# Intentional Self-Regulation and Cadet Rank Ascension across the West Point Experience

## Andrew G. Farina, LTC, US Army
### Tufts University

## Abstract

The capacity to select appropriate goals, optimize resources to achieve those goals, and compensate when goals are no longer feasible, or simply, Intentional Self-Regulation (ISR), is a key construct moderating positive outcomes among adolescents and adults within multiple contexts, for example, schools, community organizations, and work settings. Positive outcomes of ISR in these settings involve, academic achievement, leadership in civic activities, and career success, respectively. The present study examines a setting wherein such a construct may be critical for such successes, the United States Military Academy (USMA), where academic achievement, leadership, and launching careers of honor and service are goals of cadets. Using data from Project Arete, a mixed-methods longitudinal study of character development and leadership among USMA cadets, the relations between ISR and cadet rank ascension was assessed. Data from the USMA graduating class of 2018 (N = 1009) were analyzed to assess if ISR scores predicted a cadet's ascension in rank. Cadets were administered a version of the Selection, Optimization, Compensation measure of ISR within the first week of reporting to USMA for entry into the first-year of training. Selection refers to goal choice and management; optimizations refers to the means used to pursue goals effectively (e.g., strategic thinking, executive functioning); compensation refers to behaviors used when goals are blocked or when the means used to attain a goal fail (e.g., selecting a new goal in the face of loss, or using different means to reach a goal are instances of compensation). In turn, rank ascension was determined from the change in class rank on cadets' admissions scores, accounting for academic, physical, and community leader attributes, and the final class rank based on the cumulative (academic, military, and physical) grade point average. Preliminary findings suggest that ISR was a significant predictor of cadet rank ascension between initial entry and graduation from USMA. To refine understanding of how the three components of ISR (Selection, Optimization, and Compensation) may have contributed to this overall relation, additional data analyses will be conducted to explore patterns of covariation within and across time among the ISR components, components of the admissions scores, and final graduation rank. Results will be discussed in regard to implications for USMA admissions, character and leadership training, and intervention strategies aimed at enhancing cadet development.

## Background

- ISR is predictive of positive outcomes in children (Gestsdóttir & Lerner, 2007), adolescence (von Eye, Martel, Lerner, Lerner, & Bowers, 2011), and adult populations (Freund & Baltes, 2002).
- Self-regulatory behaviors are an important component of effective leadership (Latham & Locke, 1991).
- Existing research has not sufficiently explored the role and development of ISR among young adult (college age) populations.
- The United States Military Academy (USMA) provides a unique context to explore ISR in the young adult, developmental timeframe.

## Current Study

- A collaborative research study is ongoing between Tufts University and USMA to identify specific developmental attributes that lead to cadets' character development (Callina et al., 2017).
- During the admissions process, Cadet candidates earn a composite 'whole candidate score' (WCS). The WCS is calculated using various markers of high school success, such as college entrance examination scores, high school class ranks, and an extracurricular activities scores (Hanser & Oguz, 2015).
- The present study uses a measure of the comparison between where a cadet starts relative to their peers (WCS) and where a cadet finishes relative to their peers, or Cumulative Performance Score (CPS), termed Cadet Rank Ascension as a positive performance outcome to capture the different cadet trajectories.
- Cadets may overachieve compared to their peers, others may underachieve compared to their peers (or downward trend), and others may show no change compared to their peers and maintain a status quo.

## Hypothesis

- Higher reported ISR assessed at the start of a cadet's freshman year will be positively associated with cadet rank ascension.

## Method

### Procedure.

- Data were derived from two sources, (1) pen and paper character surveys and (2) administrative data, including demographic and performance information. West Point Cadets from the graduating class of 2018 (N = 1009) were recruited the second day of their first year (July 2014).

