

SUPPLEMENT PART A: Expanded Description of Stepped Diagnostic Procedure

We deliberately cast a wide net on symptoms to avoid false negative diagnoses, knowing that individuals with ADHD tend under report symptoms (Fischer, Barkley, Murphy, & Fletcher, 1993; Sibley et al., 2012a/b; Sibley et al., 2016) and that parents and teachers of adolescent and young adults often lack access to the individual's functioning in certain daily contexts (Evans, Allen, Moore, & Strauss, 2005; Fischer et al., 1993).

Knowing that individuals without ADHD have a tendency to over-report normative variations in attention on symptom checklists (Murphy, Gordon, & Barkley, 2002; Sibley et al., 2012), we next considered whether impairment was present to immediately rule out a large number of false positive diagnoses—individuals who report symptoms but have no associated impairment.

Once we had a group of individuals with possible ADHD due to the presence of clinically impairing elevated symptoms, we checked to ensure that there was evidence that these impairing symptoms were truly late-onset. By carefully examining all data collected before age 12, we were able to rule out some cases from the late-onset classification.

At this point, our methodology departed from the birth-cohort studies claiming late-onset ADHD cases. A chief criticism of these studies is that they did not adequately consider whether reported ADHD symptoms are due to another mental health disorder or substance use. Therefore, our next two steps carefully examined the emergence of ADHD symptoms in relation to substance use and other forms of psychopathology.

With respect to the substance use rule-out, we only excluded cases for substance abuse if the ADHD symptoms occurred exclusively in the presence of heavy substance use. If substance use occurred *after* the onset of ADHD symptoms, the case was not ruled out.

With respect to mental health disorders, eight authors who are trained clinicians (three psychiatrists, five clinical psychologists) reviewed onset and chronicity of all mental symptoms and each voted whether a case should be excluded based on ADHD symptoms being attributable to another disorder (e.g., the effects of endorsed anxiety symptoms on concentration). A case was excluded if agreed upon by a majority. Disorders assessed on the DISC included: tic, eating, disruptive behavior, anxiety, and mood disorders, and schizophrenia. Mental disorder symptom profiles were examined for each assessment.

This meeting occurred via phone call. Prior to the phone call, each of the eight voting authors received a summary of all mental health data reported for each participant under consideration. This document listed all ADHD symptoms endorsed at each time point by each rater, and any endorsed mental health symptoms at each time point by each rater. After reviewing and discussing all clinical data for each case, the authors voted independently on whether they believed the case should be excluded or included. Eleven cases were considered by the panel. Cases were brought to the panel if they met symptom and impairment criteria for late-onset ADHD in adolescence or adulthood and possessed at least one comorbid mental health diagnosis at any point in the study follow-up period.

Seven cases were excluded at this step. All seven of these exclusions were unanimously decided (excluded cases 11-15, 22-23).

Four cases were retained for the next step of the inclusion process. Two of these retained cases were unanimously decided (Case H and Excluded Case 16—see supplement—who was ruled out at the next step for possessing symptoms in only one setting). Two retained cases did not meet a unanimous decision: one voter dissented for Case E (see Figure 2). Two authors dissented for Case G (see Figure 3).

There were two cases who were missing DISC interviews for all points in adulthood. As such the panel elected not to include these cases because it could not be definitively concluded that the ADHD symptoms were not due to another mental health disorder.

Once we identified a subgroup of individuals who possessed late-onset ADHD symptoms that were impairing and truly appeared to be unrelated to the cognitive effects of substance use or overlapping symptoms with other mental health disorders, we took a closer look at the duration and contextual presence of remaining cases’ symptoms to ensure that they fulfilled all DSM-5 criteria.

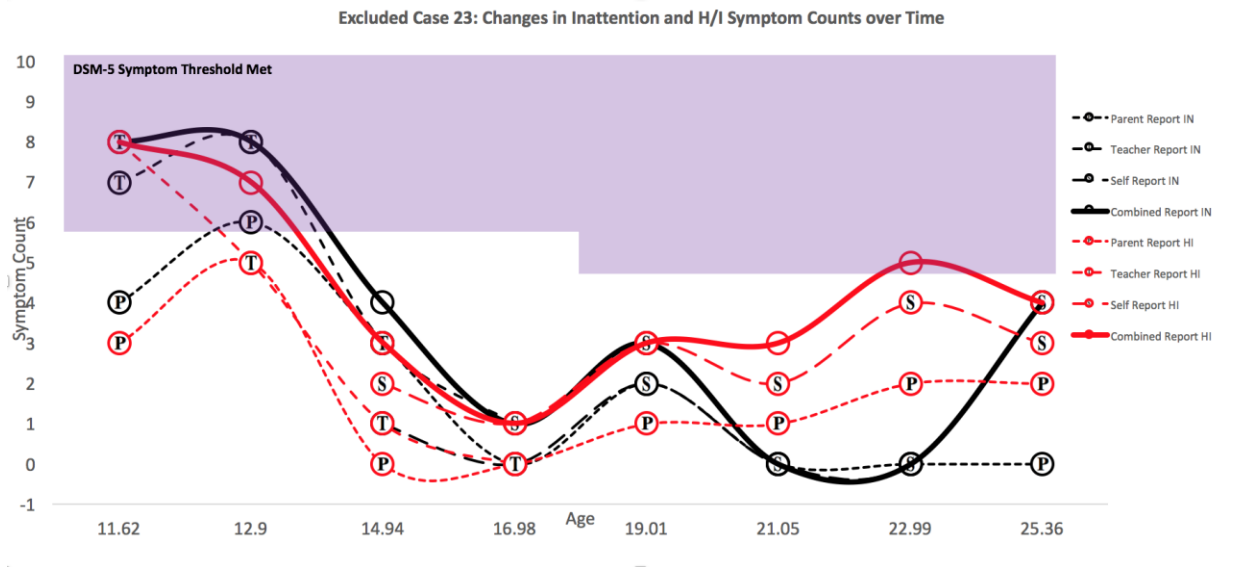
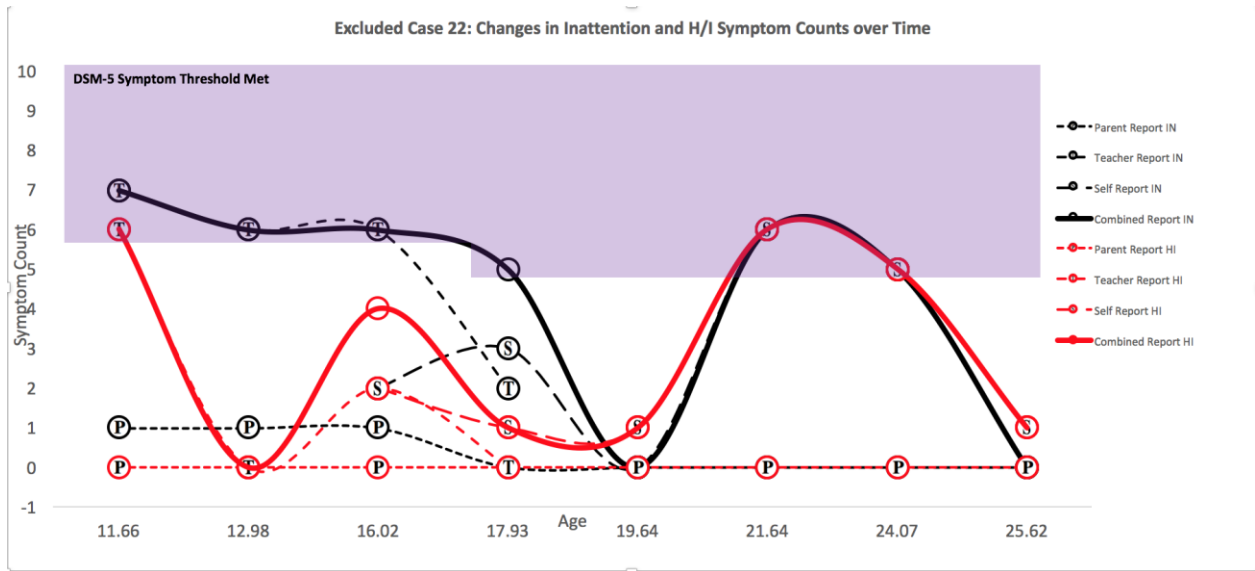
With respect to cross-situational presentation, we realize we were unclear and thank the reviewer for this feedback. We now clarify on page 11 that we required that symptoms be present in two settings at the same time point that the DSM-5 symptom threshold was met.

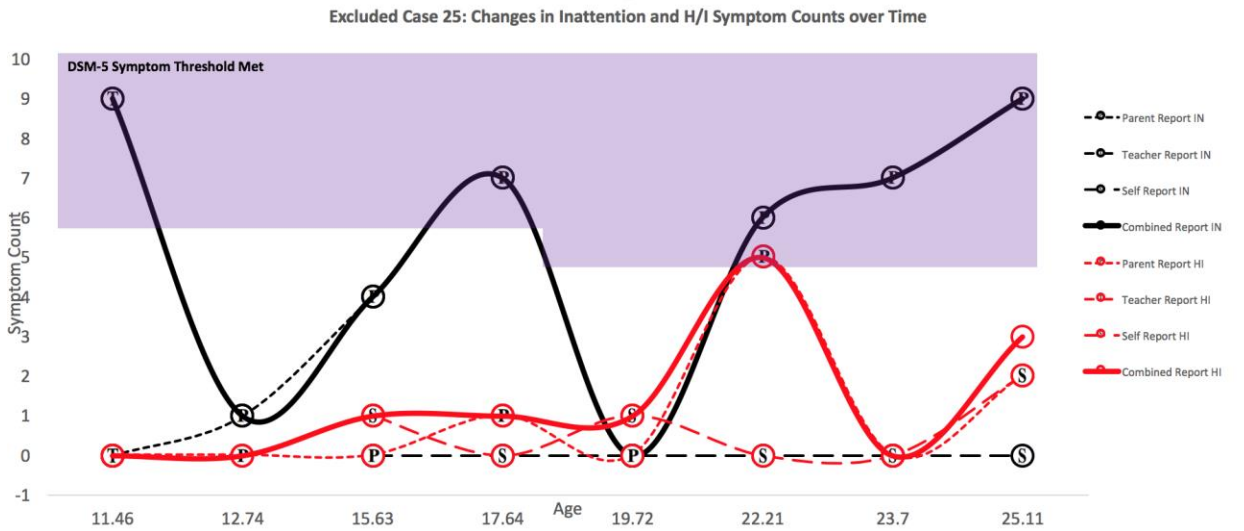
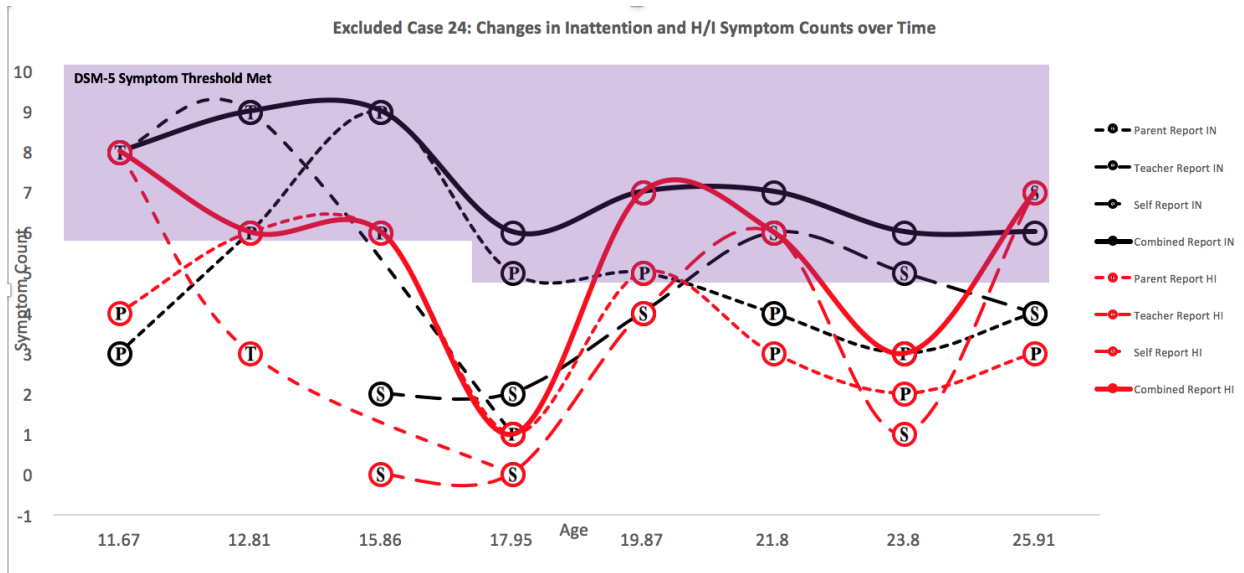
SUPPLEMENT PART B: Cases with impairments on CIS that were determined unrelated to ADHD

