midFEMA Manuscript

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Abstract—**The midFEMA research project is aimed at identifying and analyzing neurodevelopmental biomarkers for severe behavioral and emotional problems in youth. By leveraging Fast and Efficient Mixed-Effects Analysis (FEMA) in conjunction with voxelwise task-based reward activation measurements, we aim to uncover insights into brain development and functioning across a large, prospectively followed sample of approximately 9,000 youth aged 9–16 years from the Adolescent Brain and Cognitive Development (ABCD) study.**

Index terms—**Longitudinal, fMRI, DBD, FEMA, MID**

I. Introduction

Introduce the research topic, state the research problem, and outline the study's objectives. Provide background information to set the context. This is an exmaple in-text citation [1]. Ipsum leo porta – lacinia sed ac interdum nec vel ad. Elementum augue platea eleifend himenaeos nisl, viverra sem molestie. Hendrerit enim torquent litora fusce ultrices, magna, lacus id potenti! Imperdiet vulputate etiam conubia sem mi inceptos. Quisque mollis viverra lacinia bibendum ultricies, dui est gravida tristique nascetur. Pellentesque id elementum commodo pretium quisque purus mi taciti.

Dolor non ornare mattis sollicitudin, ultricies sapien tristique nibh nascetur! Facilisis conubia platea parturient, eu phasellus sollicitudin nostra, lobortis, cubilia, at malesuada vulputate. Vulputate vel ante curabitur netus mus nam quam. Vestibulum vitae ante pretium torquent nunc laoreet fermentum himenaeos.

Dolor lacus donec diam porta ultrices sollicitudin curae parturient justo. Habitasse molestie ligula tincidunt, fermentum dictumst netus pulvinar iaculis? Euismod id parturient magnis per eget aliquam morbi nunc, quisque donec. Orci molestie dui ridiculus habitant, nec eleifend sed ullamcorper nec in tempus.

A. Background

Provide a brief review of the pertinent literature, highlighting the gaps your study aims to fill. Adipiscing neque risus porttitor tristique nam bibendum malesuada feugiat placerat ullamcorper? Torquent nam magnis neque, pulvinar maecenas sem.

Ipsum habitant id viverra, magnis primis habitasse elementum sollicitudin. Ut tincidunt parturient dictum, duis, ut sociosqu vivamus dis ultrices penatibus posuere odio suscipit. Suscipit ultrices ridiculus?

B. Objectives

State the specific research questions or hypotheses your study addresses. Amet eu convallis molestie primis quis nibh magna orci faucibus dictumst? Erat nec taciti aliquet primis facilisis aliquet rhoncus.

Ipsum commodo nunc habitasse egestas cubilia fames ullamcorper tincidunt vel! Diam magna pellentesque laoreet, ullamcorper accumsan auctor netus? Molestie tellus faucibus hendrerit ac nec fermentum phasellus netus justo blandit. Sapien mauris habitant sapien nulla gravida laoreet ut. Mus tellus purus pretium interdum orci nisl convallis nascetur tincidunt interdum morbi consequat viverra ornare – pretium metus cubilia iaculis, vitae dignissim.

II. Methods

Describe the methodological approach, detailing how the study was conducted, how data was collected, and how analyses were performed. Adipiscing ultrices parturient sagittis rutrum, praesent penatibus habitasse felis. Duis blandit gravida tortor quis. Rutrum etiam lacinia – blandit scelerisque, potenti leo quisque quam. Velit est congue magnis arcu primis suscipit; tellus aliquam, metus faucibus nisi etiam feugiat sapien pretium dis lacus bibendum purus eget.

A. Participants

Describe the demographic characteristics of the study participants, including how they were selected, recruited, and any inclusion or exclusion criteria. Lorem ultricies aliquet pulvinar nam urna. Himenaeos blandit mattis odio facilisis, hendrerit ullamcorper blandit. Diam dictumst nec congue mattis dictumst fusce, vivamus platea ligula massa suscipit nisi! Ad mus nullam cras egestas dapibus mattis, venenatis sociosqu ut etiam tempor montes. Facilisis maecenas sapien quisque ad.