### Measures.

- Intentional Self-Regulation (ISR). Selection, Optimization, with Compensation (SOC; Baltes & Baltes, 1990); 11-item survey with five response options; sample item: "I make every effort to achieve a given goal."
- Cadet Rank Ascension. Class rank upon graduation from USMA (1:1031) minus the starting rank as determined by the Whole Candidate Score (WCS) (1:1190)
- Demographic variables of interest: gender (808 male, 201 female); ethnicity (see Table 1); preparatory school attendance (161 participants); recruited athlete (199 participants).

### Analysis.

- An ANOVA was used to determine if demographic variables contributed to differences in cadet rank ascension and differences in ISR. A linear regression analysis was used to determine if gender and ISR could be used to predict cadet rank ascension. Finally, an ANOVA was used to determine if differences in ISR existed between quintiles of cadet rank ascension.

## Results

Table 1

*Demographics of the West Point class of 2018, N = 1009*

| Variable | n | Percentage |
|---|---|---|
| **Gender** | | |
| Female | 201 | 19.9% |
| Male | 808 | 80.1% |
| **Race / Ethnicity** | | |
| Caucasian | 692 | 68.6% |
| Black | 118 | 11.7% |
| Hispanic | 84 | 8.3% |
| Asian | 84 | 8.3% |
| American Indian | 16 | 1.6% |
| Other | 15 | 1.5% |
| **USMAPS Graduate** | | |
| Yes | 161 | 15.9% |
| No | 848 | 84.0% |
| **Recruited Athlete** | | |
| Yes | 199 | 19.7% |
| No | 810 | 80.3% |

Table 2

*Demographic differences between Cadet Rank Ascension and Intentional Self-Regulation*

| Demographics | Cadet Rank Ascension Mean ± SD | p | Intentional Self Regulation Mean ± SD | p |
|---|---|---|---|---|
| **Ethnicity** | $F(5,1003) = 3.7$ | .003 | $F(5,898) = 0.97$ | .435 |
| Caucasian | 0.35 ± 270.7 | | 4.11 ± 0.45 | |
| Black | 60.92 ± 216.0* | | 4.17 ± 0.48 | |
| Hispanic | 23.96 ± 235.6 | | 4.22 ± 0.44 | |
| Asian | -96.63 ± 348.6** | | 4.13 ± 0.54 | |
| American Indian | -63.75 ± 224.9 | | 4.21 ± 0.27 | |
| Other | -20.43 ± 290.3 | | 4.11 ± 0.46 | |
| **Gender** | $F(1,1007) = 11.0$ | <.001 | $F(1,902) = 5.10$ | .024 |
| Male | -14.03 ± 273.9 | | 4.11 ± 0.46 | |
| Female | 56.40 ± 252.2 | | 4.20 ± 0.47 | |
| **USMAPS Graduate** | $F(1,1007) = 46.3$ | <.001 | $F(1,902) = 0.90$ | .343 |
| Yes | 130.31 ± 193.5 | | 4.17 ± 0.48 | |
| No | -24.74 ± 276.6 | | 4.13 ± 0.46 | |
| **Recruited Athlete** | $F(1,1007) = 53.0$ | <.001 | $F(1,902) = 0.07$ | .795 |
| Yes | 122.27 ± 248.5 | | 4.14 ± 0.49 | |
| No | -30.04 ± 268.1 | | 4.13 ± 0.45 | |

*Note:* For ethnicity, * denotes $p < .05$ compared to Caucasian; ** denotes $p < .01$ compared to Caucasian. USMAPS = United States Military Academy Preparatory School

Table 3

*Cadet Rank Ascension predicted by Intentional Self-Regulation*

| | | Model Fit | | Coefficients | |
|---|---|---|---|---|---|
| | df | F | p | β | t |
| **ISR Model** | 2, 901 | 8.44 | <.001 | | |
| ISR | | | | 52.04* | 2.45 |
| Gender (Male) | | | | -73.74** | -3.10 |
| **Selection Model** | 2, 894 | 14.25 | <.001 | | |
| Selection | | | | 71.42*** | 4.11 |
| Gender (Male) | | | | -75.46** | -3.18 |
| **Optimization Model** | 2, 894 | 6.49 | .002 | | |
| Optimization | | | | 25.97 | 1.39 |
| Gender (Male) | | | | -77.12** | -3.23 |
| **Compensation Model** | 2, 896 | 5.51 | .004 | | |
| Compensation | | | | -5.55 | -0.30 |
| Gender (Male) | | | | -79.22*** | -3.32 |

*Note:* For coefficients, * denotes $p < .05$; ** denotes $p < .01$; *** denotes $p < .001$.

