

P.E-riod Investigation

For BT young scientists 2023 we wanted to investigate the mental and physical effects that the menstrual cycle has on performance and participation in P.E (physical exercise).

Our project idea came from the fact that we go to an all-girls school in Navan, Co. Meath of over 700 students. We noticed that many girls get notes from parents and choose not to participate in P.E whilst on their period. We wanted to find out why this was and also if there was a way we could improve participating in PE class, as we believe sport, and particularly P.E, is very important for students' wellbeing.

Furthermore we collected responses from all sporting codes: from non-professional GAA players to Irish Olympians to get their feedback on the impact that a woman's period has on sports participation.

Every 1 in 2 girls drop out of sport before they reach the age of 20, according to the Women's Sports Federation. Part of this decline we feel may be because of periods that start at 13/14 and as a result begins to be a habit where they slowly stop engaging in physical activity. Another study has found that 'by age 14 many girls are dropping out of sports at two times the rate of boys'.

Our investigation involved studying 16 students' PE performance whilst on their period (day 1-5) & compared this to when they were not on their period (Day 11-15 and days 21-25) to see if there are any physical changes in performance throughout a woman's cycle.

Our hypothesis for our testing was that the number of exercises completed on day 1-5 would be lower than the number of exercises done on days 11-14 and 21-25.

However from our test results we have found that your period days can have a positive impact on sprints and has a negative impact on strength exercises and can cause you to underperform.

We also compiled two surveys: The first survey was for all students in our school to find out how they feel during the various stages of their menstrual cycle. For example, questions looked at whether they feel comfortable while wearing a pad/tampon/other product whilst doing physical activity and on what days of their period are they least likely to compete physical activity.

Our second survey was for all levels of athletes ranging from club to Olympian. These questions looked at their participation levels when they are on their period,

if they have ever had any difficulties competing, if they think training/competing on their period is harder mentally or physically etc.

We contacted a gynecologist, Dr Maria Farren, from Holles Street hospital to find out what happens in girls' bodies whilst they are on their period and why some girls experience severe period cramps and some do not. She informed us that a lot of what girl's experience can be due to the natural balance of hormones they have. She also told us that many girls may have underlying conditions which can be the cause for them experiencing extra amounts of discomfort during their period. Another interesting thing she told us is that when you over train, your period can go away as there are too many stress hormones in the body. The stress hormones can upset the hormone balance between the hypothalamus, pituitary and the ovaries.

After completing all our research and testing and seeing our results we now suggest that all girls should try their best to remain active and participate in P.E and sport whilst on their period as we have confirmed it only gives positive benefits to your mind and body. The days when a woman is menstruating has no effect on the performance of sprints so this means partaking in runs will not be impacted by your period. (This is important for female athletes who are runners). However, consideration should be taken for those athletes who enjoy the gym/ weight lifting: as on day 1-5 (on your period) is impacted and you would not be performing to your best at this time due to your period. Knowing this means that females will feel better knowing that their performance in the gym is due to the time of the month and hormones rather than the female performing poorly/ disapproving.

We also suggest that P.E teachers and sports coaches should be taught more about this topic as they need to be more aware of the effects the menstrual cycle has on girls' bodies. The more awareness that coaches/ teacher have will ensure that expectations are correct to the females' time of the month depending on what exercise they are doing.

We feel this is such a necessary topic to talk about and needs to be talked about more. It is still a taboo subject: even in school we found many of our friends felt uncomfortable talking about such a natural part of the female body that will happen until she is in her 40's. Girls should feel comfortable talking about their period as it is a completely normal thing that all girls experience.