

Interests and Self Efficacy: Distinct Constructs?

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- Interactions between interests (I) and self-efficacy (SE) are used to predict domain relevant career paths.

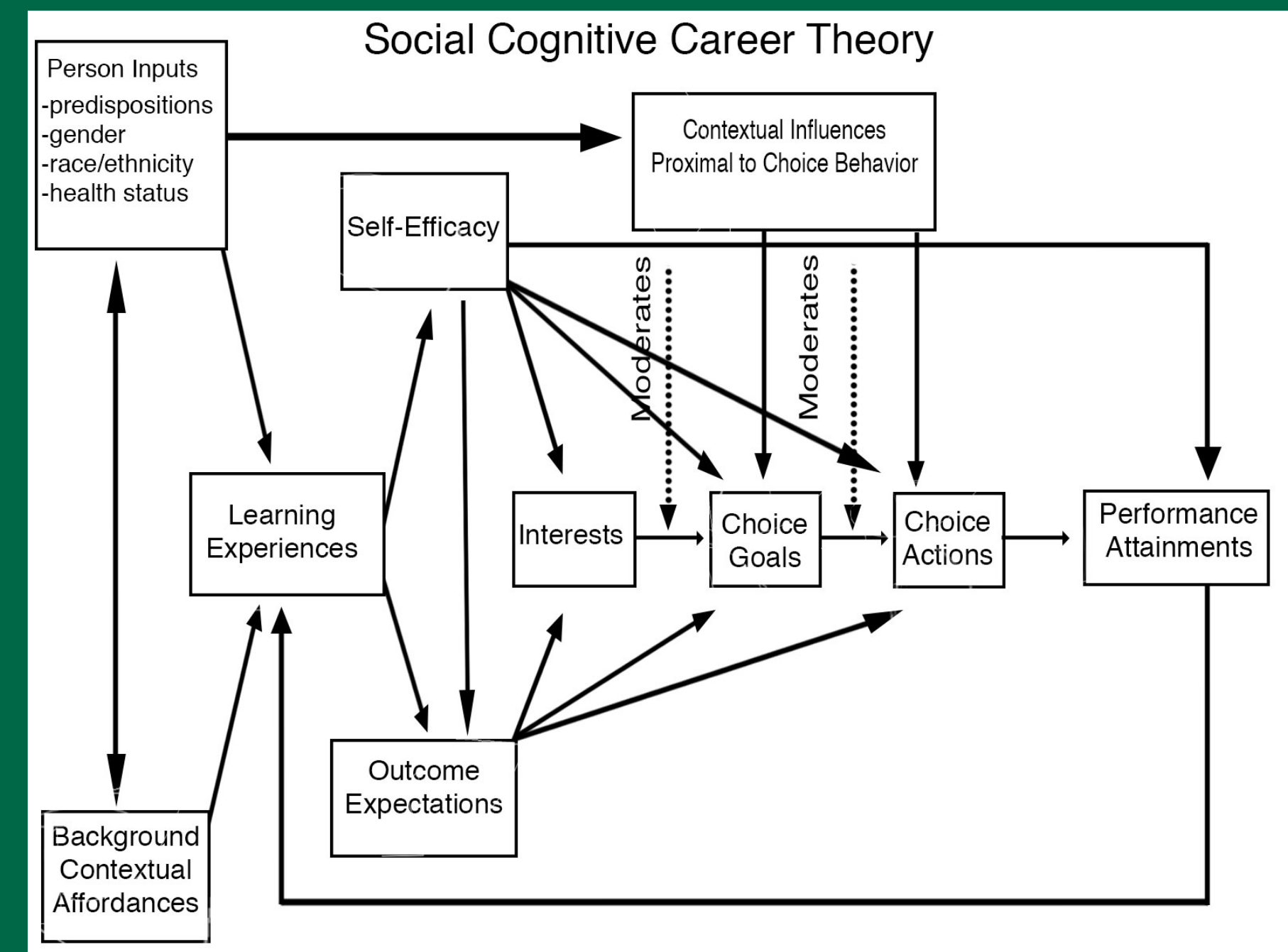
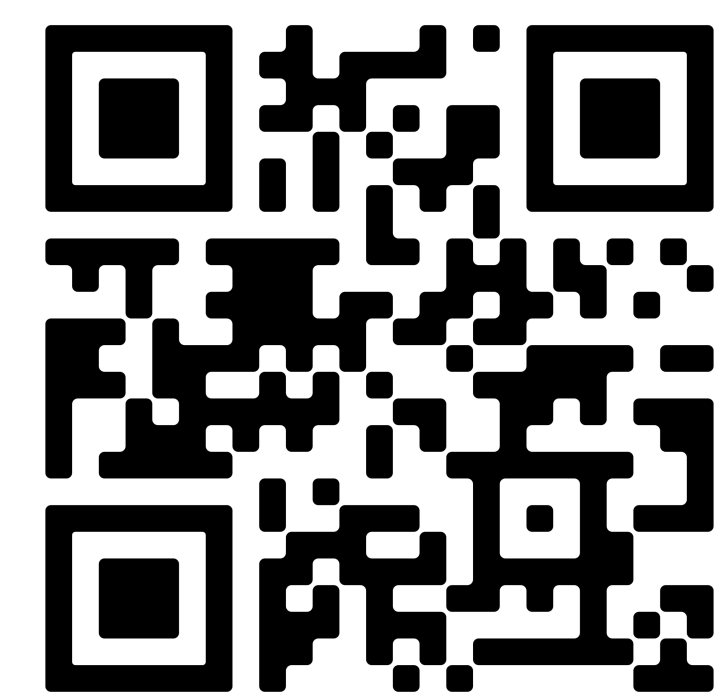


