

Examining Cognitive Functioning and Education as Moderators of ACT Outcomes in Patients with Metastatic Breast Cancer

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BACKGROUND

- Acceptance and Commitment Therapy (ACT) involves engagement with abstract concepts, such as mindfulness and cognitive defusion.
- While cognitive functioning and educational attainment may impact comprehension of ACT concepts and influence intervention effectiveness, they remain largely unexamined as moderators of ACT outcomes.
- PURPOSE:** This study examines whether baseline self-reported cognitive functioning and years of education moderated ACT's effects on fatigue interference with functioning and depressive symptoms in patients with metastatic breast cancer.



METHODS

- Eligibility Criteria:** (1) ≥ 3 weeks post-diagnosis of stage IV breast cancer, (2) moderate to severe fatigue interference (Fatigue Interference subscale on Fatigue Symptom Inventory ≥ 2.5)¹
- Procedures:** Patients ($N = 236$) were randomized to 6 weekly ACT sessions or time-equivalent education/support. Outcomes were assessed through 6 months post-intervention ($N = 188$).

	ACT ($n = 116$)	Control ($n = 120$)	p
Mean age (range)	58.4 (29-86)	59.6 (33-92)	.43
Non-Hispanic White	92.2%	84.2%	.06
Mean years of education (SD)	15.3 (2.38)	15.2 (2.73)	.71
Household income < \$60,000	38.8%	38.3%	.84

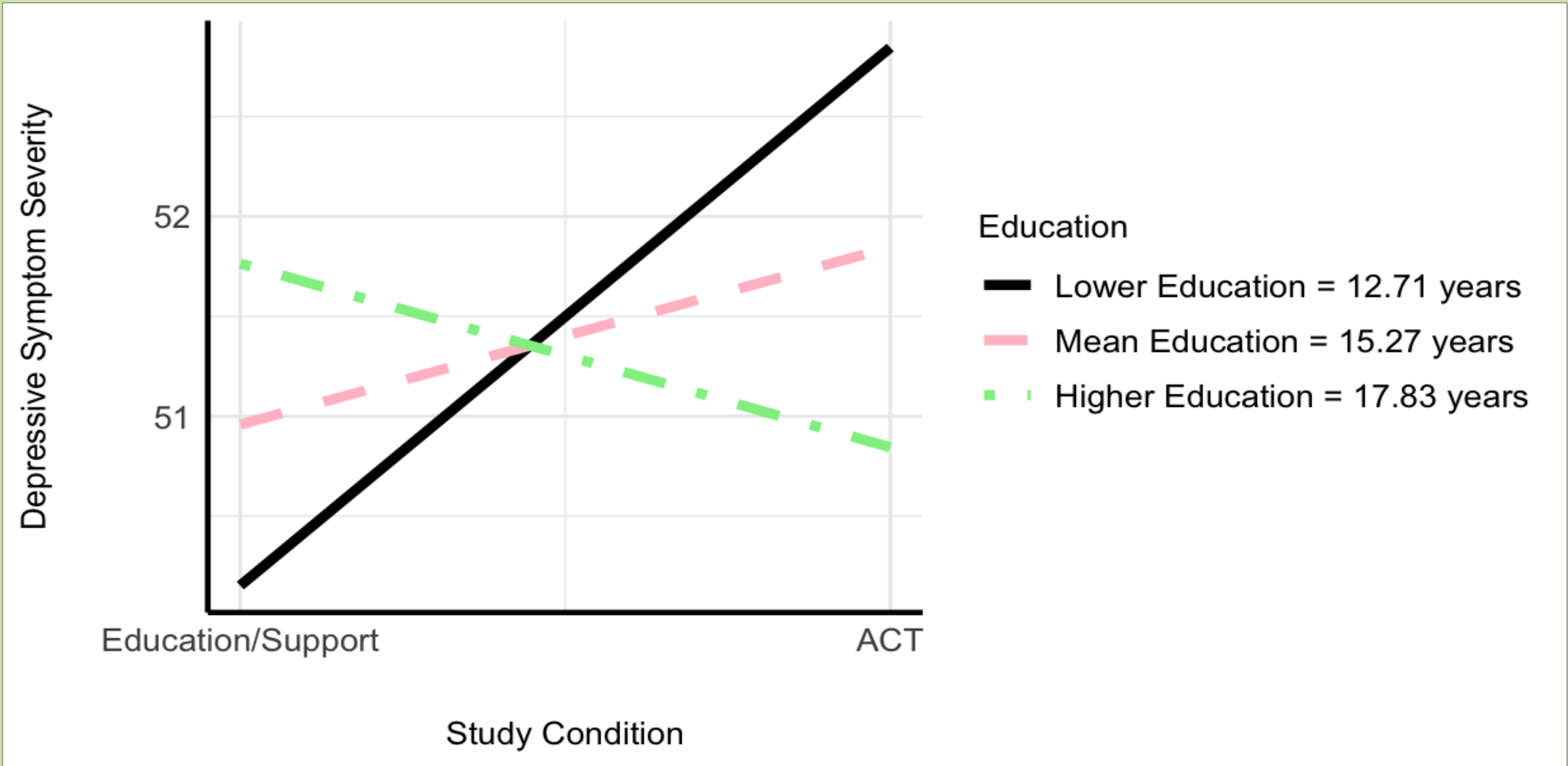
Measures

- Fatigue Symptom Inventory:** 7-item Fatigue Interference subscale; "Rate how much, in the past week, fatigue interfered with your enjoyment of life."
- PROMIS Depression:** 6 items; "In the past seven days, I felt unhappy."
- PROMIS Cognitive Functioning:** 6 items; "In the past seven days, my thinking has been slow."
- Education:** Total # of years of schooling completed at baseline.

Statistical Analysis

- Multilevel models were used to examine moderator effects. A pick-a-point analysis was performed to probe significant interactions.

ACT was less effective in reducing depressive symptoms among participants with lower levels of education.



Simple Slopes Results:

- Lower education (-1 SD): $b = 2.69$, $p = 0.04$
- Mean education: $b = 0.89$, $p = 0.31$
- Higher education ($+1$ SD): $b = -0.92$, $p = 0.42$

RESULTS

- Groups did not significantly differ on baseline outcome measures.
- Cognitive functioning did not moderate ACT's effects on outcomes.
- Education moderated ACT's effect on depressive symptoms ($b = -0.71$, $p = .04$), but not fatigue interference ($p = .19$).
- For patients with lower education, higher depressive symptoms were reported in the ACT condition compared to education/support.
- This effect was not significant at average or higher education levels.

DISCUSSION

- Findings suggest that ACT may be less effective at reducing depressive symptoms for individuals with lower education levels. However, the difference was small and may not be clinically meaningful.
- Adaptations such as simplified language, visual aids, and added psychoeducation could improve ACT's accessibility and effectiveness.

References

Contact



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