# How important is school attendance in learning to read? 

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## 1. Background

Low literacy results for Indigenous students as reported, for example, in the 2008 National Assessment Program, are a cause for concern for all educators. That only $49.2 \%$ of Year 7 students in very remote Indigenous schools across Australia reached benchmark levels in this assessment has grave implications for these students who are so far advanced in school years without acquiring even basic levels of literacy. Because learning the skills of literacy is such a fundamental part of participation in Australian society, adults without these skills are marginalised from full participation in it.

No one would deny that this situation is unacceptable in a country that seeks to ensure that all its citizens have access to equitable schooling and that prides itself on giving everyone 'a fair go'. That one group of Australian children can suffer such educational disadvantage has caused reactions from successive Commonwealth governments as they have sought to redress the situation by seeking solutions that will change literacy outcomes for Indigenous students.

This paper begins then, by referring to one such program introduced in 1998 as part of a government initiative known as "What Works?" This initiative was part of the Strategic Results Projects (SRPs) element of the Indigenous Education Strategic Initiative Program (IESIP), 'designed to explore how improvements in achievement might be made relatively quickly through dedicated resources and effort' (p.1). The SRP program, 'Scaffolding Reading and Writing for Indigenous Students in School,' set out to accelerate the literacy learning of students and in fact its results showed average improvement in reading from 1.5 to more than 2 national profile levels over two-three school terms (p. 268). The program was identified as one of the programs that did work and continues in 2009 as the National Accelerated Literacy Program (NALP).

## Accounting for difference: teachers' perceptions about literacy difficulties

In the time leading up to the commencement of the SRP one of the project team contacted a teacher representative of five Anangu schools in the far north of South Australia in preparation for visits from the project team. Among other questions, the project team member asked each teacher, "Why does the teacher think the children have learning difficulties?" The answers to this question referred to one or more of three things: attendance, cultural differences or hearing difficulties. Without fail, however, the first comment from teachers interviewed related to the poor attendance of students.
Comments included:

# "Attendance is very low. This is the main problem. The children only come to school spasmodically. They just walk out if they don't like what the teacher is doing." <br> "Attendance is the biggest bugbear." 

Eleven years later, we suggest, the same question would evince similar responses.
From a teacher's perspective, poor attendance on the part of students is demoralising. Many teachers, since Accelerated Literacy (AL) started in 1998, have bemoaned the time they spend preparing lessons only to have one or two students attend the lesson they have so diligently prepared. They do not teach their lesson then but wait till more students are present. Similarly, when there are only one or two students present for a 9 am start, teachers often wait until 'enough' people are at school to get started. Teachers thus feel undervalued and unsupported by their students as well as the community. These are understandable feelings.

Indeed, so important has the issue of student attendance become that some parents may have welfare payments linked to whether they send their children to school or not. Attendance has become central to the drive to improve literacy outcomes for Indigenous students. Because it is recorded and reported regularly, it provides figures that can be checked and discussed. It is an obvious measurable starting point for any reform.

For this paper, therefore, we have taken attendance as the central issue. Following a brief review of the literature, we will examine data sets which are drawn from two literacy interventions in the Northern Territory: the National Accelerated Literacy Program (NALP) and Abracadabra (ABRA). We will use our analysis of this data to challenge some of the most commonly held assumptions about the relationship between attendance and student outcomes.

## 2. Prior studies on attendance and achievement

At first glance, the literature seems to support the notion that attendance and academic achievement are connected. Firstly, the attendance rates of Australian Indigenous students are considerably lower than those of non-Indigenous students, particularly in rural and remote areas (Bourke, 2000; Gray \& Beresford, 2008).

Lower attendance by Indigenous students is a fact educators live with but that then leaves open a question about whether being present at school is all academic achievement is about and then, what part do teaching programs or strategies play in student achievement? The role of teachers and their teaching strategies are rendered invisible when the emphasis is placed on attendance at school alone.

A review of the relevant literature indicates a strong link between school attendance and educational success. A number of studies propose that non-attendance at school has an adverse effect on academic achievement. (Gray \& Partington, 2003; Mellor \& Corrigan, 2004; Gray \& Beresford 2008). In a longitudinal study to monitor the literacy and numeracy achievement of a group of indigenous students in the early years, Frigo et al. (2003) found that attendance could be statistically associated with achievement. International research also finds positive correlations between achievement and attendance. For example, Roby (2004, p. 12) found that 'there is a statistically significant relationship between student attendance and student achievement'. Dunn et al. (2003) use data to show that mobility and absence affect academic achievement in a negative way. This link seems clear although, again, the role of the teacher is rendered invisible.

