

Neurocognitive Late Effects as Developmental Vulnerabilities: Psychosocial and Occupational Outcomes in Pediatric Cancer Survivors

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Introduction: While advances in pediatric oncology have drastically improved survival rates for childhood, adolescent, and young adult (CAYA) cancer survivors, many experience cognitive late effects affecting emotional, social, and occupational functioning, with less understood broader impact on these domains. This study examines associations between self-reported cognitive vulnerabilities and (1) psychosocial and (2) occupational outcomes in CAYA cancer survivors.

Methods: Data were drawn from the Needs Survey for CAYA Cancer Survivors, assessing cognitive function (PROMIS), psychosocial outcomes (anxiety, depression, fatigue, sleep disturbance, social functioning), and occupational outcomes (employment status, limitations in amount/type of work, limitations in work ability, missed workdays, job satisfaction, and career-goal impact). Statistical analyses were performed as appropriate.

Results: Participants (N = 132) had a mean age of 25.24 years (SD = 6.57). Lower cognitive function correlated with higher anxiety ($r = -0.34$), depression ($r = -0.44$), fatigue ($r = -0.46$), and sleep disturbance ($r = -0.33$), and lower social functioning ($r = 0.30$; all $p < .001$). Cognitive function was lower among survivors limited in ability to work ($t = -1.73$, $p = .048$), those limited in work amount/type ($t = -1.89$, $p = .036$), and those missing 14+ workdays ($t = 2.47$, $p = .028$). Higher cognitive function correlated with job satisfaction ($r = 0.28$, $p = .003$), but not with employment status ($p = .073$), career choice ($p = .366$), or career-goal impact ($r = 0.16$, $p = .166$).

Conclusion: Cognitive late effects are linked to psychosocial and occupational functioning in CAYA survivors, underscoring the importance of early identification and developmentally informed intervention.

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