

## S3 Appendix. The forest plots concerning redundant or non-statistically significant results.

### Maxillary/upper jaw changes

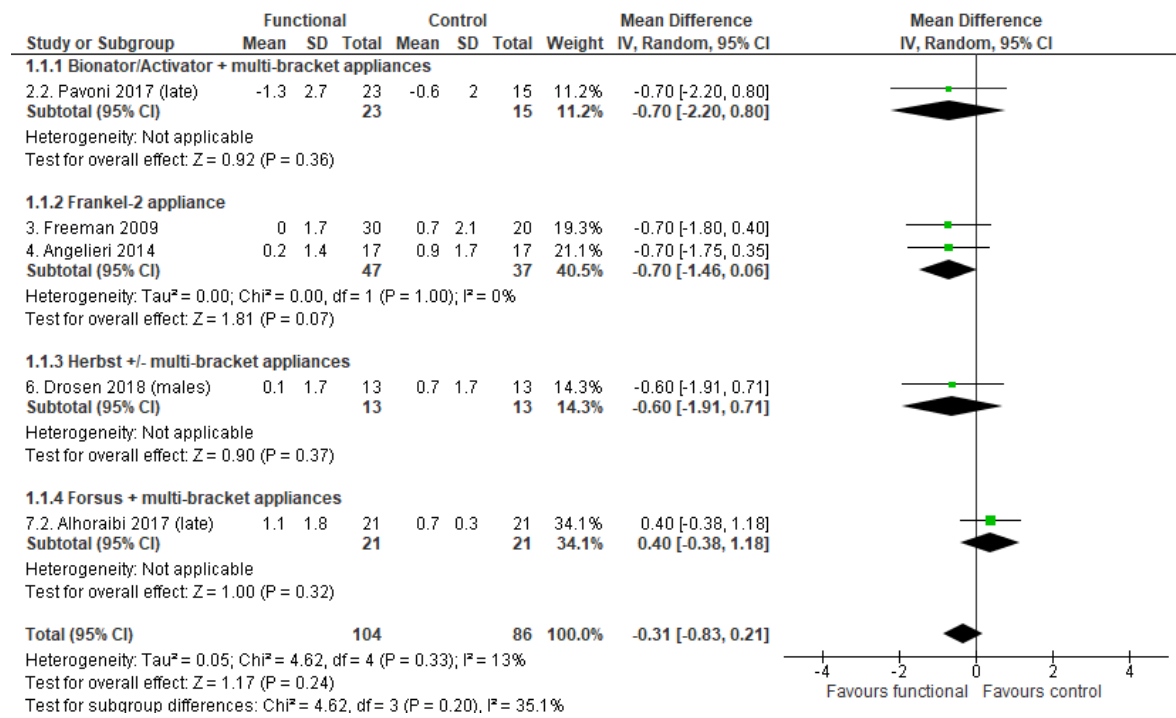
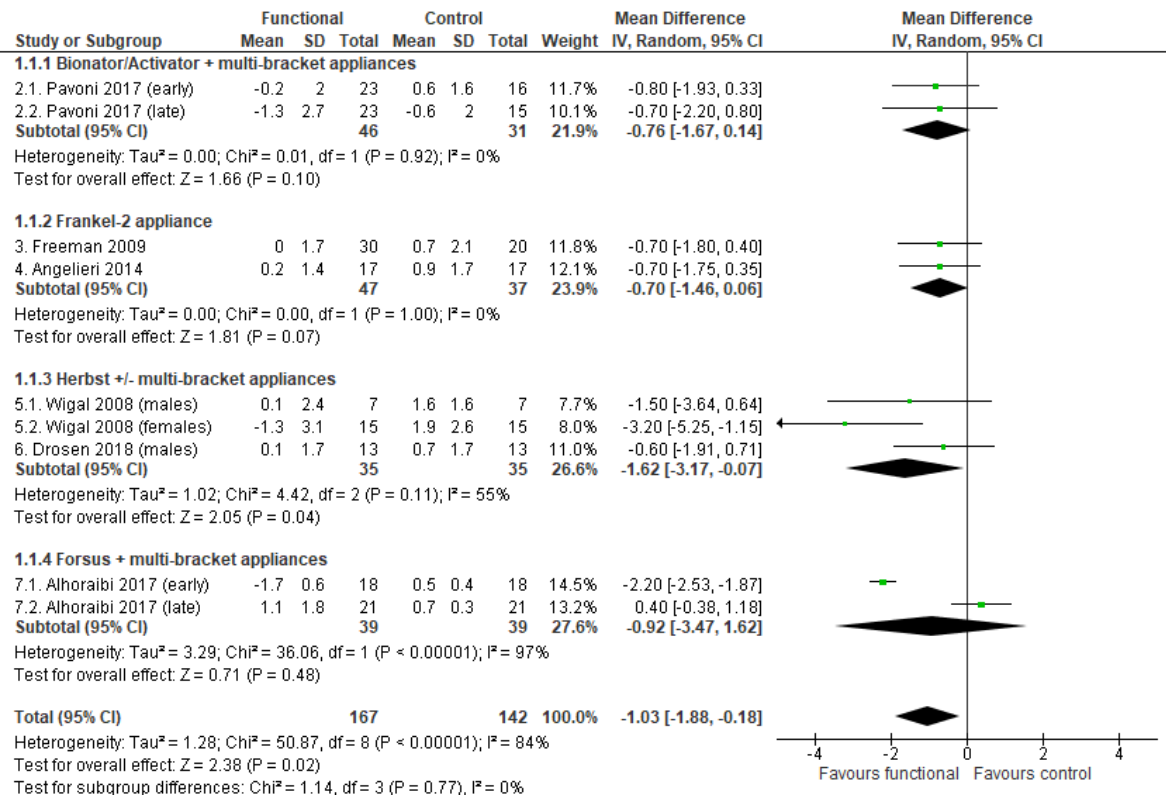
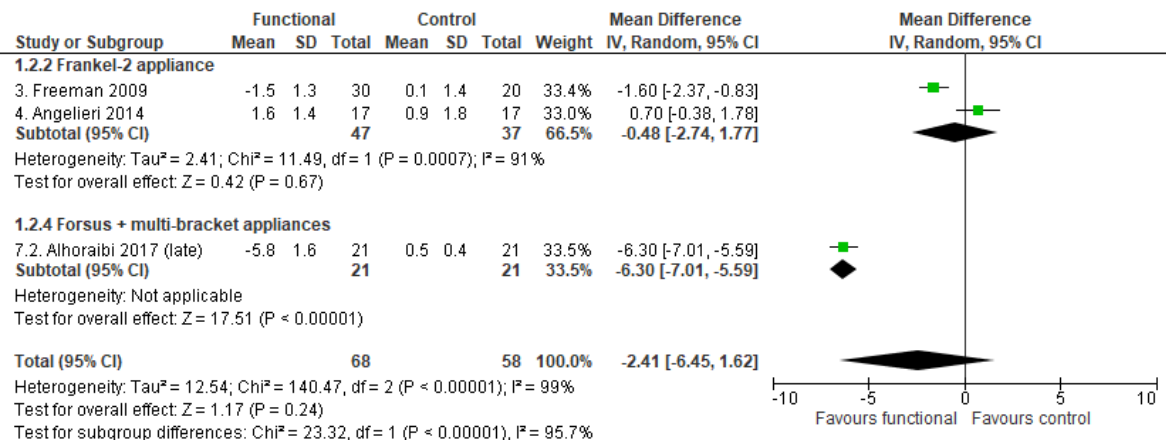


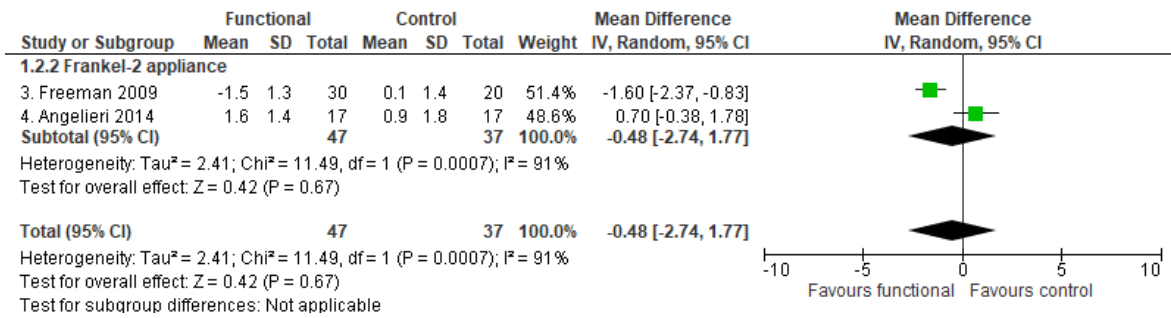
Figure 1. Meta-analysis; Outcome: SNA angle; Time point: above 18 years of age.



