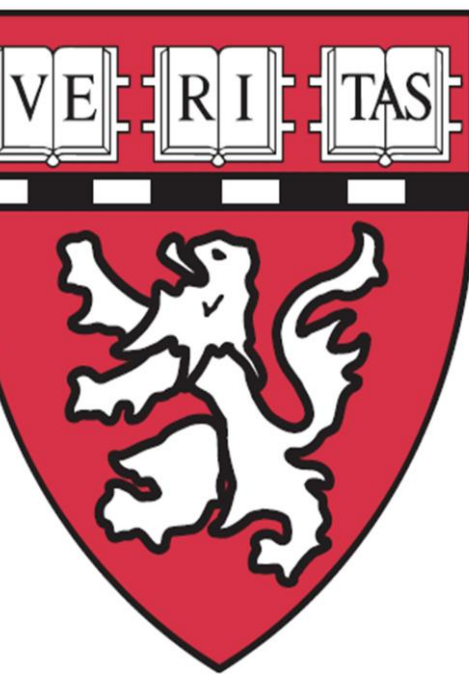




# Variability in delay discounting is related to anhedonia in individuals exposed to multiple adverse childhood experiences



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## INTRODUCTION

Adverse childhood experiences (ACEs) contribute to negative physical and psychological outcomes,<sup>1</sup> though there is likely significant heterogeneity in individuals' responses to ACE exposures.

Delay discounting (DD) is a potential transdiagnostic marker of disinhibitory and reward-related psychopathology.

Although accelerated DD in association with ACE exposure has been shown<sup>2</sup>, clinical correlates of individual differences in DD in the context of high ACEs are unknown.

## METHOD

### Participants

N=28 [Mean Age=34.08; males=8] – Trauma exposed individuals exposed to 4 or more ACEs, of which 12 met for DSM-5 PTSD. Analyses controlled for age and gender.

### Delay Discounting

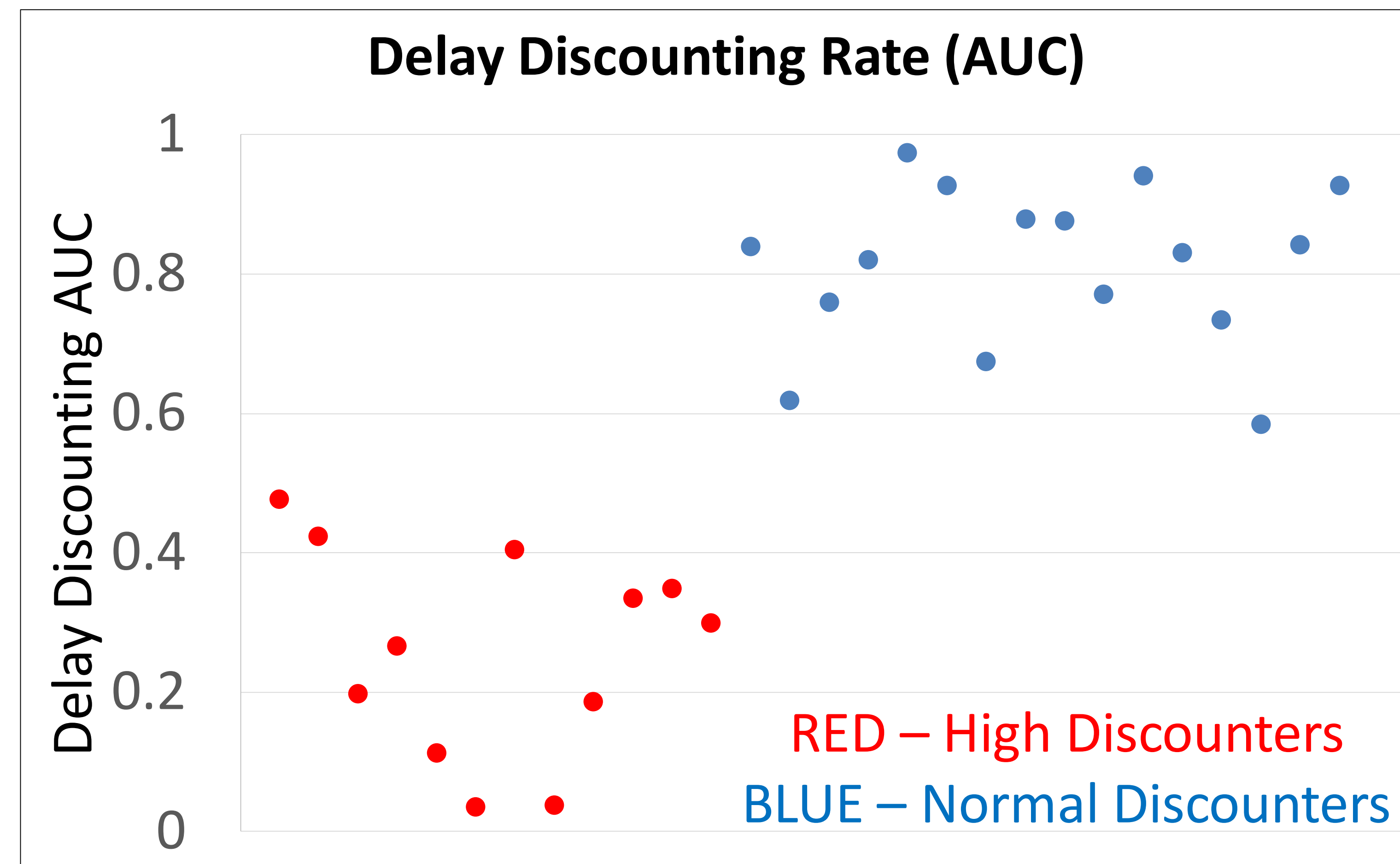
DD norms were created using a sample of non-trauma-exposed healthy controls (n=18) who reported no exposure to ACEs and who had usable DD data on a computerized paradigm. We defined normal-range DD as being no more than 0.5 SD accelerated versus this normative control group. Area Under Curve (AUC) refers to the point at which individuals are indifferent between the larger, later and the smaller, sooner reward.