Case	Having Fun	Feeling Sad	Feeling Nervous	Joining Sports/Hobbies	Relationship with Father	Relationship with Sibling	Relationship with Mother	Relationship with Other Adult
1					X			
2				X				
3			X					
4	X			X	X			
5					X			
6						X		
7	X							
8		X				X	X	
9			X	X				
10		X			X			X
11					X			

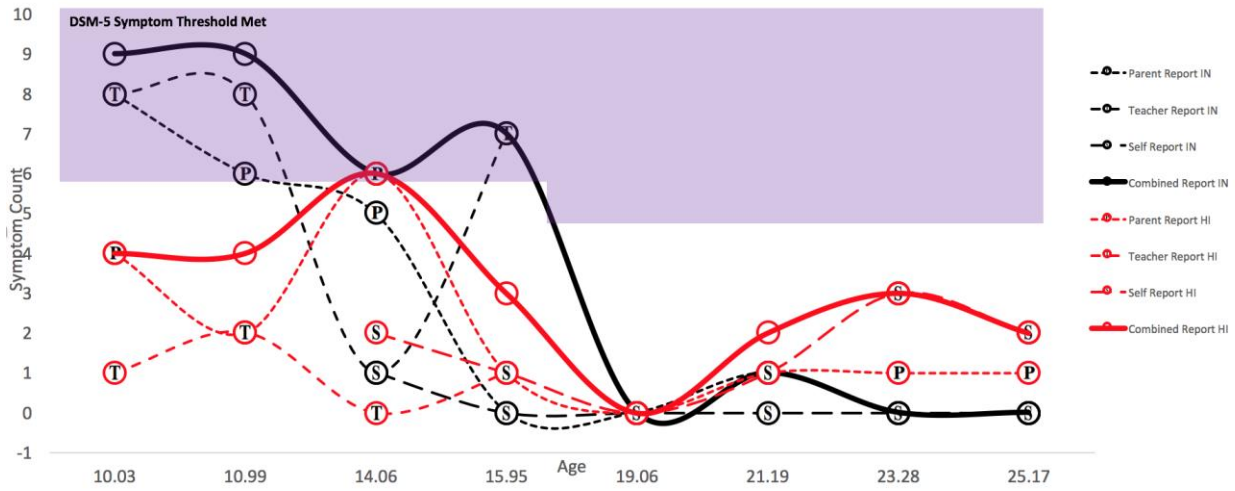
SUPPLEMENT PART C: Excluded Cases with ADHD Symptoms and Impairment in Adolescence or Adulthood.

Excluded Due to Childhood Onset Not Detected by Baseline DISC Interview

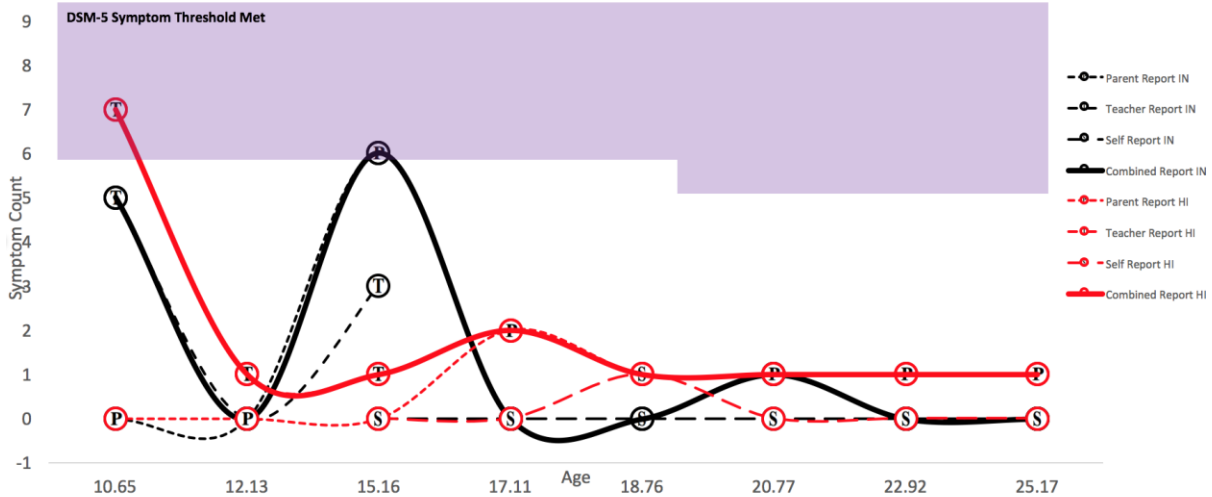




Excluded Case 26: Changes in Inattention and H/I Symptom Counts over Time



Excluded Case 27: Changes in Inattention and H/I Symptom Counts over Time



Excluded Case 28: Changes in Inattention and H/I Symptom Counts over Time

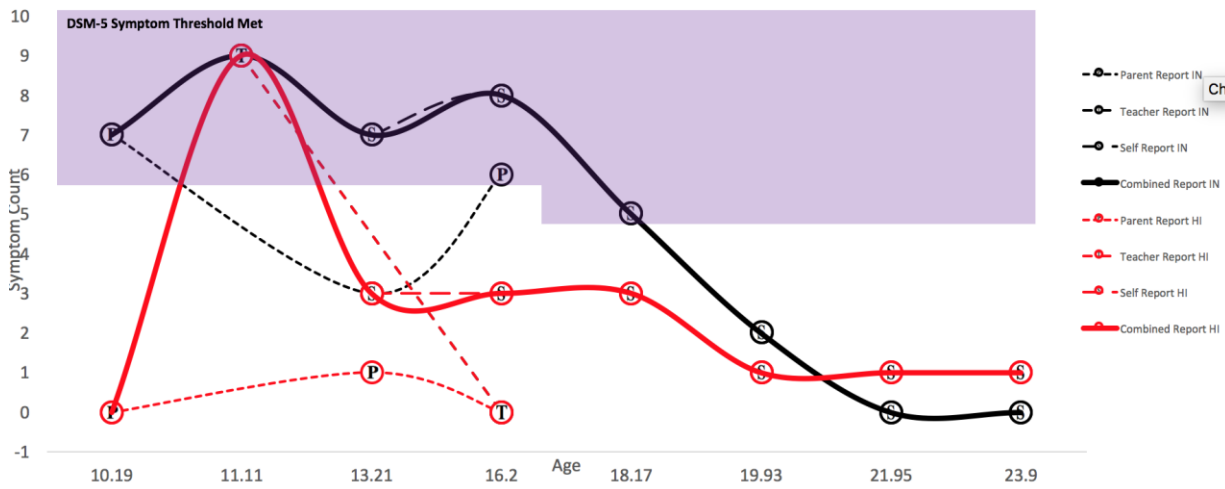
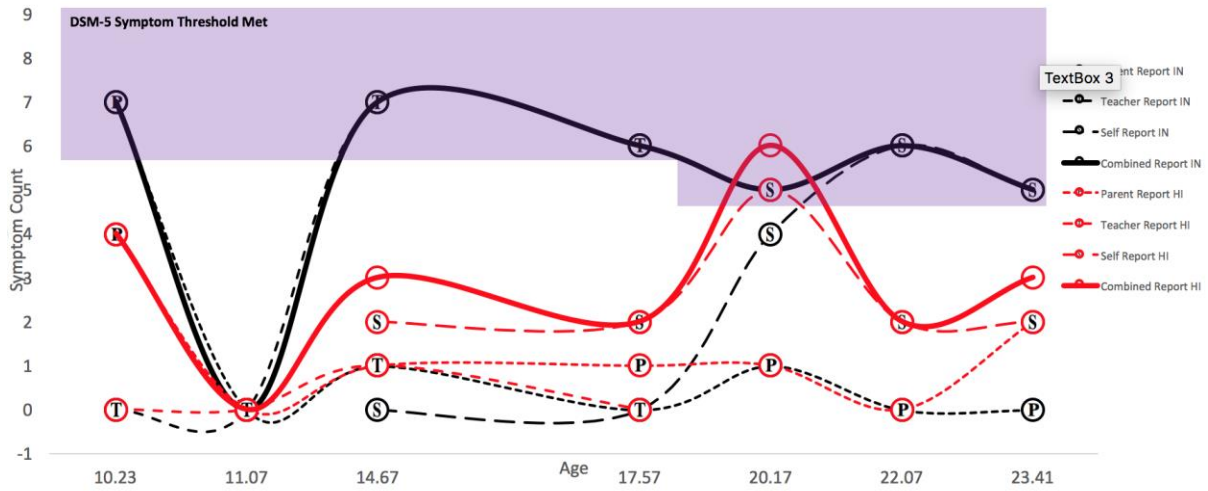
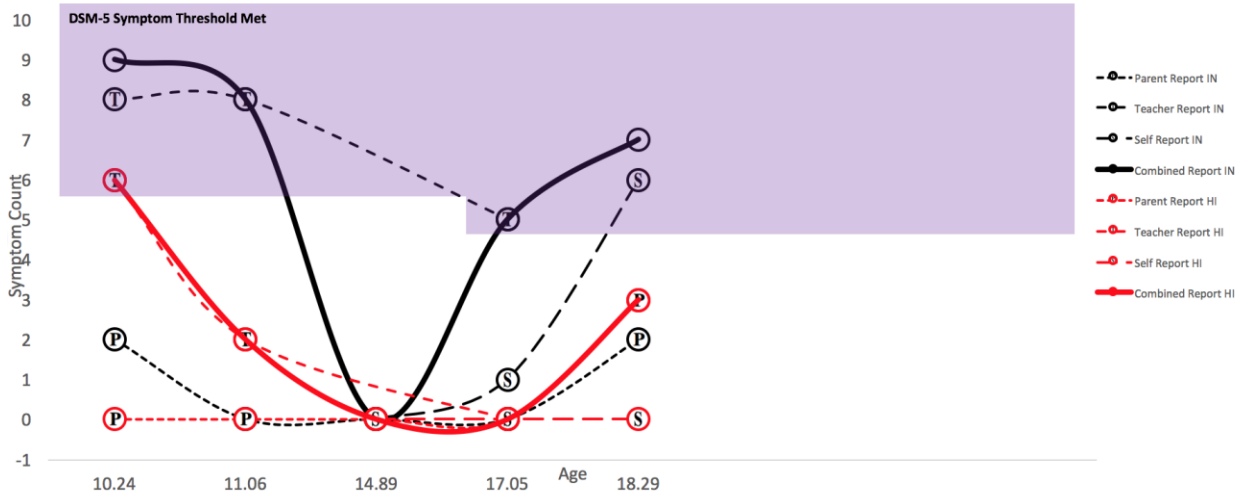


