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# Associations between TV Viewing at Family Meals and the Emotional Atmosphere of the Meal, Meal Healthfulness, Child Dietary Intake, and Child Weight Status

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## Abstract

**Background—**Research on family meals has demonstrated that family meals are protective for many aspects of child and adolescent health. It is unclear whether distractions at family meals, such as watching TV, are associated with child weight and weight-related behaviors, the emotional atmosphere at the meal, or family meal healthfulness.

**Methods—**Direct observational and objective data were collected on primarily low-income and minority families (n=120) with 6–12 year old children. Data were collected during home visits and included 24-hr dietary recalls, anthropometry, and video-recorded family meals. Video-recorded family meals were coded to assess the presence of TV, whether the family was paying attention to the TV, family group enjoyment and the dietary healthfulness of the foods served at family meals.

**Results—**The presence of TV was negatively associated with the dietary healthfulness and emotional atmosphere of the meal and the child's overall dietary quality. It was positively associated with serving fast food for family meals. Those families who were paying attention to the TV had significantly worse meal dietary healthfulness and were more likely to have fast food

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at family meals compared to those who were not paying attention. No significant findings were found between the presence of TV at family meals and child overweight status.

**Conclusions—**Study results show that TV is frequently present at family meals. Even if families are not paying attention to the TV, it appears that simply having the TV on as background noise is associated with deleterious outcomes. In addition to increasing family meals, families should be given guidance on turning off the TV and making the family meal a time to connect with one another.

### Keywords

family meals; direct observation; TV viewing; emotional atmosphere; dietary quality

## Introduction

Family meals have been shown to be protective for many aspects of child and adolescent health, including better dietary intake (Christian et al., 2012; Christian, Evans, Hancock, Nykjaer, & Cade, 2013; Fulkerson, Kubik, Story, Lytle, & Arcan, 2009; Hammons & Fiese, 2011; Larson et al., 2013), lower engagement in risky behaviors such as alcohol use (CASAColumbia, 2011; Musick & Meier, 2012; Sen, 2010; White & Halliwell, 2010) or unhealthy weight control behaviors (Haines, Gillman, Rifas-Shiman, Field, & Austin, 2010; Musick & Meier, 2012; Wang et al., 2013), and fewer depressive symptoms (Fulkerson et al., 2009; Musick & Meier, 2012; Skeer & Ballard, 2013). In addition, some research has shown a negative relationship between the frequency of family meals and child overweight status (Anderson & Whitaker, 2010; Berge et al., 2015; Fulkerson et al., 2009; Kubik et al., 2009; Larson et al., 2013; Wardle, Sanderson, Guthrie, Rapoport, & Plomin, 2002). Research on family meals has also shown that the emotional atmosphere during the family meal is important. Specifically, studies have shown that a positive emotional atmosphere during family meals is associated with lower risk of child overweight status (Berge et al., 2014; Berge, Jin, Hannan, & Neumark-Sztainer, 2013; Burnier, Dubois, & Girard, 2011; Fulkerson, Strauss, Neumark-Sztainer, Story, & Boutelle, 2007; Health, 2003; Jacobs & Fiese, 2006; Moens, Braet, & Soetens, 2007; Neumark-Sztainer, Wall, Story, & Fulkerson, 2004; Sweetman, McGowan, Croker, & Cooke, 2011). Another study found adolescents who reported a more positive family meal atmosphere were less likely to engage in disordered eating behaviors (Neumark-Sztainer et al., 2004).

While family meal frequency and emotional atmosphere during the family meal have been strongly associated with child and adolescent weight and weight-related behaviors, there are other factors that might reduce the protective nature of family meals on child weight and weight-related behaviors. For example, some prior studies have shown associations between TV viewing during family meals and lower overall diet quality in adolescents (Andaya, Arredondo, Alcaraz, Lindsay, & Elder, 2010; Coon, Goldberg, Rogers, & Tucker, 2001; Feldman, Eisenberg, Neumark-Sztainer, & Story, 2007; Sweetman et al., 2011) and adults (Boutelle et al., 2003), and with serving a lower quality family meal (FitzPatrick, Edmunds, & Dennison, 2007). Additionally, a study examining adolescent electronic media use during mealtimes found that more frequent media use was associated with lower family communication and lower family meal importance (Fulkerson et al., 2014). A study in nine

