Contribution ID: **585** Type: **Poster**

ASSESSMENT OF ATTENTIONAL COMPONENTS ACROSS THE LIFESPAN UNDER SINGLE-DEMAND AND SWITCHING-DEMAND CONDITIONS

Thursday, September 11, 2025 2:10 PM (20 minutes)

This study explored age-related changes in attentional components—selective attention, divided attention, and switching ability—using the Attentional Demands Task (AD-Task). Ninety-three healthy participants aged 18 to 70 were divided into three groups: young adults (25 f, age 21.1 2.47, range 19-29), middle-aged adults (20 f, age 55.7 3.05, range 50-60), and older adults (19 f, age 65.6 2.85, range 61-70).

The main aim was to assess attentional performance across age groups under single-demand and switching conditions. Cognitive health was screened using the Montreal Cognitive Assessment (MoCA), while sleep quality and daytime sleepiness were evaluated to control for confounding variables. The AD-Task allowed for measuring reaction times (RTs), target discrimination (d'), hit rate, and false alarms (FA) across selective and divided attention conditions.

As the age increases, a marked decline in attentional performance was observed: first, a progressive decrease in the ability to correctly discriminate stimuli, a sign of a weakening of inhibitory control, was seen ($F_{2,90}=40.9$, $p<.001$, $\eta^2p=0.476$). Selective attention appeared better than divided attention and more sensitive to task-switching ($F_{1,90}=14.174$, $p<.001$, $\eta^2p=0.136$). Divided attention, on the other hand, started to deteriorate already around the age of 50, probably due to the increased cognitive load required ($F_{2,90}=7.1790$, $p=0.001$, $\eta^2p=0.138$).

Overall, the findings suggest that aging affects attentional components differently: selective attention is more resilient but sensitive to switching, while divided attention declines earlier. The AD-Task proves effective in assessing multiple attentional functions, offering a comprehensive approach to studying cognitive aging.

If you're submitting a symposium talk, what's the symposium title?

If you're submitting a symposium, or a talk that is part of a symposium, is this a junior symposium?

Primary author: DI POMPEO, Ilaria (Dipartimento di Scienze Cliniche Applicate e Biotecnologiche, Università degli Studi dell'Aquila, L'Aquila, Italia)

Co-authors: MARCACCIO, Martina (Dipartimento di Scienze Cliniche Applicate e Biotecnologiche, Università degli Studi dell'Aquila, L'Aquila, Italia); ALEMANNO, Michela; Ms GIOVANROSA, Noemi; MIGLIORE, Simone (Università degli Studi dell'Aquila); CURCIO, giuseppe (Università dell'Aquila)

Presenter: ALEMANNO, Michela

Session Classification: Lunch and poster 1

Track Classification: Attention, perception and consciousness