



## Ethnic differences in parental feeding behaviors in UK parents of preschoolers



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### ABSTRACT

Childhood obesity is prevalent among ethnic minorities in the UK but little is known about parent feeding practices in these populations. We administered questionnaires assessing parental feeding behaviors and perceptions and concerns relating to child weight to White British ( $n = 271$ ), South Asian ( $n = 59$ ), and Black Afro-Caribbean ( $n = 42$ ) parents of UK 3–5 year-olds. Child BMI z-scores were determined from measured heights and weights. South Asian and Black Afro-Caribbean parents exhibited greater pressure to eat than White British parents. Black Afro-Caribbean parents additionally scored higher on instrumental feeding and lower on monitoring, while South Asian parents scored higher on emotional feeding. Black Afro-Caribbean parents reported the greatest concern about both child overweight and underweight. Ethnic differences were unchanged by controlling for perceptions and concerns relating to child weight, or for actual BMI z, parent education, or household income. Exploratory analyses suggested some evidence for sex differences within ethnic groups. For example, South Asian parents of daughters scored higher than White British parents of daughters on emotional feeding, with no ethnic differences apparent for parents of sons. Our findings support considering variation in parent feeding behaviors and weight-related attitudes by parental ethnicity and child sex when developing obesity interventions.

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## 1. Introduction

Obesity and overweight are prevalent among UK children (Ng Fat, 2015), and children of the two most numerous ethnic minority populations in the UK – Black Afro-Caribbean and South Asian (Jivraj, 2012; Office of National Statistics, 2012) – may be disproportionately affected. For example, the 1999 Health Survey for England data revealed that 13% of Afro-Caribbean girls, 9% of Pakistani boys, and 8% of Pakistani girls and Indian boys were obese, compared to 6% of boys and 6% of girls in the larger population (Saxena, Ambler, Cole, & Majeed, 2004). More recently, the National Child Measurement Programme for the 2014–15 school year found 15% of Black or Black British children, and 10% of Asian or Asian

British children to be obese, compared to an overall population obesity rate of 9% among children aged 4–5 years (Lifestyles Statistics Team, 2015). Further, when compared to White British children of same weight status, South Asian and Black Afro-Caribbean children have higher insulin resistance, diastolic blood pressure, and HbA1c, putting them at higher risk for commodities of obesity such as cardiovascular diseases and diabetes (Whincup et al., 2011). This makes it increasingly important to understand the origins of child obesity in these populations.

*Parent feeding and child eating behavior and weight.* Parents engage in various feeding practices to influence their child's eating behaviors (Clark, Goyder, Bissell, Blank, & Peters, 2007; Vollmer & Mobley, 2013). Restriction and pressure to eat as measured using the Child Feeding Questionnaire [CFQ] (Birch et al., 2001) may be thought of as reflecting an authoritarian parental feeding style (high in both demandingness and responsiveness) (Carnell, Benson, Driggin, & Kolbe, 2014; Hughes, Power, Orlet Fisher, Mueller, & Nicklas, 2005). Restriction has been defined as parents' limiting of the child's access to foods, particularly highly processed, energy-dense snack-foods, and is correlated with avid appetite, increased

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intake, and higher child weight status (Carnell, Kim, & Pryor, 2012; Faith, Scanlon, Birch, Francis, & Sherry, 2004; Jansen et al., 2014; Ventura & Birch, 2008). Pressure to eat, defined as parents' pressing their child to eat healthy foods at meal-times, has been related to lower appetite, lower fruit and vegetable intake, and lower child BMI (Carnell et al., 2012, 2014; Galloway, Fiorito, Lee, & Birch, 2005; Jansen et al., 2014; Ventura & Birch, 2008). However, findings have been inconsistent, with some studies showing no association between child weight/adiposity and restriction and pressure to eat (Campbell et al., 2010; Carnell & Wardle, 2007), and others suggesting that relationships may depend on the sex of the child (Rhee et al., 2009; Tschann et al., 2015) and the parent (Tschann et al., 2015).

In contrast, monitoring (measured by the CFQ (Birch et al., 2001)) and prompting to eat (measured by the Parental Feeding Style Questionnaire [PFSQ] (Wardle, Sanderson, Guthrie, Rapoport, & Plomin, 2002)) have been conceptualized as reflecting a more authoritative style (low in demandingness and high in responsiveness) (Carnell et al., 2014; Hughes et al., 2005). Monitoring, which may be defined as a milder form of restriction, seems to promote healthier eating behavior in children (Rodgers et al., 2013) and has been correlated with healthier BMI in some studies (Brann & Skinner, 2005; Jansen et al., 2014), but not others (Carnell & Wardle, 2007; Webber, Hill, Cooke, Carnell, & Wardle, 2010). The prompting to eat scale, which represents a gentler form of promoting intake than pressure to eat (Carnell et al., 2014), has not been used frequently in the literature. However, among African-American and Hispanic parents, a scale measuring authoritative feeding style was associated with greater fruit and vegetable consumption, while authoritarian feeding style was associated with lower fruit and vegetable availability and consumption, suggesting the authoritative feeding style to be more beneficial (Patrick, Nicklas, Hughes, & Morales, 2005).