Chart 1

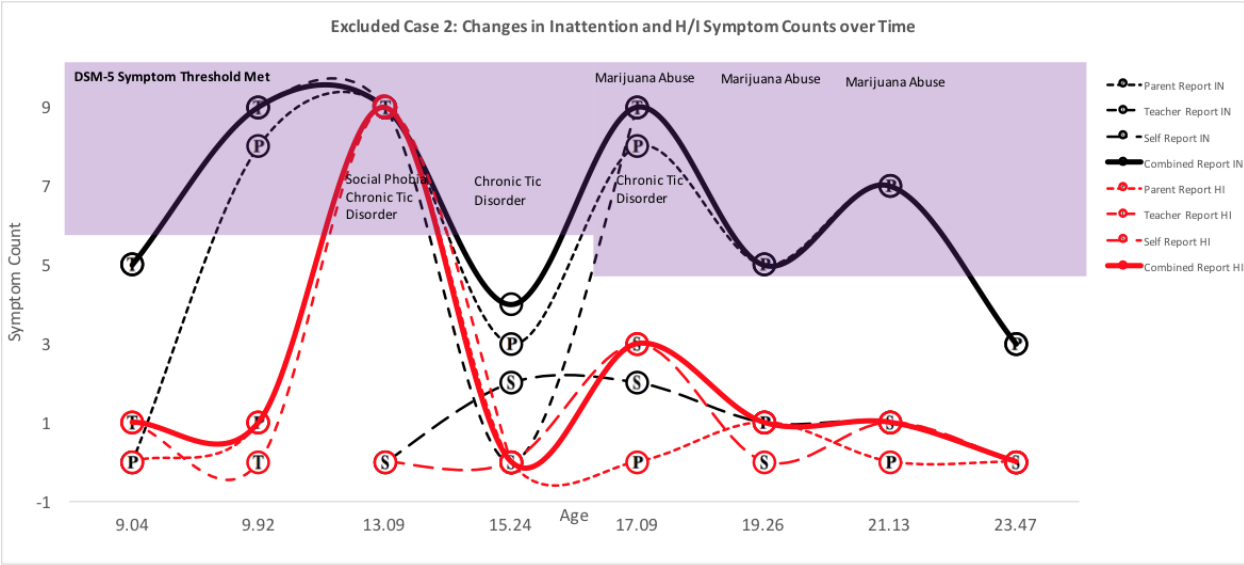
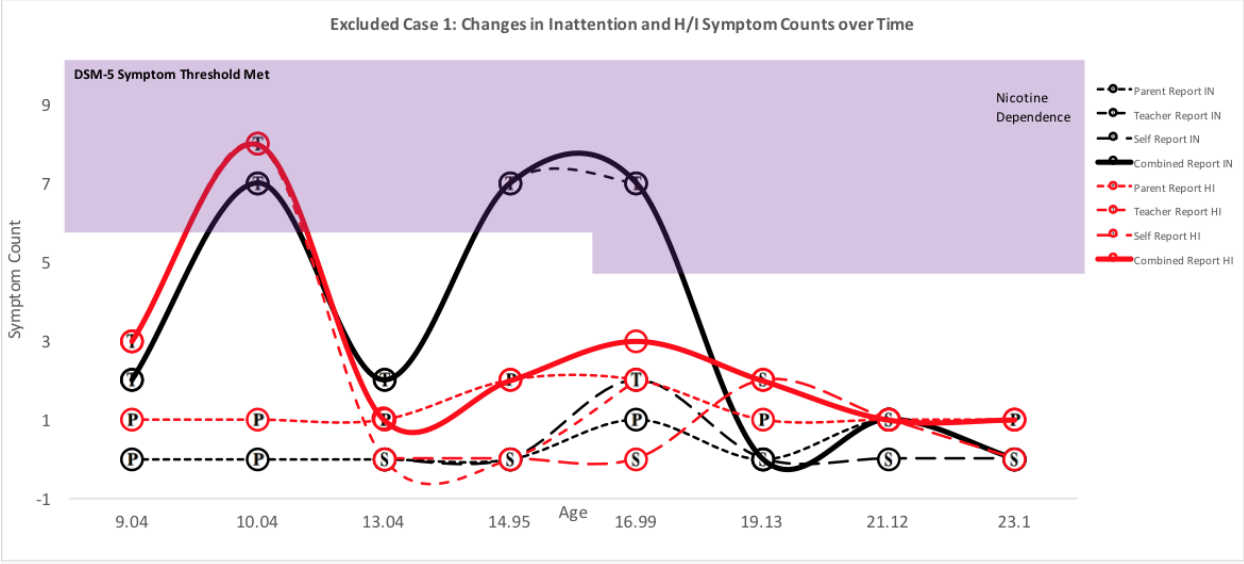
Excluded Case 37: Changes in Inattention and H/I Symptom Counts over Time



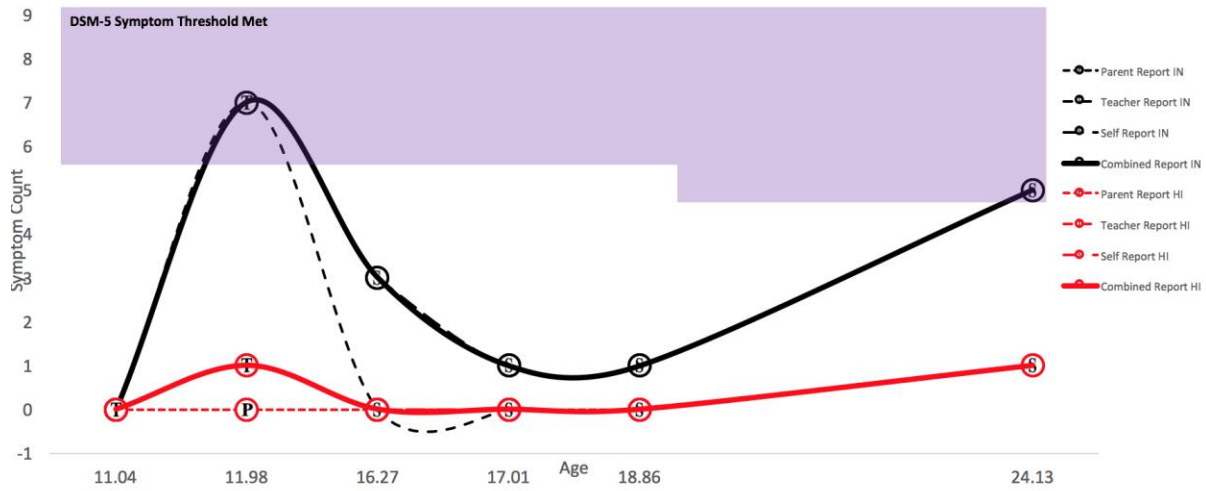
Excluded Case 46: Changes in Inattention and H/I Symptom Counts over Time



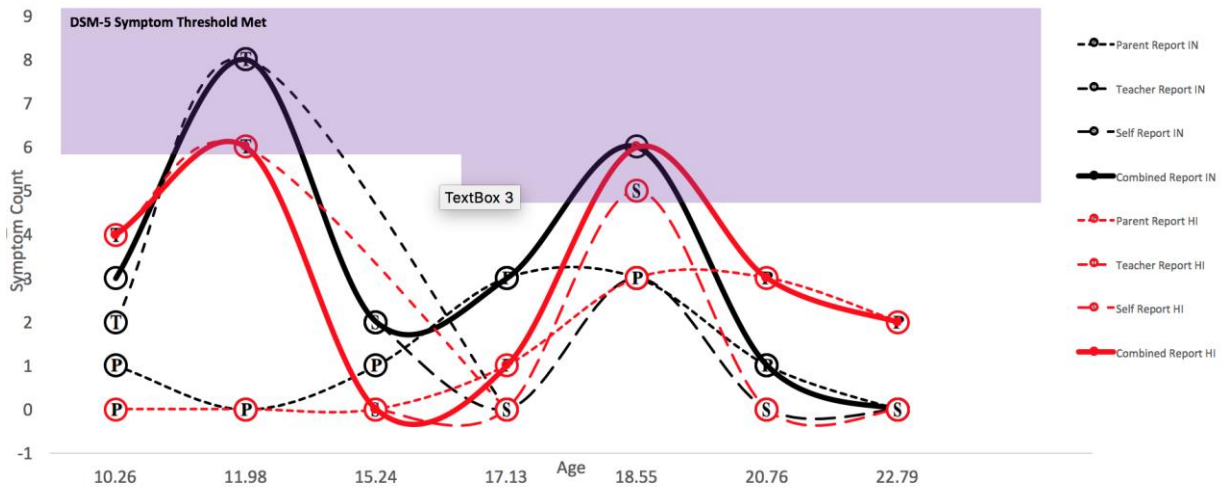
Excluded Due to Childhood Onset after Baseline:



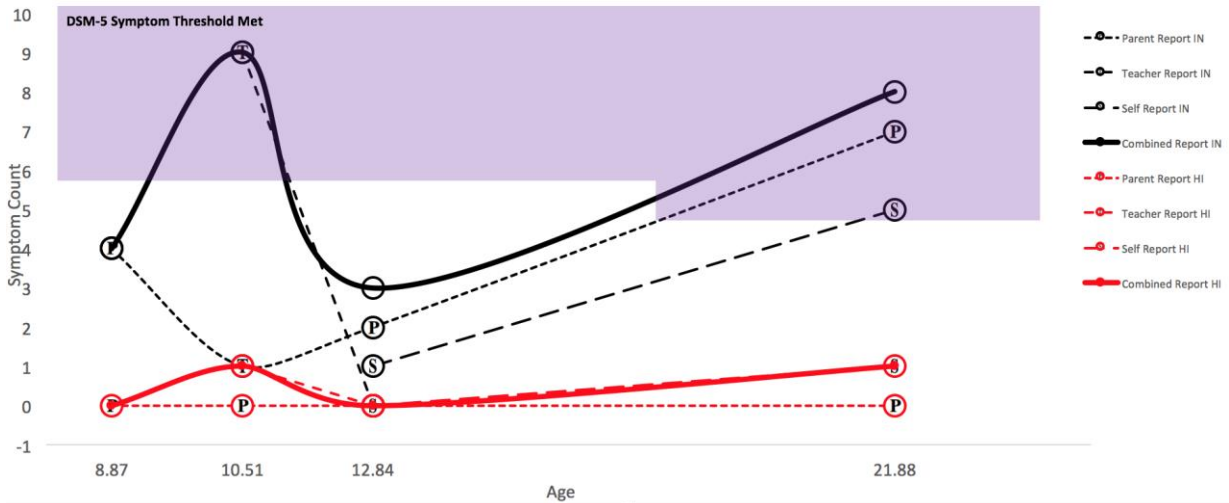
Excluded Case 30: Changes in Inattention and H/I Symptom Counts over Time

