

Title: Predictors of Independent Living Status in Adult Survivors of Childhood Cancer:
A Report from the Childhood Cancer Survivor Study

Background: With increased success of treatments for pediatric cancers, attention has focused on functional outcomes of survivors. This study examines factors that predict independent living in adult survivors of childhood cancer.

Methods: Adult survivors of childhood cancers (n= 6047) and siblings (n= 2326), all of whom were ≥ 25 years of age, completed a long-term follow-up questionnaire that assessed adaptive, neurocognitive, and psychological functioning, as well as demographic information and health status. Survivors were a mean age of 34.2 years (range 25-54) at study. Logistic regression models (expressed as odds ratio [OR] and 95% confidence interval [CI]) were used to predict risk of dependent living based on demographic, neuropsychological, physical functioning and treatment variables.

Results: Compared to siblings, survivors were more than twice as likely to live dependently (17.7%, OR=2.07, 95% CI 1.77-2.42), adjusted for age, gender and race. In multivariate logistic regression analyses, risk factors for dependent living among survivors included: racial/ethnic minority status (OR=2.60, 95% CI 2.02-3.36), cranial radiation therapy in dose dependent fashion (>0 to ≤ 24 Gy OR=1.35, 95% CI 1.11-1.65; >24 Gy OR=3.63, 95% CI 2.82-4.68), attention and processing speed problems (OR=1.91, 95% CI 1.57-2.33), depression (OR=1.61, 95% CI 1.23-2.10), poor physical functioning (OR=1.96, 95% CI 1.53-2.50), and use of neuroleptic, anticonvulsant, or psychostimulant medication (OR=3.05, 95% CI 2.30-4.03). Factors associated with independent living included: older age at diagnosis (6 to < 12 years of age [OR=.71, 95% CI .58-.86], ≥ 12 years of age [OR = .43, 95% CI .33-.55] compared to those diagnosed < 6 years), older current age (> 35 years of age; OR = .50, 95% CI .40-.62), and having received non-CNS-directed chemotherapy (compared to those with a treatment history of only radiation and/or surgery [OR=.69, 95% CI .53-.89]).

Conclusion: Adult survivors of childhood cancer are less likely to live independently compared to siblings. Specific neurocognitive, medical and psychological late effects are strongly associated with extended dependency on others in adulthood.