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SALTY TASTE PREFERENCE LINKED TO BIRTH WEIGHT

Smaller babies may have greater liking for salty taste

PHILADELPHIA (December 7, 2005) -- A new study from the Monell Chemical Senses Center may shed light on why some people like salt more than others. The results suggest that a person's liking for salty taste may be related to how much they weighed when they were born.

In a paper published in the *European Journal of Clinical Nutrition*, the Monell researchers report that individual differences in salty taste acceptance by two-month old infants are inversely related to birth weight: lighter birth weight infants show greater acceptance of salt-water solutions than do babies who were heavier at birth.

According to lead author Leslie Stein, Ph.D., "The early appearance of this relationship suggests that developmental events occurring *in utero* may have a lasting influence on an individual's preference for salty taste."

A similar relationship was found in a subset of the same children at preschool age, suggesting that the relationship between salty taste preference and birth weight persists at least through early childhood, a critical time for the formation of flavor and food preferences.

By studying individual differences in liking for salty taste, scientists hope to obtain needed insights into the underlying factors driving salt preference and intake. Such information could potentially be used in programs designed to reduce salt intake, which is believed by many to contribute to the development and maintenance of high blood pressure.

Although salty taste is intrinsically appealing to humans, the basic mechanisms underlying detection and acceptance of salty taste are not well understood. According to Monell Director Gary Beauchamp, Ph.D., a co-author on the study, "The development of practical and successful methods to reduce salt intake likely will not be possible without a more thorough understanding of exactly how humans detect salty taste and the factors that modify salty taste acceptance."

In the study, 80 healthy babies weighing at least 5.5 lb. (2.5 kg) at birth were given separate bottles containing plain water and salt water. When the amount of salt water the babies drank was compared to the amount of plain water, preference for the salt water was greater in lower-birth weight babies, while higher birth weight babies tended to reject the salty water.

When salty taste acceptance was assessed in 38 of the same children at preschool age (3-4 years), measures of salty taste acceptance were once again related to birth weight, with increased liking and preference for salty foods evident in lower birth weight children.

Stein, a biopsychologist, notes, "Because similar relationships were not found for sweet foods, the data suggest that there is a specific and enduring relationship between birth weight and salty taste acceptance. Now additional studies are needed to determine whether birth weight predicts salt preference and, even more importantly, salt intake, in older children and adults."

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The Monell Chemical Senses Center is an independent nonprofit basic research institute based in Philadelphia, Pennsylvania. For 35 years, Monell has been the nation's leading research center focused on understanding the senses of smell, taste and chemical irritation: how they function and affect lives from before birth through old age. Using a multidisciplinary approach, scientists collaborate in the areas of: sensation and perception, neuroscience and molecular biology, environmental and occupational health, nutrition and appetite, health and well being, and chemical ecology and communication. For more information about Monell, please visit www.monell.org.

Citation: Stein LJ, BJ Cowart, and GK Beauchamp. Salty taste acceptance by infants and young children is related to birth weight: longitudinal analysis of infants within the normal birth weight range. *European Journal of Clinical Nutrition* advance online publication 23 November 2005; doi: 10.1038/sj.ejcn.1602312.

Funding: National Institute on Deafness and Other Communication Disorders, National Institutes of Health

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