Figure 1. Cadet Rank Ascension predicted by Intentional Self-Regulation
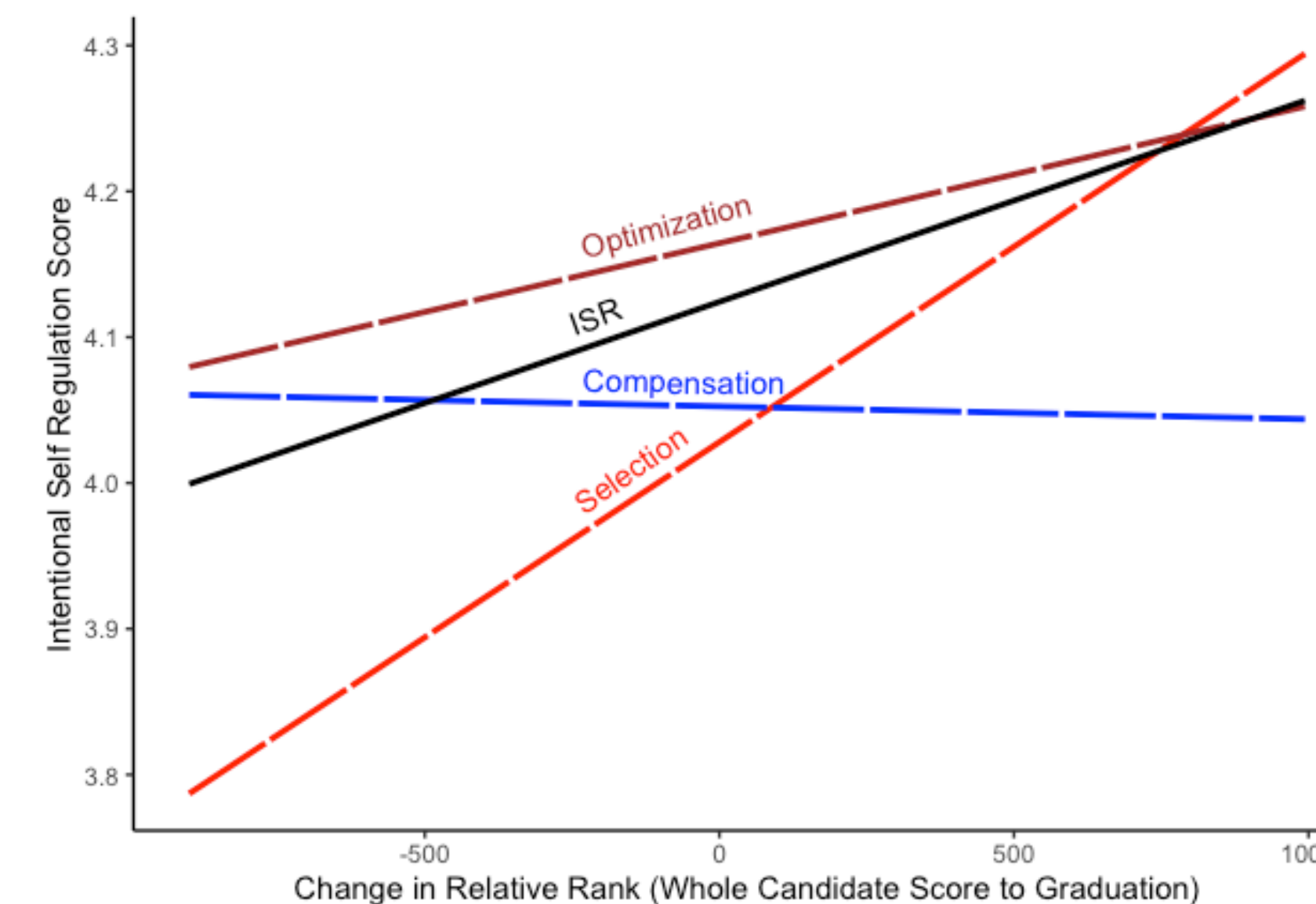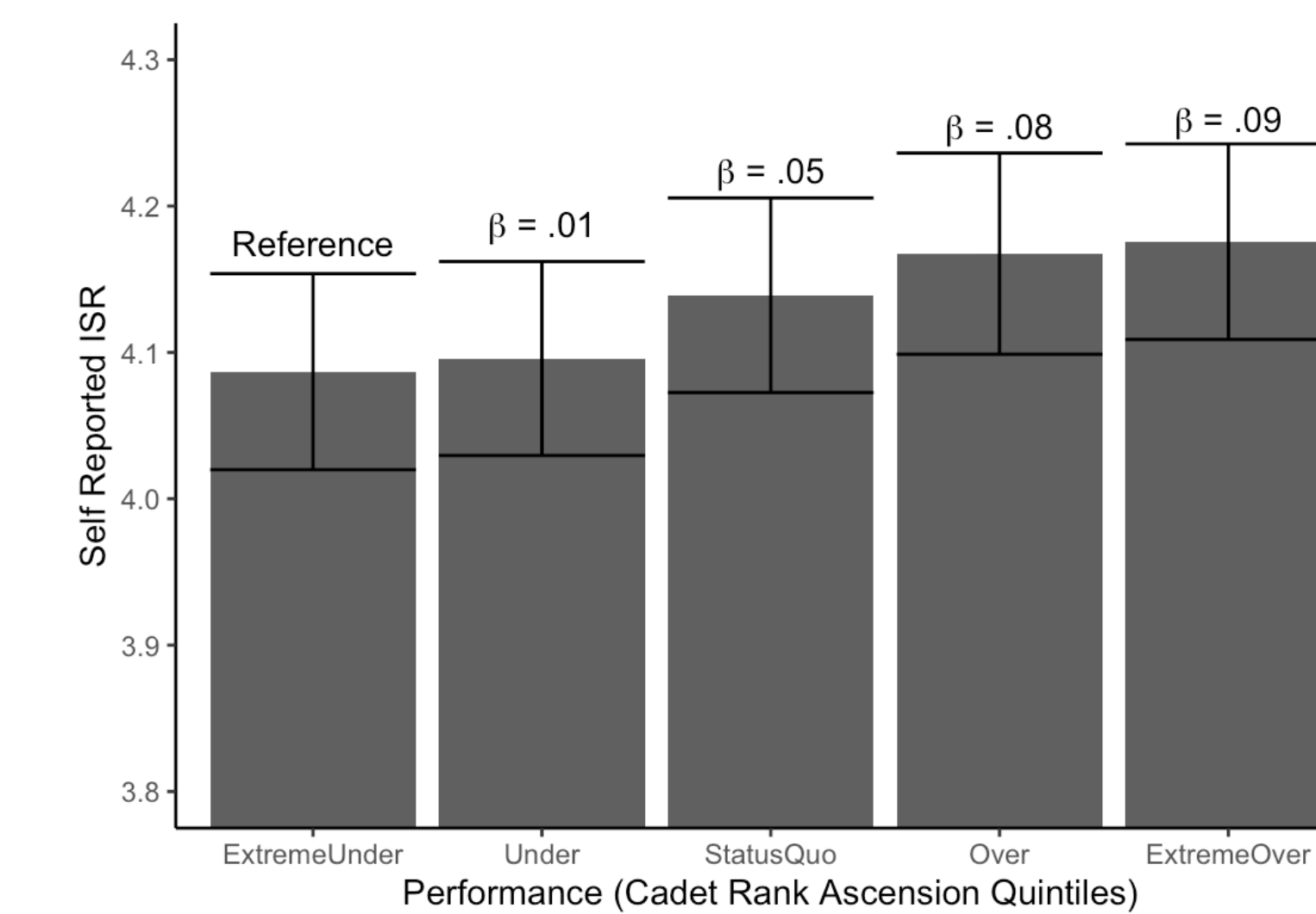