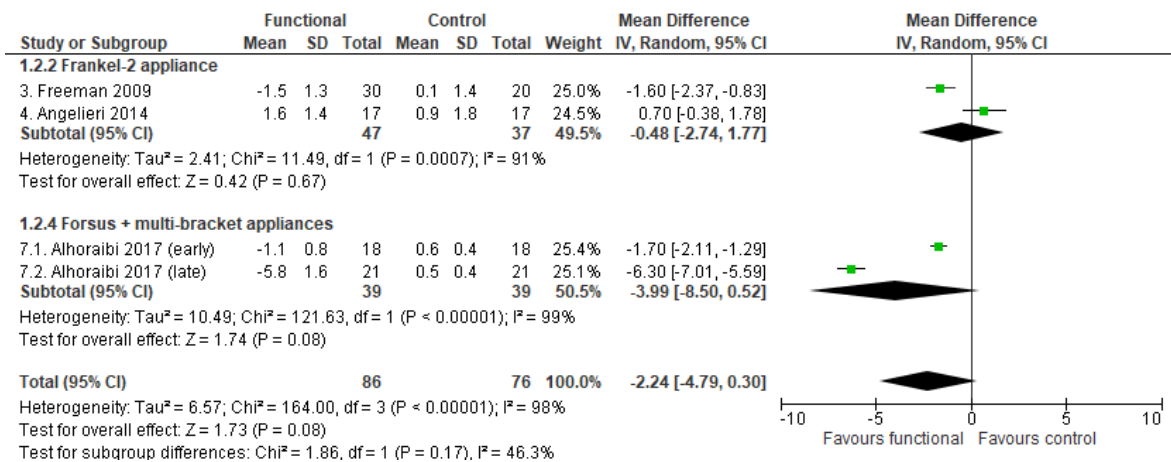
**Figure 2. Meta-analysis; Outcome: SNA angle; Time point: After a post-retention period of at least 3 years.**



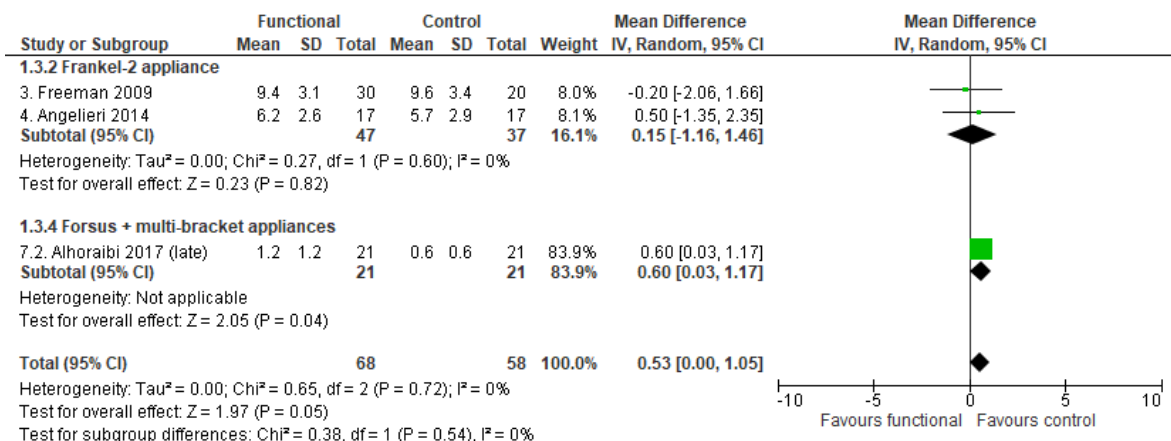
**Figure 3. Meta-analysis; Outcome: A to N perpendicular distance; Time point: above 18 years of age.**



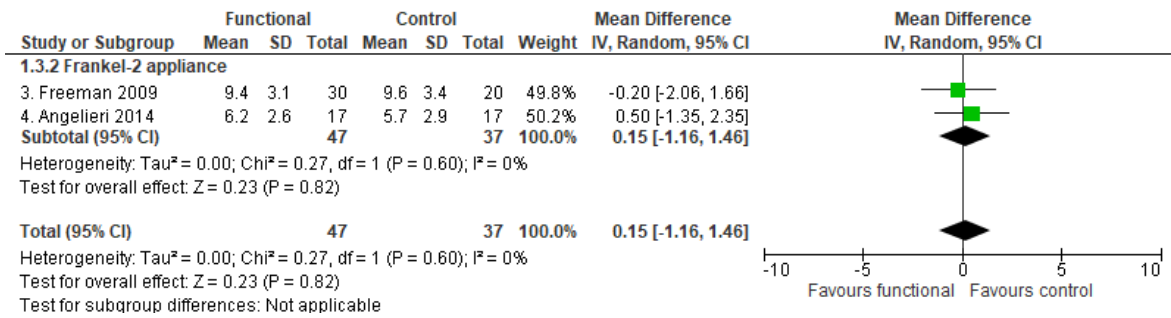
**Figure 4. Meta-analysis; Outcome: A to N perpendicular distance; Time point: end of growth according to the CVM method.**



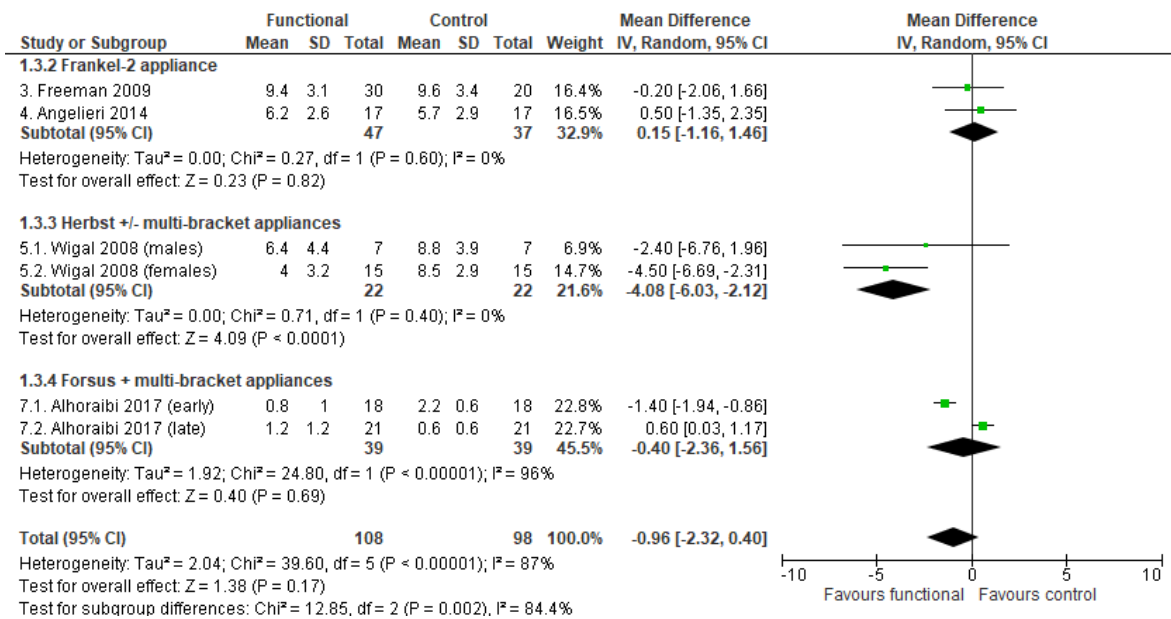
**Figure 5. Meta-analysis; Outcome: A to N perpendicular distance; Time point: After a post-retention period of at least 3 years.**



**Figure 6. Meta-analysis; Outcome: Co-A distance; Time point: above 18 years of age.**



**Figure 7. Meta-analysis; Outcome: Co-A distance; Time point: end of growth according to the CVM method.**



**Figure 8. Meta-analysis; Outcome: Co-A distance; Time point: After a post-retention period of at least 3 years.**

## Mandibular/lower jaw changes

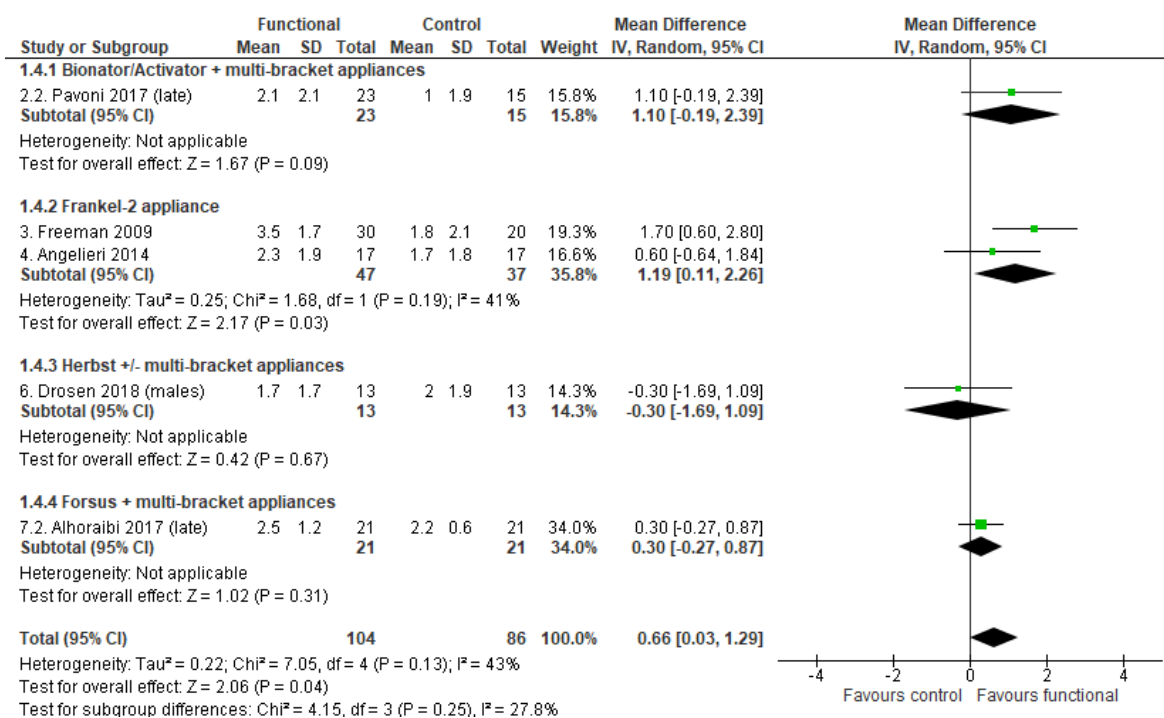


Figure 9. Meta-analysis; Outcome: SNB angle; Time point: above 18 years of age.

