

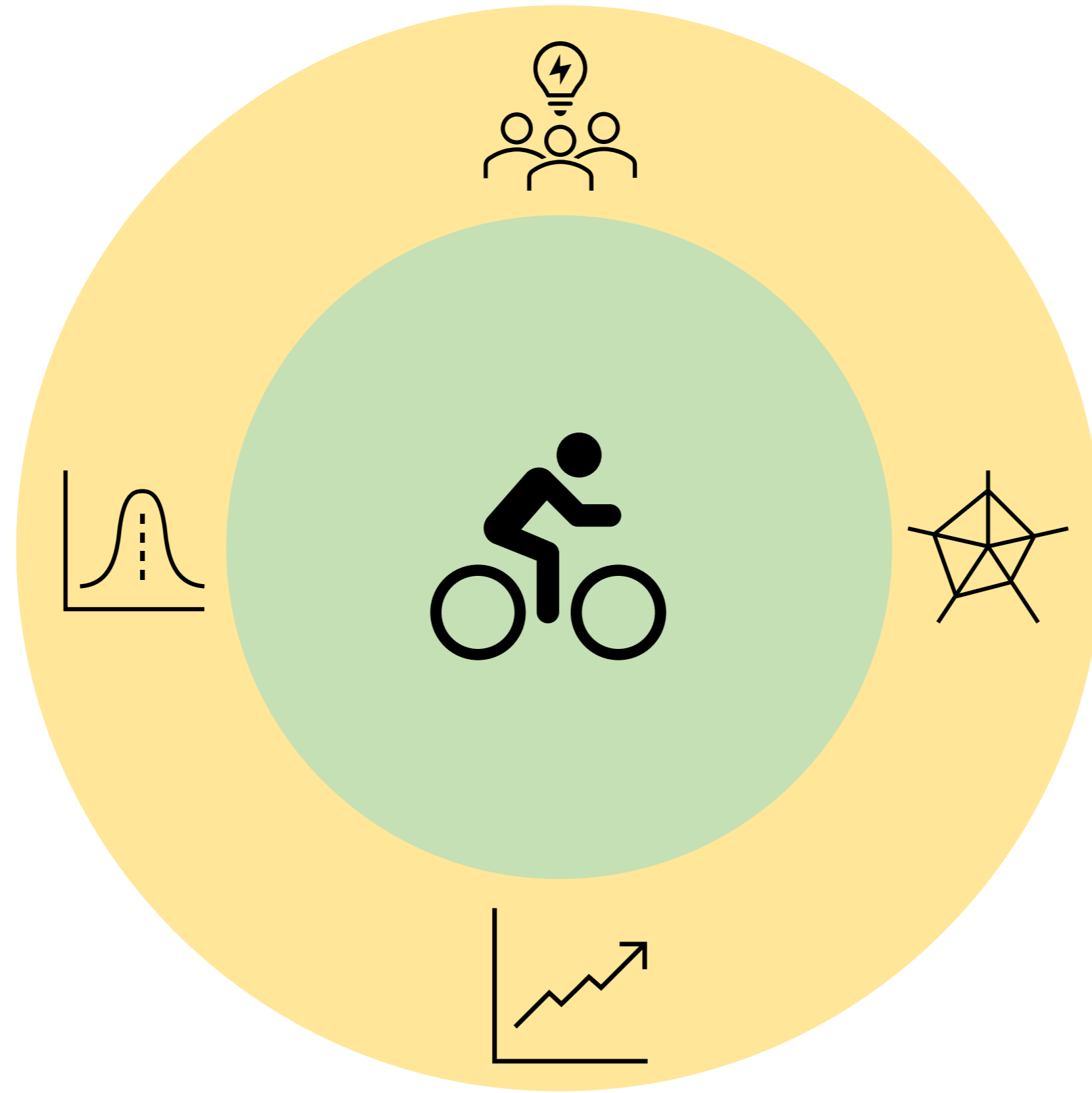


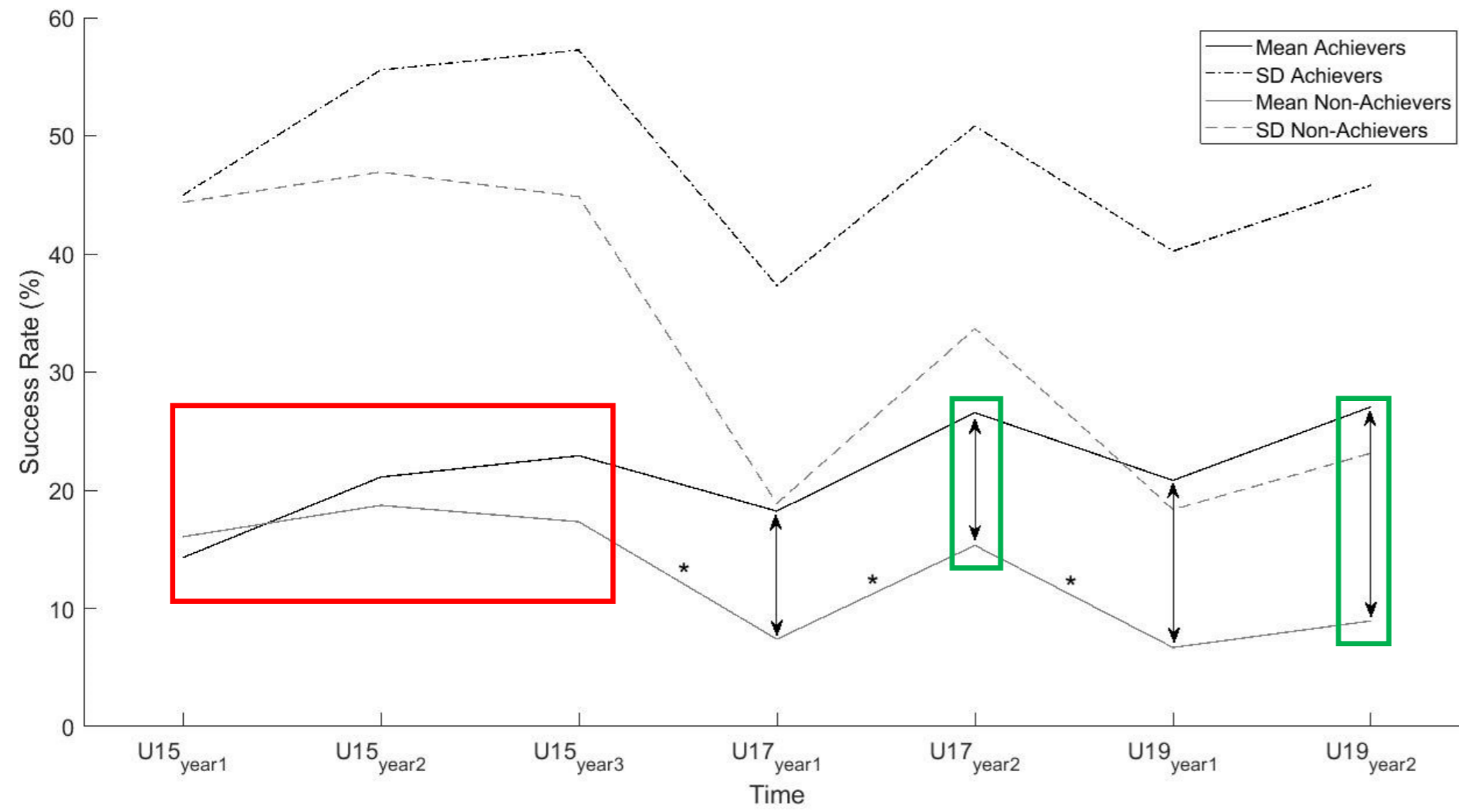
**GHENT
UNIVERSITY**

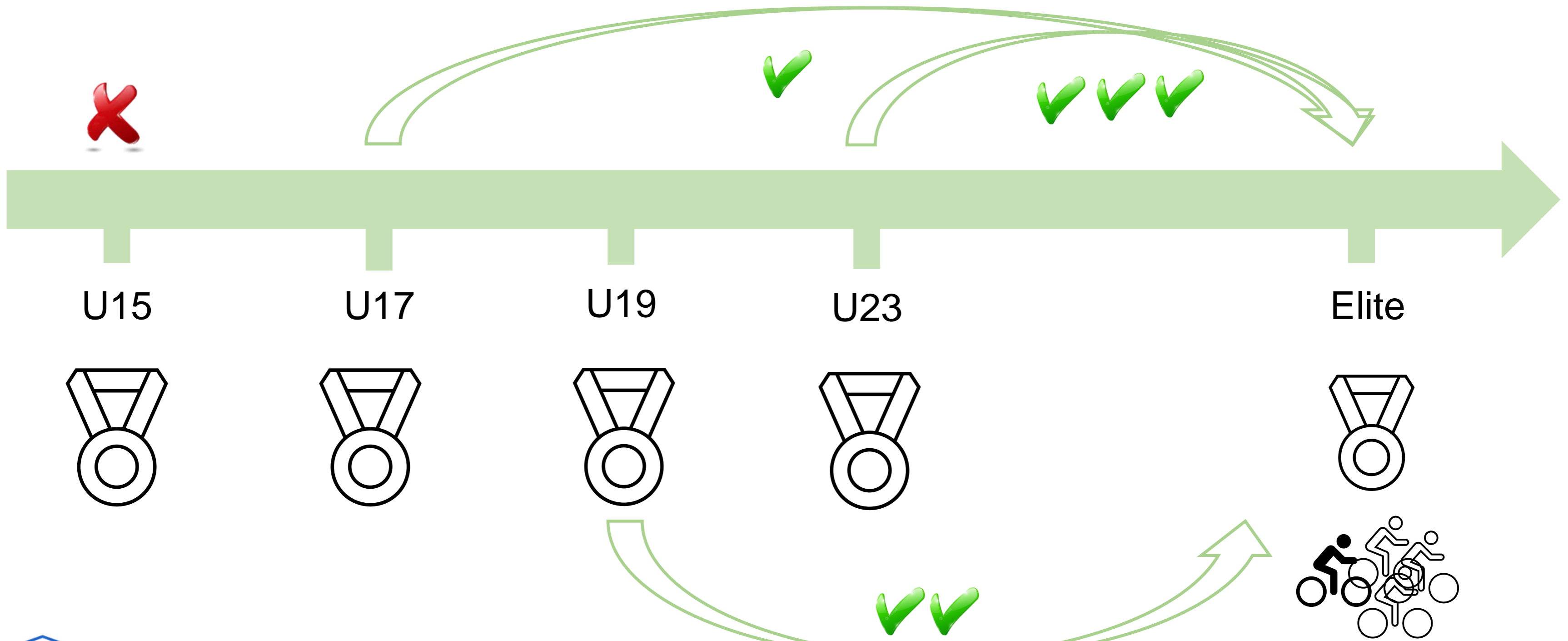
MOTOR COORDINATION MAY BE THE KEY TO SUCCESS IN YOUTH CYCLING