European countries examining TV viewing during family meals and weight status found a positive association between TV viewing during dinner and child overweight status in three of the nine countries (Roos et al., 2014). While these previous studies suggest that TV viewing during family meals may reduce the protective nature of family meals, many of these studies used self-report measures, were not conducted on diverse participants, did not differentiate between having the TV on as background noise versus actively watching TV during the meal, and did not measure other important family meal variables such as the emotional atmosphere and the healthfulness of the foods offered during family meals. Thus, the current study uses direct observational data objectively collected during family meals, measures multiple important family meal factors (e.g., emotional atmosphere, fast food for family meals, healthfulness of foods served at meals) and measures TV as background noise versus actively viewing during the meals. Additionally, this study was conducted within a low-income and minority sample who are at increased risk of obesity and lower quality dietary intake (Gundersen & Kreider, 2009; Slack & Yoo, 2005; Weinreb et al., 2002). Objective measurements of family meal characteristics (e.g., TV viewing) serve to strengthen the literature and the understanding of the family meal atmosphere.

The primary aim of this study is to use direct observational data to investigate the relationships between TV viewing during family meals and: 1) emotional atmosphere of the meal, 2) dietary healthfulness of foods served at family meals, 3) overall child dietary quality, 4) consumption of fast food for family meals, and 5) child weight status. A secondary aim of this study is to evaluate whether paying attention/watching the TV compared to using TV as background noise is more strongly associated with the previously described outcomes. The main hypothesis of the current study is that more frequent TV exposure and more frequent attention to the TV will be associated with poorer outcomes (i.e., lower group enjoyment, quality of foods served, overall dietary intake; higher overweight status and consumption of fast food for family meals). Understanding TV's influence on family meal outcomes may help providers and nutrition professionals provide more nuanced recommendations to families seeking to increase or improve family meals.

## Methods

The Family Meals, LIVE! study (Berge et al., 2014) is a cross-sectional study of families with a 6–12 year old child designed to examine the home environment factors influencing childhood obesity risk. Participants (n=120) were recruited from primary care clinics in Minneapolis/St. Paul between 2012–2013, which resulted in a primarily low-income and minority sample; recruitment was stratified so that half of the target children (n=60) were overweight (≥85$^{th}$ percentile) and half (n=60) were normal weight (>5th and < 85$^{th}$ BMI percentile). Data were collected during two separate home visits with families and included anthropometric measurements, child 24-hour dietary recalls, and an on-line parent/primary guardian survey. In between home visits, families were provided an iPad and were asked to record eight days of family meals, with a minimum of two days being weekend meals. All study procedures were approved by the University of Minnesota's Institutional Review Board Human Subjects Committee. Detailed study methods and demographic data have been published elsewhere (Berge et al., 2014).

## Measures

**Emotional Atmosphere at the Meal—**Based on the Iowa Family Interaction Rating Scales (IFIRS) coding protocol for direct observational research, one weekday (Wednesday) and one weekend day (Saturday) family video meals were selected for each family and coded for emotional atmosphere (Melby & Conger, 2001). Averaging these two days allowed a picture of the family's typical weekly family meal experience. Coding was completed by six trained research members. Training was accomplished with practice videos that were coded until research team members reached 95% reliability with a gold standard; after reliability was established, research members double coded every fifth video to maintain 95% interrater reliability. The IFIRS Group Enjoyment scale was used to assess the overall emotional atmosphere of family meals, which was the "degree of enjoyment, pleasure, fun, and satisfaction among all family members at the meal." This particular scale was chosen because it assesses family-level emotional atmosphere, rather than individual or dyadic. The scale ranged from 1–9, with a higher score indicating more group enjoyment. A comprehensive description of coding family meals for emotional atmosphere (including group enjoyment) has been previously published (Berge et al., 2014). For all study measures using video-recorded data, the first day of meals was not utilized in order to allow participants to acclimate being video-recorded (Gardner, 2000; Haidet, Tate, Divirgilio-Thomas, Kolanowski, & Happ, 2009).

**Meal Dietary Quality—**A family meal healthfulness index (Healthfulness of Meal (HOM) index) was developed to assess the quality of foods served at the video-recorded family meals. The HOM index assesses the following components: Fruit, Vegetables, Dark Green Vegetables, Dairy, Protein, Sodium, and Added Sugars. Component scores are summed, and the maximum total score is 9, indicating a higher quality meal. A comprehensive description of the HOM index development and coding can be found elsewhere (Trofholz et al., 2015).

