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Like parent, like child? Intuitive eating among emerging adults and their parents

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Abstract

Intuitive eating (IE) emphasizes relying on hunger and satiety cues to guide eating, and is associated with positive mental health and health-promoting behaviors. Although parents' own eating patterns often shape those of their children, no known research has explored familial associations of IE. The purpose of this cross-sectional, population-based study was to examine IE concordance between emerging adults and their parents, and whether concordance differed across sociodemographic characteristics and weight perceptions. The analytic sample included 891 emerging adults ($M_{age}=22.0$) and their primary parent ($M_{age}=50.4$) who participated in the population-based, longitudinal EAT and F-EAT 2010-2018 studies. Parents and emerging adults were grouped into dyads based on IE concordance: (1) neither are intuitive eaters; (2) only the emerging adult is an intuitive eater; (3) only the parent is an intuitive eater; (4) both are intuitive eaters. Dyads differed across socioeconomic status (SES), race/ethnicity, and weight perceptions. Concordant dyads who ate intuitively were more likely to be at higher SES and perceive their weight as "about right" than concordant dyads who did not eat intuitively. Asian emerging adults were most likely to belong to concordant non-intuitive eater dyads. Emerging adults who shared their parent's perception their weight was "overweight" were less likely to be intuitive eaters (even if their parents were). In this sample, sociodemographic characteristics and weight perceptions were related to IE concordance among emerging adults and their parents. Lower SES might be an intergenerational barrier to IE disproportionately impacting communities of color, though longitudinal data are needed. Results also suggest rather than motivating healthful eating, perceiving one's weight as "overweight" could hinder IE. Differences across sociodemographic variables likely intersect in meaningful ways, which is an important future research direction.

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Keywords

eating behaviors; development; emerging adulthood; parent feeding

1. Like parent, like child? Intuitive eating among emerging adults and their parents

Intuitive eating (IE) is an approach that is often recognized for its emphasis on relying on hunger and satiety cues to guide eating behaviors, rather than diets or emotions (Tribole & Resch, 2020). Accumulating data highlight IE's positive associations with indices of psychological and physical health and health-promoting behaviors (Bruce & Ricciardelli, 2016; Linardon et al., 2021; Schaefer & Magnuson, 2014; Van Dyke & Drinkwater, 2014). For instance, there is growing research suggesting IE is associated with favorable dietary patterns (e.g., increased fruit and vegetable intake), greater self-esteem, better emotional functioning, weight stability, and body appreciation (Christoph et al., 2021; Quansah et al., 2019), and lower depressive symptoms, weight-bias internalization, body dissatisfaction, and disordered eating (Burnette & Mazzeo, 2020; Hazzard et al., 2021; Webb & Hardin, 2016). Moreover, there is some evidence IE can have desirable effects on health indicators (e.g., HbA1c; Quansah et al., 2019; Van Dyke & Drinkwater, 2014) and physical activity motivation (Gast et al., 2015).

Despite this growing body of research, relatively little is known about factors that facilitate IE development or maintenance. IE is hypothesized to be innate, with social, cultural, and environmental factors disrupting internal regulation and leading to maladaptive eating patterns and behaviors (Tribole & Resch, 2020). However, according to the acceptance model of IE (Andrew et al., 2014; Avalos & Tylka, 2006), social support and body acceptance by others help individuals resist self-objectification and appreciate their bodies, thereby fostering IE. Therefore, the influence of close relationships appears potentially relevant to the development and maintenance of IE. Given eating behaviors first develop within the home environment, it seems parents would play an important role in fostering IE. In particular, parents' own eating patterns appear powerful in shaping those of their children. For example, results of a longitudinal study found that parents' fruit, vegetable, and dairy intake during adolescence predicted their young adult children's consumption of these foods five years later (Arcan et al., 2007). Maladaptive eating patterns can also be shared across generations, with intergenerational research finding parents' own restrictive eating and dieting practices were associated with their adolescent children's use of such behaviors (Neumark-Sztainer et al., 2010; Wertheim et al., 1999). Thus, it seems likely parents' own IE would be related to IE in their children. However, to our knowledge, there is no research examining concordance of IE across parents and their children.