Figure 2. ISR by Cadet Rank Ascension Quintiles



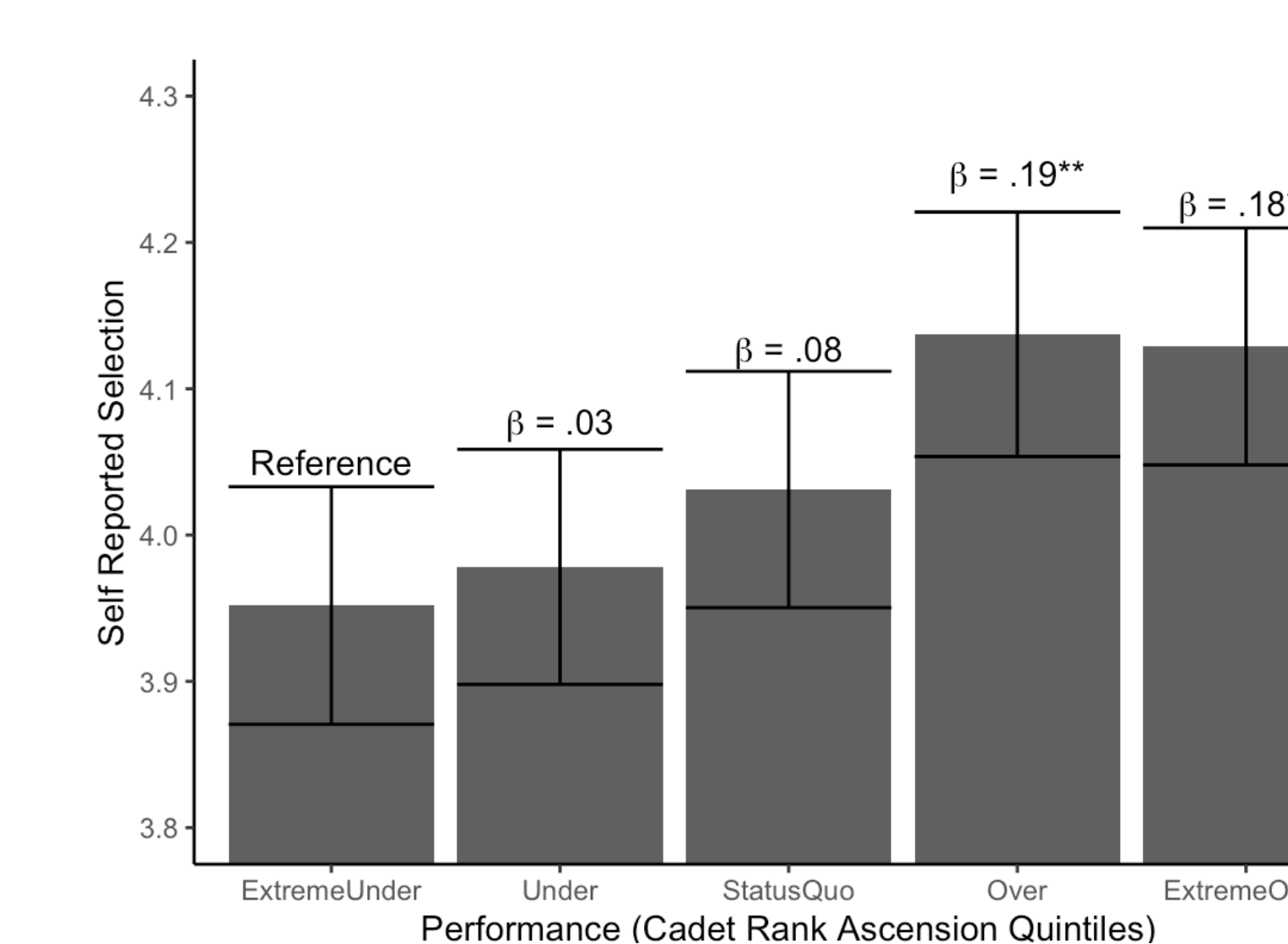Figure 3. Selection by Cadet Rank Ascension Quintiles



