



tonies

Impact Measurement

Final Report

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Date: 31st July 2023

Executive Summary

An impact measurement study involving 100 families in the UK and USA, with children aged 2-5, was conducted between January and June 2023 to investigate the developmental benefits of children's regular engagement with a selection of Tonies, some designed for bedtime and others from tonies' learning centers.

The results were overwhelmingly positive with 70% of parents reporting that ongoing engagement with the Tonies has been beneficial for their children. Of the parents who reported bedtimes as a struggle, the Tonies improved bedtime for 92% of them within the initial 2 week observation period. Children improved on every metric (attention, comprehension and vocabulary) over the course of the study.

Parents' initial concerns that listening to Tonies would reduce children's inclination to read books or hinder their reading were not borne out by the research. The improvement in comprehension and attention applied particularly to reading skills and children's general engagement with literature and appetite for learning had increased since engaging with the Tonies.

The developmental benefits of Tonies are likely to be due to a combination of the improved sleep patterns AND the educational content on the individual Tonies. It is beyond the scope of this study to attribute specific developmental progress to different aspects of the children's engagement with Tonies, or evaluate the impact of the individual Tonies.

1. Overview

The purpose of this study is to assess and identify any impact that listening to Tonies has on children's development. Specifically, children's bedtime and sleep, comprehension, language skills and attention were investigated.

2. Method

At the beginning of the study, and before interacting with the Tonies, 100 children¹ aged 2-5 in the UK (25) and USA(75) and their parents were interviewed via video and asked a series of benchmarking questions.

The participants were then sent a Toniebox with bedtime Tonies and instructions to encourage children to engage with the Tonies as part of their bedtime routine. Parents were asked to complete a weekly log of their child's engagement with the Tonies.

After 2-3 weeks, a second interview was conducted with parents to assess the impact of the Tonies on their children's bedtime routine.

The participants were then sent additional Tonies from the 4 Learning Centres:

- Discovery
- Reading
- Mindfulness
- Independent Play

The parents were instructed to incorporate listening to the Tonies into their child's routine each day, outside of bedtime, but not to force the child to listen if they were resistant.

After at least 12 weeks of listening to the Tonies, a follow up interview was conducted with the children and their parents to assess the impact of using the Tonies on various aspects of the children's learning.

¹ The participants were all highly engaged with the project and only 4 families didn't complete the whole project.

3. Results

3.1. Key Findings

In the 4 months of using Tonies, the children improved on every competency measured - comprehension, language skills and attention.

An overwhelming majority (83%) of all parents in the sample reported that the Tonies had a positive impact on their child's bedtime routine after just 2 weeks use.²

70% of parents reported that ongoing engagement with the Tonies has had a positive impact on their children. Improvements in bedtime routines are the most cited benefit, which in turn positively impacts behaviour and learning. Parents also reported increases in specific skills such as reading.

3.2. The core benefits include:

■ Bedtime routine:

- Of the parents who reported bedtime being a challenging part of the day, the improvement reported from using the Tonies as part of their bedtime routine was 92%
- For families who listened to the Tonies for more than 7 times in the two week period, the satisfaction score increased to 7.5: a 13.5% increase. There was no further benefit for those families who listened more often.
- In two weeks of using Tonies as part of their bedtime routine the average score for parents' satisfaction with the bedtime routine rose from 6.6 to 7.4 out of 10: a 12.1% improvement. Where families did not report increased satisfaction, there was often another stated reason (e.g. starting nighttime potty training) for a low satisfaction score.

■ Comprehension

² * In one case, the child's behaviour deteriorated after introducing the Tonies into the bedtime routine because she loved the Tonies so much she kept sneaking out of bed to listen to them.

- Compared with the benchmarking exercise, the average score for the comprehension questions increased from 3.27 to 3.33 out of 5. This represents a 1.2% increase in the children's comprehension skills. 60% of children³ showed improvements in their comprehension scores.
- The observed comprehension score increased from 6.95 to 7.58 out of 10. This represents an increase of 6.3% in researcher assessed comprehension levels.
- The above scores relate to general comprehension, when specifically looking at reading comprehension the score was 8.21 out of 10. This represents an increase of 12.6% from the general comprehension benchmark.