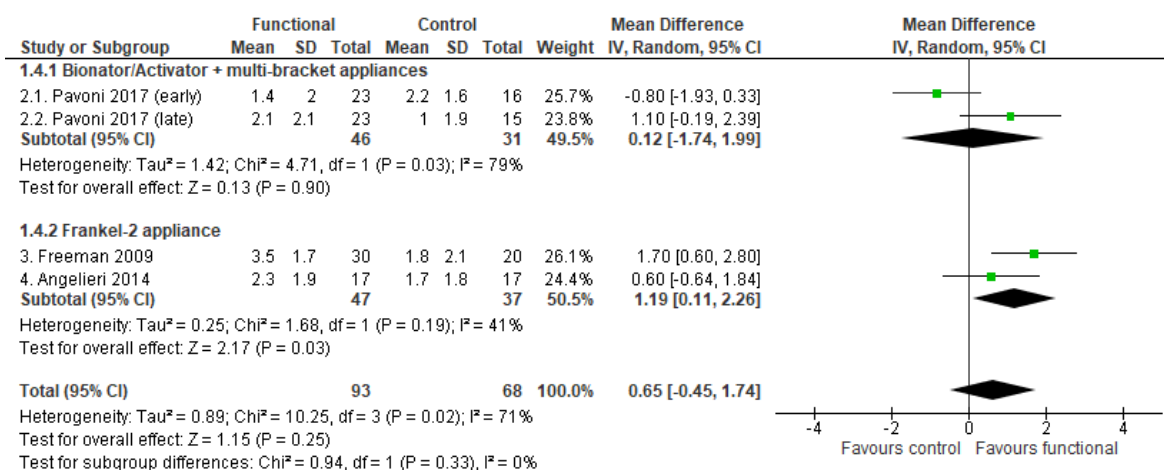
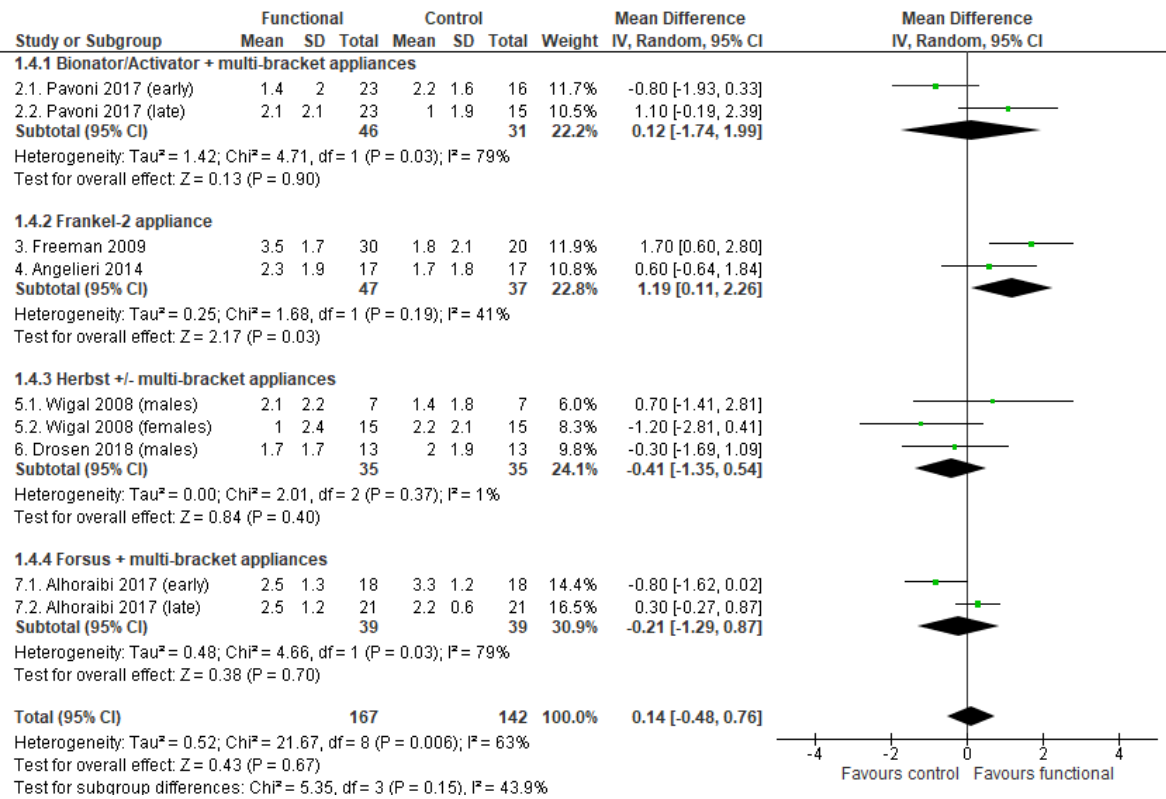
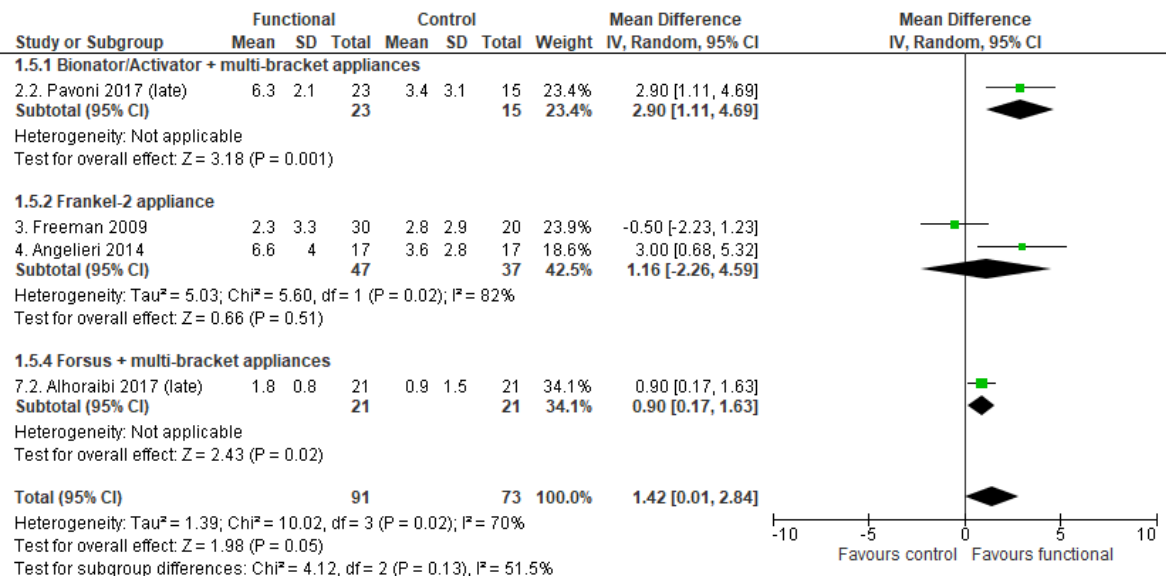


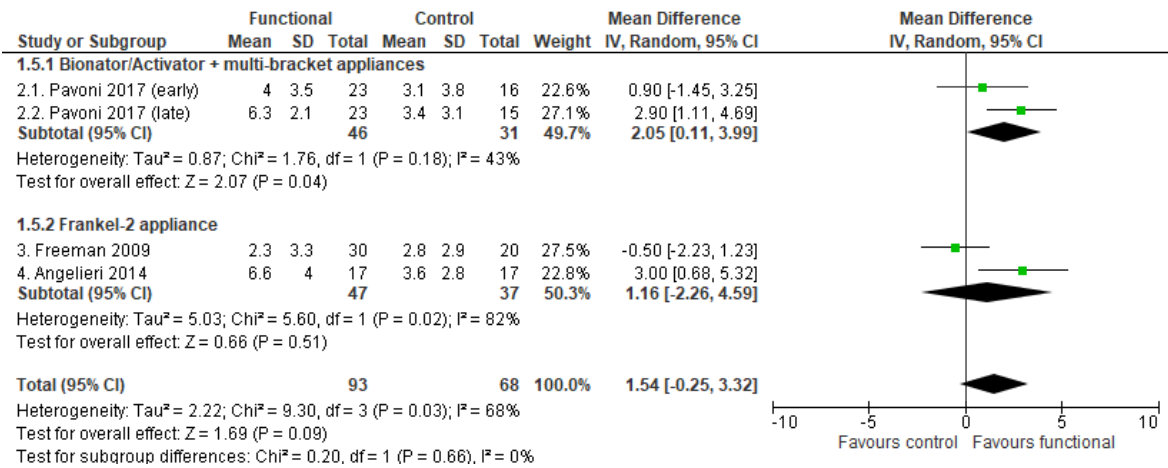
Figure 10. Meta-analysis; Outcome: SNB angle; Time point: end of growth according to the CVM method.



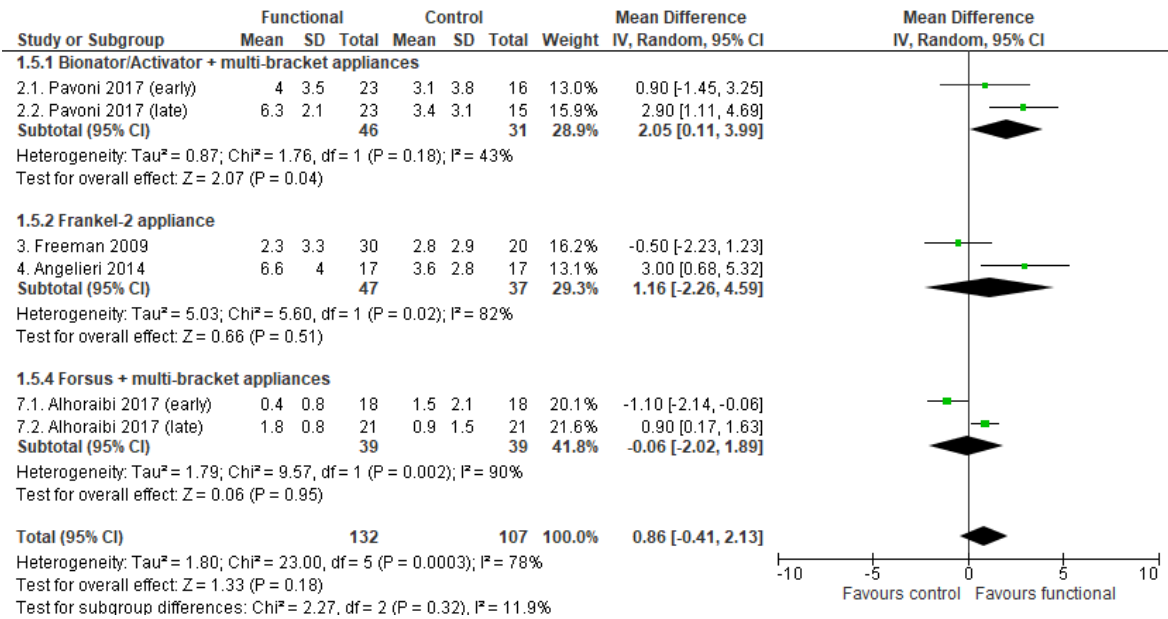
**Figure 11. Meta-analysis; Outcome: SNB angle; Time point: After a post-retention period of at least 3 years.**