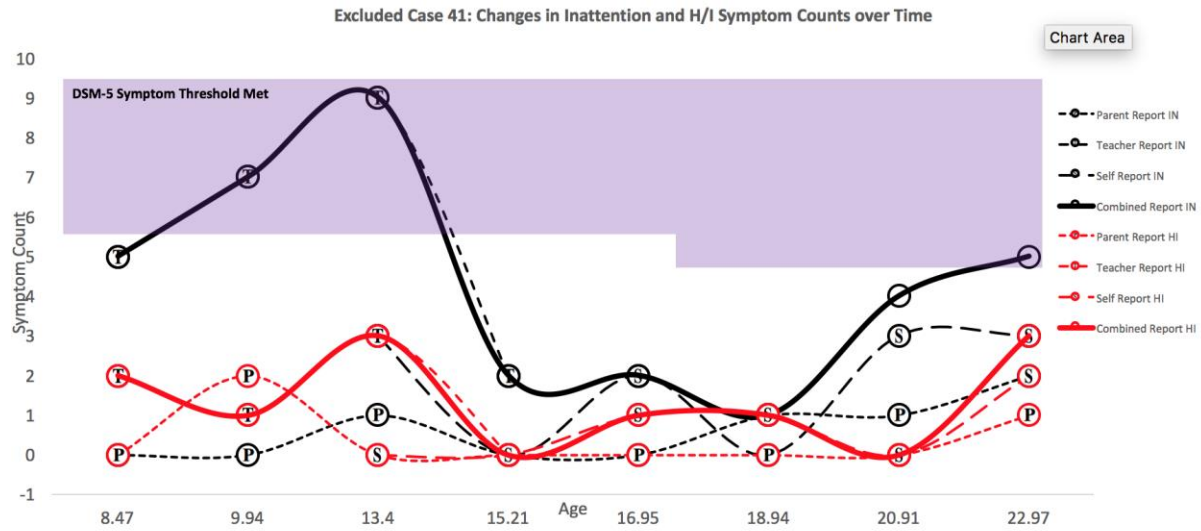


Excluded Case 31: Changes in Inattention and H/I Symptom Counts over Time

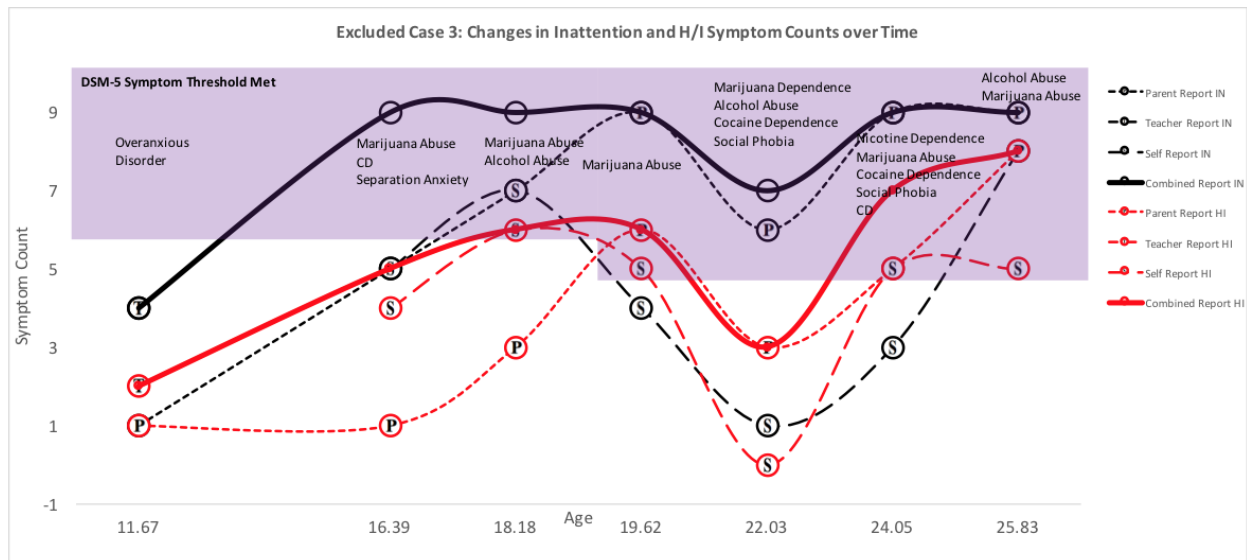


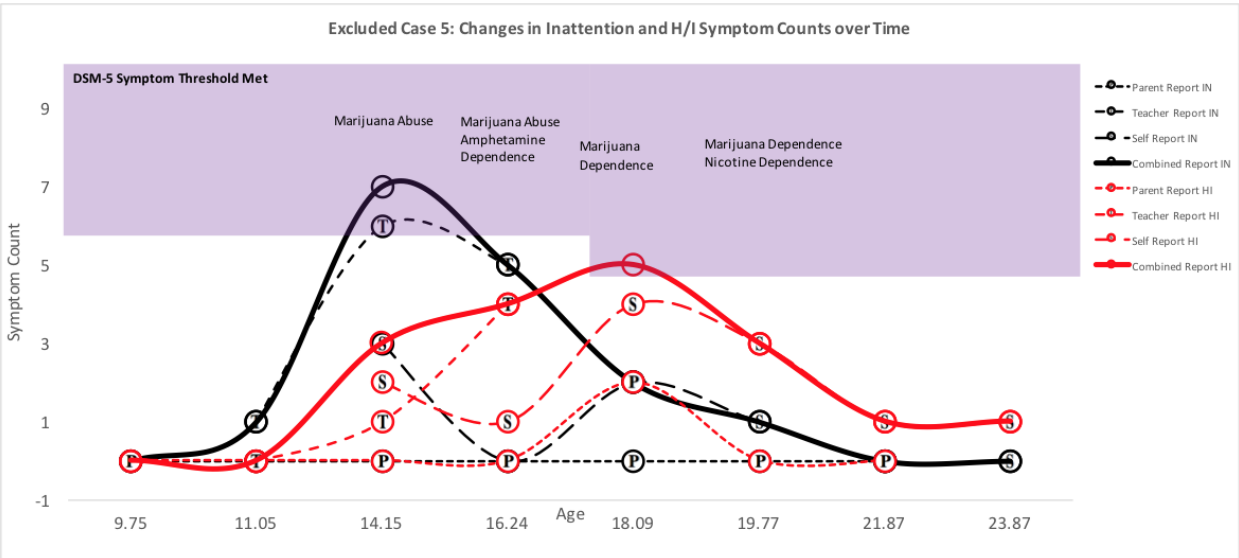
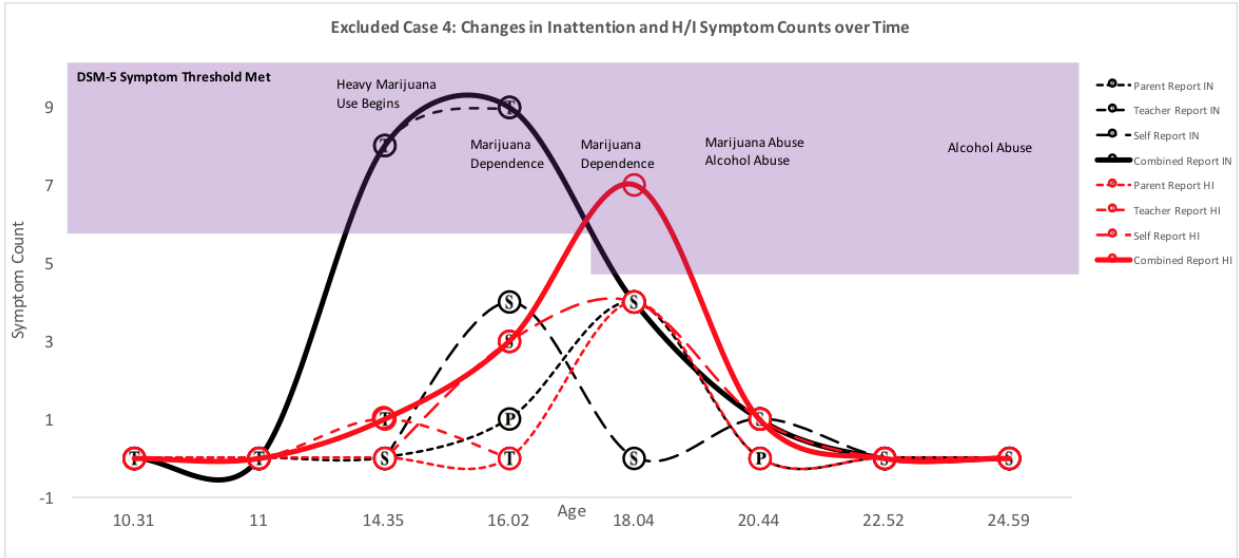
Excluded Case 32: Changes in Inattention and H/I Symptom Counts over Time