There is considerable research on the associations between parent and child eating behaviors in early life when parents remain primarily responsible for feeding. Although these data are particularly valuable to inform early intervention, relatively little is known about the degree of influence parents continue to have into adulthood, nor factors that might affect this association. Emerging adulthood, which represents the transitional period between

adolescence and adulthood, often involves greater responsibility—both generally and with regard to food and eating—and shifting roles in family relationships (Aquilino, 2006; Arnett, 2014). Examining IE concordance as children begin establishing their independence may be particularly informative, as emerging adulthood is a crucial developmental stage during which lifelong health behaviors are often established (Arnett et al., 2014; Nelson, 2020). Therefore, the purpose of this population-based study was to examine the cross-sectional concordance of IE between emerging adults and their primary parent. Because eating behaviors develop in a broader context and are affected by sociodemographic factors (e.g., Mitchison & Hay, 2014), we examined whether concordance differed across age, gender, race/ethnicity, socioeconomic status (SES), education, and living situation. Further, we evaluated associations between IE concordance and weight perceptions (emerging adult and parent perceptions of their own weight and parent’s perception of the emerging adult’s weight), as there is evidence weight perceptions are related to feeding and eating practices among parents and children (Birch & Fisher, 2000; Zhang et al., 2018). Given the lack of extant data on the concordance of IE between parents and their emerging adult children, we made no a priori hypotheses. Rather, this study is descriptive in nature, aiming to elucidate sociodemographic and contextual factors that might affect the adoption of health-promoting attitudes and behaviors modeled by parents. As IE appears to be a particularly protective eating style that confers both physical and mental health benefits (Linardon et al., 2021), these data will be critical for informing effective interventions that prevent and reduce maladaptive eating behaviors.

2. Method

2.1 Study Design and Population

Data were collected from the coordinated EAT 2010-2018 (Eating and Activity over Time; Neumark-Sztainer et al., 2013, 2021) and Project F-EAT (Families and Eating and Activity over Time; Neumark-Sztainer et al., 2014) studies. EAT 2010-2018 is a population-based, longitudinal study of dietary intake, physical activity, and weight control behaviors during adolescence and emerging adulthood. Project F-EAT examined relevant factors within the family and home environment. For EAT 2010, students at 20 urban public middle and high schools in Minneapolis-St. Paul, Minnesota completed surveys administered in classrooms during the 2009-2010 academic year. Participants completed the follow-up EAT 2018 surveys online or by mail in 2017-2018 as emerging adults; responses were received from 65.8% of the original sample. At both waves, participants were asked to identify up to two parents/caregivers to provide data for F-EAT.

For Project F-EAT, the same parents/caregivers were invited at each time point unless the EAT 2010-2018 participant identified a new parent at EAT 2018. There was a cohort sample of EAT 2010-2018 participants that had one or more parent/caregiver with complete responses to both F-EAT surveys, including 501 women, 403 men, and 8 participants who reported another gender identity (e.g., transgender, non-binary). At both time points, parents had the option of responding to a paper survey by mail or completing a phone survey; at follow-up, parents were also able to complete surveys online. The paper survey and phone interview were available in the language options of English, Spanish, Somali, and Hmong to

meet the needs of the culturally diverse population. All study procedures were approved by the University of Minnesota's Institutional Review Board Human Subjects Committee.

The analytic sample for this cross-sectional analysis included 891 emerging adults (53.1% female, 45.8% male, 0.7% another identity [participants self-identified as agender, intersex, non-binary, and transgender]; $M_{age}=22.0\pm 2.0$) and their primary parent (78.2% female, 21.8% male; 74.2% mothers, 18.4% fathers, 3.1% other female relatives, 2.0% stepfathers, 1.3% other male relatives, 1.1% stepmother; 50.4 years ± 8.0) who each provided IE data at EAT 2018. Because some youth had multiple parents fill out surveys, to avoid weighting their responses more heavily in analyses, we used an algorithm to determine the primary parent. This algorithm included: (1) whether the parent lived with the youth most, some, or none of the time, (2) the number of meals eaten together in the last seven days, (3) degree of responsibility for household food tasks, (4) degree of parental involvement in the youth's life (e.g., making life decisions for child, intervenin in disputes on youth's behalf; Padilla-Walker & Nelson, 2012). This algorithm determined the primary parent for all but 10 participants. These 10 participants had identical responses for each parent survey and were thus excluded from analyses due to inability to determine a primary parent.

Attrition from EAT and F-EAT 2010 did not occur completely at random. Thus, inverse probability weighting (IPW), which minimizes potential response bias due to missing data and allows for extrapolation back to the original EAT 2010 sample, was used to account for missing data (Pfeffermann, 1996; Seaman & White, 2013). Weights for IPW were derived as the inverse of the estimated probability that an individual responded at the two time points and had a parent respond to F-EAT in 2018.

