Author's response to reviews

Title: Television viewing in Thai infants and toddlers: impacts to language development and parental perceptions

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Author's response to reviews: see over
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Professor Melissa Norton  
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Dear Professor Norton,

I have attached the revised manuscript entitled, “Television viewing in Thai infants and toddlers: impacts to language development and parental perceptions”. I have also included a detailed report of how we addressed each of the reviewer’s comments. We feel the suggestions made by the reviewers were very helpful in increasing the clarity and impact of the findings.

We hope that the changes we have made are acceptable. We look forward to hearing from you soon.

Yours sincerely,

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Reviewer 1 (Victor C Strasburger)

1. This is an interesting and laudable attempt to investigate the impact of early TV viewing on infants. It follows in the footsteps of many recent studies – including 1 from Bangkok, Thailand!!! (See Acta Paediatrica, May 2, 2008 – Chonchaiya & Pruksananonda: Television viewing associates with delayed language development). I reviewed many of the studies in my commentary in the Journal of Pediatrics (2007; 151: 334-336), but in addition to the Acta Paediatrica study, there is at least 1 more recent study – Schmidt, Pempek, Kirkorian, Lund, & Anderson: The effects of background television on the toy play behavior of very young children, Child Development 2008, 79: 1137-1151. So there are several important studies omitted from the author’s citations.

We thank the reviewer for the comments above. We have improved quality of the manuscript and added the information from the studies suggested by the reviewer. The new information was on page 4,5,13 and was highlighted for the benefit of the reviewer.

2. I have several major concerns about the way the authors have analyzed their data and wonder if a statistician couldn’t suggest ways to improve this study. There was so few language delayed babies who watched > 2 hrs/day (only 4) that a different statistical technique might well be needed.

We agree with the reviewer regarding statistical analysis of data. Therefore, in the revised manuscript, we have improved data analysis, using multivariate logistic regression model to determine the association between delayed language development and other variables, instead of Fisher’s Exact test. The results are shown as odds ratios and 95% Confidence Intervals (Table I (page 21) in the revised manuscript).

Also, we have removed Table I (Association between television viewing at 6 months old and the time spent on television viewing at 2 years old) from our
revised manuscript. We believe that deleting Table I does not affect main content of the manuscript, but, instead, had improved the quality of the manuscript. As a result, Table II in the previous manuscript becomes Table I in the revised manuscript.

3. I’m concerned that the authors relied on parents’ self-reports (notoriously inaccurate, tending to under-reporting). They might have at least used viewing diaries. Unfortunately, the authors are not alone in this regard – it’s an all-too-common practice. In addition, no data were recorded for 6 month olds, just broad frequencies.

Our study used parents’ self reports to record time that their children spent on television. We agree with the reviewer that parents’ self reports is not as good as viewing diaries. However, due to limitations of our resources, we were not able to use viewing diaries. We have addressed this issue in the discussion section on page 10 in the revised manuscript. This has also been highlighted for the benefit of the reviewer.

4. I would also need the opinion of a child development expert on the use of CLAMS and the criteria for language development – only 1 of 10 pictures identified and no combined words. These criteria seem rather loose to me. Again, the data might be re-analyzed trying to find any correlation between total # of pictures identified or total # words vs. total TV time.

The first author of the study is Associate Professor of Developmental and Behavioural Paediatrics at the Faculty of Medicine, Ramathibodi Hospital, Mahidol University in Thailand.

In clinical practice, diagnosis of delayed language development depends mainly on clinical assessment. In our study, we have used the standardised screening instruments, Denver Developmental Screening Test II (Denver-II) in combination with modified Clinical Linguistic and Auditory Milestone Scale (CLAMS) to detect children with delayed language development. We used
modified CLAMS because of the difficulties in using the original CLAMS with Thai children. The original CLAMS is in English and is not suitable for Thai children who do not use English as the first language. Ability to correctly identify pictures is, however, one of the key components in the CLAMS to evaluate children’s language development.

In order to clarify this issue, in the revised manuscript, we have rewritten the “assessment of language development” section to make the study clearer (page 7). Also, in the discussion section, we have addressed and discussed these issues on page 10-11.

We thank the reviewer for the comments about correlation between total number of pictures identified or total number of words and total television watching time. However, we did not perform those correlations in the study.
Reviewer 2 (Simon Rueckinger)

1. The failure to find a significant association between TV viewing and language development should not be emphasized too much, since the numbers presented are small and thus statistical power is low. If there is an association between TV viewing and language development, the authors were unlikely to detect this association with sample sizes like these.

We agree with the reviewer that the negative finding found in this study may affect by the small numbers of children who had delayed language development, and, thus may affect the statistical power. Therefore, in the discussion section of the revised manuscript (page 12), we have addressed this issue and, as suggested by the reviewer, not emphasizing too much on the association between television viewing and language development.

2. Given the proportions of delayed language development observed in this study (5% (4/78) for >= 2 hrs TV and 10% (12/125) for < 2 hrs TV) and 78 vs. 125 cases to be compared, the statistical power to detect an association would about 23%. This is far below the convenient 80% or 90% and should be discussed.

We thank the reviewer for the comments above. We agree that the statistical power for the delayed language development and television viewing time in this study was small. Of 203 children included in the study, only 16 children had delayed language development. However, it was difficult to increase a number of children in the study, due to limitations to our resources. In the revised manuscript, we have, therefore, addressed this limitation on page 12.

3. The title and the first sentence of the conclusions in the abstract should rather mention some of the findings in the study which are really supports by the data (e.g. the high proportion of TV watching or the attitudes of the parents).
4. **Gender is associated with language development and may be associated with time spent on TV (potential confounding).** The analyses presents in Table 2 would be more appropriately carried out using a multivariate approach, such as logistic regression (where delayed language development is the outcome of interest and at least gender and time spent on TV are explanatory variables). This would allow assessing the association of TV watching and language development independently of potential confounders such as gender. However, the small number of children with delayed language development (n=16) may result in problems with parameter estimation.

We thank the reviewer for the useful comments above. In the revised manuscript, we have re-analysed the data with logistic regression (instead of Fisher’s Exact Test), as suggested by the reviewer. Odds ratios and 95% Confidence Interval (CI) have been calculated and reported in Table I (page 21). We have removed Table I (Association between television viewing at 6 months old and the time spent on television viewing at 2 years old) from our revised manuscript. We believe that deleting Table I does not affect main content of the manuscript, but, instead, had improved the quality of the manuscript. As a result, Table II in the previous manuscript becomes Table I in the revised manuscript.