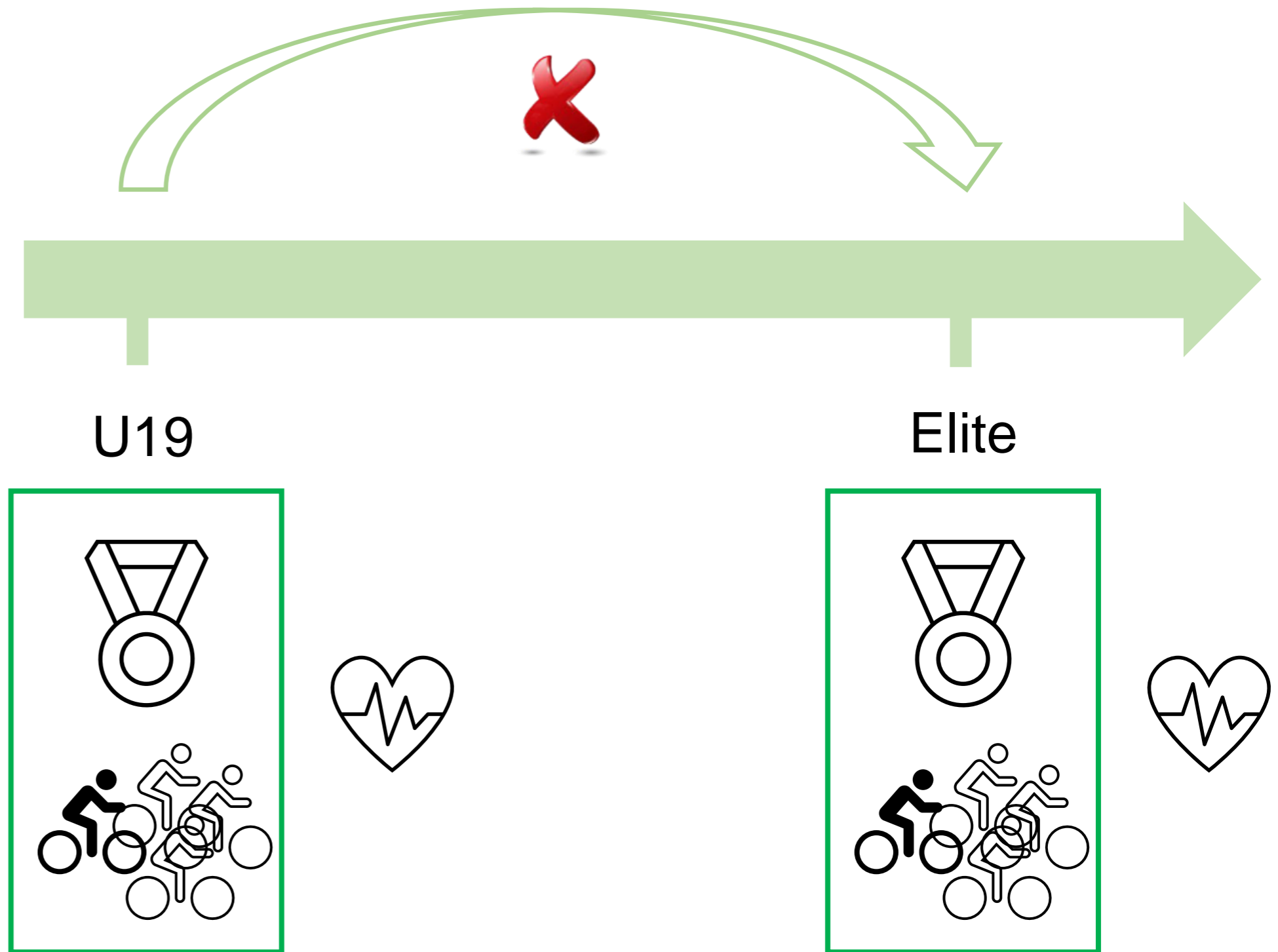
Mireille Mostaert, Pieter Vansteenkiste, Felien Laureys, Nikki Rommers,
Johan Pion, Frederik J.A. Deconinck, Matthieu Lenoir

