# Article information:

Impact of the shield machine’s performance parameters on the tunnel lining behaviour and settlements | SpringerLink  
<https://link.springer.com/article/10.1007/s12665-021-09820-2>

# Article summary:

1. The article investigates the effect of four main parameters (face pressure, grouting pressure at the shield tail, length and weight of the shield, and conicity of the shield) on tunnel lining efforts and surface settlements.

2. The face pressure plays an important role in ensuring tunnel face stability during excavation. Five different values of face pressure are used for parametric analysis.

3. The article finds that when the face pressure increases from low values to a higher percentage of the reference value, immediate settlements decrease but consolidation settlements increase beyond a critical value.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article is generally reliable and trustworthy as it provides detailed information on its research methodology and results. It also presents evidence for its claims in the form of tables and figures which support its findings. However, there are some potential biases that should be noted. Firstly, the article does not explore any counterarguments or alternative perspectives to its findings which could provide a more balanced view on the topic. Secondly, it does not discuss any possible risks associated with using different parameters for tunneling operations which could be important to consider when making decisions about such operations. Finally, it does not present both sides equally as it focuses mainly on how increasing face pressure affects tunneling operations without exploring other factors that could influence these operations such as soil type or ground conditions.

# Topics for further research:

* Tunneling operations risks
* Soil type and tunneling operations
* Ground conditions and tunneling operations
* Counterarguments to tunneling operations
* Alternative perspectives on tunneling operations
* Impact of other parameters on tunneling operations

# Report location:

<https://www.fullpicture.app/item/526dfdb5ab027b1346644b47251bb5d5>