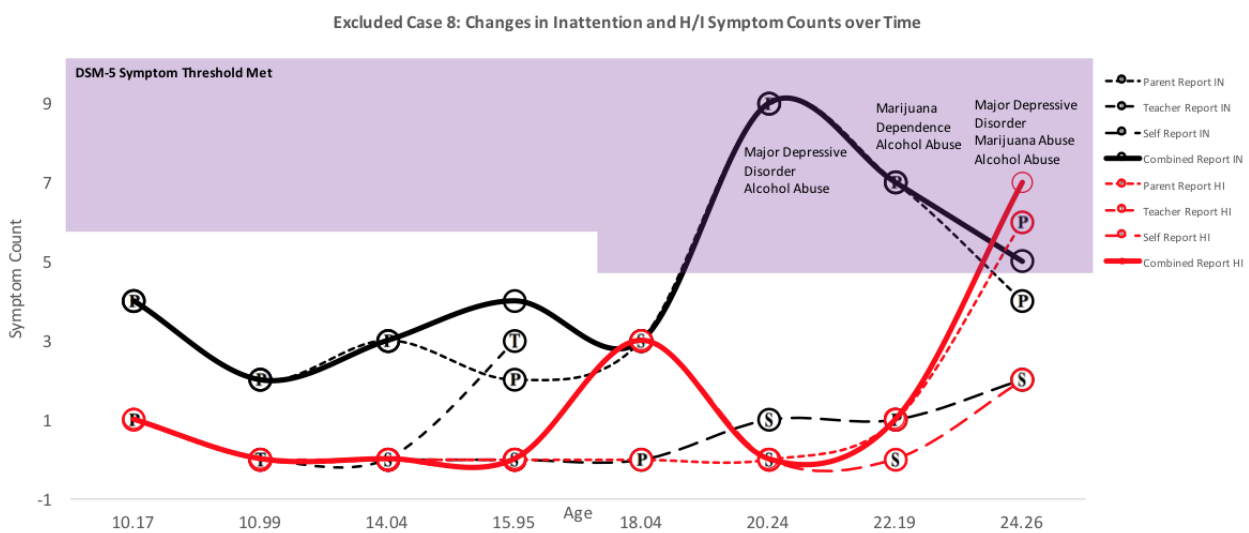
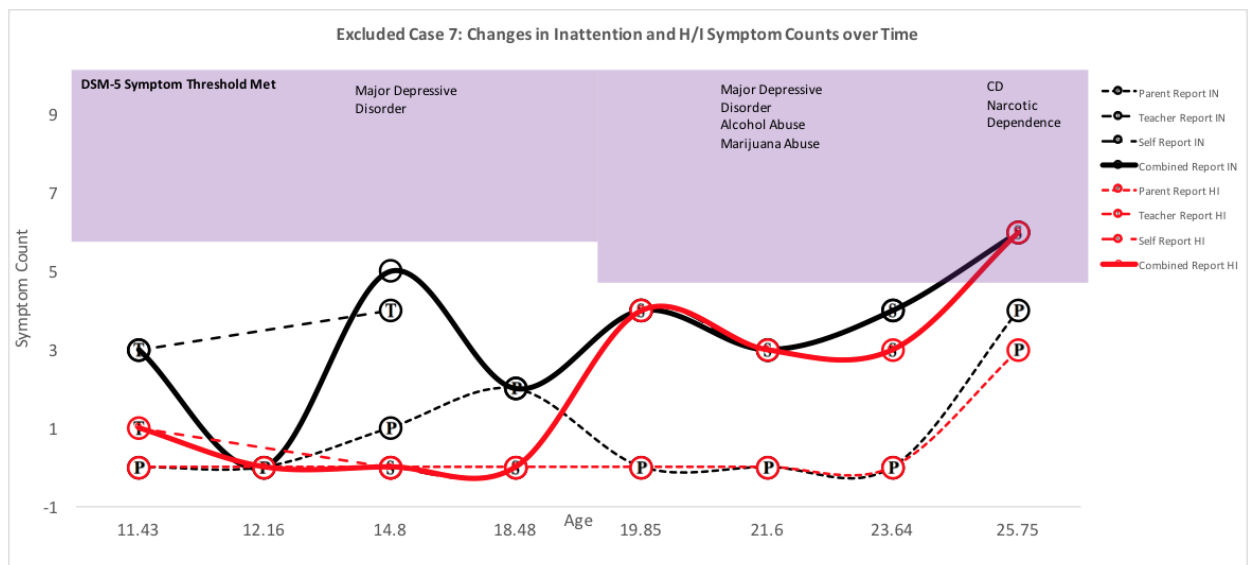
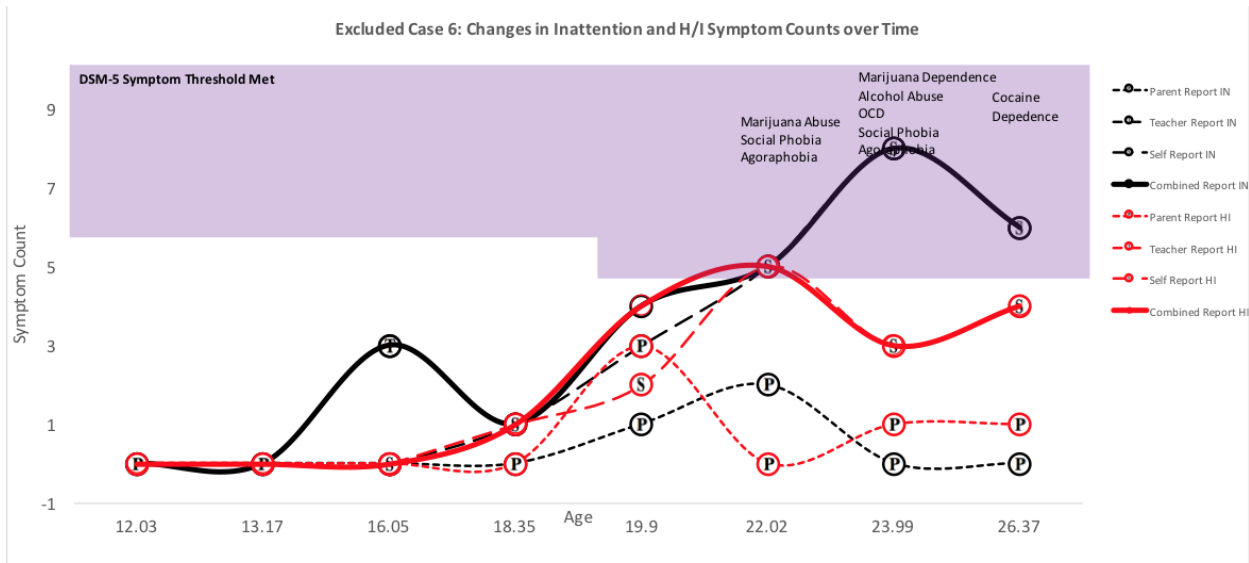


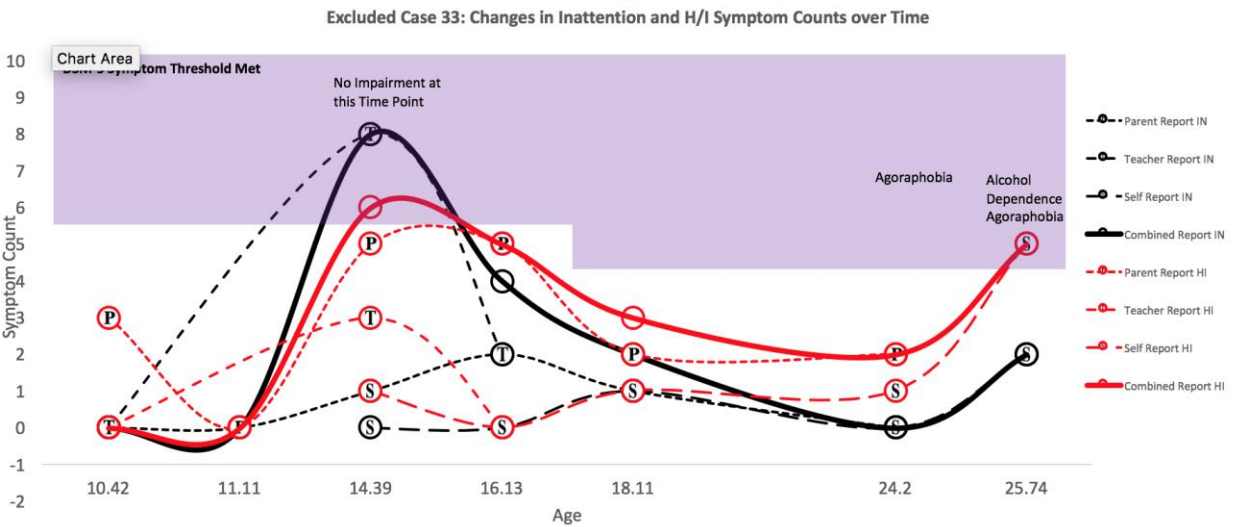
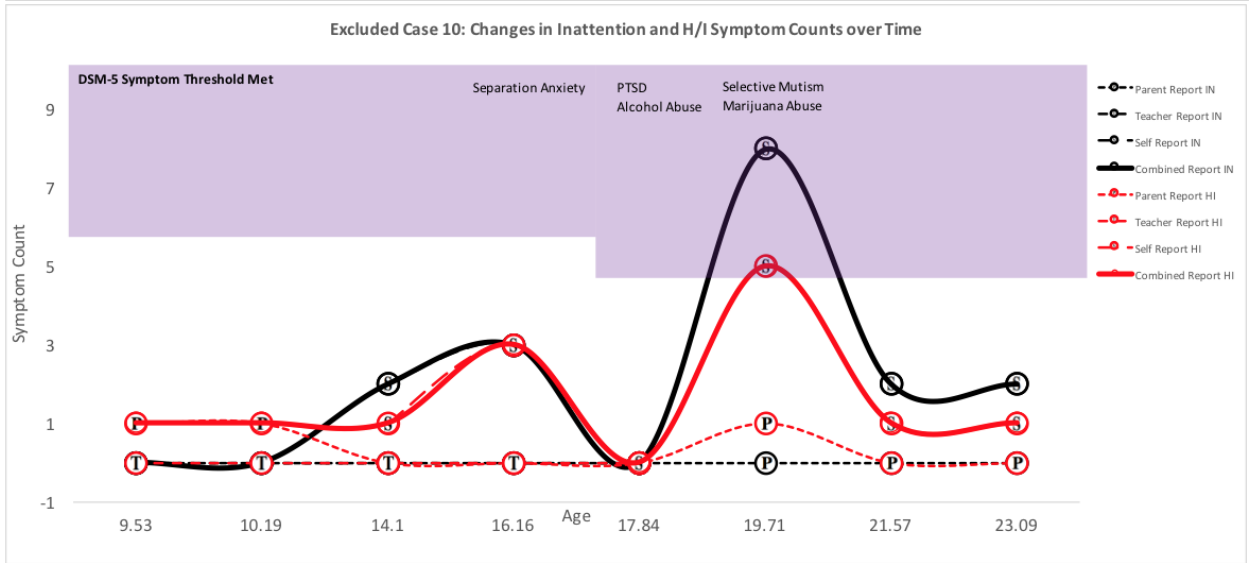
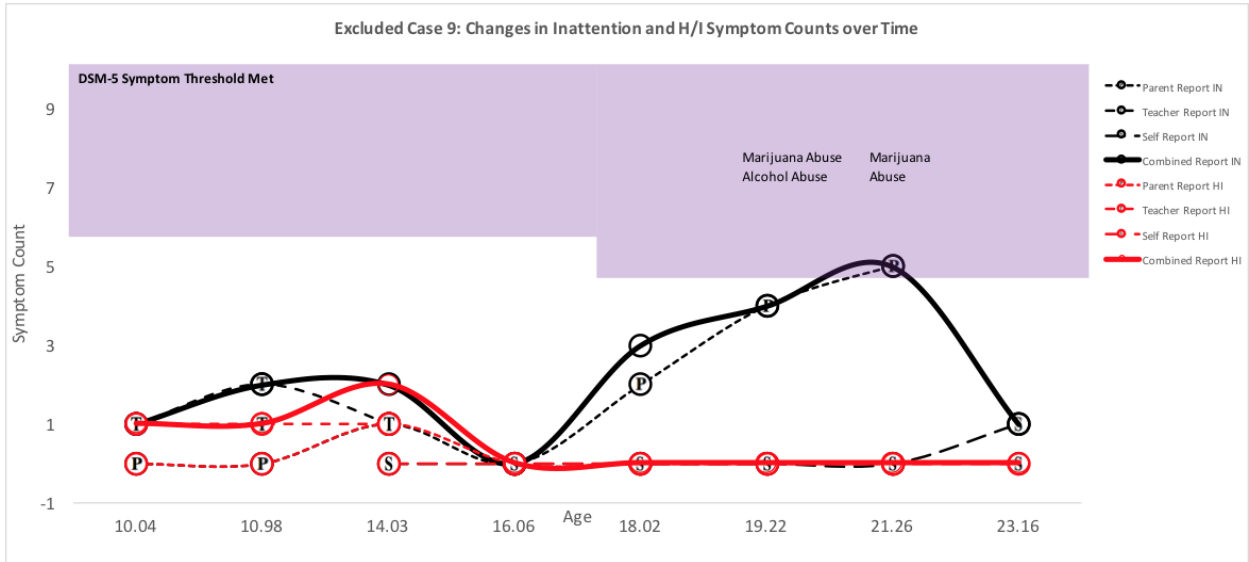