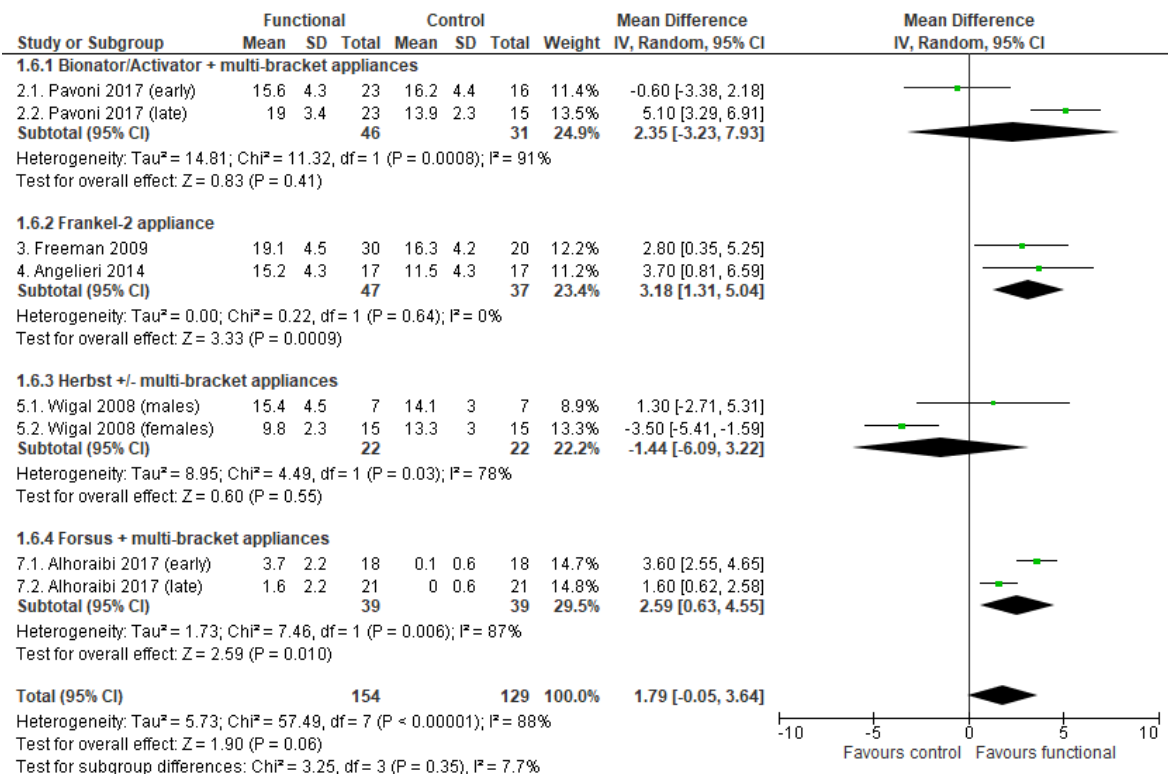
**Figure 12. Meta-analysis; Outcome: Pg to N perp distance; Time point: above 18 years of age.**



**Figure 13. Meta-analysis; Outcome: Pg to N perp distance; Time point: end of growth according to the CVM method.**



**Figure 14. Meta-analysis; Outcome: Pg to N perpendicular distance; Time point: After a post-retention period of at least 3 years.**



**Figure 15. Meta-analysis; Outcome: Co-Gn distance; Time point: After a post-retention period of at least 3 years.**



## Maxillo-mandibular changes

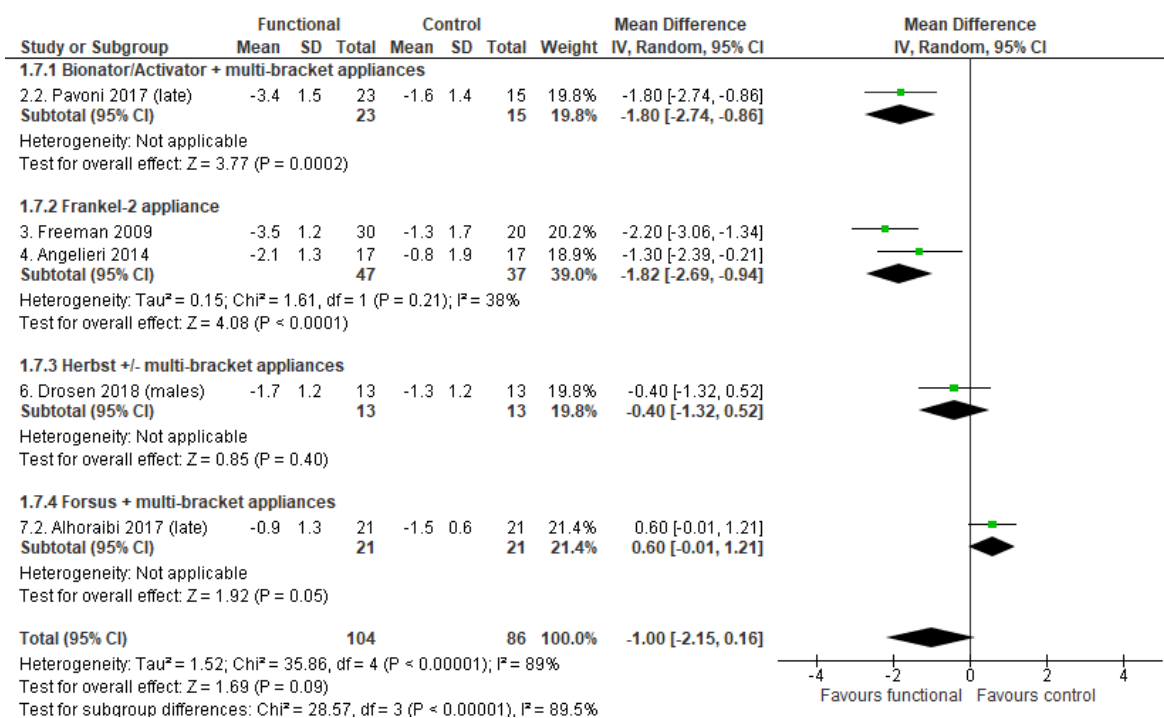
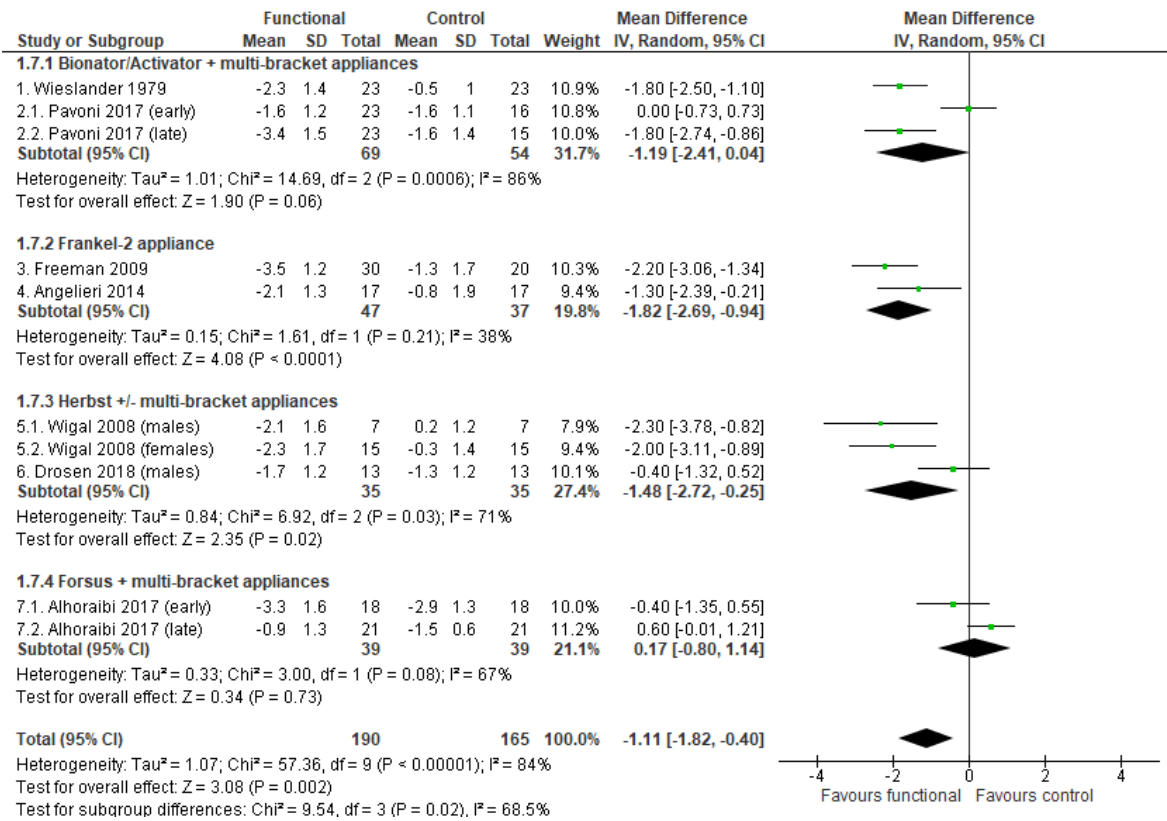


Figure 16. Meta-analysis; Outcome: ANB angle; Time point: above 18 years of age.



