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As a developmental period, adolescence is characterized by sensation seeking, peers' importance, impulsivity and risk-taking. During the last decade significant progress has been made in understanding the role of cognitive, motivational and especially neurobiological factors in risk-taking. In spite of a number of studies, several issues remain unsolved. First, it is not clear whether the risk-taking is the effect of a deficiency in control processes or a strategy adopted when certain motivational factors are in place (such as rewards, peer presence). In other words, the challenging goal is to determine under what conditions risk-taking can be impulsive or planned. Second, little is known about the adaptive function that risky behaviors serve – especially how this function change with age. Third, it is not clear, how adolescents differ in their tendency towards risk and what mechanisms cause that in some individuals it persists in adulthood.

The aim of the project is to explore the relations between cognitive control efficiency, motivational factors, personality traits and risk-taking in adolescents (aged 14-16) in comparison to young adults (aged 22-24 and 30-35). We designed four experimental studies in which we will test, primarily: 1) how rewards and peer presence influence risk-taking and cognitive control efficiency in different age groups, 2) how the relationships between risk-taking and tendency to exploration, ability to delay gratification and rewards valuation change with age. These two research questions will allow us to look at the determinants of risk-taking from two perspectives: on the one hand – why, on the other – for what purpose adolescents and young adults take risk. Risky behaviors play an important role in our lives, leading to cost and benefits in micro (individual) and macro scale (society). Understanding its nature enables the expansion of knowledge not only in psychology but also in health studies, economics, and sociology.