Excluded due to Substance Abuse Accounting for ADHD Symptoms or Impairment

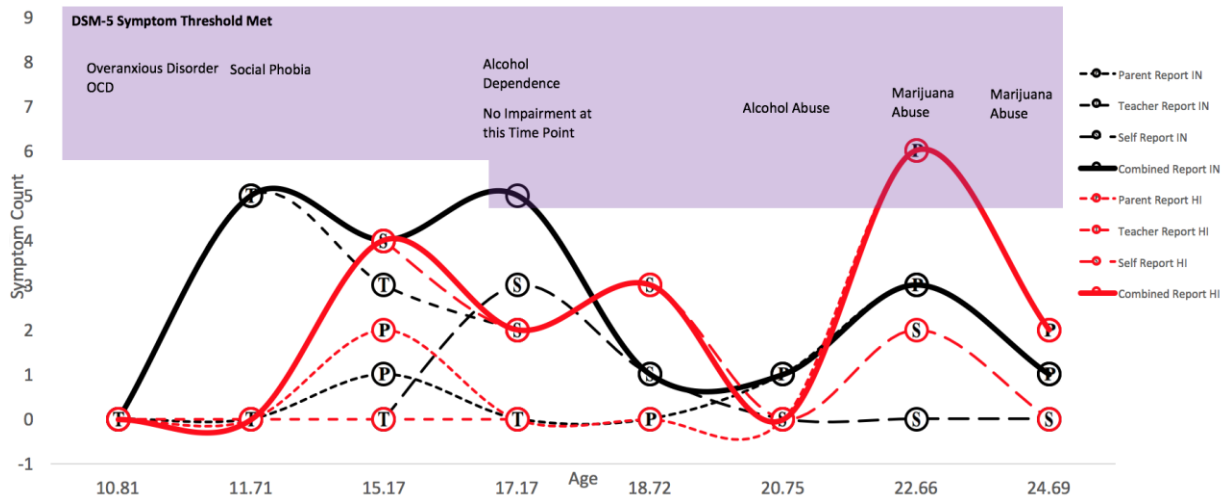




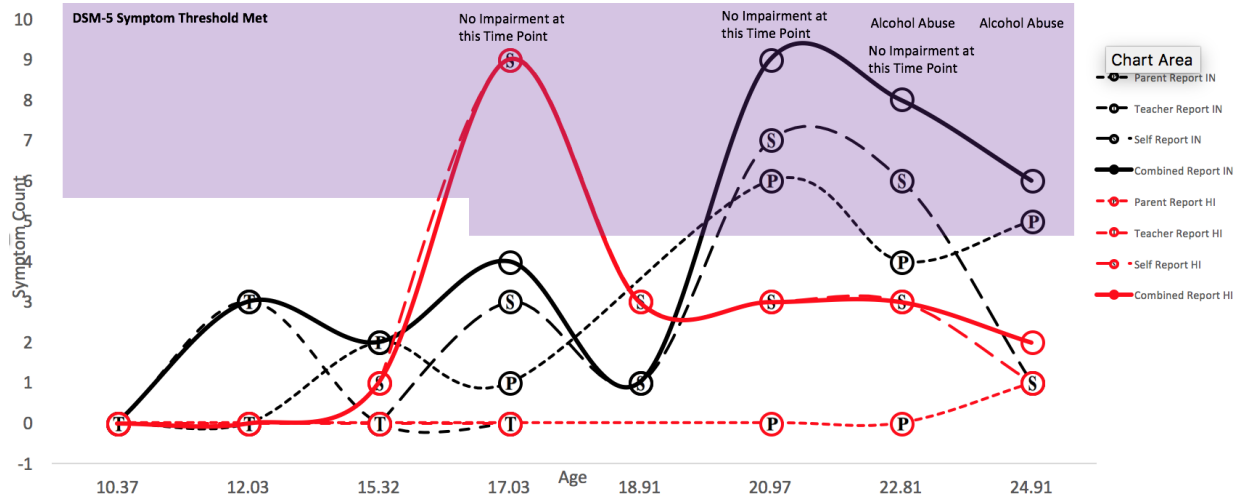




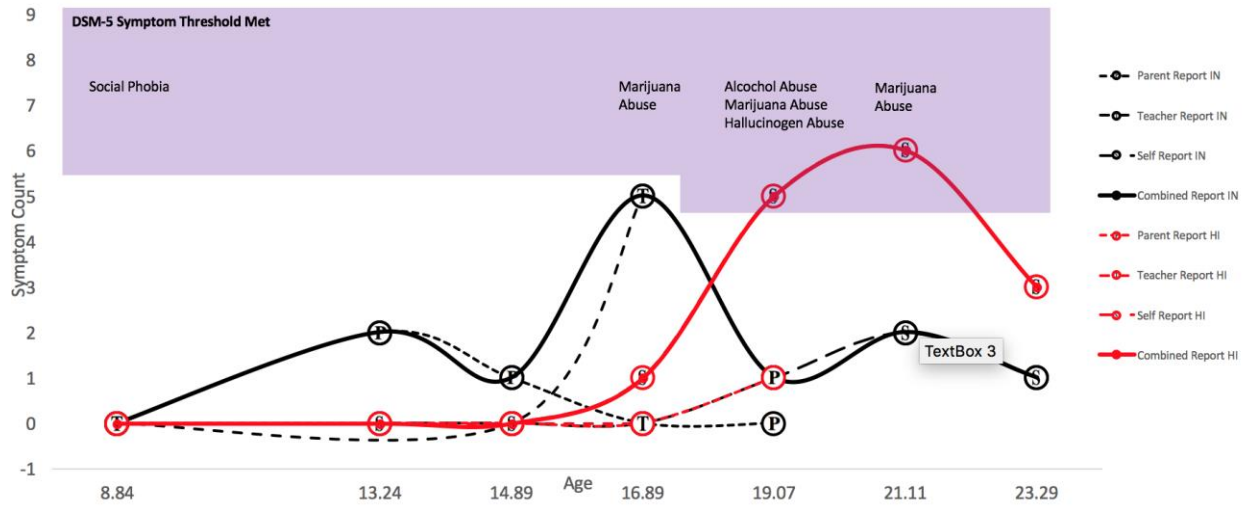
Excluded Case 35: Changes in Inattention and H/I Symptom Counts over Time



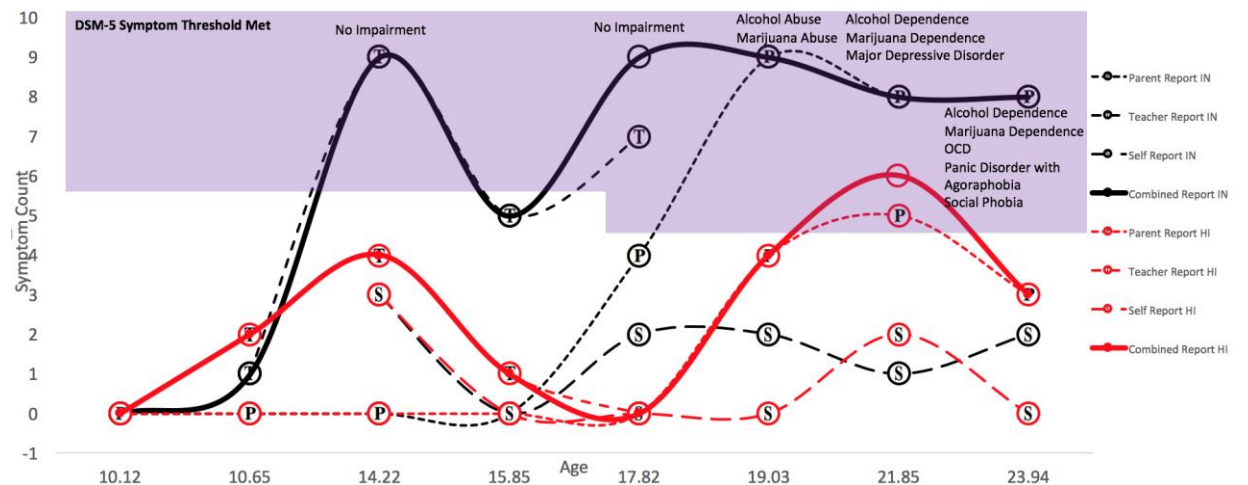
Excluded Case 36: Changes in Inattention and H/I Symptom Counts over Time



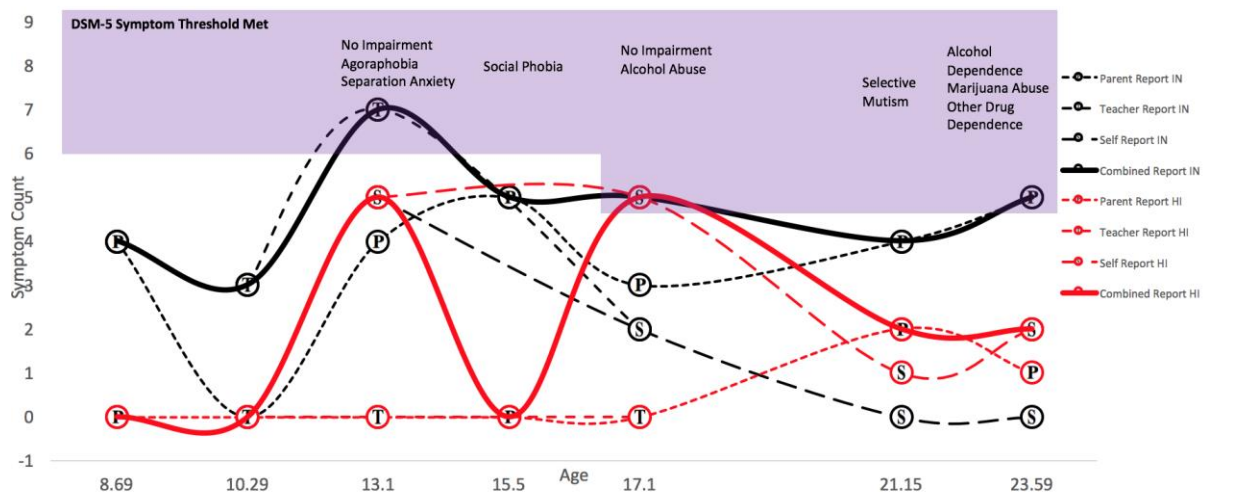
Excluded Case 38: Changes in Inattention and H/I Symptom Counts over Time

