Toddlers who develop overweight but not underweight may be perceived by their mothers as healthy

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Mothers of toddlers who have developed overweight tended to be more satisfied with their child’s body size, but less accurate in judging it. In contrast, mothers of underweight toddlers judged their child’s actual body size more accurately but also expressed more dissatisfaction over it – they would have liked their toddler to be larger. These are the findings by a team of US researchers from the University of Maryland and the Johns Hopkins Bloomberg School of Public Health.

Mothers (281) of toddlers (12-32 months) were recruited from two different child programme clinics in Maryland, USA, and provided with self-administered, computer-based questionnaires. Questions related to how they perceived their child’s body size, using the validated toddler silhouette scale. Accuracy was determined by asking mothers to respond to the question "Which picture looks most like your child?" in picking one of two silhouettes shown next to the baby's weight-for-length measurement. Satisfaction was determined by asking "Which picture do you want your child to look like?" and showing mothers the same silhouettes as in the accuracy-measurement.

Toddlers were measured and weighed in order to classify them as underweight (lower than the 15th percentile of all children measured), normal weight (from the 15th to the 85th percentile) or overweight (above the 85th percentile). Maternal height and weight was measured, too.

Almost two out of three mothers chose an inaccurate silhouette when asked how they thought their child looked like. Accuracy was highest for mothers of underweight toddlers and lowest for those with a child who had overweight. Satisfaction depended on the child's actual body size in that fewer mothers of underweight toddlers were happy with the body size of their child (33%), compared to those having normal weight (72%) or overweight (82%) toddlers. Heavier toddlers meant a higher satisfaction amongst their mothers.

Toddler age, sex, race or the mother’s age, marital status, education or socio-economic status did not influence the results. Future research, however, is suggested to include additional factors of cultural, social and community-level influence, in order to explain these findings further.

The weight status of a toddler often is regarded as an indicator of good parenting, particularly in the early years of a child when parents are solely responsible for the baby's nutritional intake, health and physical activity. As such, the authors argue that mothers may idealise their child to be of a normal size despite its actual (over-)weight status. In other words, whatever was perceived to be "normal" was perceived as good - mothers of toddlers who had overweight were more likely to think their child was of a healthy body size and thus had the highest levels of satisfaction.

An invited comment (Perrin 2012)
A growing body of literature suggests parents who accurately judge the weight of their children show more readiness and are more effective in making weight-related behavioural changes. Perceptual accuracy, however, is closely related to cultural values and the general perceptions of a society on what is healthy and what is "too much". The perceived norm of an average body size seems to have shifted, and it may be a question of early-on communication between the physician and parents that could "reset (...) nationally normed pictures of health."

For more information, see


Invited commentary