Non-nutritive feeding practices include emotional feeding, that is, using food to influence the child's emotions, and instrumental feeding, that is, using food to reward certain behaviors. Both practices have been shown to be associated with the obesogenic eating behaviors in children such as increased snacking (Sleddens, Kremers, De Vries, & Thijs, 2010), and emotional and disinhibited eating (Rodgers et al., 2013). One commonly used measure of indulgent feeding style (low in demandingness but high in responsiveness) (Hughes et al., 2005) includes one item measuring instrumental feeding (*I reward my child with something to eat when s/he is well behaved*), and has been associated with increased consumption of low nutrient-dense foods (Hennessy, Hughes, Goldberg, Hyatt, & Economos, 2012) and higher child BMI (Hughes et al., 2005). However, other studies have shown no association between non-nutritive feeding practices and child appetite and weight (Carnell et al., 2014; Carnell & Wardle, 2007; Rodenburg, Kremers, Oenema, & van de Mheen, 2014).

*Ethnic differences in parent feeding behavior.* Parents of ethnic minorities may differ in the degree to which they engage in controlling and non-nutritive feeding behaviors. Studies have suggested that US parents of African-American and Hispanic backgrounds (Cardel et al., 2012; Spruijt-Metz, Li, Cohen, Birch, & Goran, 2006; Spruijt-Metz, Lindquist, Birch, Fisher, & Goran, 2002), and Black Afro-Caribbean parents in the UK (Blissett & Bennett, 2013), display more controlling feeding behaviors than their White counterparts. No published studies have reported on feeding behaviors among South Asian parents in the UK. However, one unpublished observational analysis of UK mothers of 1–2 year olds (Wilson, 2011) found that, during mealtimes, South Asian mothers provided less positive eating comments and positive social attention, and gave more negative specific instructions than non-Asian parents of predominantly White British origin, as well as

exhibiting less warmth in general parenting based on a self-report measure. The same study found that obese South Asian mothers reported more indulgent parenting and less authoritarian parenting than healthy-weight South Asian mothers. Another study in the US demonstrated that South Asian parents engaged in more non-nutritive feeding behaviors and pressure to eat than White American parents (Momin, Chung, & Olson, 2014). Differences in levels of controlling and non-nutritive feeding practices and in the home food environment have also been observed between different minority groups. For example, Hispanic parents in the US reported higher control and more child-responsive feeding strategies than African-American parents (Hughes et al., 2006). Importantly, relationships between parenting styles and feeding and child eating behavior and weight may depend on the cultural context, with feeding practices or styles having different effects on children of differing ethnic groups. For example, in contrast to findings in predominantly white populations, one study of African-American parents reported a *positive* correlation between pressure to eat and adiposity (Spruijt-Metz et al., 2006).

*Potential explanations for ethnic differences in parent feeding behavior.* Cultural differences in weight and food-related attitudes may drive ethnic differences in parent feeding behaviors that could in turn make the children of ethnic minorities more obesity prone. For example, evidence suggests that low-income African-American parents may have a higher threshold for perceived child overweight than low-income White and Hispanic-American parents (Sherry et al., 2004), with other evidence suggesting that parents may be more likely to engage in controlling feeding behaviors when they are more concerned about their child's weight (Gray, Janicke, Wistedt, & Dumont-Driscoll, 2010) and when their child is actually higher in weight (Polfuss & Frenn, 2012). Parents of ethnic minorities may hold different cultural attitudes towards food, such as associating greater food consumption and availability with higher social status (Kumanyika, 2008). A study of Asian-Indian mothers in the US found that feeding behaviors such as pressure to eat and use of food as a reward were driven by explicit efforts to encourage the consumption of Indian dishes and pass on cultural values of respecting and not wasting food (Momin et al., 2014). Qualitative evidence suggests that Afro-Caribbean parents perceive themselves as making efforts to both hold onto their family traditions and live healthily in a community context that they see as stressful and fast paced (Bramble, Cornelius, & Simpson, 2009) – a combination of factors that could lead to less responsive parenting practices. Minority families are more likely to have lower incomes, making them vulnerable to consuming cheaper, more energy-dense foods (Kumanyika, 2008), and previous research has shown raised obesity rates among UK Bangladeshi children to be driven by low SES, with a multitude of sociodemographic/cultural factors and family practices (e.g. parental education, English proficiency, regular bedtimes) contributing to raised obesity within the Black Afro-Caribbean population (Zilanawala et al., 2015). Minority parents may also experience more stress and depression, which have been associated with poorer feeding behaviors (Hurley, Black, Merry, & Caulfield, 2015).

There is also evidence for ethnic differences in general parenting practices, which could translate into differences in feeding behavior. For example, qualitative research in US African-American families has suggested that they may put a greater value on discipline, possibly in anticipation of the race- and SES- related difficulties they expect their children to face (Julian, McKenry, & McKelvey, 1994). A study of British Pakistani mothers of 7–11 years olds found that this group reported “following through on discipline” more than White British parents (Ali & Frederickson, 2011). Ethnic differences in feeding may also depend somewhat on child sex. Research has suggested that in South Asian culture,

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