B. Measures

List the instruments or tools used to collect data, describing each measure's purpose and any relevant psychometric properties. Ipsum congue primis proin vestibulum netus scelerisque imperdiet at – laoreet litora sociosqu! Quisque interdum tristique odio class class leo tristique dui; mattis fringilla platea faucibus aenean. Vehicula suspendisse suscipit duis; et felis penatibus tempor? Diam neque pulvinar purus vulputate mauris scelerisque dignissim, neque felis montes litora placerat? Malesuada rutrum mattis pretium fames orci turpis quis eget. Congue rhoncus bibendum senectus tristique quisque ornare etiam, himenaeos ultricies.

Sit nibh non cursus – senectus, egestas nostra. Cursus nostra ad morbi phasellus euismod; luctus primis litora habitant tristique sagittis. Ullamcorper lacus vestibulum class cum velit egestas senectus rhoncus. Malesuada eros pulvinar, magnis blandit; ridiculus rutrum parturient facilisis sapien. Ac morbi et, mattis quam varius laoreet est quisque: velit in ligula! Magnis senectus eu lacinia porttitor elementum, in aliquet dapibus velit etiam duis sagittis bibendum eros nunc proin.

C. Analytic Plan

Detail the statistical tests or models employed to analyze the data, including any software used. Dolor et vitae gravida tristique eleifend eget suscipit tristique dictum. Tincidunt montes libero placerat parturient duis ligula curae, justo class parturient conubia. Netus imperdiet congue neque venenatis duis dignissim dui: dui primis mus? Praesent blandit libero posuere arcu per; laoreet ullamcorper; nostra arcu. Cursus curae dapibus quis ligula tristique faucibus justo, nostra taciti, curae aptent enim. Ridiculus parturient aptent primis ullamcorper metus venenatis pellentesque magna. Sociis posuere magna massa in leo cursus, sodales nibh viverra metus facilisi vestibulum vel volutpat mauris fermentum nibh, aliquet aliquet!

III. RESULTS

Present the findings of the study, supported by statistical analysis, tables, and figures as necessary. Sit at nisi tristique leo aliquam inceptos placerat vulputate risus. Dis accumsan pharetra proin faucibus vitae, tempus semper velit ultrices curabitur auctor. Faucibus nam morbi placerat curabitur blandit non nostra pulvinar. Nascetur nisl nunc, mus molestie elementum scelerisque lobortis suspendisse? Dictumst eget cursus fusce cubilia per himenaeos neque justo senectus per, porttitor donec posuere, dapibus gravida egestas turpis facilisis tincidunt curabitur praesent aptent donec leo.

Lorem nascetur sodales metus fames taciti litora; orci diam. Dui ornare auctor mauris fermentum blandit neque. Donec laoreet mus gravida iaculis vulputate vivamus ultrices cubilia, primis euismod arcu etiam! Scelerisque feugiat aliquam – lobortis urna, ad et felis aenean sapien. Ligula cras luctus nascetur, gravida ut molestie, tellus condimentum dui commodo.

Lorem eros feugiat porttitor lobortis felis? Cursus mus sapien nascetur id est etiam justo nibh felis pellentesque imperdiet! Fusce congue tortor turpis, taciti lacus augue metus nisi mattis massa hac dis. Id inceptos quis sagittis primis semper, vulputate curabitur ultrices a nec dui tempus aliquam enim ac hac aenean proin turpis.

A. [Subsection Title]

Present specific findings related to a particular aspect of the study, supported by data. Amet vestibulum pellentesque odio lobortis fames imperdiet diam consequat egestas. Ut eleifend tempus facilisis, fames feugiat commodo purus hac? Hac praesent sagittis phasellus, montes placerat lectus eu. Ac cubilia – tortor, volutpat ac tristique felis ligula. Ultricies sociis litora, ad commodo ante vivamus sollicitudin habitant cum. Eros quam lacinia curabitur – curabitur pretium a, morbi sem maecenas gravida. Penatibus habitasse rhoncus euismod orci, dapibus vel. Eros est, velit risus pulvinar ridiculus velit senectus urna turpis, magnis dignissim, fermentum, venenatis pharetra pellentesque condimentum eros integer mattis quis dapibus porta?

B. [Subsection Title]

Discuss another set of findings, providing details on the analysis and interpretation. Consectetur ut enim, hac cursus litora taciti, proin interdum, nascetur volutpat facilisis! Pulvinar ad semper, et donec ad mus. Dis mi posuere netus nec, metus ligula eros mi. In viverra hac vestibulum, non eget enim facilisi erat metus interdum vitae facilisis. Sollicitudin velit aliquet fermentum malesuada vitae dictumst, pulvinar maecenas felis vehicula nulla.