■ **Language skills.**

- **Verbal fluency** - Children's scores on the verbal fluency test increased from 2.01 to 2.2 words within a 30 second period. This represents just over 10% increase in verbal fluency. 44% of the children showed an increase of at least a one word in the 30 second verbal fluency test compared to the benchmarking exercise.
- **Vocabulary** - Children's scores increased from 10.78 to 12.88 out of 16. This represents a 13.2% increase in children's vocabulary level. 66% of children increased their vocabulary score.

■ **Attention**

- Children's attention scores increased from 7.45 to 7.69 out of 10. This represents an increase of 2.4% in children's general ability to concentrate. 53% of the children had improved attention ratings.
- With regards to reading specifically, the attention score was 8.04 out of 10. This represents an increase of 5.9% from the general attention benchmark.
- Children's engagement with the story increased from a score of 7.18 to 7.88 out of 10. This represents a 7% increase in engagement, indicating that ongoing listening to Tonies,

³ Analysis excluded those who obtained maximum scores on the first assessment.

benefits their general engagement when listening to stories. 57% of the children were observed to be more engaged than when assessed at the start of the study.

It is particularly noteworthy that, whilst individually all of the increases are relatively small, the study period was only a matter of weeks.

During the parent interviews, many parents attributed an improvement in skills to their children's engagement with the Tonies. What is not clear at this point is precisely how much of this improvement is due to the child's normal development and how much represents an acceleration in skill acquisition attributable to engagement with Tonies.

4. **Additional benefits:**

Parents felt that the positive impact of an improved bedtime routine also had a generally positive impact on children's behaviour and learning, over and above any improvement that would be expected during the 4 months since the benchmarking exercise.

- 4.1. **Less resistance to going to bed** - the inclusion of Tonies shortened the length of the bedtime routine for the majority of families (56%). However, the removal of an element of conflict or stress during the bedtime routine was seen as the most important benefit, even if the whole process took longer. Parents did not mind that, at times, the bedtime routine was lengthened by listening to Tonies as it was something the child did themselves and didn't require much parental input, allowing parents to see to other children or do other tasks that they normally save until the child is in bed.
- 4.2. **Reduction in time taken to fall asleep.** 51% of parents reported that once the child is in bed, they fall asleep more quickly and settle better since including Tonies in their bedtime routine.
- 4.3. **Self-soothing/regulation:** Being able to self-settle when waking up in the night and staying in bed if waking up early in the morning - not waking siblings, parents etc. Improved self-regulation during daytime play sessions

5. **Parents' Feedback**

5.1. **Bedtime**

Both parents and children preferred the bedtime stories. Nature Sounds were not popular with either parents or children. Some parents who realised their

children preferred the stories bought more story-type Tonies and didn't play the nature sounds or other bedtime Tonies.

White noise is a common technique for very young babies and if Tonies was designed for very young children the Nature Sounds may be more popular. They may also be more appealing to older children as they are less 'babyish' than the stories or nursery rhymes.

Much of the positive feedback was around the benefits to bedtime routine, the absences of a screen and the autonomy it gives the child. The positive impact on bedtime routines was particularly welcomed by parents who had been struggling with getting their children to go to bed and settle well.

*"It's great! I love the changes I have seen in my children since using it."
Katherine, parent of 3 year old*

"Thank you! I like the screen-free element and that it helps my child regulate and decompress" Addison parent of 4 year old

"THANK YOU! for helping make challenging aspects of the day easier. I was shocked and perplexed by how well two of my children responded to the Tonies. It never occurred to me this would help." Rachel parent of children ages 3 and 5

Brilliant! XXX loves it. Excited to use it and feels she has ownership of it. Naomi, parent of 4 year old

'Omg, absolute legends and godsend for coming up with this genius idea. It has made a huge difference'. Laura, parent of 4 year old

5.2. Learning

There was a wide range of benefits cited by the parents of their children's ongoing engagement with the Tonies. The below is a selection of quotes that represent common sentiments from the parents. In addition to benefits on the measured skills, parents also reported benefits to their children's self-regulation, imagination and learning in general.

- xxx didn't have a concept of listening to a story, with the first interview, didn't know how to listen but now is really attentive to it. Her ability to understand stories has developed a lot.
- ...getting xxx to do reading or homework has now become so much easier as schoolwork was a struggle. They have a new found love for stories and are loving stories a lot more now.

