Exploring Anomalous Initial Results & Replicating Dempsey et al.

First run of Cox model found surprisingly weak association between PA and CAD - v wide confidence intervals… 3 main theories:

1. Functional form issue? Was doing linear spline instead of quadratic spline
2. Weird covariates were stealing some of this variation… PULL THEM OUT AND FIT ONE AT A TIME
3. Set of covariates differs from Dempsey in way that blunts findings

**TRY to replicate models’ results from Dempsey (obviously WITHOUT PGS or PCAs)**

Less POWER… BUT does not seem to be primary takeaway… MAIN POINT is the association is just about 0.1 weaker across the board, which brings it to borderline significance…

Model 0 - IT WAS SIG, Model 1 - IT WAS NOT UNTIL 50+ vs 15 - NOT 1:1 but I don’t think excluded vars are likely to be driving all of this…

NOW: What if we remove LIKELY MEDIATORS AND COMPOS VARIABLES????

NO SLEEP DUR OR MEDS BUT SAME o.w.

**THEN going to start adding variables and see when result diminishes (restricted quadratic spline this time!)**

**DO CHOW F TEST TO CHECK JOINT SIGNIFICANCE OF PA TOO…**

**ALSO NEED TO SEE THAT CONF INTS ARE NOT TOO WIDE**

**THEN check functional form differences to see if that’s at play - restricted cubic vs quadratic???**

3 EVENLY SPACED KNOTS INSTEAD OF FOUR AND RESTRICTED CUBIC INSTEAD OF QUADRATIC (according to Patrick’s code) - has only a small impact on effect

I ACTUALLY THINK THESE RESULTS ARE V REASONABLE…

**IF THIS ALL WORKS - CAN GET BACK TO FIGURE CREATION!!!!**