The weighted sample of emerging adults were diverse across race/ethnicity; 20.4% identified as Asian (82.4% Hmong, 5.5% Vietnamese, 4.4% Laotian, and 3.8% Cambodian), 28.0% as Black or African American (6.4% Ethiopian, 6.0% Somali), 16.2% as Hispanic/Latinx, 15.1% as multiracial or "other" (59.8% Native American), and 20.0% as White. Most of the sample (60.1%) were at low/lower middle SES, with 18.6% at middle SES, and 21.4% at upper middle/high SES. During the prior year, 55.9% of emerging adults lived with their parents most of the time, 18.9% some of the time, and 23.6% none of the time. Most emerging adults (63.3%) had completed some college, with 44.3% currently in school. Primary parent educational attainment was: 40.6% high school or less, 29.7% some college, 19.5% postsecondary degree, and 7.9% advanced degree. Slightly over half of emerging adults (51.8%) and nearly two-thirds of parents (62.2%) perceived their own weight as "overweight." Fewer perceived their weight as "about right" (36.9% of emerging adults, 31.4% of parents), and only 10.6% of emerging adults and 6.0% of parents perceived their own weight as "underweight." Most parents perceived the emerging adult's weight as "about right" (60.4%), with 28.6% perceiving it as "overweight" and 9.3% "underweight."

2.2 Survey Development

Modifications to the EAT 2010 surveys were implemented to improve the relevance of items for emerging adults. Additions to the survey reflected an emphasis on social and environmental factors (e.g., various forms of stigma, traumatic events, interpersonal relationships, and institutional environments) affecting eating, activity, and weight-related

outcomes (Bucchianeri et al., 2013; Neumark-Sztainer et al., 2020, 2021). Key items were included at both waves to allow for longitudinal comparisons, with wording modified when appropriate to reflect secular trends and the developmental transition from adolescence to emerging adulthood. Focus groups ($n=29$) informed the development of the EAT 2018 survey, which was then piloted with a subgroup of 112 emerging adults who completed the survey twice within three weeks.

A similar process was employed to update the F-EAT 2010 surveys. Key measures assessing the family/household environment were retained at both time-points. Changes and additions to F-EAT 2018 surveys reflected the age of the respondent's child. A panel of content area experts and multicultural research staff reviewed the survey measures to address cultural sensitivity. Parents of young people then pilot-tested the survey. Once finalized, a subgroup of 108 parent participants completed the F-EAT 2018 survey twice within a period of two months to examine test-retest reliability. For further details on survey development, see Larson et al. (2011).

2.3 Measures

2.3.1 Intuitive Eating—Three items adapted from the Intuitive Eating Scale (IES; Tylka, 2006; Tylka & Kroon Van Diest, 2013) assessed the degree to which emerging adults and parents used hunger and satiety cues to guide eating (Hazzard et al., 2021). These items included: “I stop eating when I feel full” (Eating for Physical Rather than Emotional Reasons IES subscale), “I eat everything that is on my plate, even if I’m not that hungry” (part of the item pool on the original IES Eating for Physical Rather than Emotional Reasons subscale), and “I trust my body to tell me how much to eat” (Reliance on Hunger/Satiety Cues IES subscale). Items were rated on a 4-point scale, from 1=*Hardly ever* to 4=*Almost always* (the neutral response option in the IES was omitted from the present study for consistency across other scales on the Project EAT survey using four-point scales). The second item was reverse-scored, and items were averaged to derive an overall IE score, with higher scores indicating higher levels of IE (emerging adult McDonald’s $\omega = 0.61$, test-retest $r = 0.57$; parent McDonald’s $\omega = .058$, test-retest $r = 0.61$).

2.3.2 Demographics—Emerging adults self-reported their gender, age, race/ethnicity, living situation (lived with parent in the past year most, some, or none of the time), education/student status, height, and weight (weight: $r = .99$, height: $r = .97$), and self-perceived weight status (“underweight,” “about the right weight,” and “overweight”; test-retest $r=0.85$). A classification and regression tree-based algorithm determined household socioeconomic status (SES) based on parent educational attainment, employment status, and public assistance receipt during the youth’s adolescence (test-retest $r=0.90$; Neumark-Sztainer et al., 2003). Parents reported their perceptions of their own and the emerging adult’s weight status (parent and youth test-retest $r=0.79$).

2.4 Data Analysis

Data preparation and analyses were conducted in R Studio v1.4 (R Core Team, 2021). All analyses incorporated IPW, with statistical significance set at $p < .05$.

