Social withdrawal and social anxiety are believed to have a bi-directional, cyclical influence on one another, but it is unknown if the influence is indeed bi-directional, especially within-person. In adolescence, peer experiences may play a central role in the relationship between withdrawal and social anxiety because of the importance of the peer group in youth’s social development. In this study we investigated the temporal sequencing and strength of effects between social withdrawal and social anxiety, and examined the roles of peer victimization and peer acceptance in the pathways between withdrawal and social anxiety. Participants included 2,772 adolescents from the population-based and clinical cohorts of the Tracking Adolescents’ Individual Lives Survey (TRAILS). Data was included from three measurement waves, when participants were 11, 13, and 16 years old. Parent-reported withdrawal, self-reported withdrawal, social anxiety, victimization, and peer acceptance were measured at every wave. The bi-directional within-person associations between these variables were investigated using random-intercept cross-lagged panel models (RI-CLPMs). Results indicated that social anxiety at 11 years consistently predicted increased self-reported withdrawal at 13 years, even when accounting for peer experiences. The reciprocal effect, from self-reported withdrawal to social anxiety, was not found at any age. Changes of parent-reported withdrawal were not associated with social anxiety, or vice versa. Negative peer experiences predicted increased self-reported withdrawal from 11 to 13 years and increased parent-reported withdrawal from 13 to 16 years. In conclusion, youth became more withdrawn when they became more socially anxious, and increasing withdrawal is, in turn, associated with greater victimization and lower peer acceptance. Contrary to previous research, there might not be a cyclical pattern between social withdrawal and social anxiety in adolescence. Finally, adolescents and their parents have unique interpretations about adolescents’ withdrawn behavior, suggesting that a multiple-informant approach is warranted when investigating social withdrawal during these ages.