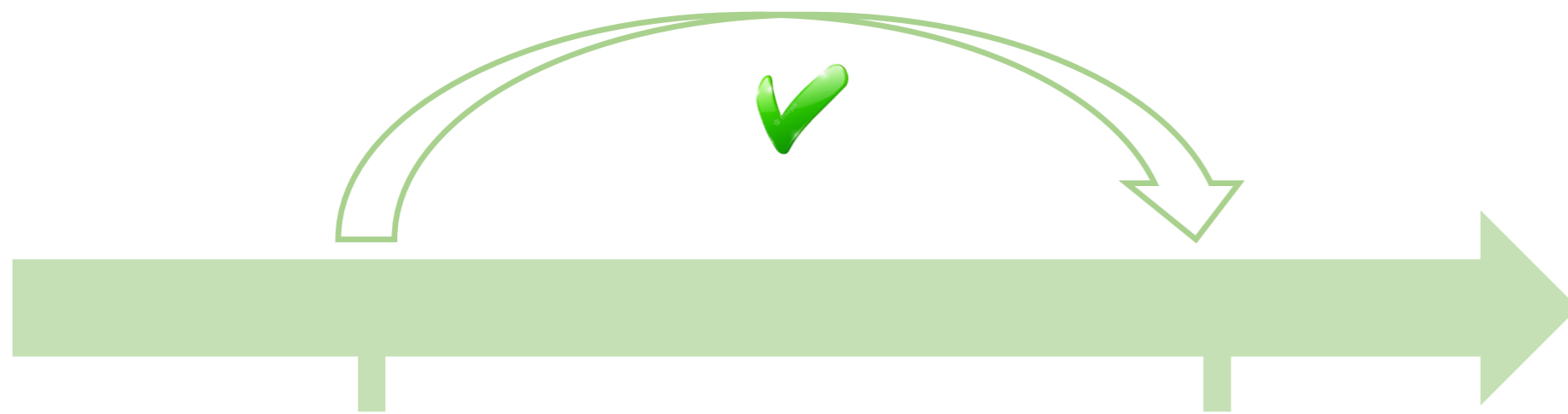




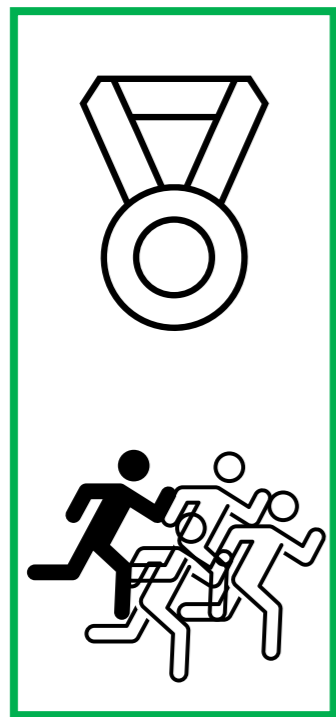




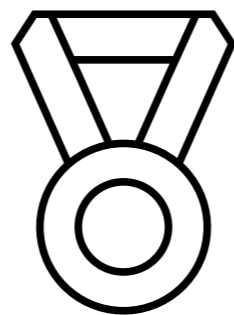




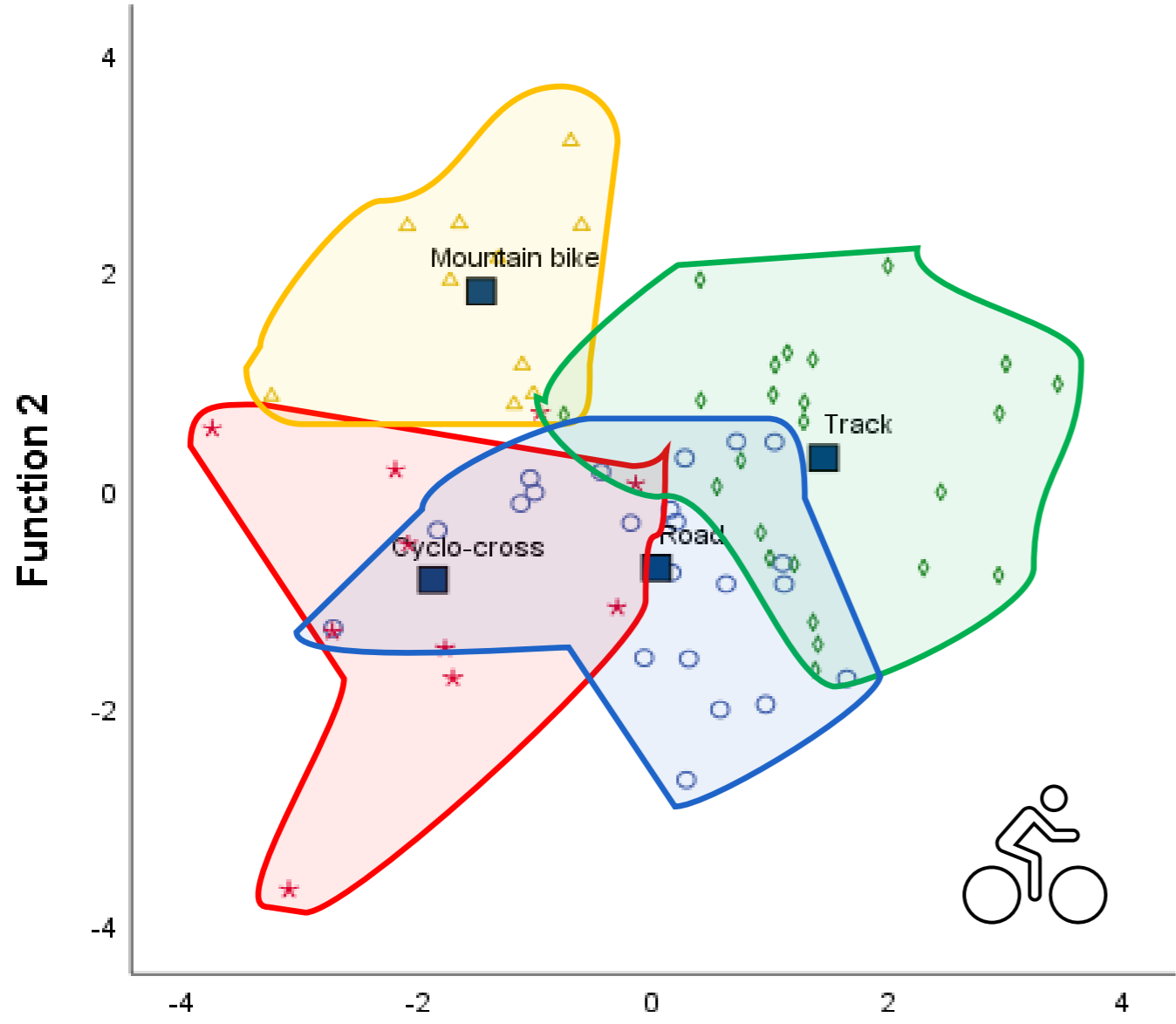
youth



Elite