Despite the clear link between attendance and achievement, however, the assumption that there is a direct causal relationship between irregular attendance and poor achievement can be questioned. Bourke (2000, p. 7), for example, suggest that absenteeism can also be seen as 'a protective mechanism which allow students to avoid those aspects of school they find undesirable, frustrating or a cause of shame.' Wilson et al. (2008) suggest that the non-attendance of students can affect the attitudes and learning of other students, as well as the workload and morale of teachers. In other words, absenteeism from some students may affect the learning of the more regularly attending students in their cohort. Many teachers could attest to the disruptive nature, even if not intended, of students with poor attendance who could not share the common understanding developed by teacher and students over time.

In another study, Thayer-Smith (2007) investigated the relationship between student attendance and student achievement and engagement in an urban school district in Virginia, US. In this study, no significant relationship was found between the attendance and the achievement data. There was, however, a significant correlation between student attendance and engagement, with a greater number of students being 'on task' in classrooms where student attendance was higher. This study then, shifts the focus from simply being present at school to engagement of students in learning.

The distinction between student attendance and student engagement is one that merits further consideration in the Australian indigenous context. It should be asked whether student gains in academic achievement can be brought about simply by an increase in attendance, or whether there is rather a more complex, three-way relationship between attendance, engagement and achievement.

## 3. Methods

## Research Questions

As a general aim, we were interested in testing the taken-for-granted assumption that higher student attendance is related to higher literacy achievement. Our analysis was designed to investigate the veracity of this assumption, including its strength, to determine whether the current level of national and local attention given to improving attendance is warranted.

Our study was guided by the following research questions:

1. Is there a relationship between student attendance and literacy achievement?
2. Is the relationship between student attendance and literacy achievement different for Indigenous and non-Indigenous students and Early Primary, Upper Primary and Middle Years students?
3. Are there ranges of attendance that are more related to literacy achievement than others?

## Data Sources and Samples

The data for our study was drawn from two separate literacy research projects: the National Accelerated Literacy Project (NALP) and the ABRACADABRA: Improving Literacy through Technology (ABRA) Project.
$\boldsymbol{N A L P}$. The NALP is a literacy program implemented in the Northern Territory beginning in 2004. For this research we looked at two sources of data from Northern Territory students involved in NALP. The first of these was the Individual Levels (IL) of students, or what they could read without support. IL assessments were carried out using the PM Benchmark Kit 2. The second source of data was collected from students who could read at PM Level 26 or above and who were assessed were also assessed using the Test of Reading Comprehension (TORCH).There were 2224 students with IL assessment sequences considered in this study. 992 of these students were also tested on the TORCH.
$\boldsymbol{A B R A}$. The ABRA Project is a 3 year evaluation, beginning in 2008, of the ABRACADABRA online literacy tool. The data for this study was from a quasiexperimental study conducted in Semester 1, 2009 in which student literacy was assessed using the Group Reading Assessment and Diagnostic Evaluation Level K (GRADE K) and the Performance Indicators in Primary Schools Baseline Assessment (PIPS-BLA). A total of 189 students in Transition to Year 2 from 6 Northern Territory schools (2 very remote; 2 remote; and 2 provincial) received the GRADE and the PIPS-BLA immediately prior to and after their teachers used the ABRA literacy program for a semester. Of these students, $65 \%$ were Indigenous.

## Instruments and Variables

TORCH. The TORCH is a reading comprehension test designed by the Australian Council for Educational Research (ACER) using the Rasch model for students between 3 to 10 years and students with special needs (Mossenson, Hill, \& Masters, 1987). The TORCH takes approximately 30 minutes to complete and can be conducted in group or one-on-one settings.

IL. The Individual Level observational reading evaluation assesses students' ability to read texts that have not been taught in class. The PM Benchmark Kit 2 (Smith and Nelley, 2002) is administered by classroom teachers or school AL coordinators before
students begin the AL program and once a year after that. It allows students to be assigned a reading level that can be used to monitor students' reading development over time. The PM Benchmark Kit was chosen because it is widely used in Australian schools, and it is easily administered, taking about 10-15 minutes per child.