**Child Dietary Quality—**Three 24-hour dietary recalls (two weekday and 1 weekend day) were collected on the target child. The first and third recalls were collected at home visits; the second recall was conducted via the telephone in between home visits. Dietary recalls were conducted with parents of younger children (6–8 year olds); recalls with older children (9–12 year olds) were conducted with child, although clarification by a parent was permitted. Dietary recalls were collected using Nutrition Data System for Research (NDSR) software version 2012, developed by the Nutrition Coordinating Center at the University of Minnesota; a detailed review was conducted by staff dietitians on 100% of recalls (Trofholz et al., 2015). Using data from these recalls, a Healthy Eating Index-2010 (HEI) score was calculated. The maximum HEI score is 100, indicating a healthier diet. Detailed descriptions of the HEI, including calculating the HEI score, are available online (Guenther et al., 2013; "HEI Tools for Researchers," n.d.).

**Fast Food Intake—**The parent was asked during the on-line survey, "In the past week, how many times was a family meal purchased from a fast food restaurant, eaten either at the restaurant or at home?" Responses options were Never; 1–2 times; 3–4 times; 4–5 times; 6–7 times; More than 7 times. For assessment of food frequency intake as a continuous

measure, the midpoint of each response option was used (e.g., a participant selecting 1–2 times was assigned a value of 1.5).

**Anthropometry—**Using standardized procedures, height and weight data was obtained on target children by trained researchers. Height was assessed to the nearest 0.1 cm and weight to the nearest 0.1 kg. BMI percentile values were calculated using CDC guidelines ("Growth Charts, Center for Disease Control," n.d.).

**TV Viewing at Family Meals—**For each family meal video, staff coded whether there was a TV on in the room in which dinner was being eaten [yes/no]. If the TV was on, staff coded whether the family was watching the TV and commenting on the show [yes/no]. If this option was not selected, coders indicated that the family was not paying attention to the TV. These items were taken from a previously validated direct observational tool (Jacobs & Fiese, 2006). Staff also coded whether the TV was on in an adjoining room in which dinner was being eaten. If the TV was on, coders had the option to select "The family is paying attention to the TV" [yes/no] or "The family is NOT paying attention to the TV" [yes/no]. For analyses, the questions regarding the TV being on in the room or in an adjoining room were collapsed (i.e., TV on in room and/or in adjoining room). If the family was not paying attention to the TV any day, they were categorized as "Not Paying Attention," (i.e., TV is on as background noise). Families paying attention to the TV on one or both days were categorized as "Paying Attention."

**Covariates—**Parent sex was determined by self-report. Parent age was calculated using the date of the first home visit and the parent's reported birthdate.

## Statistical Analysis

Descriptive statistics and cross-tabulations were examined to evaluate the distribution of responses and outcomes for the full sample (n=120) and for the sub-sample of families in which the TV was turned on during the family meal (n=80). Outcomes were evaluated as continuous variables for 1) emotional atmosphere, 2) meal healthfulness (HOM index), 3) child dietary intake (HEI), 4) child BMI percentile, and 5) fast food for family meals frequency. Independent variables for presence of TV was indicator categorized neither weekday nor weekend, either weekday or weekend, and both weekday and weekend. TV presence did not appear to be different on weekdays or weekend days for the sample population. The variable paying attention to TV was dichotomized as paying attention or not paying attention, conditional on the presence of TV at the family meal. OLS regression was used to evaluate how the independent variables of interest related to continuous dependent variables; all analyses included controls for primary caregiver sex and age. Statistically significant differences between indicator-categorized groups ($p<0.05$) were expressed as superscript letters, and groups that shared the same letter were not found to be statistically different. Sampling weights that account for the recruitment design were applied to produce measures of association generalizable to the primary care clinics from which participants were sampled. Stata version 13.1 SE was used for all data management and analytical procedures (StataCorp, College Station, TX 77845).

## Results

### Frequency of TV as Background Noise or Paying Attention to TV

One third of families (33.3%) had the TV off (i.e., TV was off in room dinner was eaten and in adjoining room) during family meals on both of the video-recorded days. Nearly one quarter of families (23.3%) had the TV on at least one day during the two video-recorded family meal days; almost half (43.3%) of families had the TV on both days. Of the families who had TV on at least one day (80/120 families) during family meals, two-thirds (65%) were paying attention to the TV. The remaining families (35%) were not paying attention to the TV while eating dinner (i.e., background noise).

