

Every year, about 1 in 10 babies are born preterm (before 37 weeks of pregnancy), and around 1–2% are born very preterm (before 32 weeks) or with very low birthweight (under 1.5 kilograms). Thanks to advances in neonatal care, many more of these babies now survive and grow up than ever before.

But their journeys don't all look the same. This study explores the developmental heterogeneity of emotional difficulties—including experiences such as anxiety, depression, and social withdrawal among people born very preterm or with a very low birthweight and examines early factors that help explain why their emotional difficulties vary.

We analysed data from the **Bavarian Longitudinal Study**, including 368 individuals who were born very preterm or with very low birth weight and have been followed up from birth to adulthood.

We used a person-centred approach to track how their emotional difficulties changed over time, grouping individuals who showed similar patterns into distinct trajectories. We then investigated which early-life factors are associated with these trajectories.

Our results revealed **three distinct trajectories**:

- The majority of them (about 62%) showed consistently low emotional difficulties over time.
- About 22 % showed gradually increasing emotional difficulties with age.
- **And more importantly**, about 17 % of them showed a **resilient pattern**, that is, they started with high emotional difficulties but improved over time.

We were particularly interested in the resilient group and found that they faced more challenges in family environment and tended to be more shy and emotionally sensitive early on. But they also had a **higher birthweight and better early parent–infant relationships**, which **serve as protective factors for long-term mental health resilience**.

The first key takeaway is that not everyone born preterm follows the same mental health path—some do quite well, others face more challenges, and some improve over time.

Second, for those born preterm who improved in their emotional difficulties over time, i.e. were resilient, early **good parent-child relationships** is something we can change and can make a real difference to.