Canonical Discriminant Functions



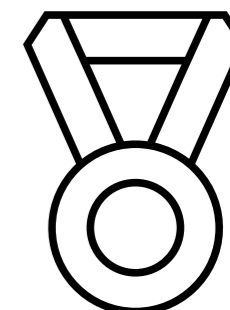
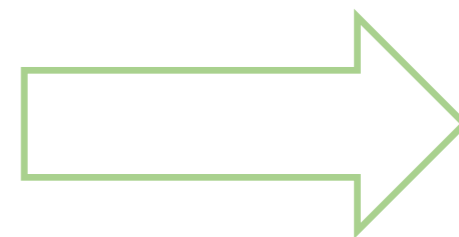
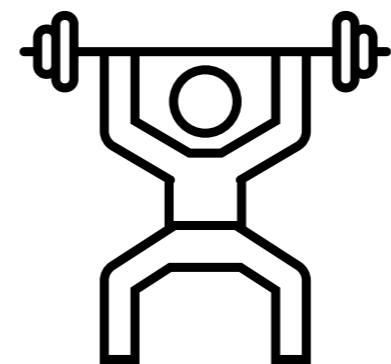
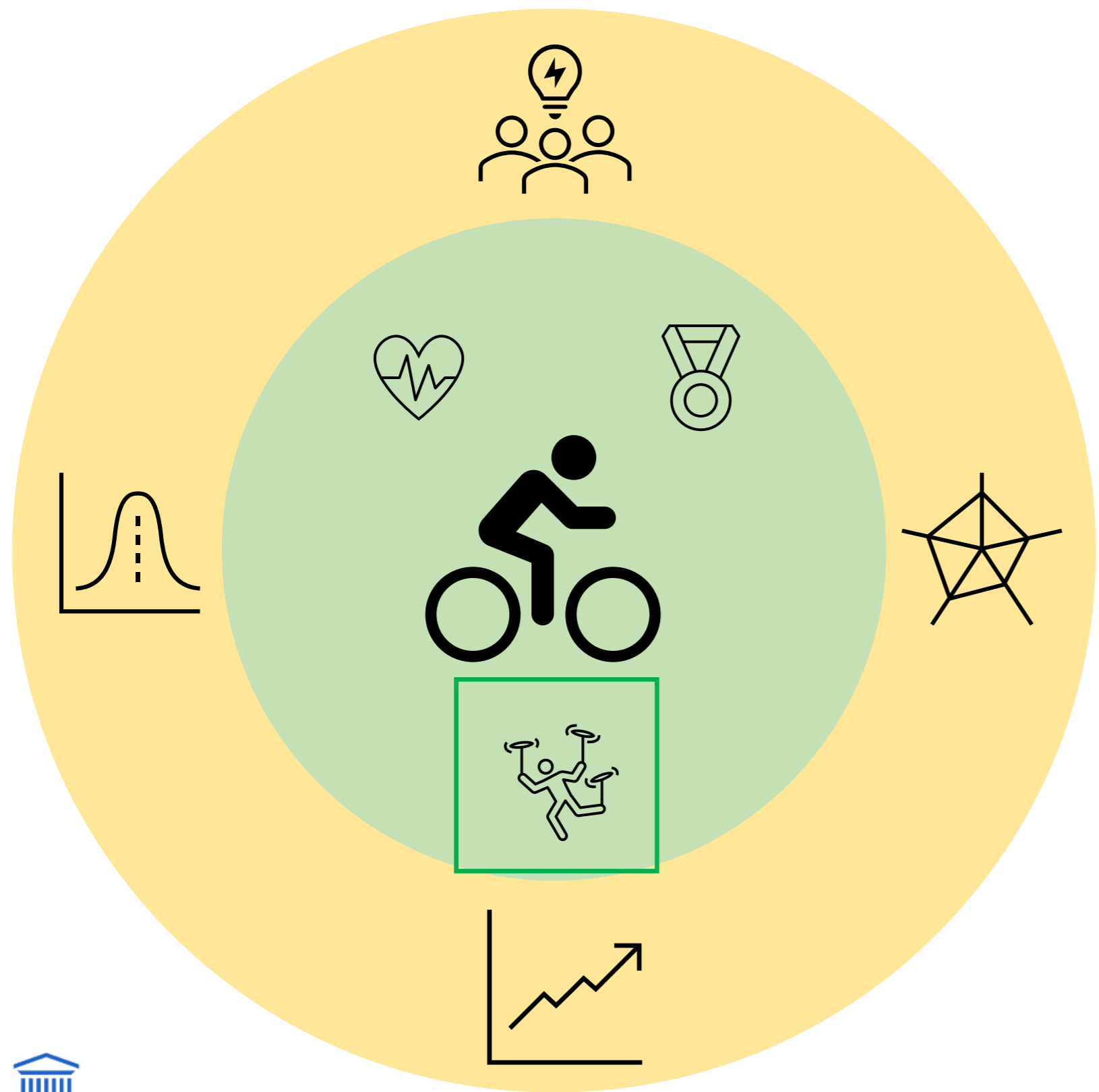
Function 1
 >= 16 years