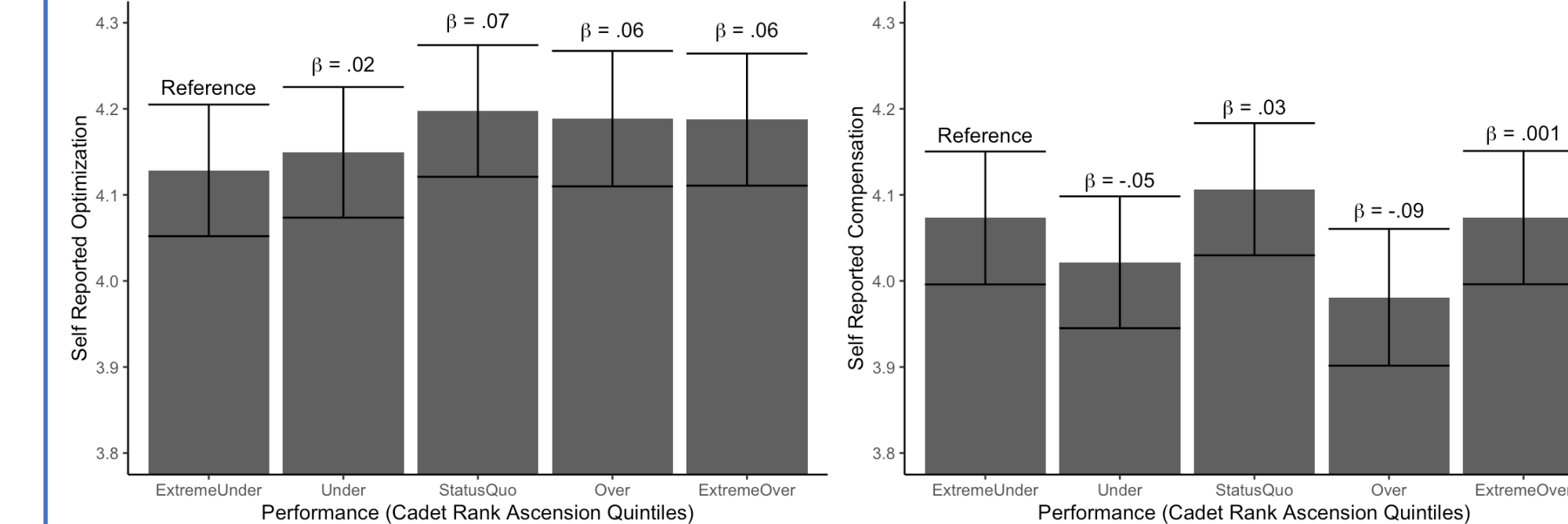Figure 4. Optimization by Cadet Rank Ascension Quintiles

Figure 5. Compensation by Cadet Rank Ascension Quintiles



## Discussion and Limitations

### Discussion

- ISR predicted cadet rank ascension between freshman year and senior year at West Point.
- Selection subcomponent of SOC is predictive of cadet rank ascension.
- The study provides an initial understanding of ISR within a previously understudied developmental range and a unique context.
- Within this context, selection (establishing and committing to appropriate goals) is more predictive of performance than optimization (applying goal related means) or compensation (finding alternative means to achieve goals).