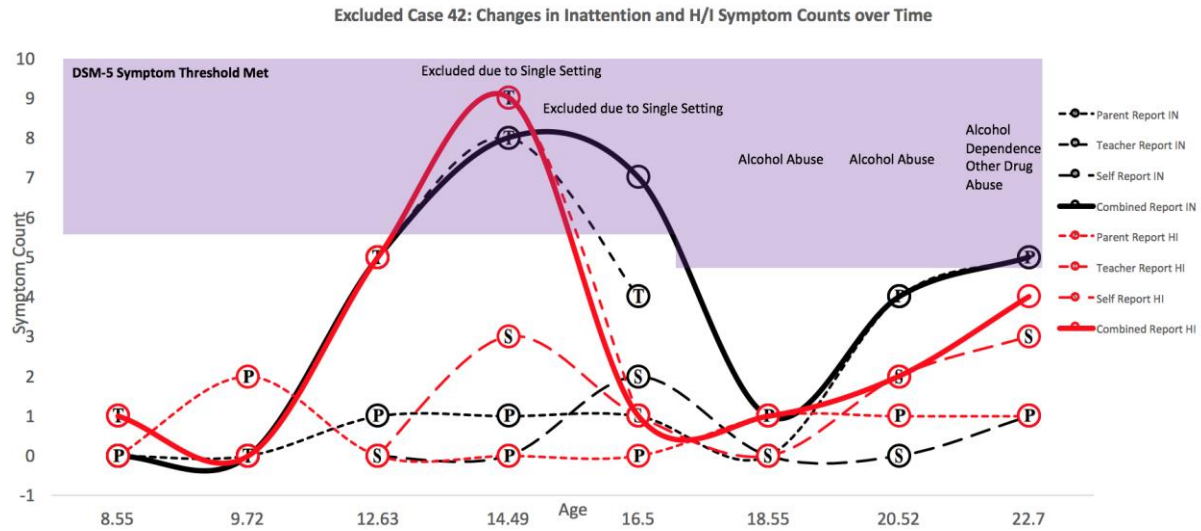


Excluded Case 39: Changes in Inattention and H/I Symptom Counts over Time

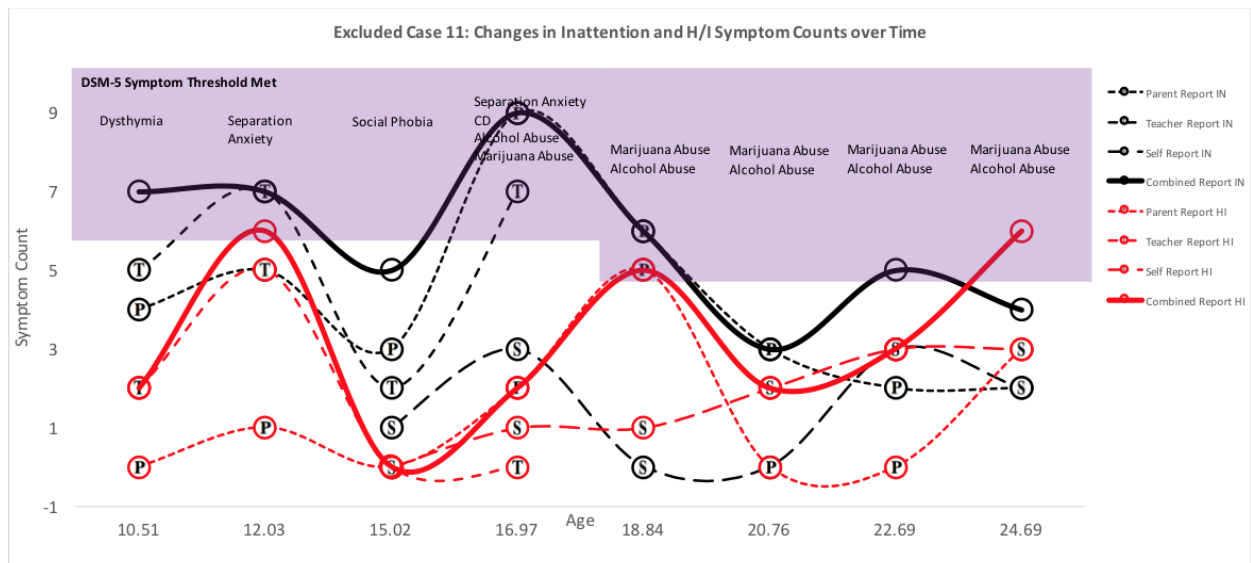


Excluded Case 40: Changes in Inattention and H/I Symptom Counts over Time

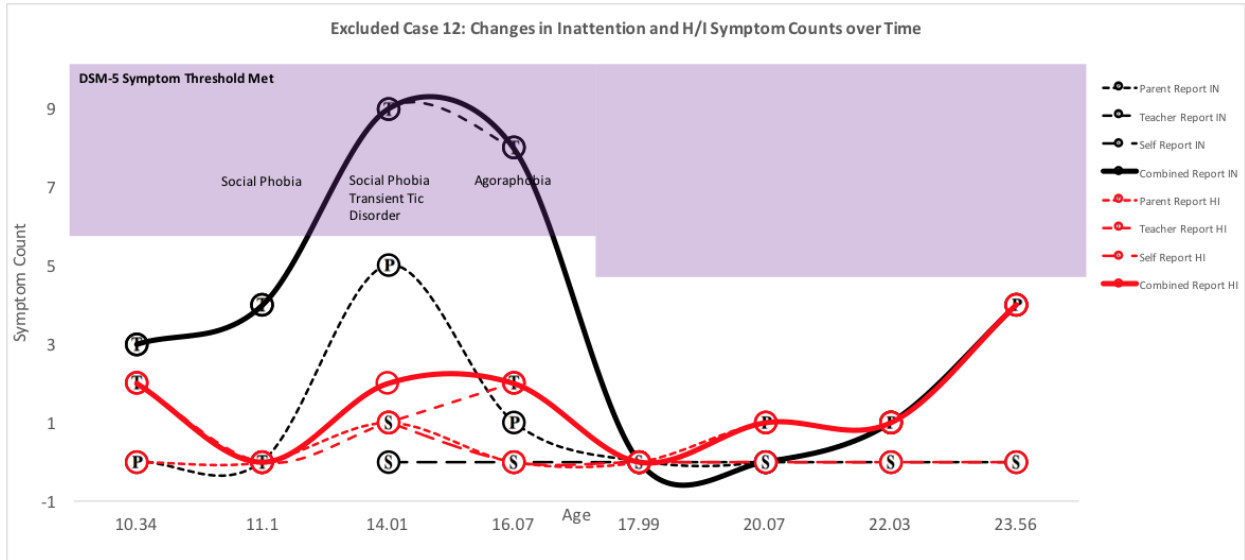




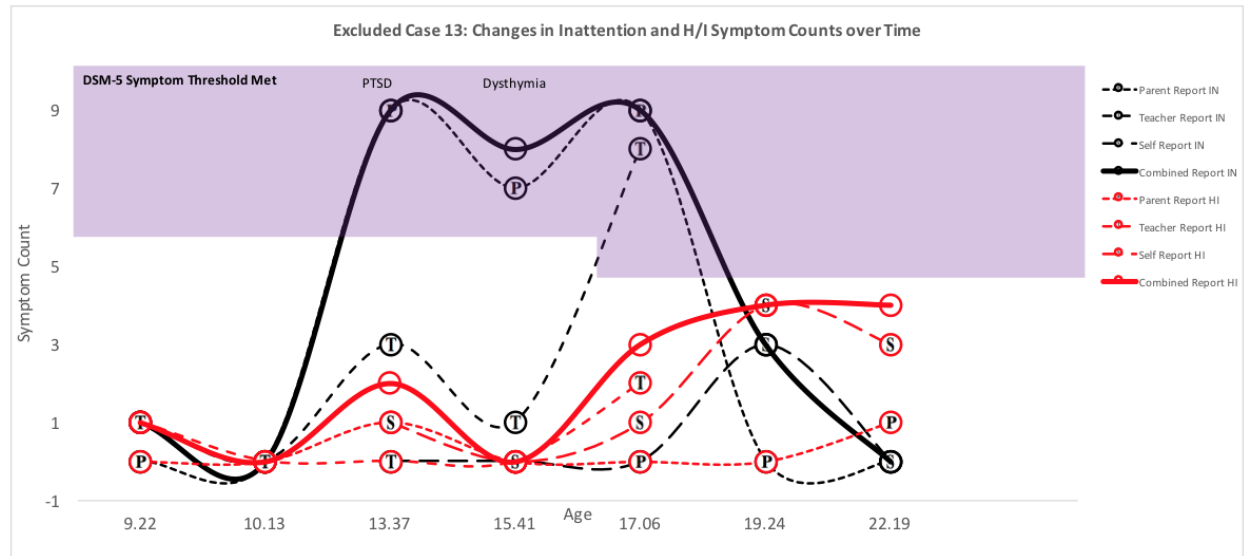
Excluded due to Another Mental Health Disorder Accounting for Symptoms



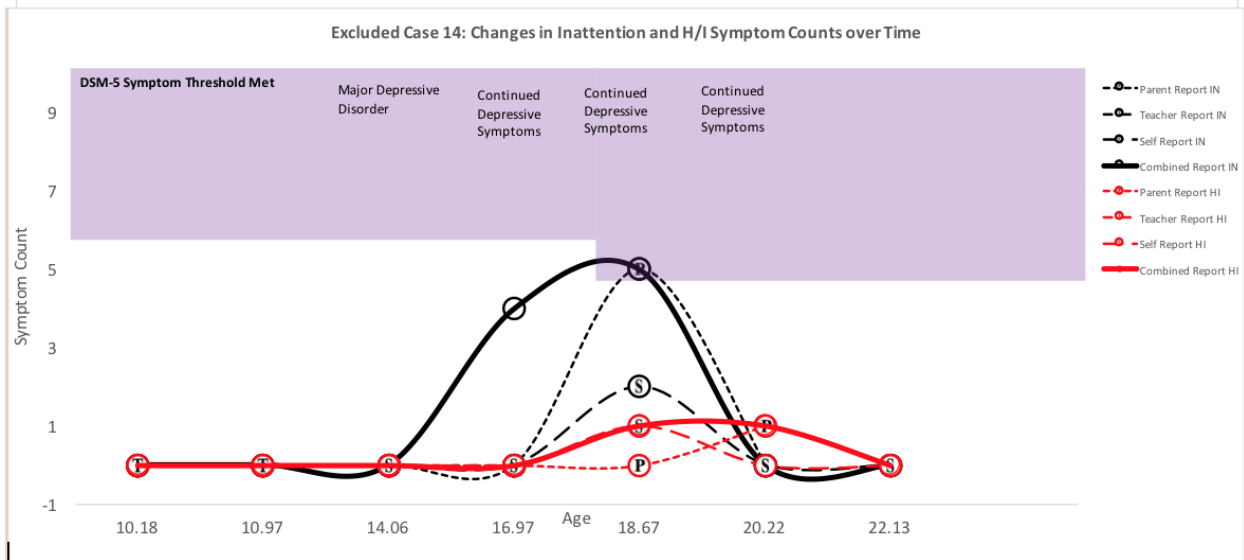
Note. Panel voted unanimously to exclude case 11.



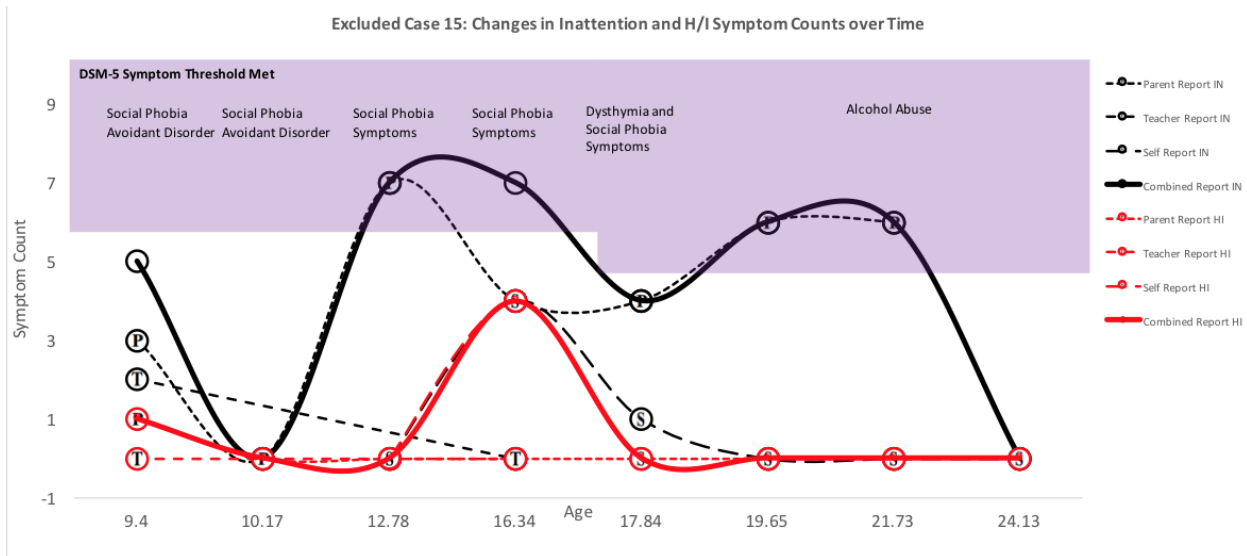
Note: Panel voted unanimously to exclude case 12.