80.7% correctly classified

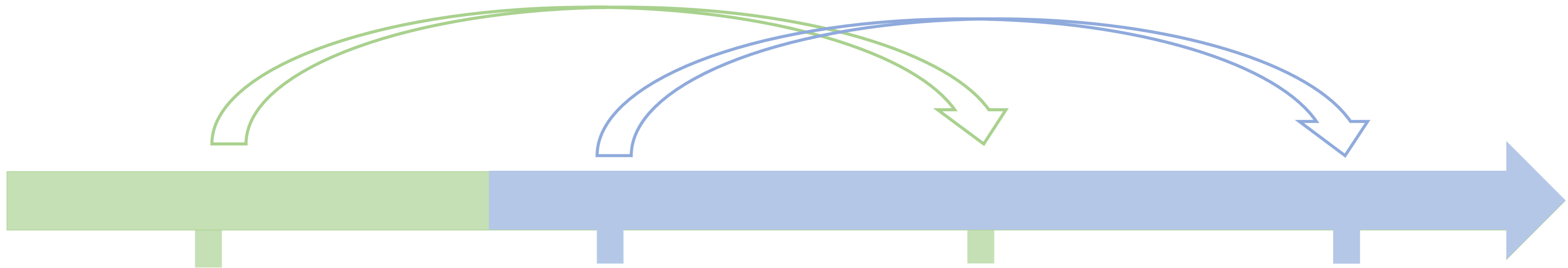
Categorization_cycling_discipline

- Road
- ★ Cyclo-cross
- ◇ Track
- △ MTB
- Group Centroid

	Road >= 16 years	Track >= 16 years	Cyclo-cross >= 16 years	MTB >= 16 years
ANTROPOMETRICS				
Height (cm)			-	
Sitting Height (cm)			-	
Weight (kg)			-	
BMI (kg/m ²)			-	
PHYSICAL CHARACTERISTICS				
Planking (sec)	+			
SBJ (cm)				
SAR (cm)				
Endurance (beep test/ mins)				
Sprint5m (sec)	-	+	-	
Sprint10m (sec)	-	+	-	
Sprint20m (sec)	-	+		
Sprint30m (sec)	-	+		
MOTOR COORDINATION				
Sum Moving Sideways (N)		+		-
Sum Jumping Sideways (N)	-	+		-
Sum Balance Beam (N)				
CYCLING SPECIFIC TESTS				
Shuttle bike (sec)	-	-		+
Maximal cadence (N)				



Four-stage hierarchical regression analysis

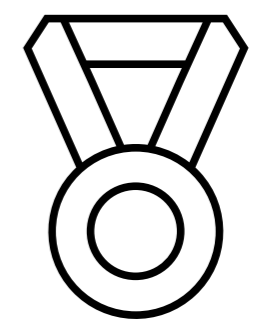
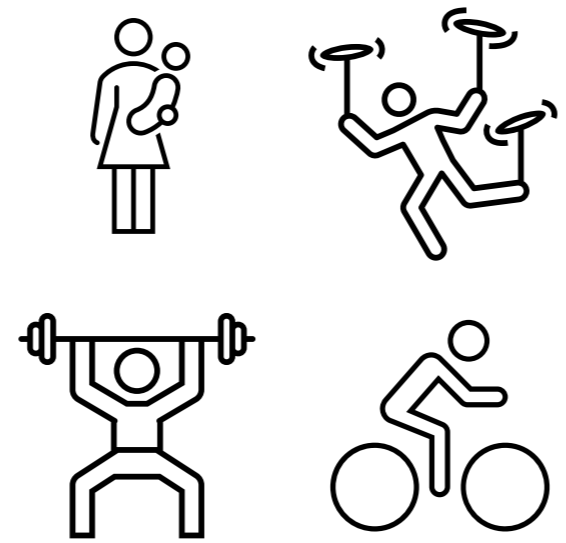