To examine concordance between parent and emerging adult IE, we dichotomized IE scores, with individuals scoring ≥ 3 (i.e., consistent with eating intuitively “most” or “all” of the time) designated as “intuitive eaters” (i.e., coded as 1) and those <3 designated “not intuitive eaters” (i.e., coded as 0). As the median IE score was 3, sample sizes were fairly balanced between groups. Although dichotomizing variables can lead individuals scoring along the periphery of the designated threshold to be mis-categorized, we used this approach to aid in interpretation of factors differentiating dyads. Test-retest agreement values of the dichotomous IE variables were: 75.7% (emerging adults); 72.2% (parents). We then grouped parent/child dyads into one of four categories: (1) concordant non-intuitive eaters (both scoring 0); (2) emerging adult-only intuitive eater (emerging adult scoring 1, parent scoring 0); (3) parent-only intuitive eater (parent scoring 1, emerging adult scoring 0); and (4) concordant intuitive eaters (both scoring 1). Descriptive statistics were calculated and independent and paired-samples t-tests conducted to examine whether IE scores differed between emerging adult men and women and emerging adults and their parents. To examine differences between dyads on categorical (e.g., race/ethnicity) and continuous variables (e.g., age), we conducted chi-square tests and one-way ANOVAs with post-hoc Tukey’s test, respectively. Significant chi-square tests were followed with pairwise comparisons to evaluate the nature of differences.

3. Results

IE scores, which ranged from 1 to 4, were significantly higher in parents ($M=2.95$) than emerging adults ($M=2.86$), $t(1793)=-3.09$, $p=.002$. Nevertheless, the proportion of parents categorized as intuitive eaters (57.3%, $n=510$) did not significantly differ from emerging adults (52.4%, $n=467$), $\chi^2(1)=3.09$, $p=.08$.

Parents identifying as female ($n=687$) had significantly higher IE scores ($M=2.98$) than parents identifying as male ($n=194$; $M=2.85$), $t(336)=2.49$, $p=.01$, and were more likely to be intuitive eaters (women: 58.9%; men: 51.2%), $\chi^2(1)=4.01$, $p=.05$. The only significant difference to emerge across parent role was that mothers reported significantly higher IE ($M=2.98$) than stepfathers ($M=2.54$), $F(5, 888)=2.81$, $p=.02$.

There were no significant differences in IE scores across emerging adult men ($M=2.83$), women ($M=2.89$), and those with another gender identity ($M=2.68$), $F(2, 885)=1.87$, $p=.16$. Slightly over half of men (50.4%, $n=206$) and women (54.0%, $n=255$), and 33.2% of those identifying as another gender ($n=2$) were intuitive eaters, $\chi^2(2)=3.57$, $p=.17$.

3.1 Dyads

There were 891 dyads of emerging adults and their parents; 31.2% were concordant intuitive eaters ($n=279$), 21.1% discordant emerging adult-only intuitive eaters ($n=188$), 26.0% discordant parent-only intuitive eaters ($n=232$), and 21.7% concordant non-intuitive eaters ($n=193$).

Significant differences emerged across: race/ethnicity, $\chi^2(12)=27.17$, $p<.01$; SES, $\chi^2(6)=18.34$, $p<.01$; parent age, $F(3, 789)=3.72$, $p=.01$; living situation, $\chi^2(6)=14.64$, $p=.02$; emerging adult weight perception, $\chi^2(6)=54.88$, $p<.001$; parent weight perception,

$\chi^2(6)=16.31, p=.01$; and parent perception of emerging adult weight, $\chi^2(6)=28.14, p<.001$. Statistically significant pairwise comparisons are described below and presented visually in Figures 1-3.

There were no significant differences across dyads by emerging adult age, gender, education, or student status, by parent role or gender, or by gender concordance within dyads. See Supplementary Materials for full descriptive data by dyads, including results of nonsignificant analyses.

3.1.1 Concordant Intuitive Eaters—This category had the lowest proportion of Asian emerging adults (15.5%); proportions of other racial/ethnic categories were comparable. Concordant intuitive eater dyads were more likely to be of upper middle/high SES (35.3%) than concordant non-intuitive eater dyads (19.0%) and discordant parent-only dyads (20.7%).

Emerging adults were more likely to perceive their weight as “about right” (50.0%) and less likely to perceive it as “overweight” overall (41.4%) and relative to dyads where the emerging adult was not an intuitive eater (i.e., discordant parent-only and concordant non-intuitive eater dyads). The same pattern emerged for parent perceptions of their own weight; although over half (58.3%) perceived their weight as “overweight,” this was significantly lower than parents in emerging adult-only dyads (71.0%). Similarly, parents were more likely to describe the emerging adult’s weight as “about right” (70.5%) than “overweight” (20.7%) overall, and relative to dyads where the emerging adult was not an intuitive eater.