**Figure 17. Meta-analysis; Outcome: ANB angle; Time point: After a post-retention period of at least 3 years.**

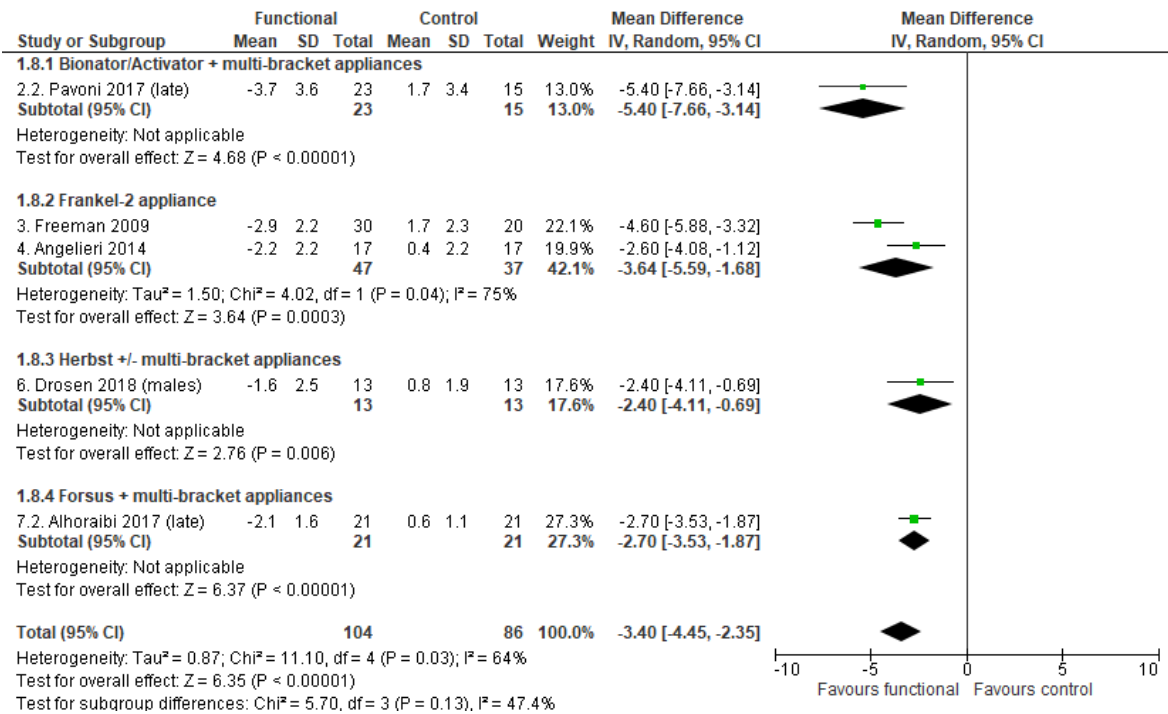


Figure 18. Meta-analysis; Outcome: Wits appraisal; Time point: above 18 years of age.

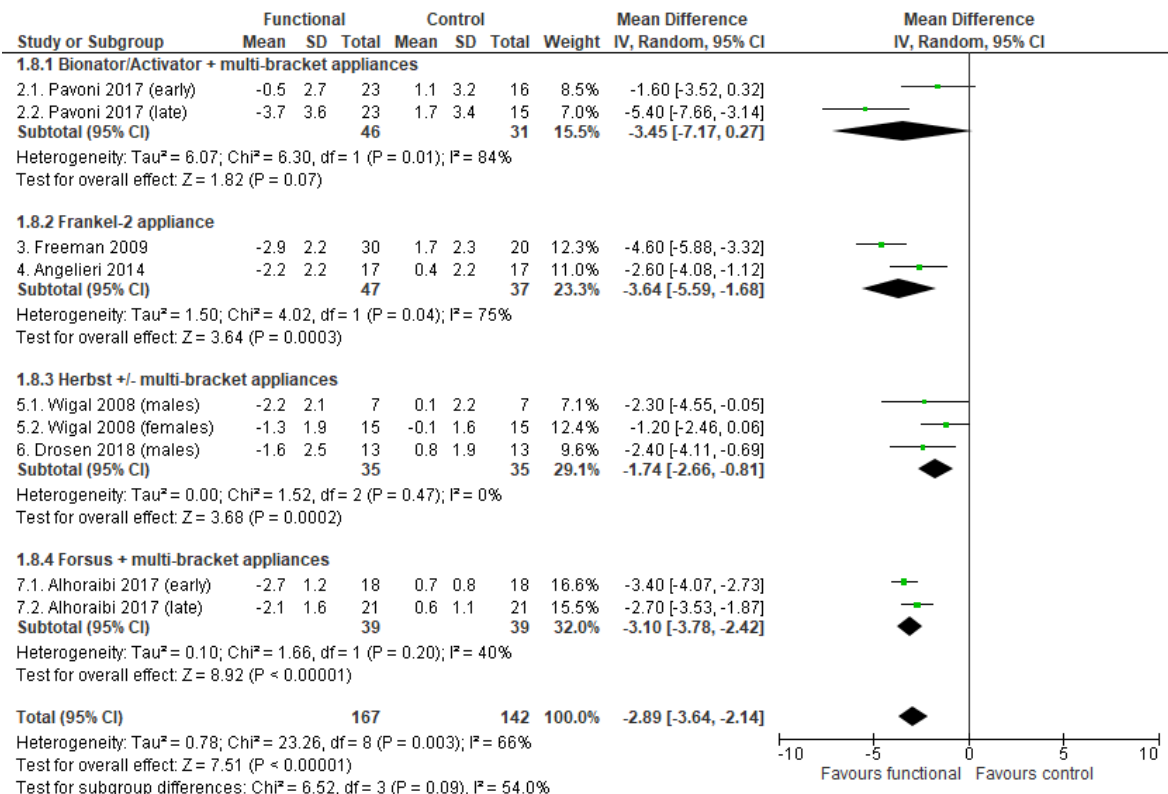
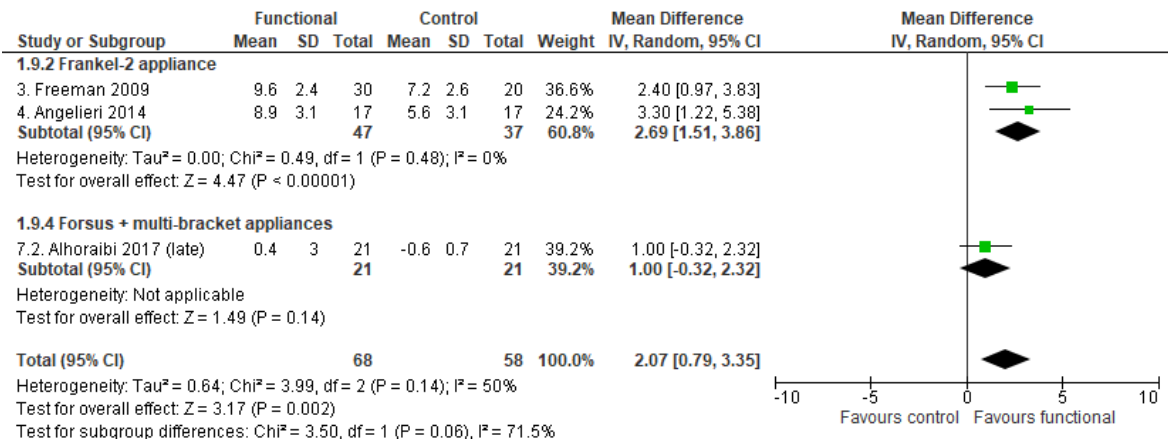
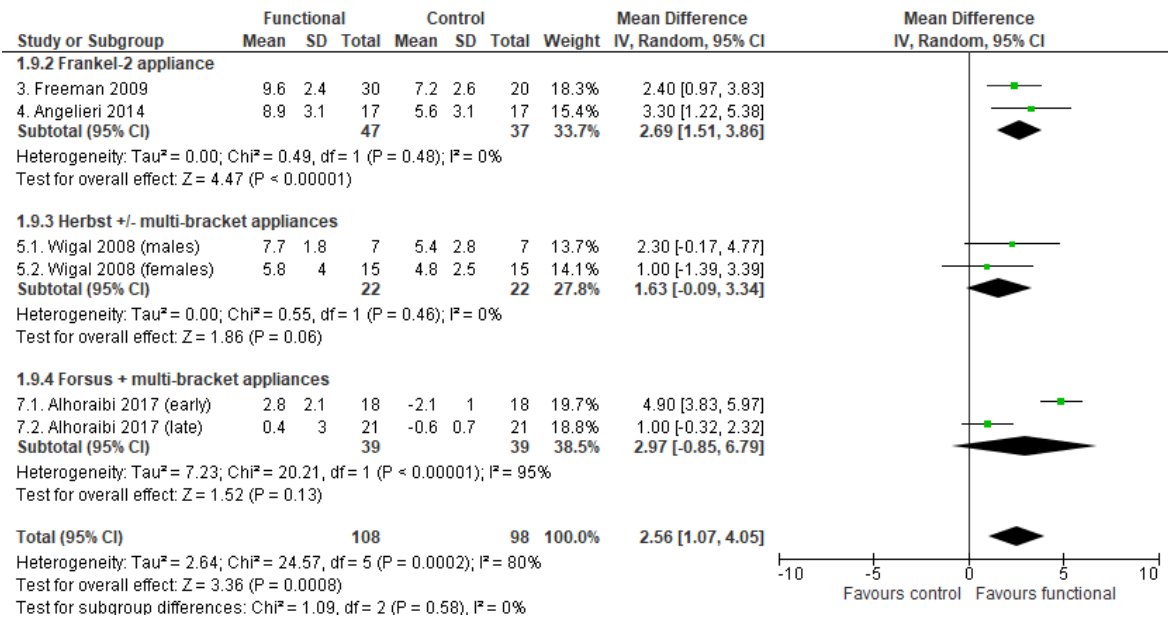


Figure 19. Meta-analysis; Outcome: Wits appraisal; Time point: After a post-retention period of at least 3 years.



**Figure 20. Meta-analysis; Outcome: Co-Gn/Co-A difference; Time point: above 18 years of age.**



**Figure 21. Meta-analysis; Outcome: Co-Gn/Co-A difference; Time point: After a post-retention period of at least 3 years.**

## Additional analysis

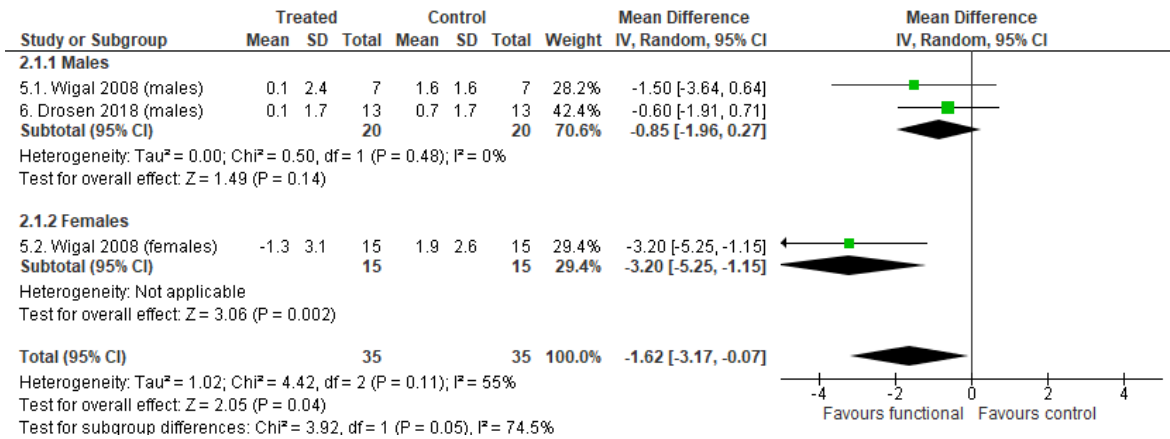


Figure 22. Subgroup analysis based on gender (males, females); Outcome: SNA angle.