GRADE K. The GRADE K assesses four areas of beginning literacy: phonemic awareness, phoneme-grapheme correspondence, early literacy skills and word reading. The GRADE K was developed in North America and has been shown to have strong internal consistency (.95-.99), high alternate form reliability (.81-.94), and high test-retest reliability (.80) (Williams, 2001). The GRADE K takes approximately 30 minutes to complete and can be administered one-on-one or in group settings.

PIPS-BLA. The PIPS-BLA is a computer-based assessment developed by the Curriculum Evaluation Management (CEM) Centre at Durham University in England, which measures reading, mathematics and phonological awareness. An Australian version of the PIPS-BLA has been developed and used in various schools across Australia since 2001. The PIPS-BLA is designed to measure the literacy and numeracy skills of students in their first year of schooling, but it can also be used to test students in their second year of schooling. Test-retest reliability for the UK version of the PIPSBLA ranged from .91 to .98 and predictive validity for reading and maths was .70 and .65 , respectively (Tymms, 2002). Studies have shown the three scales to be internally reliable with Cronbach's alphas of $0.95,0.93$ and 0.86 for Reading, Mathematics and Phonological Awareness, respectively (Merrell \& Tymms, 2007). In Australia, Godfrey and Galloway (2004) administered the PIPS-BLA to 191 Indigenous students from government primary, Catholic primary and community primary schools and found Chronbach's alpha was .98 and split-half reliability was .98 . This led them to recommend the PIPS-BLA to "Indigenous educators and to teachers as a reliable instrument to use with Indigenous students" (p. 154). The PIPS-BLA is administered one-one-one and takes approximately 20 minutes to complete.

## Analysis

A series of Pearson $r$ correlations were conducted to analyse the relationship between student attendance rate (number of school days attended divided by the total number of school days) and students' raw scores and raw score gains on the TORCH, IL, GRADE K and PIPS assessments. A visual inspection of the scatter plots revealed the relationships to be approximately linear and no transformations (e.g., log or inverse) of the variables were deemed necessary.

Pearson $r$ correlations were also conducted on sub-groups to answer research questions 2 and 3 regarding whether the relationship between literacy achievement changed based on Indigenous status, year in school or attendance grouping.

## 4. Results and discussion

## Relationship between attendance and literacy achievement

Firstly, a relationship was determined between individual student attendance rates during the 2008 school year and students' literacy achievement as measured by the various assessment instruments of ABRA and AL.

Student attendance rate is defined as the number of periods a student is present divided by the number of periods they are expected to be present during a given time.

$$
\text { Attendance rate }=\frac{\text { number of periods present }}{\text { number of periods where attendance was expected }}
$$

Where possible, two aspects of each type of literacy assessment were investigated to determine student literacy achievement:

- each student's achievement level as determined by their assessment results during 2008, that is, their highest successful assessment result during the year; and
- the rate of academic progress made by individual students since their previous assessment, measured in reading year levels per year.

Graph 1 Relationship between attendance rate and IL achievement


Graph 1 compares individual student attendance rates during 2008 with their highest IL assessment recorded during the year. Students who were unsuccessful on the first year (Transition) level assessment are not included. Graph 1 shows that there is a wide range
of attendance rates for students at each reading level. The line of best fit indicates that there is a general trend of increasing attendance with increasing reading level.

There is generally a small positive correlation between student attendance and academic achievement as measured by the various assessment instruments of the ABRA and NALP programs.

Table 1 shows the results of a series of Pearson $r$ correlations for the relationship between student attendance rates and student assessment results.