3.1.2 Discordant Dyads with Emerging Adult Being an Intuitive Eater—Over a quarter of White emerging adults (27.4%) were intuitive eaters but had primary parents who were not, a significantly higher proportion than Black emerging adults (19.3%). Discordant emerging adult-only dyads comprised a significantly smaller proportion of families at low/lower middle SES (19.3%) than discordant parent-only dyads (29.5%), and fewer were of middle SES (22.0%) than concordant intuitive eaters (40.3%). Emerging adults in this category were more likely to live at home *some* of the time (29.5%) versus those in discordant parent-only dyads (20.7%).

Emerging adults in these dyads were more likely to describe their weight as “about right” (45.9%) overall and relative to dyads where the emerging adult was not an intuitive eater (23.4-25.9%). Parents in these dyads were more likely to describe their own weight as “overweight” (71.0%) than “about right” (24.2%), but most commonly perceived their emerging adult’s weight to be “about right” (64.5%).

3.1.3 Discordant Dyads with Parent Being an Intuitive Eater—There were significantly more Black (31.3%) than White emerging adults (13.9%) who were not intuitive eaters, but whose primary parents were. Most discordant parent-only dyads were of low/lower middle SES (67.7%) overall and relative to concordant intuitive eater dyads (52.7%). Emerging adults in this category were more likely to live at home *most* of the time (29.1%) than those in discordant emerging adult-only dyads (19.5%).

Most emerging adults in these dyads perceived their weight as “overweight” (62.6%) and were less likely to describe their weight as “about right” (25.9%) than dyads where the emerging adult was an intuitive eater (45.9-50.0%). Parents were more likely to perceive the emerging adult’s weight to be “overweight” (37.0%) than in dyads where the emerging adult was an intuitive eater (20.7-23.5%).

3.1.4 Concordant Non-Intuitive Eaters—Significantly more emerging adults in concordant non-intuitive eater dyads identified as Asian (30.1%) than any other race/ethnicity, and relative to concordant intuitive eater dyads (15.5%). Almost two-thirds of concordant non-intuitive eaters were of low/lower middle SES (66.9%), a significantly higher proportion than concordant intuitive eaters (52.7%). Parents were 2.68 years younger on average ($M=48.8\pm 7.3$) than those in discordant parent-only dyads (51.5 ± 8.1).

Most emerging adults (63.0%) and parents (61.1%) in this category described their own weight as “overweight.” Parents in this category were more likely to describe the young adult’s weight as “overweight” (37.2%) than parents in dyads where the emerging adult was an intuitive eater (20.7-23.5%).

4. Discussion

The purpose of this study was to examine concordance between parent and emerging adult IE and whether concordance differed across sociodemographic factors and weight perceptions. Approximately half of dyads were concordant in intuitive eating. The largest group (just under a third of dyads) were concordant intuitive eaters and the smallest group (less than a quarter) were discordant dyads where only the emerging adult was an intuitive eater. This latter finding, together with IE being higher in parents, could indicate important developmental and generational differences. For instance, emerging adulthood is a period of heightened appearance concerns (Vangeel et al., 2018), and emerging adults are more likely than adults in their parents’ generation to use visual-based social media platforms (e.g., TikTok, Instagram; Auxier & Anderson, 2021), which are linked to body dissatisfaction and disordered eating (Holland & Tiggemann, 2016; Marengo et al., 2018; Saiphoo & Vahedi, 2019). As IE is consistently negatively associated with body dissatisfaction and disordered eating (Bruce & Ricciardelli, 2016; Denny et al., 2013), it is possible these appearance-related pressures and concerns could contribute to emerging adults being less likely to trust and honor their hunger and satiety cues than their parents. Interestingly, prior work found that women ages 40-65 reported *lower* IE scores than emerging and early adult women (Augustus-Horvath & Tylka, 2011). The sample in Augustus-Horvath and Tylka’s (2011) was female, primarily White, and middle SES, whereas participants in this study were diverse across race/ethnicity, gender, and socioeconomic status. Given the observed differences in concordance across sociodemographic factors, it is possible the reason we observed higher IE among parents than emerging adults, counter to the prior literature, is partially due to differences in sample characteristics.