### Measures

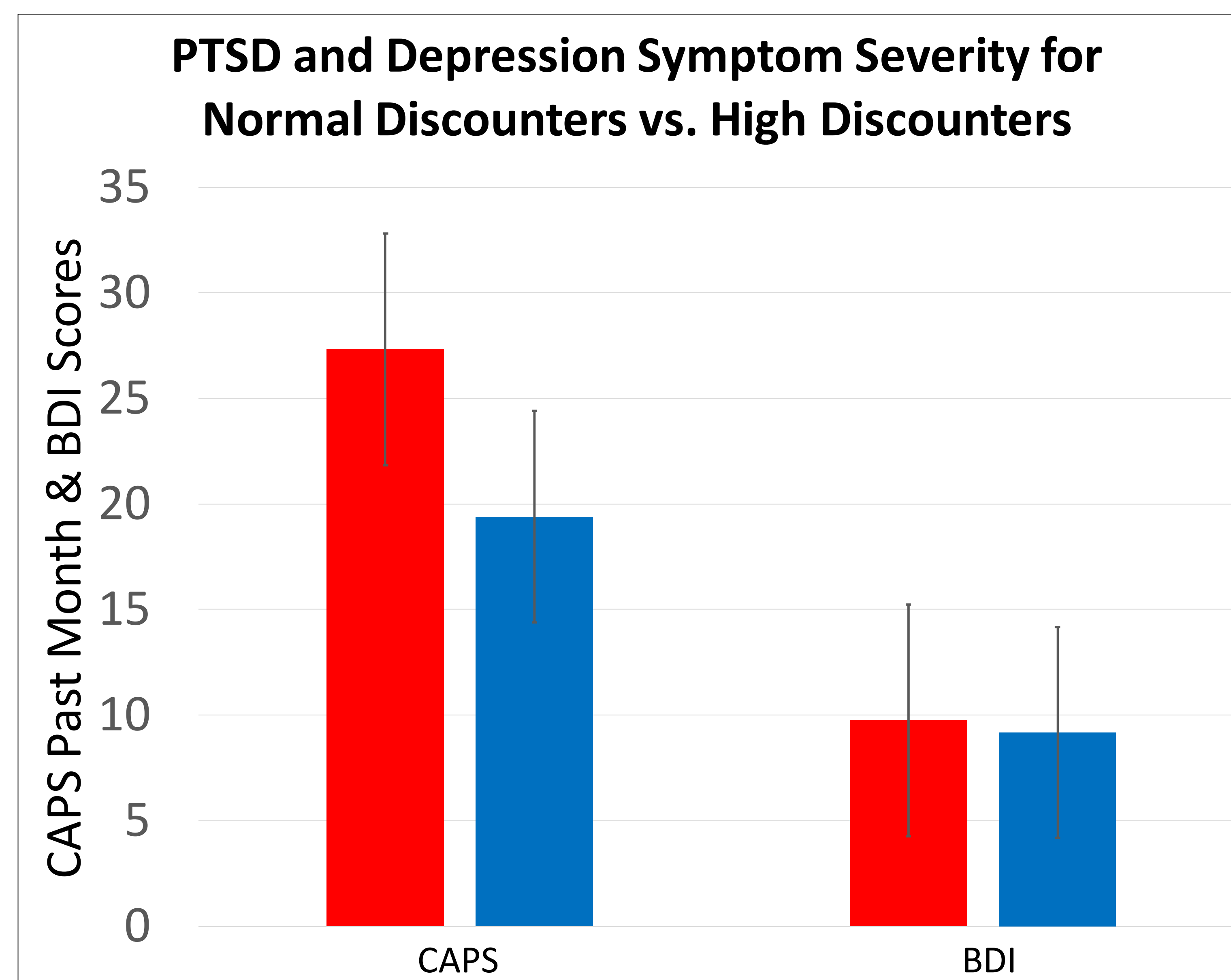
(1) Clinical Administered PTSD Scale – 5 (CAPS), (2) Snaitn Hamilton Pleasure Scale (SHAPS), (3) Beck Depression Inventory-II (BDI), (4) Delay Discounting Task, (5) Adverse Childhood Experiences Scale.