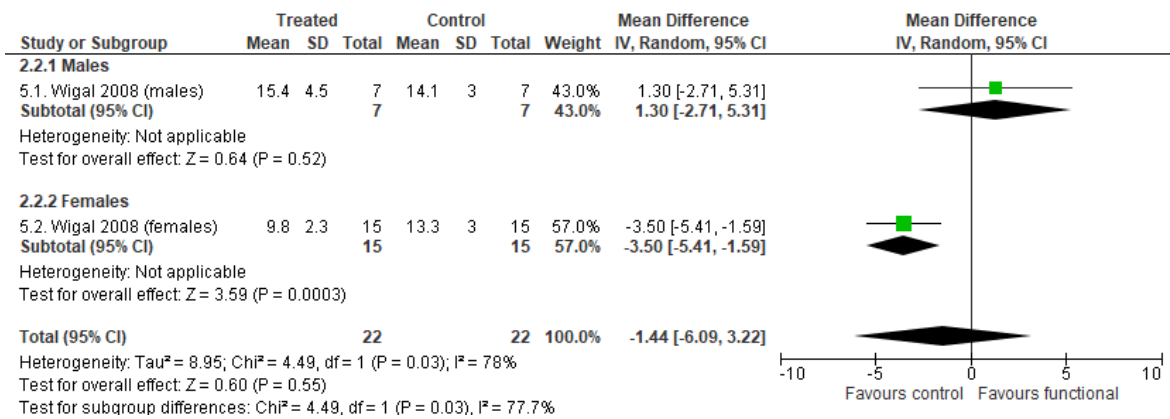


Figure 23. Subgroup analysis based on gender (males, females); Outcome: Co-Gn distance.

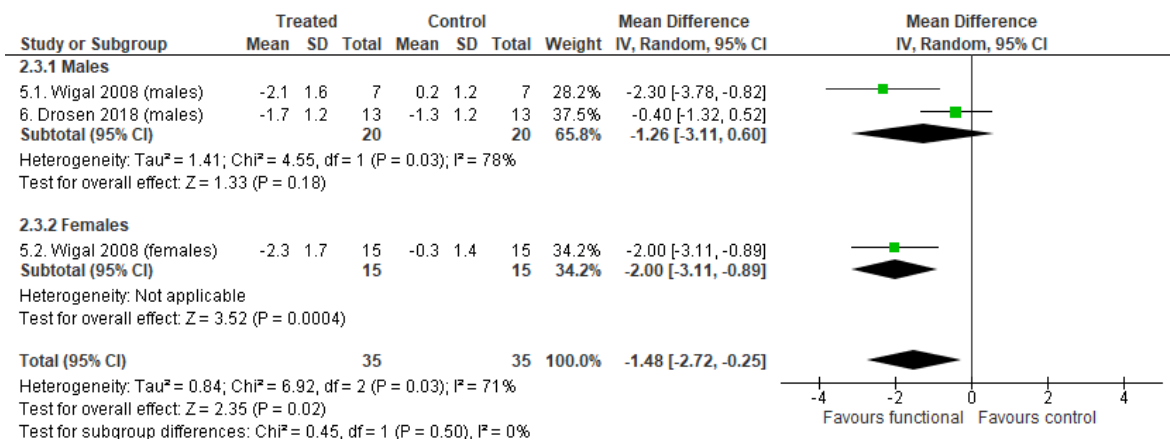
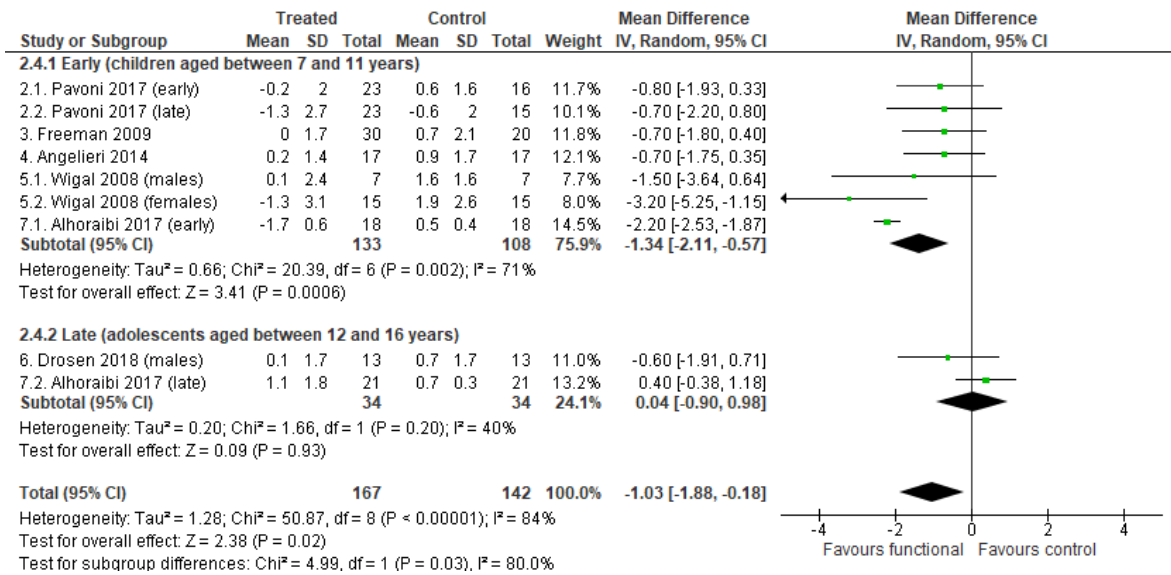
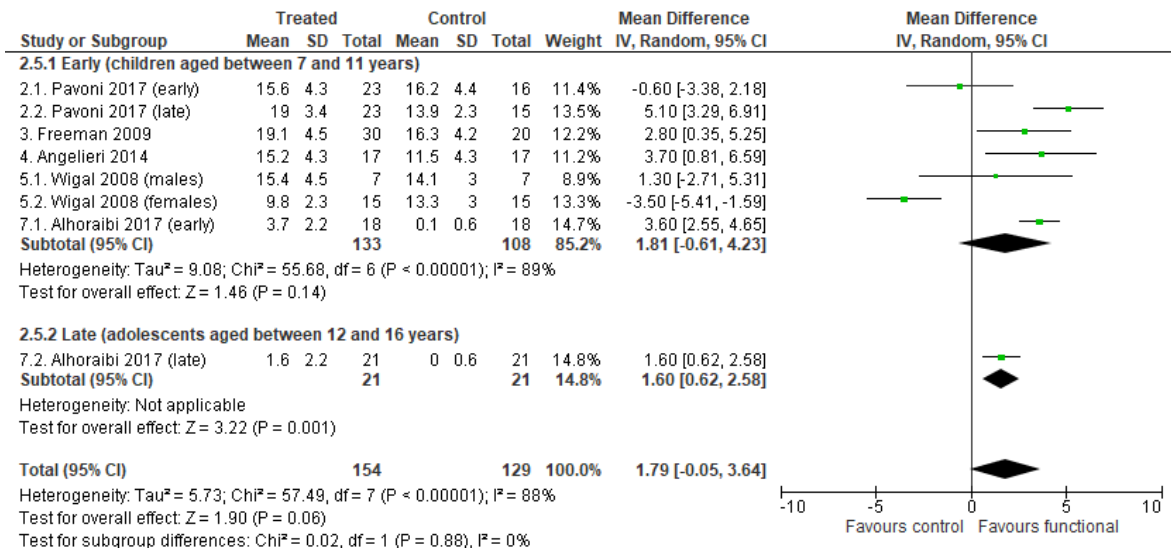


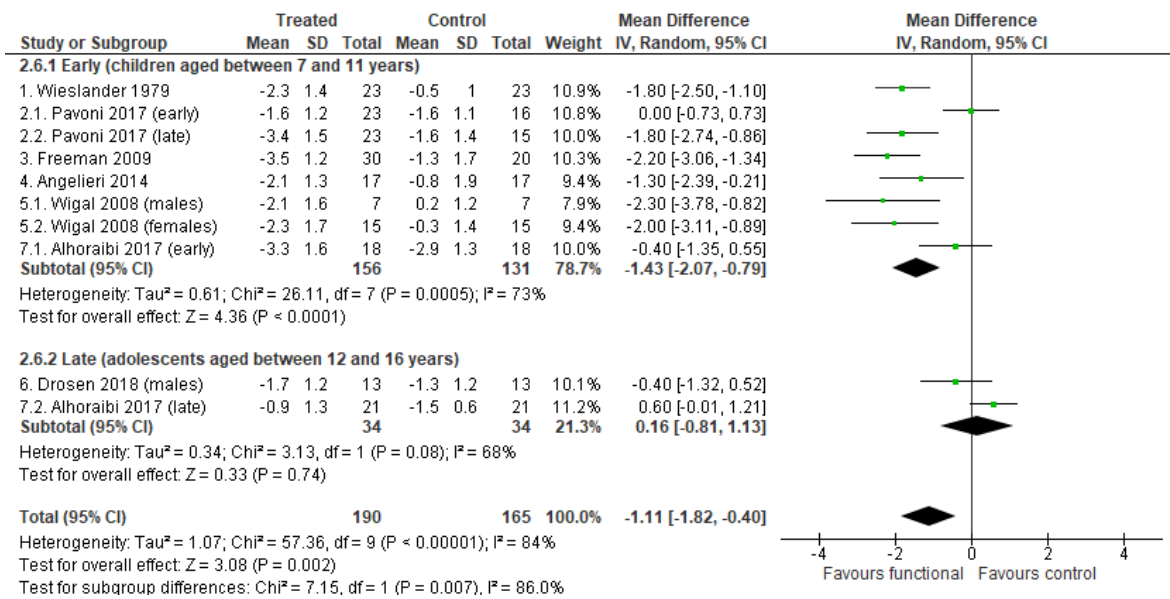
Figure 24. Subgroup analysis based on gender (males, females); Outcome: ANB angle.