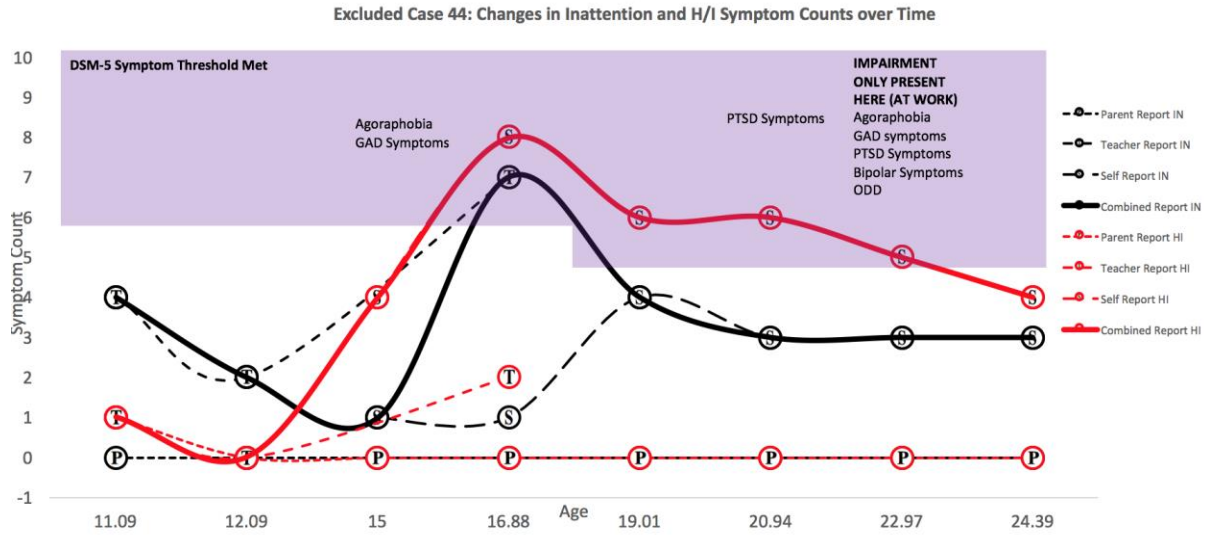
Note: Panel voted unanimously to exclude case 13.



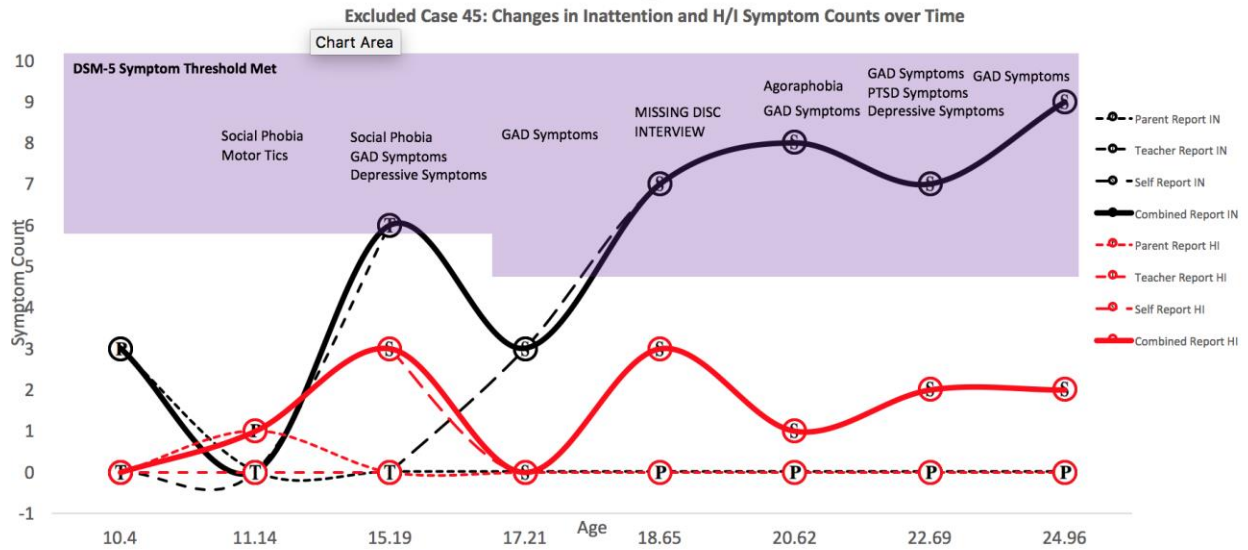
Note. Panel voted unanimously to exclude case 14.



Note. Panel voted unanimously to exclude case 15.

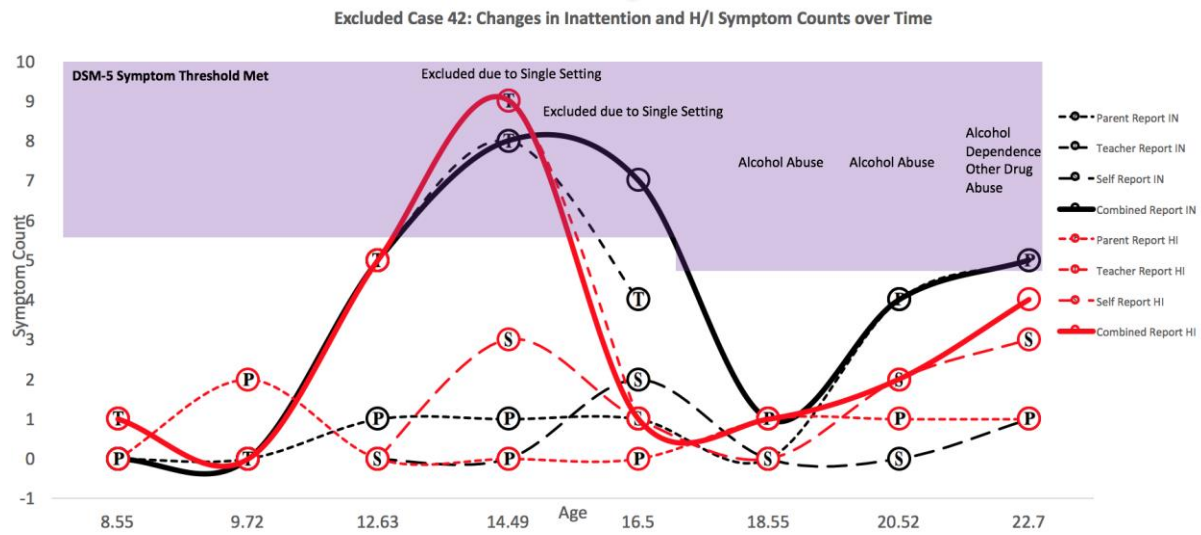
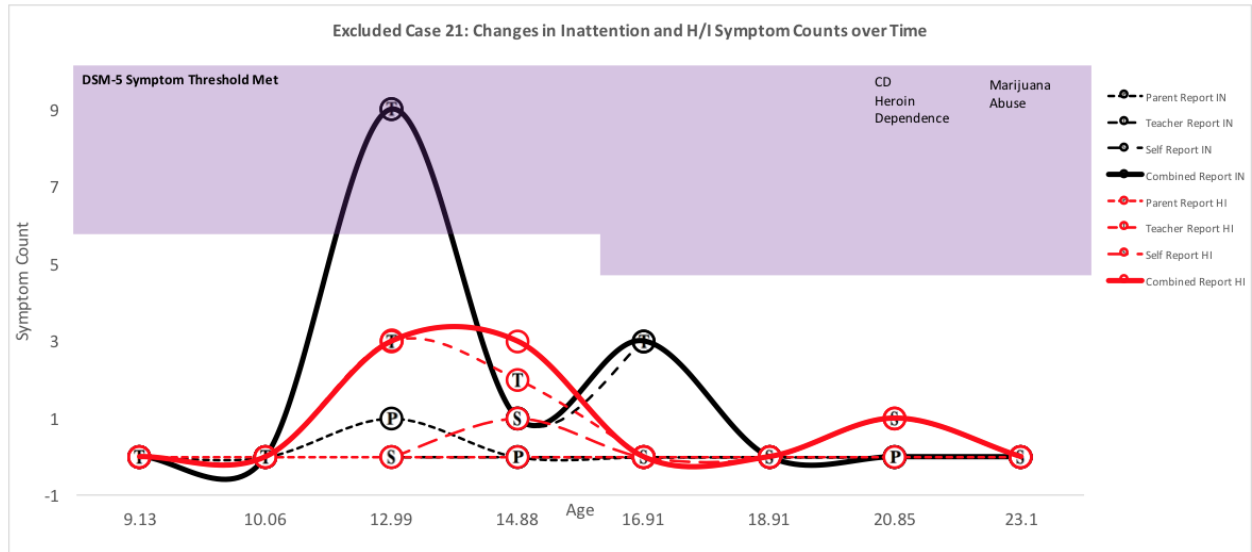


Note. Panel voted unanimously to exclude case 44.

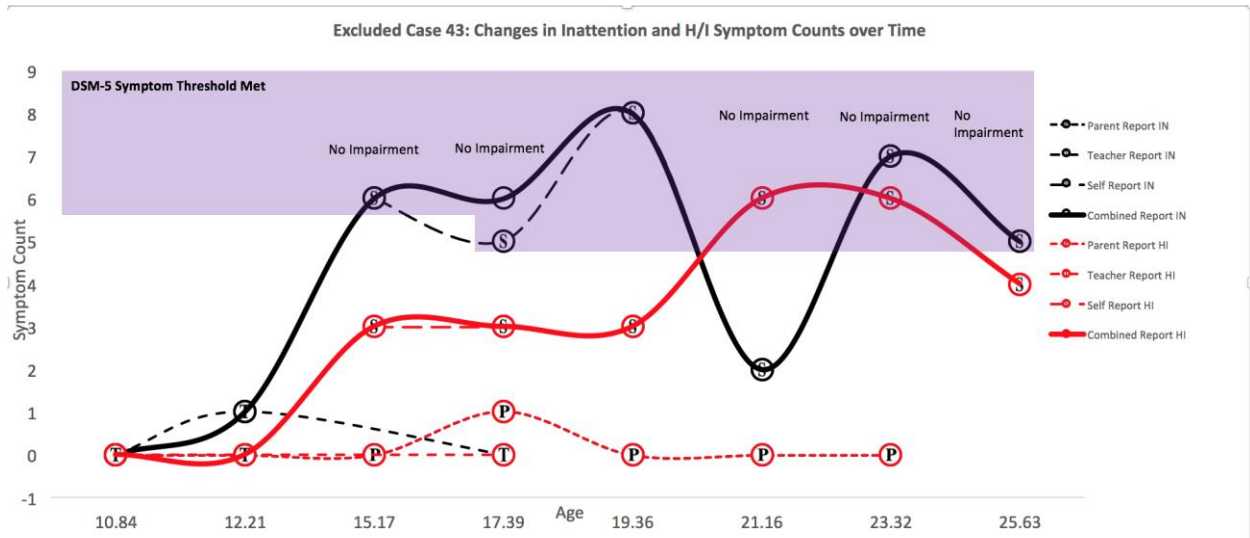


Note. Panel voted unanimously to exclude case 45.

Excluded Due to Symptom in Only One Setting



Note. In adulthood excluded case 42 was ruled out due to symptoms being attributable to a substance use disorder.



Note. At the only point when impairment was reported (age 19.36), symptoms and impairment were self-reported only to occur at school.