## RESULTS

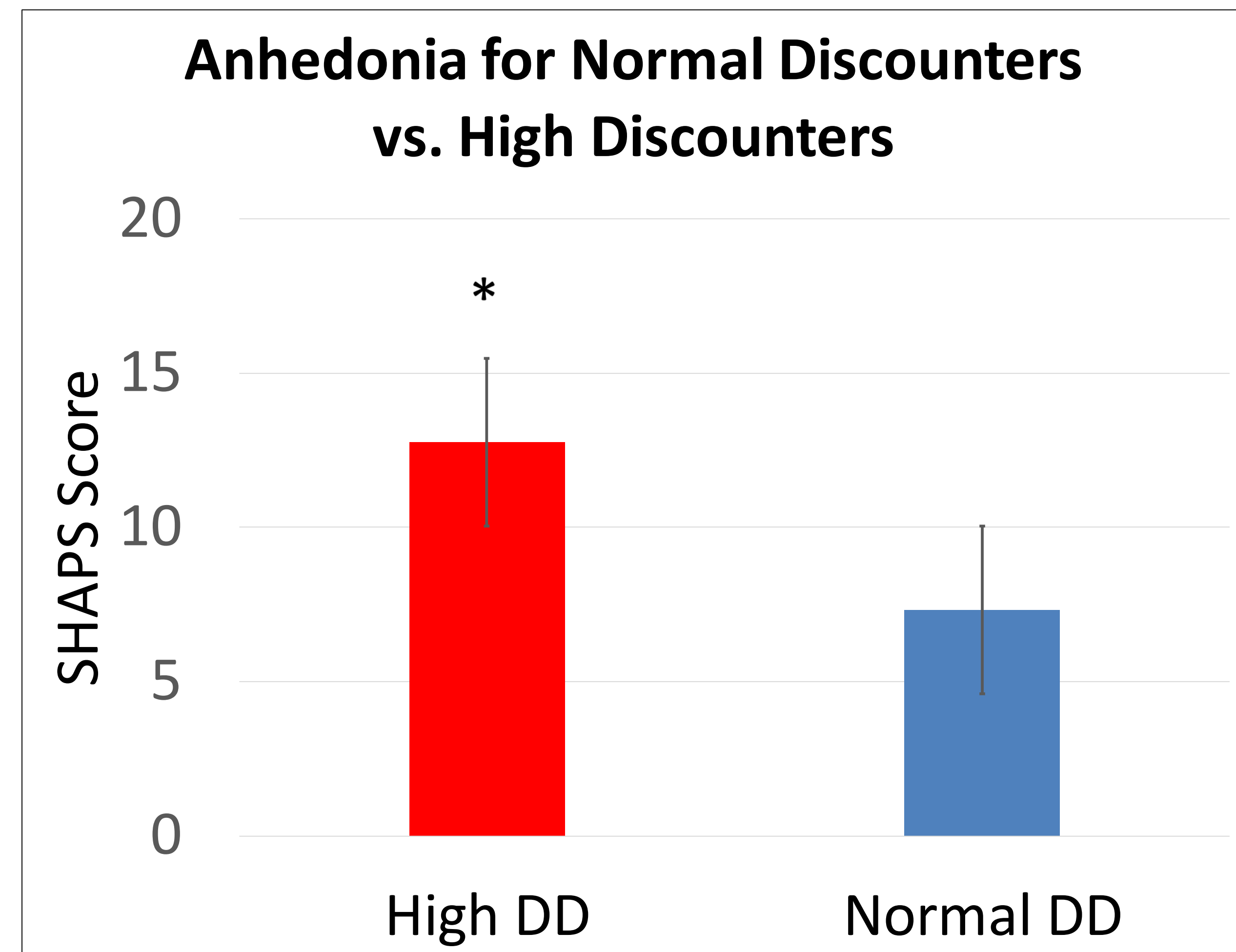
Among individuals exposed to 4+ ACEs (n = 28), 16 participants showed normal-range DD (within 0.5 SD of the HC mean), and 12 had accelerated DD.



There were no significant differences between high-ACE/normal DD and high-ACE/accelerated DD groups in overall PTSD or depressive symptom severity.



Despite equivalent overall PTSD and depression symptom severity levels, the groups significantly differed in anhedonia (Snaitn-Hamilton Pleasure Scale),  $F(1,23) = 4.33$ ,  $p = .049$ , partial eta squared = .159.



## CONCLUSION

While prior research demonstrates that high ACE exposure is associated with accelerated DD, our data suggest the presence of significant heterogeneity in DD, even in individuals exposed to four or more ACEs.

These results suggest that DD could be used as a behavioral marker specifically sensitive to reward processing deficits within highly ACE-exposed samples.

## REFERENCES

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- Oshri, A., Kogan, S., Liu, S., Sweet, L., & Mackillop, J. (2017). Pathways linking adverse childhood experiences to cigarette smoking among young black men: A prospective analysis of the role of sleep problems and delayed reward discounting. *Annals of Behavioral Medicine*, 51(6), 890-898.

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