### Associations between TV at Meals and Meal Variables (Group Enjoyment of Meal and Meal Dietary Quality)

The prevalence of having the TV on at family meals was negatively associated with group enjoyment of the meal ($p=0.02$). Families who did not have a TV on either day or who only had the TV on one day, had a higher group enjoyment score (higher scores indicated higher group enjoyment) than those families with the TV on both days. Paying attention to the TV was not found to be related to the emotional atmosphere at the family meal (Table 1).

Having the TV on at family meals was also found to be associated with the dietary quality of the family meal (HOM index) ($p=0.04$). Families without a TV on either day had HOM index point estimates of 3.42 (95% CI: 3.08, 3.77), which were statistically higher ($p<0.05$) than the point estimates of families with the TV on both days (point estimate: 2.91; 95% CI: 2.72, 3.10). Of the families with the TV on at least one day (n=80), families who were not paying attention to the TV (i.e., had TV on as background noise) had higher (i.e., healthier) HOM index estimates than those who were paying attention to the TV ($p=0.02$).

### Associations between TV at Meals and Dietary Intake (HEI and Fast Food Intake)

Having the TV on at family meals was strongly and negatively related ($p=0.01$) to the child's HEI score (overall dietary quality score). Children not exposed to TV at family meals any day had an HEI point estimate of 48.85 (95% CI: 46.86, 50.84), indicating higher levels of healthful dietary intake ($p<0.05$) compared to families with TV on both days (point estimate: 44.01; 95% CI: 41.55, 46.47) (score range of 0–100 with 100 indicating highest diet quality). There was not statistical evidence that paying attention to the TV was associated with more or less healthful for child dietary intake (Table 2).

Additionally, having the TV on was strongly and positively associated with the number of times a family reported eating fast food for a family meal ($p=0.01$). Average weekly fast food intake was 1.4 times (SD: 1.2; range 0–5.5). Families who had the TV on and also paid attention to the TV reported substantially higher use of fast food for family meals (more than twice as frequent on average) as compared to those families who did not pay attention to TV (i.e., TV on as background noise) ($p<0.01$).

### Associations between TV at Meals and Child Weight Status

There was not a significant association found between having the TV on and child BMI percentile. Additionally, there was not a significant association found between paying attention to the TV or not and child BMI percentile (Table 3.)

## Discussion

Results from the current study supported our hypothesis that having the TV on during family meals would be associated with lower family meal quality (both dietary healthfulness, emotional atmosphere) and child weight-related behaviors (i.e., overall dietary quality). Specifically, associations between the TV being on during family meals and the emotional atmosphere at family meals (i.e., emotional atmosphere), dietary healthfulness of family meals (i.e., HOM index), child overall dietary intake (i.e., HEI), and serving fast food for family meals were statistically significant. Overall, results suggest that the presence of TV at family meals is associated with worse meal and child outcomes. These results support previous literature showing a significant association between the presence of TV at family meals and lower dietary quality in children (Andaya et al., 2010; Coon et al., 2001; Feldman et al., 2007; Sweetman et al., 2011) and adults (Boutelle et al., 2003) and lower dietary meal quality (FitzPatrick et al., 2007; Fulkerson et al., 2014). Unlike a previous cross-sectional survey showing a positive relationship between TV viewing during dinner and child overweight status in 3 of 9 countries (Roos et al., 2014), a significant association between the presence of TV and child weight status was not found.

Explanations for the associations between the presence of TV and worse meal and child outcomes may vary. Regarding the emotional atmosphere at the meal, it may be that the presence of TV is a proxy for family dysfunction, a negative interpersonal environment, or a more chaotic environment. Families who place a high value on having family meals may be motivated to serve a higher quality meal (HOM index) and less fast food, while also turning off the TV. Regarding dietary quality, it is also possible that the presence of TV at meals indicates a higher overall level of TV watching for children, which exposes them to advertising of unhealthy foods (Harrison & Marske, 2005; Story & Faulkner, 1990), which may have detrimental effects on the child's HEI (overall dietary quality) score.

For the secondary analysis, significant results were found between paying attention to the TV during family meals (for those families where the TV was on) and having lower dietary quality meals (i.e., lower HOM index score and more frequent fast food for family meals). One potential explanation may be that the dietary quality of family meals is lower when the family's plan is to watch TV during a family meal (e.g., ordering a pizza to watch with a movie.) There were no significant differences in group enjoyment, children's overall dietary intake, or child weight status between those families who were paying attention to the TV versus those not paying attention to the TV. It may be surprising that there was not a significant association between paying attention to the TV and emotional atmosphere at the meal. Some potential explanations may be that in some families watching TV during family meals is a positive event shared by the family (e.g., having lively conversations about the content viewed on the TV); in other families, watching TV may prohibit fighting that would have occurred without the distraction. It is also possible that in some families the presence/

viewing of the TV is a result of having a negative emotional atmosphere prior to the meal. For those families *not* paying attention to the TV, it is likely that TV operates as background noise; something constantly on but only intermittently paid attention to.