**Figure 25. Subgroup analysis based on the beginning of the functional appliance therapy;**  
**Outcome: SNA angle.** Early treatments, commencing in children aged between 7 and 11 years;  
late treatments, beginning in adolescents aged between 12 and 16 years.



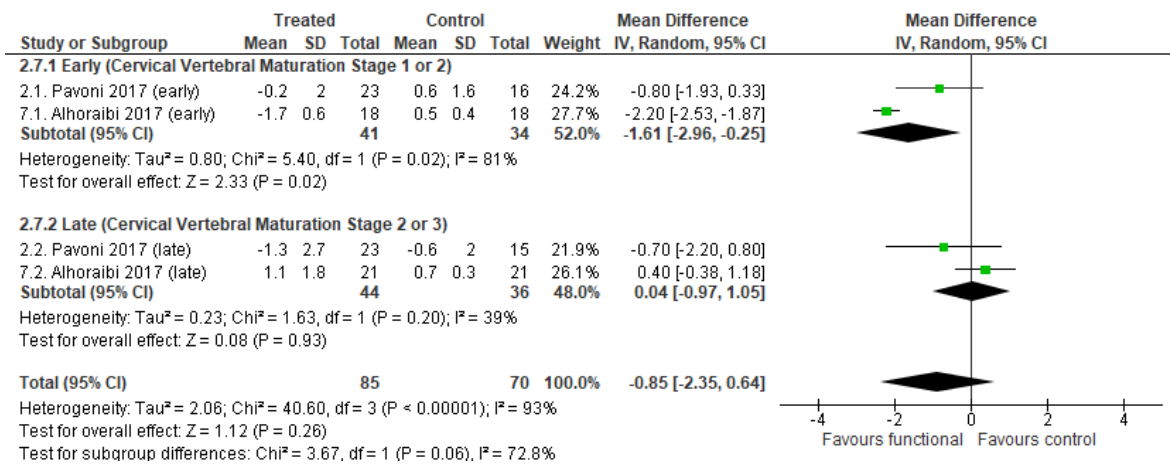
**Figure 26. Subgroup analysis based on the beginning of the functional appliance therapy;**  
**Outcome: Co-Gn distance.** Early treatments, commencing in children aged between 7 and 11 years;  
late treatments, beginning in adolescents aged between 12 and 16 years.



**Figure 27. Subgroup analysis based on the beginning of the functional appliance therapy;**

**Outcome: ANB angle.** Early treatments, commencing in children aged between 7 and 11 years;

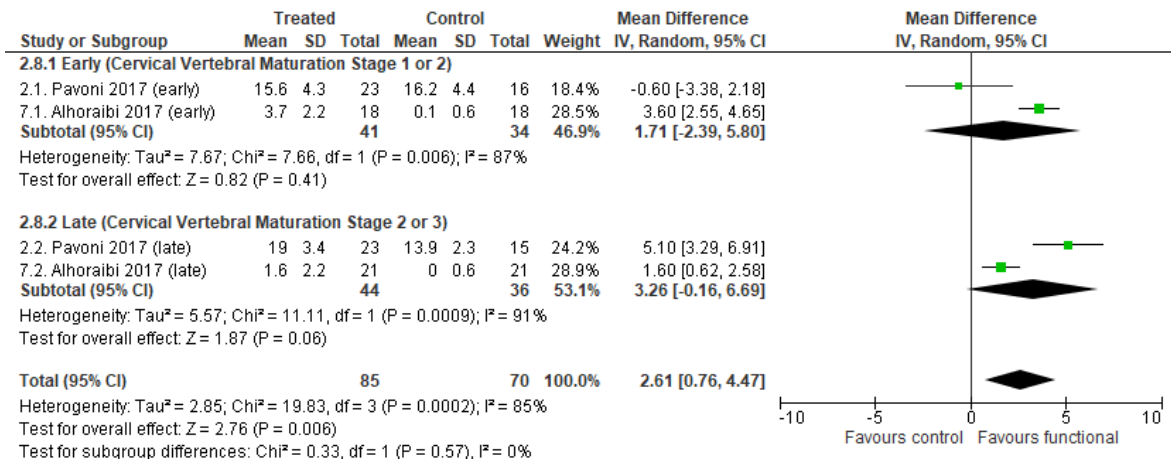
late treatments, beginning in adolescents aged between 12 and 16 years.



**Figure 28. Subgroup analysis based on the start of the treatment; Outcome: SNA angle.** Early

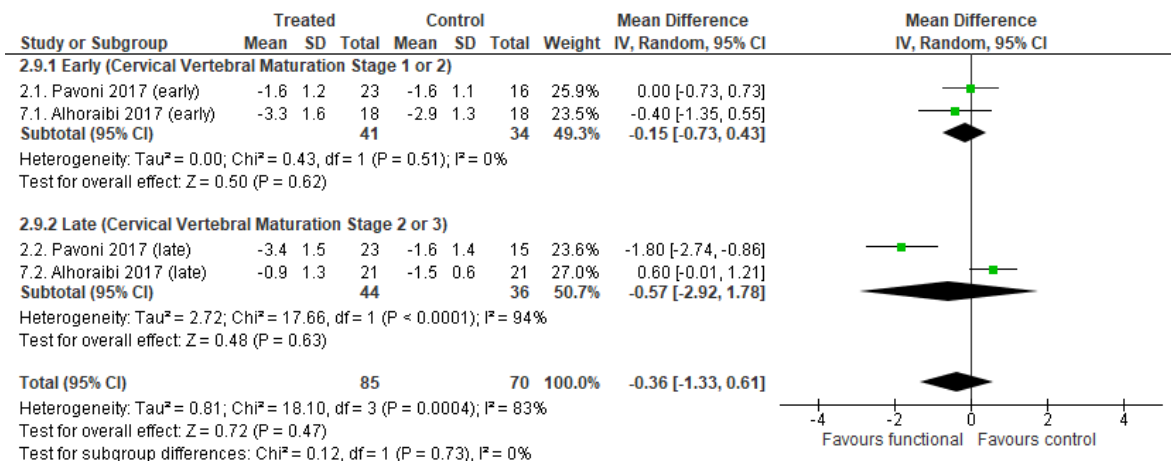
treatments, with patients presenting with Cervical Vertebral Maturation Stage [CVMS] 1 or 2 at the

first observation; late treatments, with subjects presenting with CVMS 2 or 3.



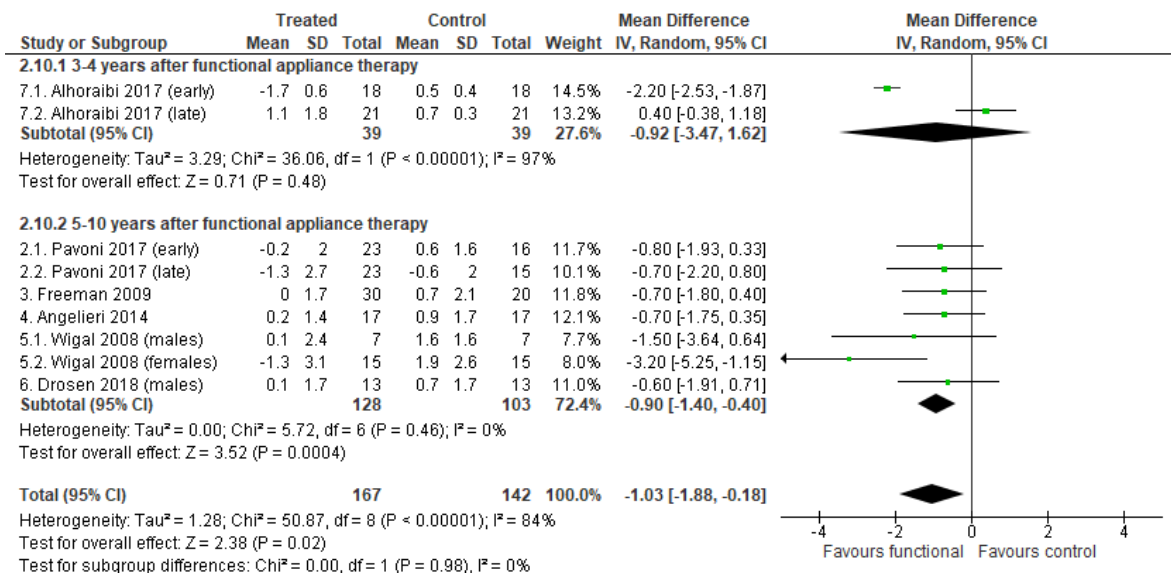
**Figure 29. Subgroup analysis based on the start of the treatment; Outcome: Co-Gn distance.**

Early treatments, with patients presenting with Cervical Vertebral Maturation Stage [CVMS] 1 or 2 at the first observation; late treatments, with subjects presenting with CVMS 2 or 3.

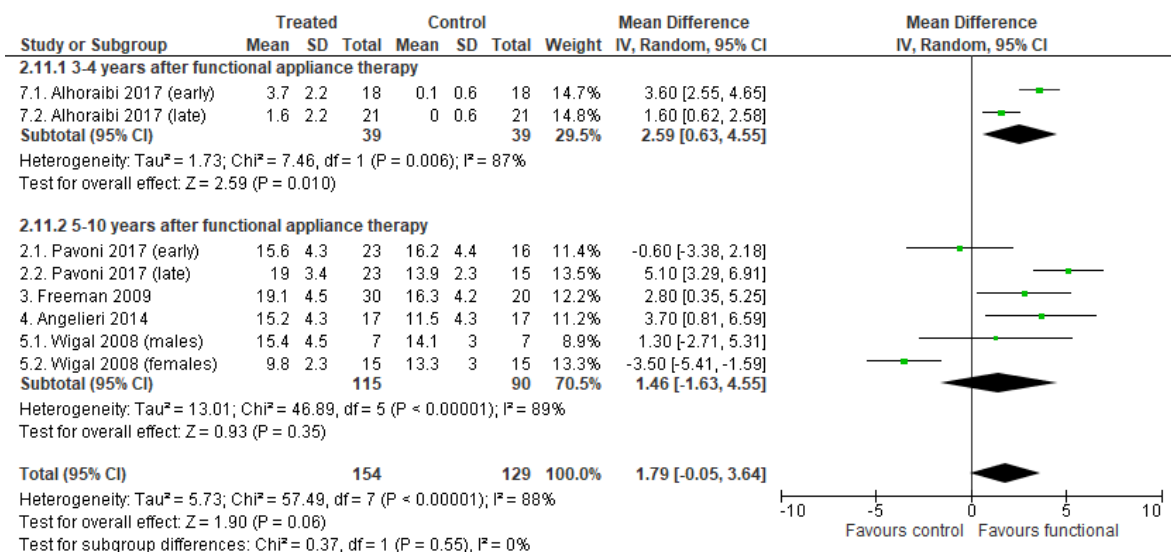


**Figure 30. Subgroup analysis based on the start of the treatment; Outcome: ANB angle.** Early treatments, with patients presenting with Cervical Vertebral Maturation Stage [CVMS] 1 or 2 at the first observation; late treatments, with subjects presenting with CVMS 2 or 3.

