OBJECTIVE:
To evaluate the relationship between symptom and functional improvement and remission in children and adolescents with attention-deficit/hyperactivity disorder (ADHD) enrolled in an 11-week open-label dose-optimization phase of an methylphenidate extended release (MPH-MLR) pivotal study.

METHODS:
Assessments included the Weiss Functional Impairment Rating Scale-Parent (WFIRS-P) and ADHD Rating Scale, Fourth Edition (ADHD-RS-IV). Definitions included the following: symptom improvement (≥30% decrease in ADHD-RS-IV total score); symptom remission (ADHD-RS-IV total score ≤18); functional improvement (decrease in WFIRS-P total score ≥0.25 [minimally important difference]); and functional remission (WFIRS-P total score ≤0.65).

RESULTS:
Two hundred children completed the open-label phase. At initial assessment, functional impairment was evident across all WFIRS-P domains and similar between children and adolescents. Those who were treatment naive had more functional impairment (WFIRS-P total: 0.82 vs. 0.70, p = 0.02). Significant improvements in all WFIRS-P domains were noted at open-label end (p < 0.001), with the largest improvement in Learning. At open-label end, 94% of children and adolescents demonstrated symptom improvement, of which 57% also showed functional improvement, and 75% of children and adolescents showed symptom remission, of which 81% also showed functional remission.

CONCLUSIONS:
Children and adolescents treated with MPH-MLR showed moderate-to-large improvement in functioning during 3 months of treatment, both overall and in specific domains. However, a significant number of those who would be considered symptomatic responders failed to show improvement in functioning or continue to have significant functional impairment. Treatment with MPH-MLR showed that both symptomatic and functional remission are achievable goals. Identification of children and adolescents who have been successfully treated for their symptoms, but continue to suffer functional impairment, will allow us to offer additional targeted treatment interventions over and above medication to address residual difficulties.