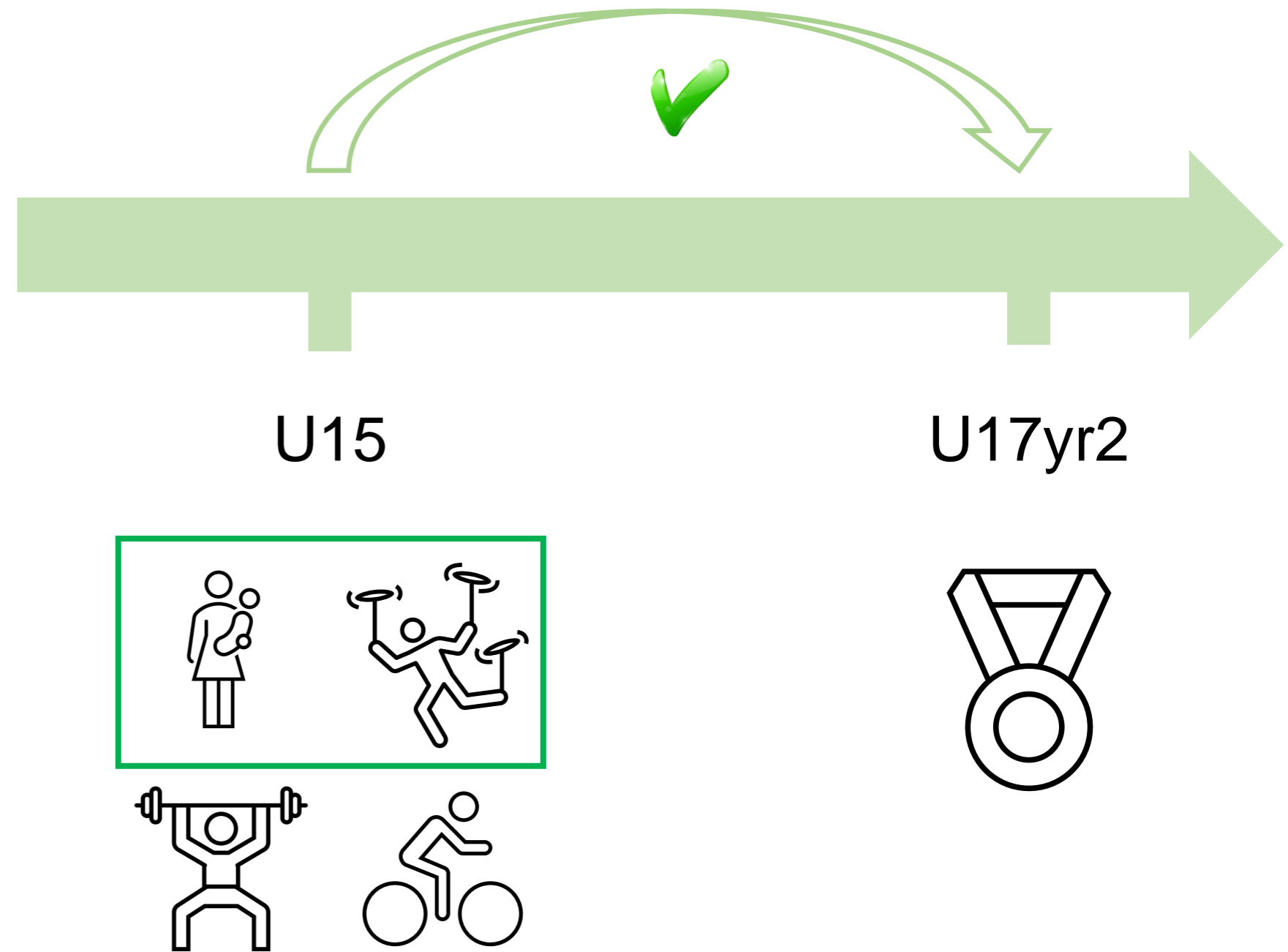
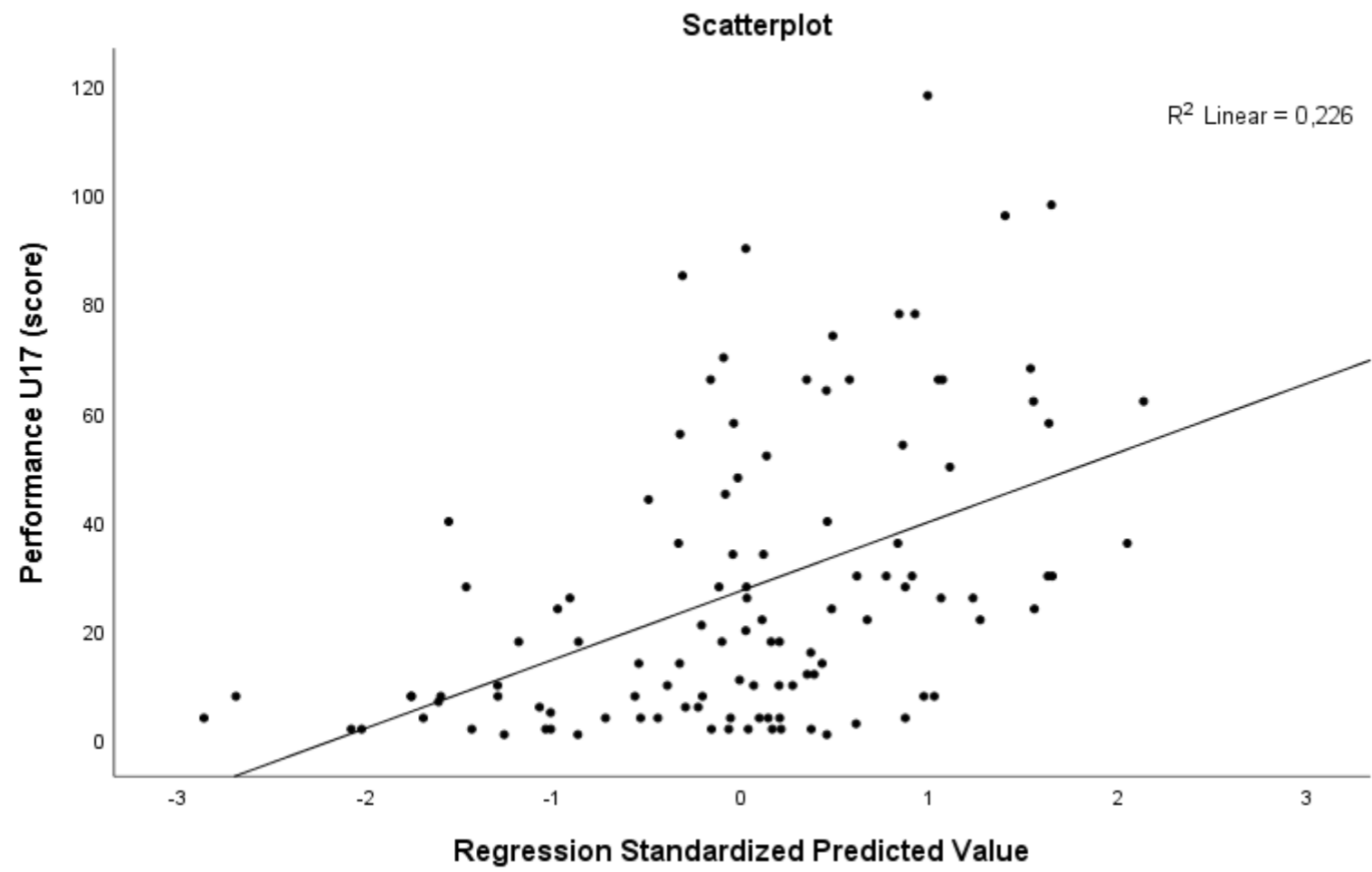
U15
N=111