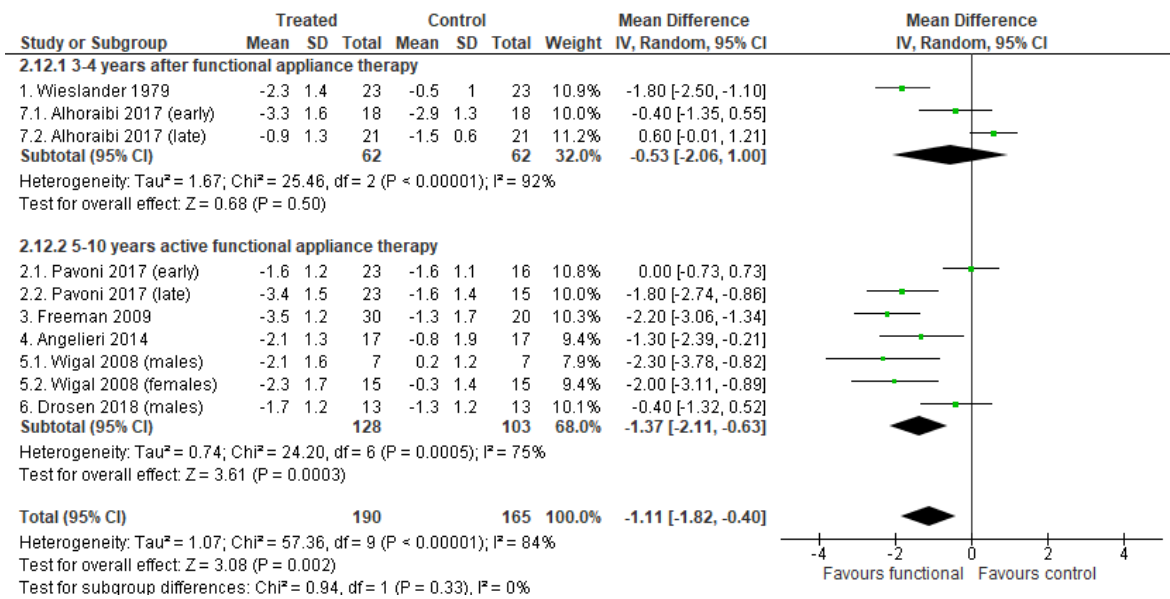




**Figure 31. Subgroup analysis based on the post-retention period duration (3-4, 5-10 years after active treatment with functional appliances); Outcome: SNA angle.**



**Figure 32. Subgroup analysis based on the post-retention period duration (3-4, 5-10 years after active treatment with functional appliances); Outcome: Co-Gn distance.**



**Figure 33. Subgroup analysis based on the post-retention period duration (3-4, 5-10 years after active treatment with functional appliances); Outcome: ANB angle.**

## Sensitivity analysis

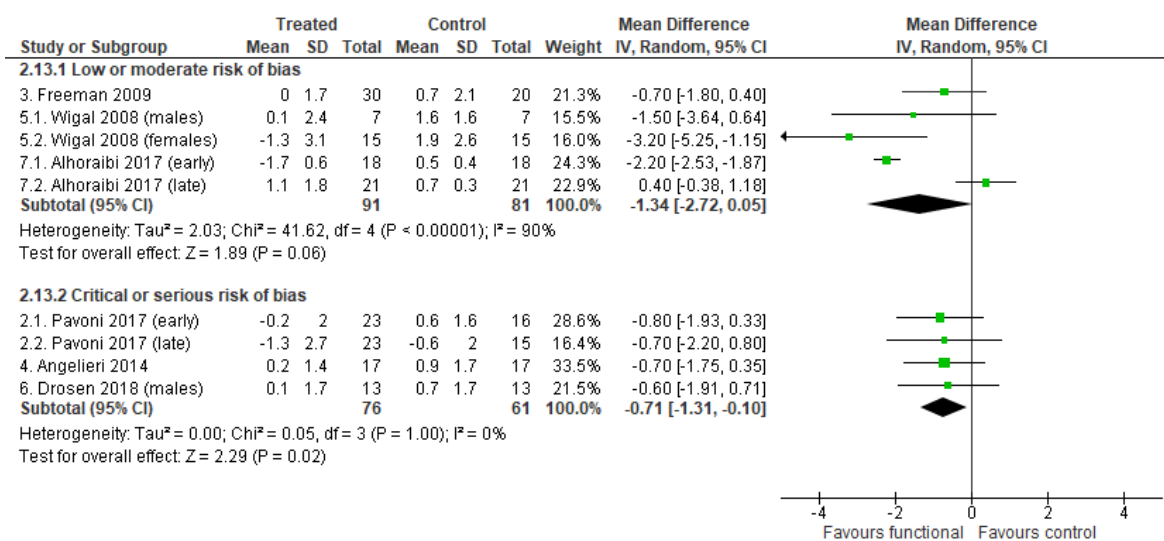


Figure 34. Sensitivity analysis based on the study quality assessment; Outcome: SNA angle.

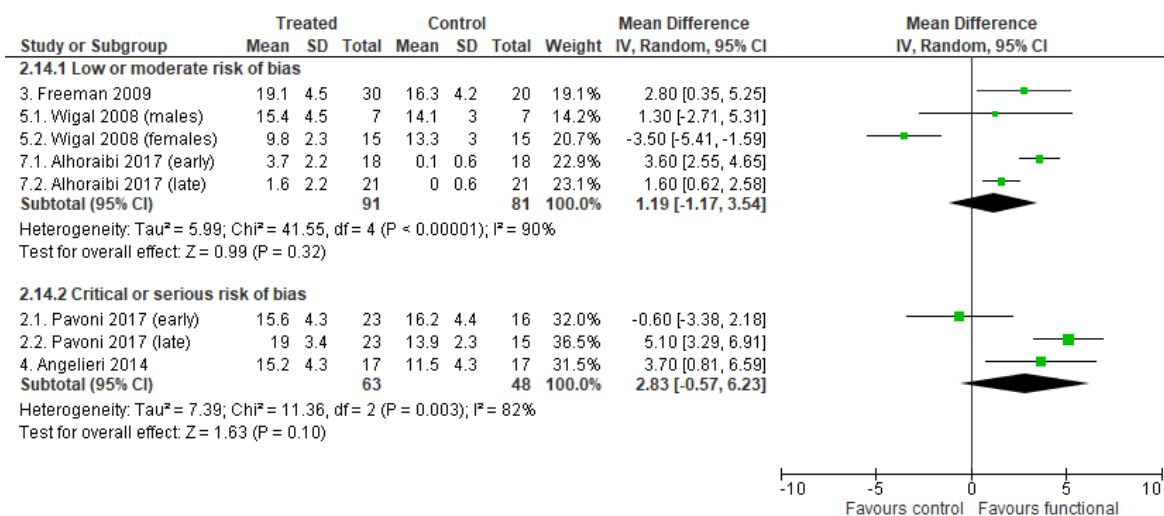
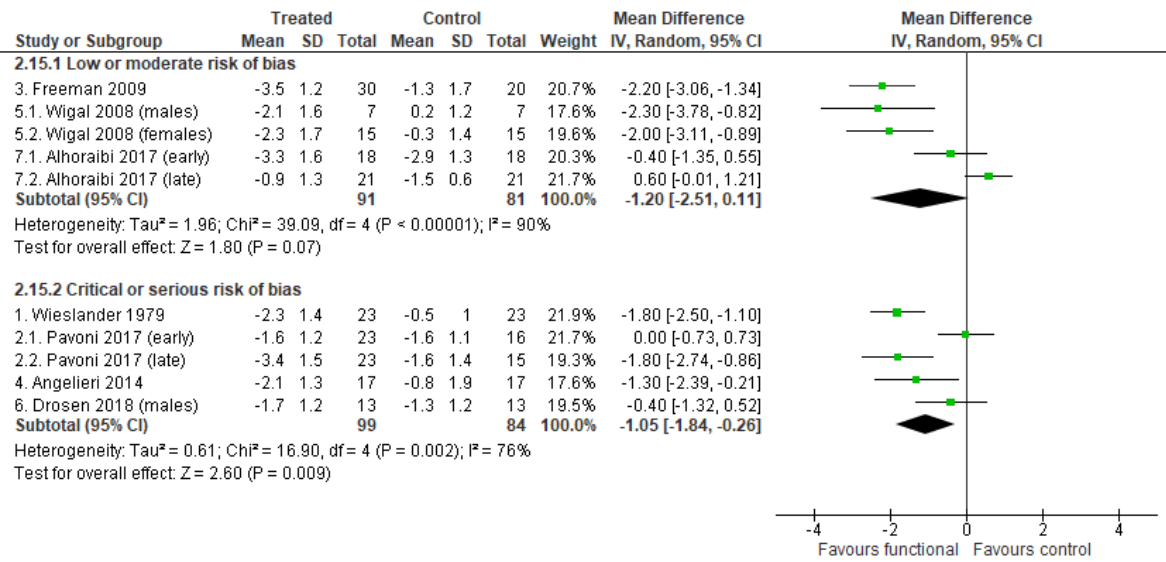


Figure 35. Sensitivity analysis based on the study quality assessment; Outcome: Co-Gn distance.



**Figure 36. Sensitivity analysis based on the study quality assessment; Outcome: ANB angle.**