Post-holiday, they are also now loving writing their own scrapbook. *Danielle, parent of a 5 year old*

- Before, she really struggled to engage with books..., but now really loves them. *Angela, parent of a 3 year old*
- They (the Tonies) have been a game changer - her concentration has increased due to getting better sleep. *Naiomi, parent of a 4 year old*
- I love the ease of use and that xxx will go and turn it on for herself when she's feeling overwhelmed. *Victoria, parent of 4 year old*
- xxx could play with the Tonies figures in her playhouses and vehicles as she wished and then use them as intended. *Rachel, parent of 4 year old*
- Tonies has supported the development of my daughter's imagination. *Mary, parent of 5 year old*
- I love that it is easy to use and that my child can be independent with it. I think that the characters are not only cute but durable - they have not been destroyed! I like that they serve a dual purpose as a 'doll' and to use with the Toniebox. I love the long battery life because we take a lot of road trips to see family so it is excellent to have something portable that functions for the duration of the road trip. *Marianne, parent of 4 year old*

5.3. Additional comments for consideration.

These comments are from individual or a minority of parents and not representative of the views of the majority of the participants, but they are included here for completeness as they may be of interest for future product development.

During the study, various parents requested content for both older and younger children. This suggests that the Toniebox has wide age appeal and the design/content of specific Tonies would be the determining factor in the age of the child engaging with it. This is consistent with families' approach to other devices such as tablets and provides an opportunity for tonies to increase its audience.

Individual comments

- Her younger son has a speech delay and feels that the use of Tonies has increased his interest in other things (i.e. he likes to do a Blues Clues puzzle while listening to the Blues Clues Tonie).
- Child loves his Tonies and uses at least 3x/day. She attributes it to his vocabulary development and feels it is a great screen-free alternative that still engages him. He has even listened to it for 5+ hours on a road trip!
- Mom wished that tonies would begin to create more content for older children so that her child could continue to learn about history, biology, etc.
- ...the children are really drawn to the figurine design which sets it apart from the Yoto. She finds her children use the Tonies more for stories and the Echo Dot more for music.
- xxx enjoys how it engages a child's mind in a safe way. She finds the manufacturing of the product to be extremely high-quality and hopes they can continue to maintain that level of product as they expand.
- If there was a way to stream podcasts to the box as a speaker that would be amazing. Also, once you delete one from the creative ones you can't get it back.
- Mom sees a direct correlation between screen time and negative behaviour in her daughter, so anything that can supplement or replace that is helpful for the peace and sanity of her household.

6. Product feature feedback

The only negative feedback was around the set up and the lack of parental controls, with additional comments being made about the light and sound levels.

6.1. Feature requests

- Option to turn off the light
- Smaller, travel version
- Sleep timer

7. Conclusion

The general consensus is that the Toniebox and Tonies are a beneficial addition to children's lives. The benefits on learning and behaviour are attributed to creating and securing better bedtime routines and sleep patterns as a result of ongoing use of the Toniebox at bedtime. Specific benefits on comprehension, language skills and attention are likely to be attributable to the addition of regular story listening into children's daily routines.

We hope you have found this report useful and informative. If you have any questions, please do not hesitate to contact us.

Appendix

Tonies used in the Impact Measurement Assessment of Bedtime Benefits:

Bedtime stories with sleepy bear

Bedtime Songs and Lullabies

Lullaby melodies with sleepy sheep

Nap time nature sounds

Children's favourite Bedtime Tonies

Bedtime stories with sleepy bear (42)

Bedtime Songs and Lullabies (27)

Lullaby melodies with sleepy sheep (22)

Parent's favourite Bedtime Tonies

Bedtime stories with sleepy bear (33)

Lullaby melodies with sleepy sheep (28)

Tonies used in the Impact Measurement Assessment of Learning Benefits

US

- The Cat In the Hat
- Pinocchio
- Counting Songs
- Laurie Berkner
- Calm
- Blue's Clues
- Elinor Wonders Why

UK

- Pinocchio
- Counting Songs
- Calm
- Blue's Clues
- The Gruffalo

- Peter Rabbit
- Little Red Riding Hood