programs (i.e. Head Start).

Setting

This study was conducted at a community site convenient for the parent. An example site is a Head Start center where the child was enrolled. Mothers and fathers completed three questions (5-point Likert scale) from the Child Feeding Questionnaire (CFQ) to assess a father's and mother's perceived child weight and concern for his/her child's current and future weight, previously validated with similar populations (Birch et al., 2001). Parents completed these three questions with a trained interviewer to reduce literacy issues. Height and weight were measured for each father, mother, and child using standard measuring techniques (Centers for Disease Control and Prevention, 2009) by a trained dietitian researcher to calculate body mass index (BMI) and BMI z-score (for child) (The Children's Hospital of Philadelphia Research Institute, 2014). Demographic information was also collected from each mother and father. All parents provided written consent prior to data collection and children provided assent. Mothers and fathers were each given $20 at the end of the interview.

Analysis

Statistical Package for the Social Sciences (SPSS) version 19 (Armonk, NY, 2010) was used for all data analysis. Descriptive statistics were calculated for all variables. Six separate linear regressions were conducted with child BMI z-score as the outcome variable and parental BMI as a control variable. Statistical significance was set at $p < 0.05$. The independent variables in each model included maternal perceived child weight, maternal concern for child's current weight, maternal concern for child's future weight, paternal perceived child weight, paternal concern for child's current weight, paternal concern for child's weight. Each regression tested the relationships between mother or father (1) perceived child weight and child BMI *z*-score, (2) concern for child's current weight and child BMI *z*-score, and (3) concern for child's future weight and child BMI *z*-score.

Table 1
Demographic characteristics and body mass index (BMI) of mothers, fathers, and their young children (n = 30).

Variable	Mothers (n = 30)		Fathers (n = 30)	
	Mean	(SD)[b]	Mean	(SD)[b]
Age (years)	29.61	(4.79)	32.82	(5.62)
BMI (kg/m^2)	32.24	(10.45)	32.17	(7.23)
	n	(%)[a]	n	(%)[a]
BMI classification				
Underweight (<18.5 kg/m^2)	1	(3)	0	(0)
Healthy (18.5–24.9 kg/m^2)	8	(27)	4	(13)
Overweight (25–29.9 kg/m^2)	4	(13)	12	(40)
Obese (>30 kg/m^2)	17	(57)	14	(47)
Race				
White	23	(77)	20	(67)
Black or African American	5	(17)	8	(27)
Other/Multiple Races	2	(7)	2	(7)
Ethnicity				
Hispanic	3	(10)	2	(7)
Non-Hispanic	27	(90)	28	(93)
Education level				
Less than high school	8	(27)	4	(13)
High school diploma/GED	6	(20)	10	(33)
Some college/technical school	14	(47)	16	(53)
4 year degree or more	2	(7)	0	(0)

Children (n = 30)	Mean	(SD)[b]	Range
Child age (years)	5.04	1.71	3.07–10.28
Child BMI *z*-score	0.55	(1.64)	
	n	(%)[a]	
Child gender (male)	15	(50)	
Child BMI classification[c]			
Underweight (<5th percentile)	2	(7)	
Healthy weight (5th to <85th percentile)	17	(57)	
Overweight (85th to <95th percentile)	3	(10)	
Obese (≥95th percentile)	8	(27)	

[a] Not all percentages may add to 100 due to either rounding or parents choosing multiple categories (i.e. race).
[b] SD = standard deviation.
[c] BMI-for-age was utilized to categorize weight status (Centers for Disease Control and Prevention, 2000).

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