Differences in SES, living situation, race/ethnicity, and weight perceptions emerged across dyads. First, dyads where both emerging adults and their parents ate intuitively were more likely to be at higher SES than dyads where neither ate intuitively, which were more likely

to be at lower SES. IE emphasizes eating when physically hungry, stopping when full, and eating foods that are satisfying and nourishing (Tribole & Resch, 2020). This approach might be less viable or accessible for families at low SES who face considerable structural inequities preventing dependable access to a variety of nutritious foods (Ball, 2015; Fiscella & Williams, 2004). Indeed, childhood experiences of low SES and food insecurity are related to eating in the absence of hunger and lower diet quality even into adulthood (Drewnowski & Specter, 2004; Hill et al., 2016; Proffitt Leyva et al., 2020). Parents in low SES households also might have lacked sufficient resources to model IE for their children across childhood and adolescence. For instance, parents in food insecure households often restrict their own meals so their children can eat (Ovenell et al., 2022). Moreover, SES is often intergenerational (Carvalho, 2012), meaning some parents in low SES households may not have observed their own caretakers modeling IE. Differences in SES also might have contributed to the finding that emerging adults in concordant intuitive eater dyads were more likely than those in concordant non-intuitive eater dyads to have lived away from home over the last year, as emerging adults from higher SES backgrounds often have more mobility and opportunities to leave (Britton, 2013). Thus, SES appears to contribute to IE concordance, potentially through structural and intergenerational factors like food security and mobility.

The most notable finding regarding race and ethnicity was that Asian emerging adults were particularly likely to belong to concordant non-intuitive eater dyads and particularly unlikely to belong to dyads where only the emerging adult was an intuitive eater. The disproportionate representation of Asian emerging adults in concordant non-intuitive eater dyads might reflect important intersections between ethnicity and SES, as over 70% of Asian emerging adults in this sample were from low/lower middle SES backgrounds. As noted, the structural inequities faced by individuals of low SES often persist across generations, contributing to and widening health disparities, particularly among historically and systematically oppressed racial and ethnic groups (Bowles & Gintis, 2002; Rodriguez, 2018; Solon, 1999). The intergenerational transmission of SES might also contribute to the finding that Asian emerging adults were particularly unlikely to be intuitive eaters if their parents were not. Asian emerging adults from low SES backgrounds might have continued to face barriers to consistent access to foods, which could have disrupted their ability to eat according to their internal cues. This finding might also reflect the East Asian cultural values of interdependence (i.e., viewing oneself in relation to, rather than separate from, others) and filial piety (i.e., respect for elders; Kawamura, 2011; Markus & Kitayama, 2010; Smart et al., 2011). That is, Asian emerging adults might be more likely to adopt the eating patterns of their parents out of respect and a shared sense of self than emerging adults from cultural groups with more individualistic values.

Parents and emerging adults in concordant intuitive eater dyads were more likely to perceive their own weight as “about right,” whereas concordant non-intuitive eaters were more likely to perceive their weight as “overweight.” This finding is not surprising in light of the well-documented inverse association between body mass index (BMI) and IE (Camilleri et al., 2016; Christoph et al., 2021), which is often presented as evidence IE might be a valuable strategy for weight management. Weight stigma, sociocultural factors, and SES likely contribute to the lower IE observed in individuals whose BMIs are categorized as above “normal.” Weight stigma, the devaluation of individuals of higher weight, is a pervasive

form of stigma that is often considered socially acceptable (Brownell, 2005). Because weight is seen as within one's control, individuals of higher weight often experience blame and sociocultural pressure from multiple sources (e.g., healthcare providers, mass media) to reduce their weight (Papadopoulos & Brennan, 2015; Vartanian et al., 2014). Thus, those who perceive their weight as "overweight" might internalize a notion that they cannot or should not rely on their internal cues to guide eating and instead need to follow dietary rules or restrictions (Duffy et al., 2020; Tylka et al., 2019). However, dieting is associated with weight cycling, increased likelihood of binge eating, and is often a precursor to eating disorders, whereas IE is associated with numerous psychosocial benefits (e.g., self-esteem), weight stability, and lower recurrence of binge and other forms of disordered eating (Goldschmidt et al., 2012; Hazzard et al., 2021; Linardon et al., 2020, 2021; Mann et al., 2007; Stice & Ryzin, 2019; Tylka et al., 2019), suggesting IE would be a more favorable and sustainable approach irrespective of BMI. Finally, SES likely further contributes to the well-documented negative association between IE and weight status by creating barriers to accessing a variety of nutritious and satisfying foods known to affect weight status (Ball, 2015; Drewnowski & Specter, 2004).