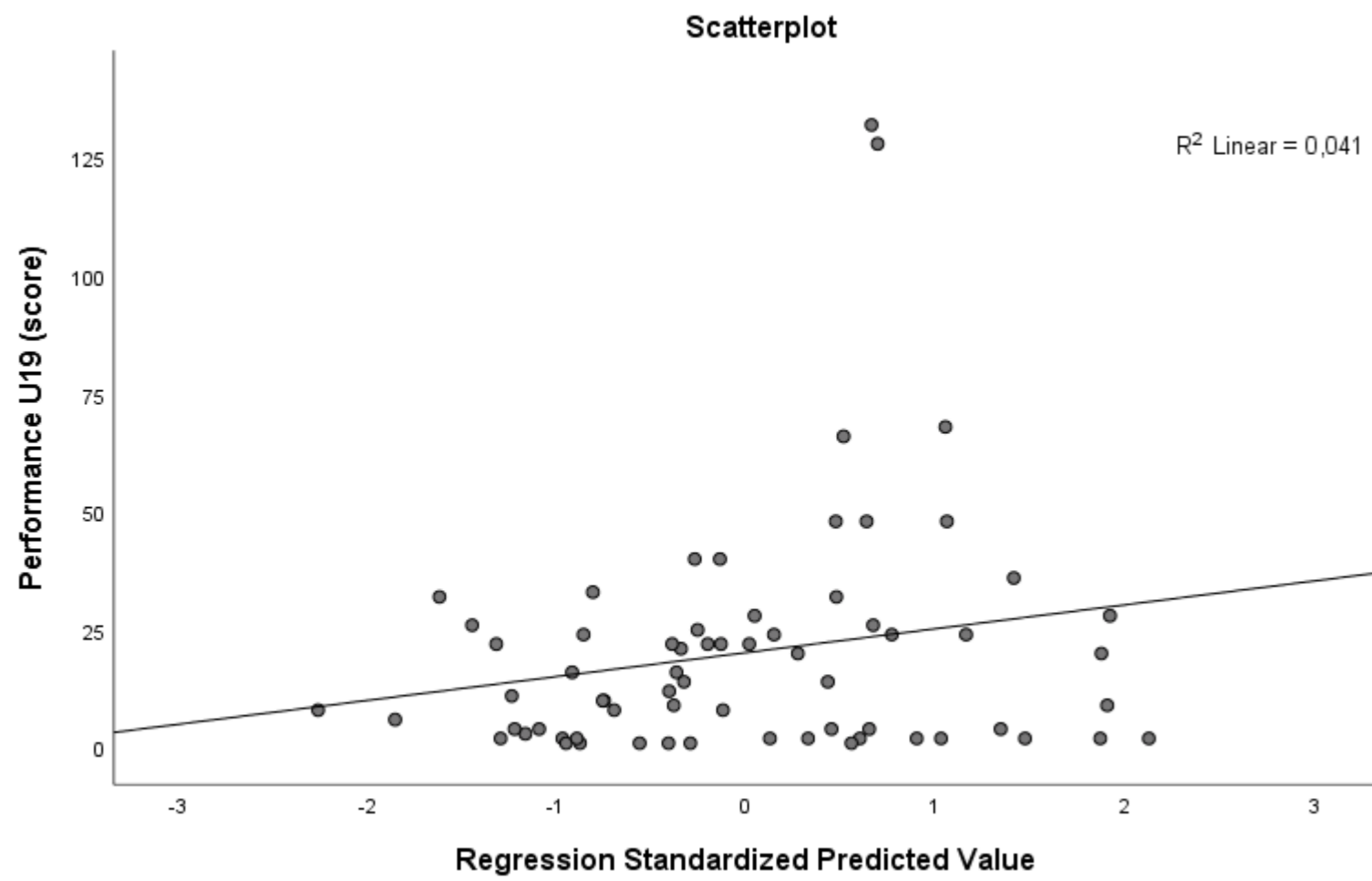
U17
N=67

U17yr2

U19yr2

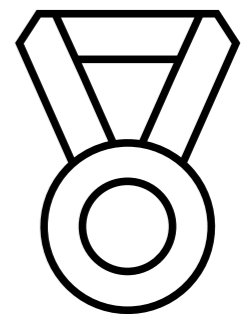
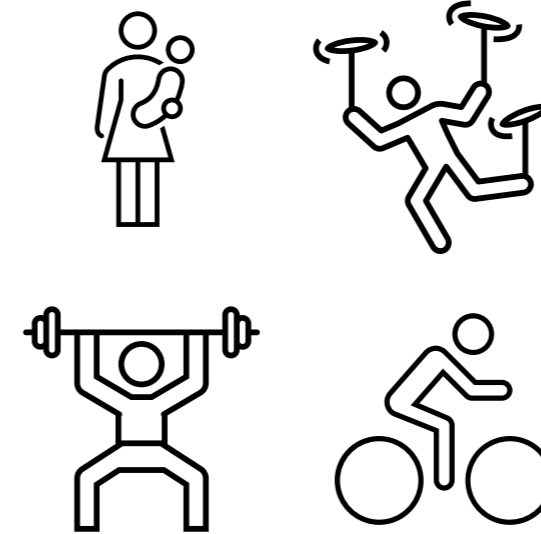






U17

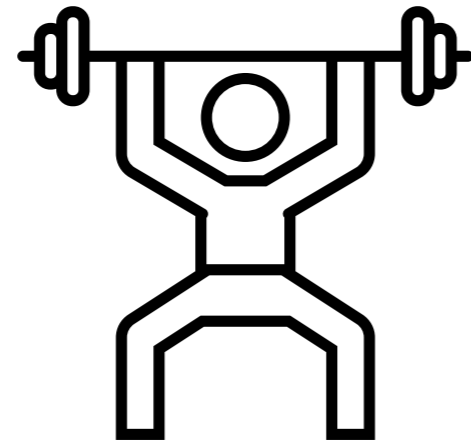
U19yr2





U15

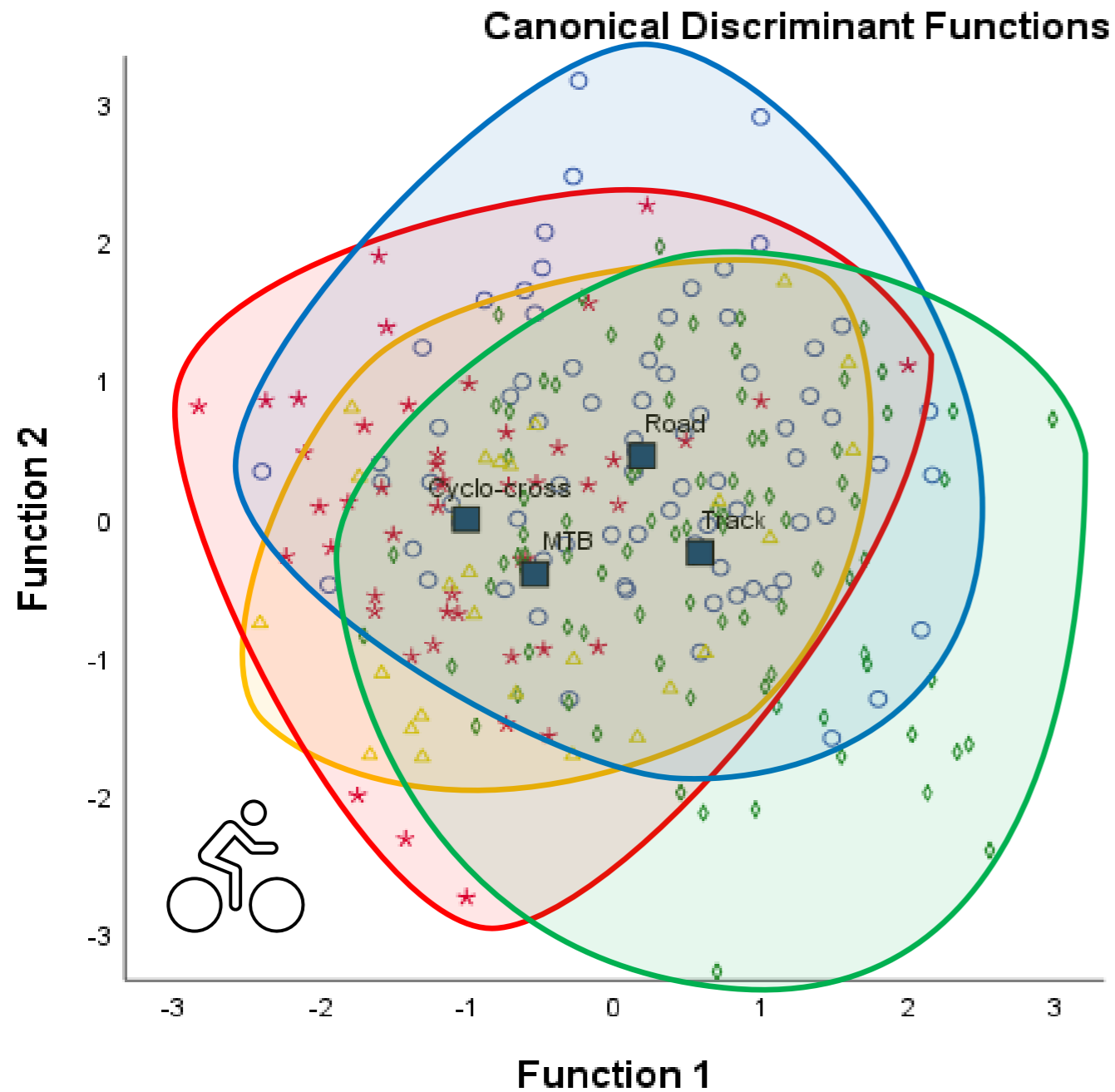
U17yr2



Current ability, but less suitable for talent prediction



Higher motor coordination levels resulting in better performances



12 – 15 years

50.1% correctly classified

Categorization_cycling_discipline

- Road
- ★ Cyclo-cross
- ◇ Track
- △ MTB
- Group Centroid

ANTROPOMETRICS

- Height (cm)
- Sitting Height (cm)
- Weight (kg)
- BMI (kg/m²)

