The idea that loneliness is associated with self-centeredness was first and, probably, most powerfully, presented by Hannah Arendt who spent a considerable part of 'The Origins of Totalitarianism' on discussing the way in which isolation and loneliness produce 'self-centered bitterness' and destroy human ability to 'act together in the pursuit of a common concern'. Over half a century later, a prominent psychologist, Prof. John Cacioppo built the Evolutionary Theory of Loneliness (ETL) around the association between loneliness and self-centeredness. As proposed by the ETL, loneliness, defined as a subjective mismatch between the available and preferred quantity and quality of social relationships, may be perceived as a signal that evolved to motivate reconnection with others. While, according to the ETL, this signal evolved to increase the motivation to reconnect with others, in the current, relatively threat-free, times such mechanism seems to produce a deleterious effect on our health and well-being, rather than increase reconnection chances. Prosocial behavior is among the outcomes which may be affected by the cognitive mechanisms induced by loneliness (e.g., increased focus on self-interest). The importance of investigating whether loneliness is associated with prosocial behavior was particularly evident with regard to the adherence to public policies introduced during the COVID-19 pandemics. Yet, the evidence linking loneliness and prosocial behavior is surprisingly sparse and far from conclusive. Thus, the project will investigate whether individuals with high levels of loneliness (HL) show decreased prosocial behavior compared to individuals with low levels of loneliness (LL). In order to determine it, we will use a widely known task called the Prisoner's Dilemma (PD). While originally stated with regard to the amount of jail time which may be sentenced to two criminals depending on their behavior during police investigation, the Prisoner's Dilemma may be easily generalized to any sort of game, where both players are encouraged not to cooperate (i.e., non-cooperation reward exceeds cooperation-reward regardless of the opponent's decision), but if both players decide not to cooperate they end up with worse reward than if they had both decided to cooperate. The project will include three main studies (MS1-MS3), during which HL and LL young adults (18-35 y.o.) will complete various versions of Prisoner's Dilemma (PD). MS1 (90 participants) will use joint analysis methods to investigate spatiotemporal components of neural activity observed in participants during the PD with methods that can either produce highly detailed maps of neural activity observed during specific processes (functional magnetic resonance imaging; fMRI) or capture changes of neural activity at the millisecond level (electroencephalography event-related potentials; EEG ERPs). The MS2 (90 participants) will use the information about the activity of brain networks associated with specific ERPs obtained during the MS1 to examine whether the characteristics of situation or perception of the opponent have impact on the brain activity during the PD. During the MS2, participants will take part both in the classic version of the PD task which encourages competition between participants and in its modified version which encourages cooperation between participants. Moreover, before the PD task, participants will play the economic game with two players who will behave either in a trustworthy & cooperative or untrustworthy & selfish manner. This way, the impact of previous interaction on the participant's responses to other players during the PD will be tested. Finally, it has been emphasized that similar investigations need to shift their approach from 'spectator science' (passive observation of social stimuli under laboratory constraints) to 'second-person neuroscience' (simultaneous recording of brain activity during naturalistic between-person interactions). Thus, the final study of the project (MS3; 180 participants – 90 dyads) will use a method called EEG 'hyperscanning' to simultaneously record brain activity in two participants who will complete the naturalistic version of the PD task against each other. Finally, by supplementing the laboratory data from MS1-MS3 with real-life surveys that will be sent to participants' smartphones during 7-days period between session, we will produce a complex model of both what participants *declare are doing*, and what they *actually do* in social situations. Investigation of the mechanisms linking loneliness and prosociality may have implications which extend well-beyond the advancement of the social neuroscience field. Due to its impact on morbidity and mortality, loneliness is clearly a challenge for public health. Investigation of the factors which may sustain loneliness in young adults may thus be important for developing interventions aimed at reducing loneliness and its adverse health effects. Yet, the potential benefits of the project span beyond this. The COVID-19 crisis has clearly shown that understanding the factors underlying societal response to public policies aimed at collective interest may be of equal (or even higher) importance as developing technological solutions to emerging crises. Experimental social dilemma like PD task are believed to resemble a wide range of situations, in which the lure of the direct short-term self-interest may push all involved parties toward the collectively least preferable option. Examples of such situations include problems as diverse as commuting to work by car instead of public transportation or overuse of various environmental resources. Thus, the extent to which loneliness affects the ability to overcome self-interest for the common good may be of crucial importance, given the potential societal and economic burden of implementing such policies, e.g., to combat climate change.