Table 1 Correlations: 2008 student attendance and achievement

| Assessment | Subgroup | Number | Pearson <br> Correlation | Significance |
| :--- | :--- | ---: | ---: | ---: |
|  | All | 2,224 | $0.211^{* *}$ | 0.000 |
|  | Non-Indigenous | 691 | $-0.106^{* *}$ | 0.005 |
|  | Indigenous | 1,525 | $0.160^{* *}$ | 0.000 |
|  | Early Years | 413 | $0.186^{* *}$ | 0.000 |
|  | Upper Primary | 776 | $0.286^{* *}$ | 0.000 |
|  | Middle Years | 907 | $0.431^{* *}$ | 0.000 |
|  | All | 992 | $0.162^{* *}$ | 0.000 |
|  | Non-Indigenous | 90 | 0.042 | 0.693 |
|  | Indigenous | 896 | $0.173^{* *}$ | 0.000 |
|  | Early Years | 64 | -0.066 | 0.604 |
|  | Upper Primary | 334 | $0.191^{* *}$ | 0.000 |
|  | Middle Years | 563 | $0.211^{* *}$ | 0.000 |
|  | All | 189 | $0.262^{* *}$ | 0.000 |
|  | Non-Indigenous | 72 | 0.184 | 0.122 |
|  | Indigenous | 117 | 0.071 | 0.446 |
|  | All | 165 | 0.029 | 0.714 |
|  | Non-Indigenous | 83 | 0.019 | 0.883 |
|  | Indigenous | 102 | -0.072 | 0.472 |
|  | All | 165 | $0.326 * *$ | 0.000 |
|  | Phdigenous | 63 | 0.037 | 0.773 |
|  | Ren-Indigenous | $0.213 *$ | 0.031 |  |

* Correlation is significant at the 0.05 level (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed)

While there are small positive correlations between attendance and student achievement on the IL, GRADE K and PIPS-BLA Reading assessments, the correlation is weak for the TORCH and PIPS-BLA phonics assessments.

It is interesting to note that there is no evidence to support a positive correlation between attendance and achievement for non-Indigenous subgroup of students on any of the assessments included in this analysis. There was also a stronger relationship for the Middle Years subgroup when compared the Early Years and Upper Primary subgroups. In particular, there is also no evidence to support a positive correlation for the Early Years students.

It is important to highlight that these findings indicate that student attendance (during a given year) is only weakly predictive of student achievement for any given ABRA or NALP literacy test during that same year. They also indicate that there is no evidence for many of the analysed subgroups to support the hypothesis that there is a positive relationship between student attendance and achievement.

Care must also be taken when drawing conclusions from this correlation information as the analyses use attendance data for the 2008 school year only, whereas the student achievement measures on the various tests are a reflection of the student's entire schooling to date.

## Relationship between attendance and student progress

A relationship was also determined between student attendance and students' rate of academic progress in literacy.

The rate of student progress is determined by calculating the ratio of the change in assessed reading levels and the time period elapsed.

Student progress is the change in assessed reading levels for IL or TORCH measured in year levels, and the time elapsed is measured in years.

Graph 2 compares individual student attendance rates during 2008 with their progress rate measured in reading year levels per year. Only students with an assessment sequence that was completed in 2008 are included.

Graph 2 Relationship between attendance rate and IL student progress


Again, there is a wide range of attendance rates for students at various progress rates. A progress rate of greater than one indicates that the student's assessment during 2008 indicates that their academic progress in literacy was greater than expected (that is, more than one reading year level per school year).

There is also a general trend of higher attendance rates being associated with a greater rate of progress. However, it is important to note that there were a large number of students with very good progress and low attendance.

Table 2 shows the results of series of Pearson $r$ correlations for the relationship between student attendance rates and student progress rates.

Table 2 Correlations: 2008 student attendance and student progress

| Assessment | Subgroup | Number | Pearson Correlation | Significance |
| :---: | :---: | :---: | :---: | :---: |
| IL Gain | All | 2,484 | 0.181** | 0.000 |
|  | NonIndigenous | 465 | -0.041 | 0.379 |
|  | Indigenous | 2,015 | 0.149** | 0.000 |
|  | Early Years | 431 | 0.234** | 0.000 |
|  | Upper Primary | 1,776 | 0.220** | 0.000 |
|  | Middle Years | 213 | 0.240** | 0.000 |
| TORCH Gain | All | 492 | 0.028 | 0.531 |
|  | Non- <br> Indigenous | 273 | -0.018 | 0.769 |
|  | Indigenous | 219 | -0.014 | 0.839 |
|  | Early Years | 119 | 0.059 | 0.527 |
|  | Upper Primary | 347 | 0.041 | 0.445 |
|  | Middle Years | 16 | -0.223 | 0.406 |
| GRADE Gain | All | 180 | 0.067 | 0.369 |
|  | Non- <br> Indigenous | 71 | -0.001 | 0.992 |
|  | Indigenous | 109 | -0.092 | 0.339 |
| PIPS - Phonics Gain | All | 165 | -0.243** | 0.002 |
|  | NonIndigenous | 83 | 0.058 | 0.650 |
|  | Indigenous | 102 | -0.250* | 0.011 |
| PIPS - Reading Gain | All | 165 | 0.253** | 0.001 |
|  | NonIndigenous | 63 | -0.001 | 0.991 |
|  | Indigenous | 102 | 0.166 | 0.096 |