PHYSICAL CHARACTERISTICS

- Planking (sec)
- SBJ (cm)
- SAR (cm)
- Endurance (beep test/ mins)
- Sprint5m (sec)
- Sprint10m (sec)
- Sprint20m (sec)
- Sprint30m (sec)

MOTOR COORDINATION

- Sum Moving Sideways (N)
- Sum Jumping Sideways (N)
- Sum Balance Beam (N)

CYCLING SPECIFIC TESTS

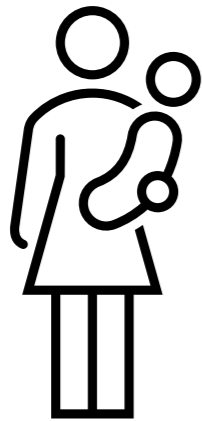
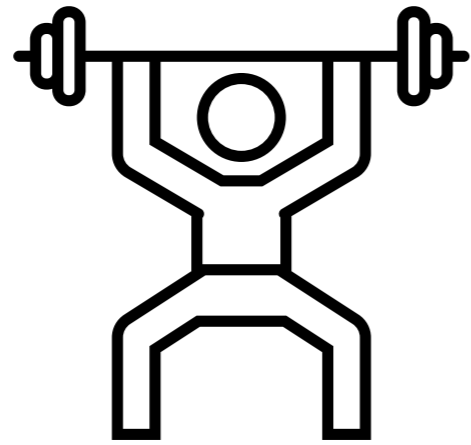
- Shuttle bike (sec)
- Maximal cadence (N)

	Road 12-15 years	Track 12-15 years	Cyclo-cross 12-15 years	MTB 12-15 years
ANTROPOMETRICS				
Height (cm)	+	+	-	+
Sitting Height (cm)	+	+	-	-
Weight (kg)		+	-	-
BMI (kg/m ²)		+	-	
PHYSICAL CHARACTERISTICS				
Planking (sec)		-		
SBJ (cm)				
SAR (cm)				
Endurance (beep test/ mins)				
Sprint5m (sec)		+	-	
Sprint10m (sec)		+	-	
Sprint20m (sec)		+	-	
Sprint30m (sec)		+	-	
MOTOR COORDINATION				
Sum Moving Sideways (N)				
Sum Jumping Sideways (N)				
Sum Balance Beam (N)	-		+	
CYCLING SPECIFIC TESTS				
Shuttle bike (sec)	-	-	+	+
Maximal cadence (N)				

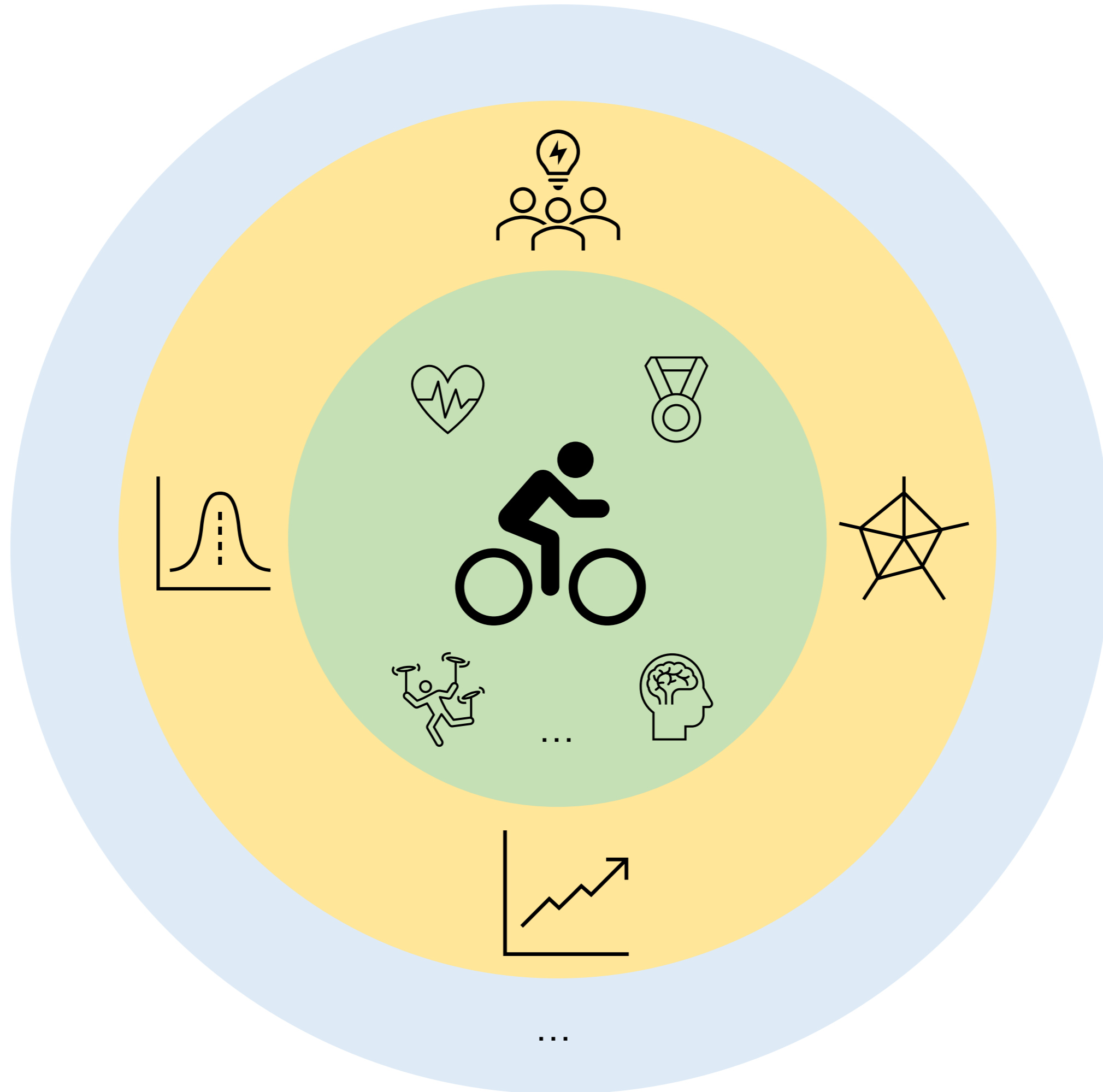


U17

U19yr2



Demands of road cycling might change



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