### Limitations

- There is a potential to have low generalizability due to the rigorous screening process of cadets during the admissions process.
- Limited variation in SOC measure among cadets.
- Bias in using a self-report measure with the potential for socially desirable reporting.

## Future Research and Conclusions

### Future Research

- Focus on creating a measure showing greater variability that is sensitive to the West Point population.
- The effect of ethnicity and gender should be analyzed to determine measurement validity across demographic categories.
- Triangulate ISR through self-report measures, 'other-report' measures, and observational/ behavioral measures in order to limit self-report measurement biases.

### Conclusions

- Upon graduation, Cadets will become leaders within the U.S. Army. The formidable experience at West Point, which shapes the type of leaders these young men and women will be, must be carefully designed to optimize each Cadet's potential development.
- The present research attempts to better understand the importance of intentional self-regulatory behaviors and how these behaviors will contribute to positive outcomes. Although the SOC measure predicted only 2% of the variance, as reported by the $R^2$ value, within cadet rank ascension, the data do provide an initial understanding that can inform future research.

## References

Baltes, P. B., & Baltes, M. M. (1990). *Successful Aging: Perspectives from the Behavioral Sciences.* Cambridge University Press.

Callina, K. S., Ryan, D., Murray, E. D., Colby, A., Damon, W., Matthews, M., & Lerner, R. M. (2017). Developing Leaders of Character at the United States Military Academy: A Relational Developmental Systems Analysis. *Journal of College and Character, 18*(1), 9-27. doi: 10.1080/2194587X.2016.1260475

Freund, A. M., & Baltes, P. B. (2002). Life-management strategies of selection, optimization and compensation: Measurement by self-report and construct validity. *Journal of Personality and Social Psychology, 82*(4), 642–662. doi: http://dx.doi.org/10.1037/0022-3514.82.4.642

Gestsdóttir, S., & Lerner, R. M. (2007). Intentional self-regulation and positive youth development in early adolescence: Findings from the 4-h study of positive youth development. *Developmental Psychology, 43*(2), 508–521. doi: 10.1037/0012-1649.43.2.508

Hanser, L. M., & Oguz, M. (2015). United States Service Academy Admissions [Product Page]. Retrieved December 10, 2018, from https://www.rand.org/pubs/research_reports/RR723.html

Latham, G. P., & Locke, E. A. (1991). Self-regulation through goal setting. *Organizational Behavior and Human Decision Processes, 50*(2), 212–247. doi: 10.1016/0749-5978(91)90021-K

Moghimi, D., Zacher, H., Scheibe, S., & Yperen, N. W. V. (2017). The selection, optimization, and compensation model in the work context: A systematic review and meta-analysis of two decades of research. *Journal of Organizational Behavior, 38*(2), 247–275. doi: 10.1002/job.2108

Napolitano, C. M., Bowers, E. P., Gestsdóttir, S., & Chase, P. A. (2011). Chapter 2 - The development of intentional self-regulation in adolescence: Describing, explaining, and optimizing its link to positive youth development. In R. M. Lerner, J. V. Lerner, & J. B. Benson (Eds.), *Advances in Child Development and Behavior* (pp. 19–38). doi: 10.1016/B978-0-12-386492-5.00002-6

Von Eye, A., Martel, M. M., Lerner, R. M., Lerner, J. V., & Bowers, E. P. (2011). Integrating theory and method in the study of positive youth development: The sample case of gender-specificity and longitudinal stability of the dimensions of intention self-regulation (selection, optimization, and compensation). *Advances in Child Development and Behavior, 41*, 349–375.

## Acknowledgements

Author Contact: Andrew.Farina@tufts.edu

### Project Team

| | |
|---|---|
| Dr. Richard Lerner (PI) | Dr. Gerald Kobylski (PI) |
| Dr. Diane Ryan | Dr. Michael Matthews |
| Dr. Hillary Schaefer | Elise Murray |
| Chaveso Cook, MAJ | Jeremiah Powers, CPT |

**Institute for Applied Research in Youth Development**