The primary factor distinguishing discordant from concordant dyads was how the parent and emerging adult perceived the emerging adult's weight. In discordant dyads where only the parent was an intuitive eater, it was common for both emerging adults and parents to perceive the emerging adult's weight as "overweight." Conversely, in discordant dyads where only the emerging adult was an intuitive eater, it was more common for both the parent and emerging adult to describe the emerging adult's weight as "about right." Research suggests child weight perceptions are influenced by their parents' perceptions (Hahn et al., 2021; Huang et al., 2009) and that adolescents who perceive their weight as "overweight" are more likely to engage in disordered eating behaviors and use diet pills, and less likely to engage in healthful eating and physical activity behaviors (Hazzard et al., 2017; Sonnevile et al., 2016). It is possible parents who perceived their child's weight as "overweight" were more likely to encourage dieting or other weight control behaviors that could hinder the young person from trusting or relying on their own internal cues to guide eating. As parental weight concerns are associated with adolescents' body dissatisfaction and disordered eating (especially in girls; Neumark-Sztainer et al., 2010; Neumark-Sztainer et al., 2007), future research should examine whether parent weight concerns (both personal and directed at the child) affect the development of IE in young people.

To our knowledge, this is the first study to evaluate concordance of IE between emerging adults and their parents. A major strength of this study was evaluating these associations in a large, population-based sample of emerging adults and their parents who are diverse in race, ethnicity, and SES. Limitations include the cross-sectional data which preclude establishment of temporal relations. We used a brief IE measure to reduce participant burden in this longitudinal, population-based study, which also assessed several other relevant body image, eating, and weight-related variables. Internal consistency of the brief IE measure was lower than generally accepted as good, which could be due in part to attempting to capture two aspects of IE (i.e., eating for physical rather than emotional reasons and reliance on hunger and satiety cues) versus a single construct. Moreover, internal consistency displays a positive relation with the number of items and does not itself provide evidence for

unidimensionality (Schmitt, 1996). The low internal consistency of the IE measure may be less of a concern, however, given that IE scores were used to inform dyad groups rather than analyzed in their raw form in the main analyses. Although we included items assessing two aspects of IE, our measure does not capture IE's full breadth. Thus, future work should measure the full IE construct to examine whether certain IE domains (e.g., unconditional permission to eat when hungry) are more or less likely to be shared between emerging adults and their parents. We also dichotomized IE to facilitate comparisons across concordance and discordance which may have resulted in the mis-categorization of some individuals.

Findings highlight that sociodemographic characteristics and weight perceptions are related to IE and its concordance among emerging adults and their parents. Because differences emerged across several sociodemographic variables, it is likely these factors intersect in meaningful ways. Thus, examining the interactions among sociodemographic factors, such as race, ethnicity, and SES, will be important in elucidating key sociocultural determinants of IE to inform future intervention efforts. It appears lower SES could be a barrier to IE that may be intergenerational, though longitudinal data are needed to evaluate temporality. It will also be important to disentangle aspects of SES that contribute to IE, such as the individual and additive effects of factors such as food insecurity and inadequate access to nutritious foods, and whether these differ across racial and ethnic groups. Parents and emerging adults who perceived their weight as "overweight" were less likely to trust and use their internal hunger and satiety cues to guide eating. Longitudinal research should examine how parental perceptions of their own and their child's weights affect IE development and maintenance, as well as the potential moderating role of weight concerns. Finally, given the accumulating data on the associations of IE with positive mental health indices and health-promoting behaviors, and the potential for health disparities to further widen due to differences in IE by SES, it will be crucial to evaluate not only how to promote IE on an individual level, but also remove barriers at a public health level.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Data Availability Statement:

Data and code will be made available upon reasonable request and the lead author has full access to the data reported on in the manuscript.

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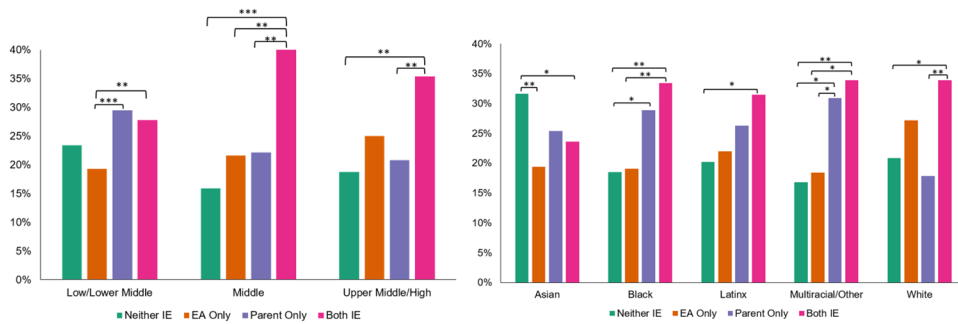


Figure 1.