We did not find that TV was related to BMI percentile. Previous research has found a variety of influences on child weight, including parent weight status, screen time, sedentary behavior and family income (Dowda, Ainsworth, Addy, Saunders, & Riner, 2001). It is likely that these factors have a greater influence on child weight status than the presence of TV at family meals. Also, family meals are sedentary events regardless of the TV. However, for those families who had both the TV on and paid attention to the TV, the child had a non-significant but substantially higher BMI percentile (8 percentile difference). It may be that paying attention to TV is a crude proxy for child sedentary behavior. It is also possible that our sample size was simply too small to detect a significant association, or that these findings are reflective of the characteristics of the study sample and may not be generalizable to other populations.

This study has many strengths. It uses direct observational/objective measurements in the form of coded video-recorded family meals to classify the presence of TV, attention paid to the TV, the emotional atmosphere at the meal, and the overall family dinner meal dietary quality. The use of three 24-hr dietary recalls (used to calculate HEI score) and anthropometric data also improve our confidence that exposures are classified accurately. Additionally, the specific research questions examined in the current study are strengths of the study and will advance the field of family meals research. For example, examining the association between the presence of TV and fast food at family meals has not previously been explored in the literature. There are also limitations of the study that should be considered when evaluating results. As previously mentioned, the cross-sectional nature of the study does not allow temporality to be determined. For example, does the family enjoy family meals less because of the presence of TV, or was the TV turned on because the family was already not enjoying each other's company? Also, while it is a strength to examine a primarily low-income, minority population who are at increased risk for poor nutrition and obesity (Gundersen & Kreider, 2009; Slack & Yoo, 2005; Weinreb et al., 2002), it is not clear these results would generalize to a population of different race and/or income levels. It may be that the patterns of TV viewing during family meals differ significantly among different populations. Furthermore, the study measured only TV viewing. Other "screens" such as, tablets or smartphones should be studied in future research.

This study has implications for practitioners working with families to improve family meals. While it is clear the frequency of family meals is important for child health (Anderson & Whitaker, 2010; CASA Columbia, 2011; Christian et al., 2012, 2013; Fulkerson et al., 2009; Haines et al., 2010; Hammons & Fiese, 2011; Kubik et al., 2009; Larson et al., 2013; Musick & Meier, 2012; Sen, 2010; Skeer & Ballard, 2013; Wang et al., 2013; Wardle et al., 2002; White & Halliwell, 2010), the atmosphere is also important (Berge et al., 2014; Berge et al., 2013; Burnier et al., 2011; Fulkerson et al., 2007; Health, 2003; Jacobs & Fiese, 2006; Moens et al., 2007; Neumark-Sztainer et al., 2004; Sweetman et al., 2011). An easily-communicated message based on the current study results is that families should turn off the TV when having family meals. Results also suggest a potentially larger message—that

families should be encouraged to frame the family meal as a family event rather than just a necessity for feeding kids. Families who see the family meal as a time to connect with and enjoy their families may be more likely to turn off the TV, have a higher quality meal, and enjoy the meal more.

## Conclusions

Study results show that TV is frequently present at family meals and is associated with reduced meal quality and reduced overall child diet quality. Even if families are not paying attention to the TV, it appears that simply having the TV on as background noise is associated with deleterious outcomes. In addition to increasing family meals, families should be given guidance on improving the environment of the family meal. This includes turning off the TV and making the family meal a time to connect with one another.