IV. DISCUSSION

Interpret the results, discussing their implications in the context of existing literature. Address the study's limitations and suggest directions for future research. Sit aliquet cubilia diam id rutrum ultrices, ante ante parturient. Ridiculus class luctus felis vestibulum fames, mus, convallis senectus pretium? Tristique congue magnis vulputate sociosqu habitasse ridiculus sed per consequat. Dapibus at at est varius suscipit eleifend, ornare platea conubia proin. Condimentum per duis ultrices

euismod dui massa odio ad velit, nascetur sodales cursus fames eleifend.

Elit quisque vehicula posuere viverra ornare vel in, ante commodo viverra. Pellentesque feugiat libero lobortis duis laoreet habitant: suspendisse, ultricies nascetur diam? Tempus dictum lacinia lectus senectus nec neque cras – mi, nunc imperdiet auctor! Tellus ridiculus quisque hendrerit aliquam magnis fames massa quis feugiat consequat.

Elit vehicula parturient ridiculus euismod neque odio, urna ut orci pulvinar. Conubia arcu, aenean porta aenean et pellentesque sollicitudin nullam quis molestie rhoncus libero. Lacinia inceptos venenatis tellus platea arcu mattis dignissim risus, augue non id hac. Per curae leo luctus faucibus sodales mattis hendrerit. Lobortis urna vel volutpat ante varius fusce et vulputate. Nisl phasellus cum inceptos.

A. Limitations

Acknowledge any limitations of your study and their potential impact on the findings. Adipiscing accumsan class volutpat molestie et justo dignissim torquent aptent? Ad semper parturient mauris varius ligula: leo, consequat, justo interdum neque. Interdum quam iaculis commodo! Nulla mi natoque mi, natoque aliquet risus magna proin. Pulvinar pulvinar nunc aenean lectus, quis – dictum nostra penatibus eros interdum! Magna gravida etiam ante ornare magnis sed, cras, purus nascetur hac metus neque! Nascetur ut nam sollicitudin ut turpis scelerisque eros felis gravida sagittis, et montes, cubilia – pulvinar magnis sollicitudin venenatis pretium ante montes.

B. Future Directions

Suggest areas for future research that could build on your findings or address limitations. Ipsum praesent suspendisse taciti penatibus, bibendum purus elementum urna per cum! Ridiculus sed semper, himenaeos cursus sollicitudin – eros scelerisque litora lacinia dapibus! Ornare cubilia vehicula turpis ac habitasse etiam fermentum mollis morbi eleifend. Lacus proin facilisi a, nec congue nisi, molestie; integer convallis sollicitudin lectus. Nostra iaculis lectus mattis faucibus gravida dis: nostra quisque justo ac. Suscipit varius nullam aenean non orci.

V. Conclusion

Summarize the main findings and their implications. Conclude with a statement that reflects the significance of the study and its contributions to the field. Amet nibh commodo euismod – purus rhoncus egestas vitae aliquam vehicula. Lobortis euismod orci neque proin.

VI. Acknowledgments

Lorem blandit venenatis pretium, netus: nisl vehicula facilisi venenatis, malesuada venenatis purus imperdiet. Litora ullamcorper molestie – molestie egestas felis diam dis et! Potenti nullam vestibulum donec consequat turpis, vehicula tempor tortor nam eros. Sagittis ligula platea, nostra tortor, euismod tellus, nisi mi class condimentum vestibulum pharetra.

VII. Appendices

Include any additional material that is pertinent to the study but would be too distracting or bulky to include in the main body of the manuscript. Dolor inceptos consequat nec ultricies natoque convallis. Habitasse ultrices metus a feugiat elementum, quis massa tristique augue dignissim. Nam convallis integer tellus euismod pharetra libero feugiat at volutpat lectus. Tellus sociis blandit curae luctus fames libero cras, mollis, tellus feugiat semper. Iaculis sollicitudin cursus tempus etiam nulla ad est cum pharetra. Congue interdum ultrices, maecenas nascetur sociosqu facilisis platea.

Bibliography

[1] R. Astley and L. Morris, "At-scale impact of the Net Wok: A culinarically holistic investigation of distributed dumplings", *Armenian Journal of Proceedings*, vol. 61, pp. 192–219, 2020.