IE concordance by SES and race. Bars represent the proportion of individuals within each SES or racial category represented in each concordance dyad. For instance, 40.2% of dyads at middle SES were concordant intuitive eaters (“Both IE”), whereas only 15.9% of those at middle SES were concordant non-intuitive eaters (“Neither IE”). Among Asian young adults, 31.6% belonged to concordant non-intuitive eater dyads (“Both IE”) and 19.4% belonged to discordant emerging adult-only intuitive eaters (“EA Only”). Neither IE=Neither parent nor emerging adult are categorized as intuitive eaters. EA Only=Emerging adult is categorized as an intuitive eater, parent is not; Parent Only=Parent is categorized as an intuitive eater, emerging adult is not. Both IE=Both parent and emerging adult are categorized as intuitive eaters. Brackets denote significant pairwise comparisons between categories. * $p < .05$, ** $p < .01$, *** $p < .001$

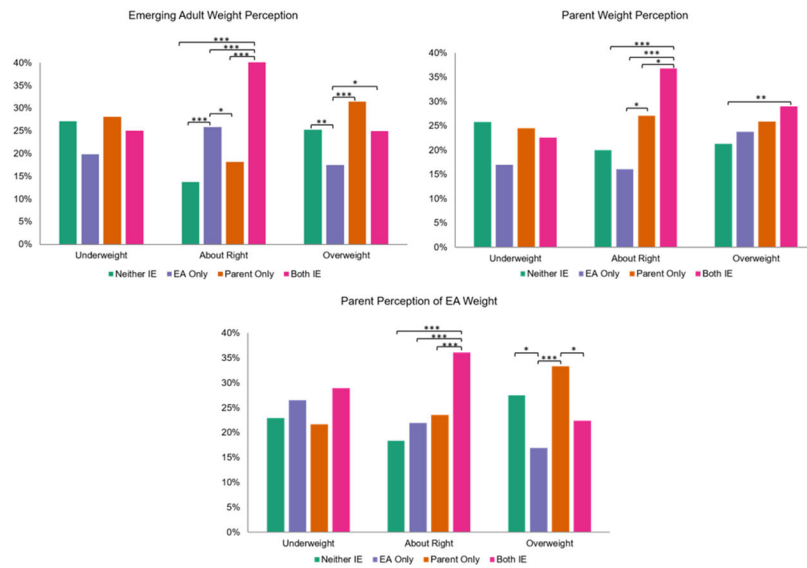


Figure 2. IE concordance by weight perception. Bars represent proportion of individuals within each weight perception category represented in each concordance dyad. For instance, 42.2% of emerging adults perceiving their weight as “about right” belonged to concordant intuitive eater dyads (“Both IE”), whereas only 13.7% belonged to concordant non-intuitive eater dyads (“Neither IE”). Brackets denote significant pairwise comparisons between categories. * $p < .05$, ** $p < .01$, *** $p < .001$

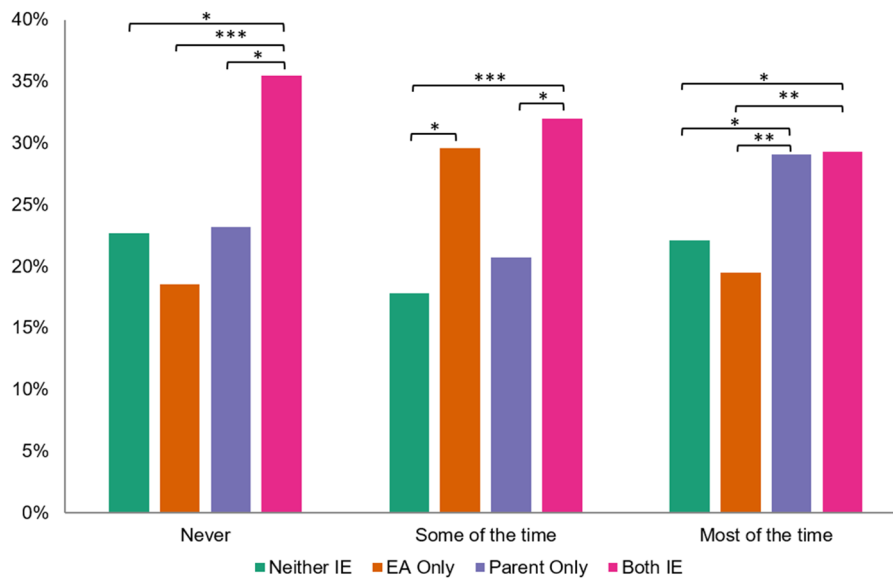


Figure 3.

IE concordance by living situation. Bars represent the proportion within each living situation category by concordance dyad. For instance, 32% of emerging adults who never lived at home in the last year belonged to concordant intuitive eater dyads (“Both IE”), whereas 18% belonged to concordant emerging adult-only dyads (“EA Only”). Brackets denote significant pairwise comparisons between categories. * $p < .05$, ** $p < .01$, *** $p < .001$