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**Table 1**

Association between the presence of TV at Family Meals and Meal Variables (Group Enjoyment and Meal Dietary Quality)

| Variable | n (%) | Emotional Atmosphere Point Estimate | 95% CI | Overall p-value | HOM Index Point Estimate | 95% CI | Overall p-value |
|---|---|---|---|---|---|---|---|
| **Is TV on in room and/or in adjoining room?** | 120 (100%) | | | **0.02** | | | **0.04** |
| *Neither weekday nor weekend* | 40 (33.3%) | **5.07[a]** | **(4.47, 5.66)** | | **3.42[a]** | **(3.08, 3.77)** | |
| *Either weekday or weekend* | 28 (23.3%) | **5.27[a]** | **(4.33, 6.20)** | | **2.99[ab]** | **(2.70, 3.29)** | |
| *Both weekday and weekend* | 52 (43.3%) | **4.12[b]** | **(3.63, 4.60)** | | **2.91[b]** | **(2.72, 3.10)** | |
| **Is family paying attention to any TV?** | 80 (100%) | | | 0.74 | | | **0.02** |
| *Not Paying Attention* | 28 (35%) | 4.48[a] | (3.90, 5.06) | | **3.24[a]** | **(2.95, 3.52)** | |
| *Paying Attention* | 52 (65%) | 4.32[a] | (3.64, 5.00) | | **2.84[b]** | **(2.69, 3.00)** | |

Note: Models adjusted for primary caregiver sex and age. Within-group point estimates that do not share a superscipt letter are significantly different at $p<0.05$.

Interpretation Example: The effects of the presence of TV and whether the family was paying attention to TV on emotional atmosphere were examined. Point estimates suggest that additional days of TV presence has negative effects on emotional atmosphere after controlling for primary caregiver sex and age.

**Table 2**

Association between TV at Family Meals with Child Dietary Intake and Fast Food for Family Meals

| Variable | n (%) | HEI Index Point Estimate | 95% CI | Overall p-value | Fast Food for Family Meals Point Estimate | 95% CI | Overall p-value |
|---|---|---|---|---|---|---|---|
| **Is TV on in room and/or in adjoining room?** | 120 (100%) | | | **0.01** | | | **0.01** |
| *Neither weekday nor weekend* | 40 (33.3%) | **48.85[a]** | **(46.86, 50.84)** | | **0.80[a]** | **(0.45, 1.14)** | |
| *Either weekday or weekend* | 28 (23.3%) | **48.22[ab]** | **(43.33, 53.10)** | | **1.12[ab]** | **(0.67, 1.56)** | |
| *Both weekday and weekend* | 52 (43.3%) | **44.01[b]** | **(41.55, 46.47)** | | **1.66[b]** | **(1.22, 2.10)** | |
| **Is family paying attention to any TV?** | 80 (100%) | | | 0.08 | | | **<0.01** |
| *Not Paying Attention* | 28 (35%) | 42.27[a] | (38.23, 46.30) | | **1.00[a]** | **(0.64, 1.35)** | |
| *Paying Attention* | 52 (65%) | 46.59[a] | (43.80, 49.38) | | **1.76[b]** | **(1.32, 2.21)** | |

Note: Models adjusted for primary caregiver sex and age. Within-group point estimates that do not share a superscript letter are significantly different at $p<0.05$.

Interpretation Example: The relationships between the presence of TV and whether the family was paying attention to TV on child dietary intake (HEI Index) and serving fast food at family meals were examined, controlling for parent sex and age. There was evidence of a negative association between the number of days that TV was on in the dining room or in an adjoining room and both HEI ($p=0.01$) and fast food ($p=0.01$). The effect of paying attention to TV in any room increased serving fast food at family meals ($p<0.01$); however, the association with HEI was not significant ($p=0.08$).

## Table 3

Association between TV at Family Meals and Child Weight Status

| Variable | n (%) | BMI Percentile Point Estimate | 95% CI | Overall *P* Value |
|---|---|---|---|---|
| **Is TV on in room and/or in adjoining room?** | 120 (100%) | | | 0.11 |
| *Neither weekday nor weekend* | 40 (33.3%) | 70.83[a] | (61.84, 79.82) | |
| *Either weekday or weekend* | 28 (23.3%) | 82.14[b] | (74.51, 89.78) | |
| *Both weekday and weekend* | 52 (43.3%) | 75.14[ab] | (66.65, 83.63) | |
| **Is family paying attention to any TV?** | 80 (100%) | | | 0.26 |
| *Not Paying Attention* | 28 (35%) | 73.87[a] | (61.76, 85.97) | |
| *Paying Attention* | 52 (65%) | 82.09[a] | (75.01, 89.18) | |

Note: Models adjusted for primary caregiver sex and age. Within-group point estimates that do not share a superscipt letter are significantly different at $p<0.05$.

Interpretation Example: The relationships between the presence of TV and whether the family was paying attention to TV on child BMI percentile was examined, controlling for parent sex and age. We did not find evidence that average BMI percentile was overall different on TV presence ($p=0.11$) and for families that did and did not pay attention to TV ($p=0.26$).