[^0]While there is a small positive correlation between attendance and student progress on the PIPS-BLA Reading assessments, there is no evidence to support a positive correlation for the other assessment instruments. That is, there is very little evidence to support the assertion that improving student academic performance is dependent on improving student attendance.

## Relationship between attendance subgroups, achievement and student progress rate

Finally, a relationship was determined between student attendance and their academic achievement and progress rate in literacy for various attendance subgroups.

Education jurisdictions often classify student attendance in various subgroups. In this analysis, student attendance rates were classified into three subgroups.

- 0-39\% Attenders (less than 2 days per week)
- $40-79 \%$ Attenders ( 2 to 4 days per week)
- $80-100 \%$ Attenders (4 or more days per week)

Table 3 shows the results of a series of Pearson $r$ correlations for the relationship between student attendance and achievement.

Table 3 Correlations: 2008 student attendance and achievement (attendance subgroups)

| Assessment | Subgroup | Number | Pearson <br> Correlation | Significance |
| :--- | :--- | ---: | ---: | ---: |
| IL | All | 2,224 | $0.211^{* *}$ | 0.000 |
|  | $0-39 \%$ Attenders | 105 | 0.120 | 0.223 |
|  | $40-79 \%$ Attenders | 771 | $0.141^{* *}$ | 0.000 |
| TORCH | $80-100 \%$ Attenders | 1348 | 0.040 | 0.143 |
|  | All | 992 | $0.162^{* *}$ | 0.000 |
|  | $0-39 \%$ Attenders | 9 | -0.409 | 0.274 |
|  | $40-79 \%$ Attenders | 250 | $0.214 * *$ | 0.001 |
|  | $80-100 \%$ Attenders | 733 | 0.022 | 0.550 |
| ** Correlation is significant at the 0.01 level $(2-$ tailed |  |  |  |  |

While there is a small positive correlation between attendance and achievement on the TORCH assessment for students whose attendance rate is between 40 and 79\% (that is, attended 2 to 4 days per week), there is no correlation for students whose attendance rate is less than $40 \%$ or greater than $80 \%$.

Table 4 shows the results of a series of Pearson r correlations for the relationship and between student attendance and student progress.

Table 4 Correlations: 2008 student attendance and student progress (attendance subgroups)

| Assessment | Subgroup | Number | Pearson <br> Correlation | Significance |
| :--- | :--- | ---: | ---: | ---: |
| IL Gain | All | 2,484 | $0.181^{* *}$ | 0.000 |
|  | $0-39 \%$ Attenders | 211 | $0.141^{*}$ | 0.041 |
|  | $40-79 \%$ Attenders | 993 | $0.092^{* *}$ | 0.004 |
| TORCH Gain | A0-100\% Attenders | 1,278 | $0.072 * *$ | 0.010 |
|  | $0-39 \%$ Attenders | 492 | 0.028 | 0.531 |
|  | $40-79 \%$ Attenders | 2 | $-1.000 * *$ | 0.000 |
|  | $80-100 \%$ Attenders | 109 | 0.072 | 0.457 |
|  | 381 | -0.014 | 0.788 |  |

* Correlation is significant at the 0.05 level (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed)
There is no correlation between attendance and student progress for any of the attendance subgroups. However, it is interesting to note that the strongest (although still very weak) correlation is for student progress on the IL assessment of the 0-39\% subgroup (ie students attending 2 days or less).


## Summary of findings

Our findings indicate that student attendance during a given year is only weakly predictive of student achievement for any given ABRA or NALP literacy test during that same year. Thus, on the basis of the data analysed for this study, there is very little evidence to support a positive correlation between either student attendance and achievement, or between student attendance and progress. That is, there is very little evidence to support the assertion that improving student academic performance is dependent on improving student attendance.

In particular, it should be noted that there our data indicates no correlation between attendance and achievement for students whose attendance rate is less than $40 \%$ or greater than $80 \%$. Further, there is no correlation between attendance and student progress for any of the attendance subgroups.

## 5. Implications and Conclusion

Although it clear that students have to attend school at some time to learn literacy, our data shows that the correlations between attendance and both achievement and progress are not as strong as might be expected. Why then, is attendance such an issue with educators?

## Folk psychology

The preoccupation educators and other community members have with finding reasons for issues such as low literacy outcomes for Indigenous students illustrate a quality of human beings described by Bruner as being 'infinitely capable of belief" (Bruner, 1986, p. 51). Describing a study he participated in with the ethnomethodologist, Harold Garfinkel, he found that human beings were capable of creating hypotheses 'that will accommodate virtually anything we encounter" (1986, p. 51). To reach this conclusion he describes how human beings, negotiating the transactions of everyday life, "develop theories about kinds of people, kinds of problems, kinds of human conditions. The categories and maxims of these 'folk theories' are rarely put directly to the test. They are rarely original, and are more likely to come from the folk wisdom of the culture in which we grow up." (1986, p. 49)

We argue that the idea of a strong correlation between school attendance and academic achievement is one such 'folk theory'.

If good attendance is crucial to literacy acquisition (as an example of academic achievement) then there should not be a group of students with excellent attendance who cannot read. Our experience suggests, however, that there are students in every school with good attendance and extremely low levels of achievement in literacy. Nevertheless, the human ability to create hypotheses means that it is easy to move onto other 'folk theories' to explain low achievement, if the attendance theory is shown to be flawed. In the case of Indigenous students, such theories often relate to cultural differences or hearing difficulties.

## Teaching programs

The focus on attendance detracts from a focus on teaching methods. How can it be that just being at school is more important than the programs being taught there? Another startling observation made by researchers in the course of implementing Scaffolding and the NALP was the almost invisible nature of actual time spent teaching literacy. There are a plethora of events that take place in Indigenous schools that can mean that literacy lessons are missed and all of these events have good intentions behind them. Travelling science programs, elite sportspeople, circuses, Crocfest, music programs, breakfast programs and a wide range of excursions take time from literacy lessons. All of these activities are enriching but more than one school has commented to project members there would be no point coming to that school in term 3 (for example) because the students would only be there for three weeks total (not even consecutive weeks) once excursions and visits were taken out. Lack of time for teaching literacy, however, is never mentioned as a reason for low progress.

## Responsibility

Perhaps most insidious of the implications of the focus on attendance is that they make families responsible for literacy failure. If parents cared about their children's learning, the argument goes, they would send them to school. Since they don't send them to
school, they don't care about their children's learning. This argument renders invisible the children who come to school and do not achieve. The argument also renders invisible the possibility that parents who themselves did not learn to read at school may perceive school programs as failing their children.

The presenters of this paper would like to suggest that time spent engaging students productively in literacy learning, and the nature of the program used to teach it, are actually crucial elements in any discussion about assisting literacy development and that the data available about student progress and attendance may challenge the folk theories that abound around the topic.

The point of this discussion is not to attribute blame or criticism to classroom teachers. The point is rather to explore the nature of the wider society that creates and nurtures the firmly held beliefs that construct the culture in which we are all embedded. However, all of us involved in teaching could consider the following points:

- When students are at school let us engage them effectively using teaching methods that have proved to be effective. It would be better to teach the same lesson twice than to wait until there were enough students to make it feel worthwhile.
- Treat core subjects such as literacy and numeracy as central to a school day. Other programs certainly have their place but students come to school when they know they are engaged in what some students call 'real' learning, not just when they are looking forward to playing computer games or going on an excursion.
- Change perspective from blaming families, students or parents for their children's non attendance to working with families to keep them informed of their children's progress and to encourage their interest in the school.

In a perfect world we would have every school age citizen at school $100 \%$ of the time. Since, however, we are not in that world, let us make teaching and learning the central issue in education, not attendance.

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[^0]:    * Correlation is significant at the 0.05 level (2-tailed)
    ** Correlation is significant at the 0.01 level (2-tailed)