Figure 1: Social Cognitive Career Theory model adopted from Lent et al., 1994

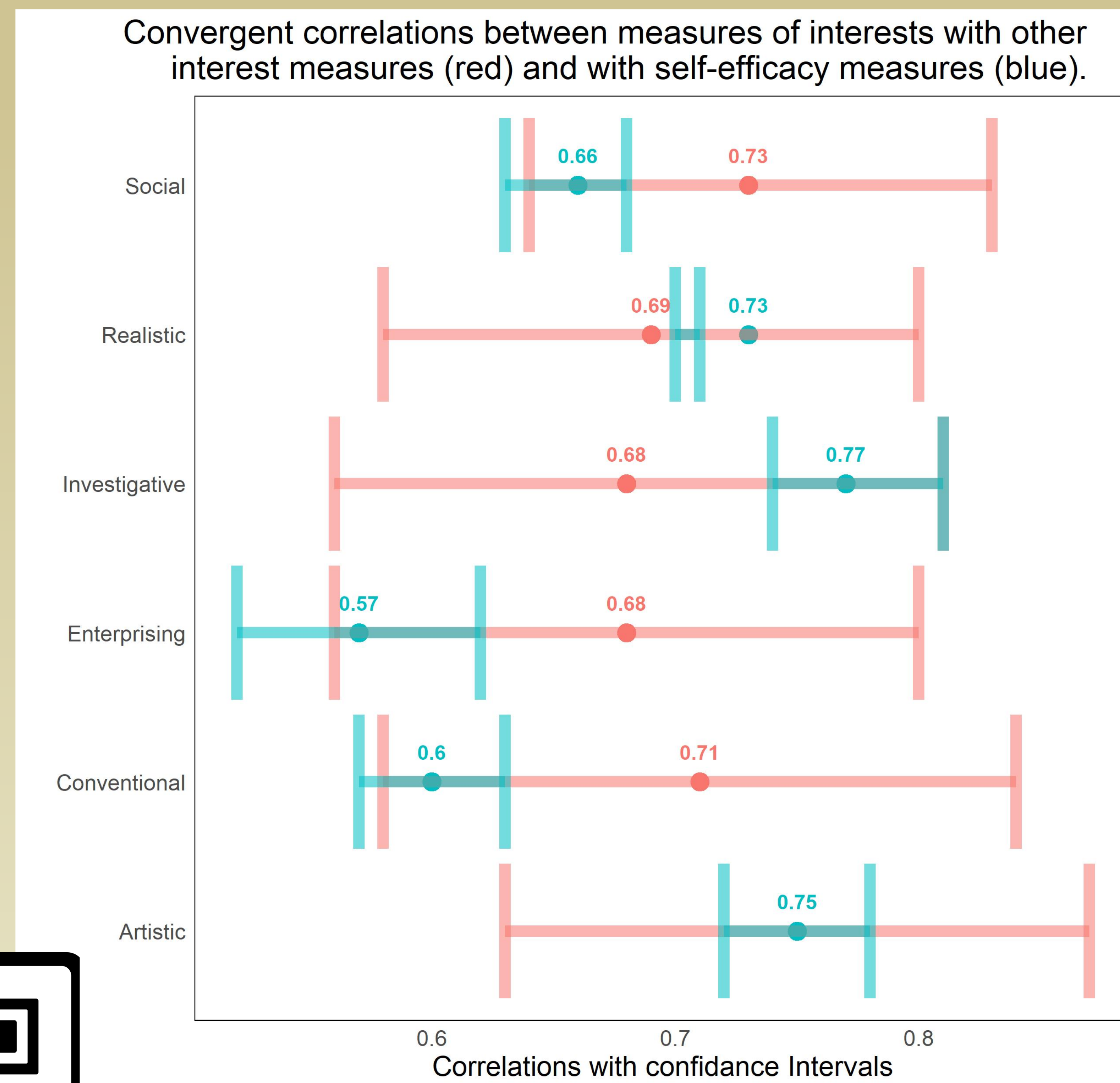
- SE is a precursor to I development, implying the two constructs are ‘related but distinct’. (Lent et al., 1994)
- Previous meta-analytic results have found strong mean correlations between the two. (Rottinghaus et al., 2003)
- Existing heterogeneity is attributed to tangible differences between the constructs.
 - But is it more likely that this is due to method effects?

Objectives

- Illuminate potential measurement artifacts between I and SE measures by:
 - Determining convergence between I and SE measures.
 - Analyzing the structure of cross method correlations.
 - Using multi-trait multi-method (MMTM) factor analysis for each construct



Interests and self-efficacy largely capture the same underlying attitudes toward work tasks.



- An exhaustive literature search resulted in 292 studies with unique samples made up of 834,087 people.
- Correlations were calculated using the R package psychmeta.
- The MMTM analysis: a correlated-traits, correlated-uniqueness (CTCU) model was fit to a synthetic meta-analytic correlation matrix constructed to reflect meta-analytic mean observed (not corrected for unreliability) correlations among:
 - Typical RIASEC interest scales
 - Typical RIASEC self-efficacy scales
 - RIASEC interest scales drawn from a different inventories
- To account for method variance the uniqueness's for the six scales from the same method to co-vary.
- Confidence intervals, were found through the harmonic mean sample size across included correlations.

Results

| Construct | Parameter | Loading | 95% CI |
|-----------|-----------------------|----------------|--------------|
| R | Interest | .894 | [.869, .919] |
| | Self-efficacy | .714 | [.685, .742] |
| | Interest (diff. inv.) | .742 | [.717, .768] |
| I | Interest | .948 | [.853, .975] |
| | Self-efficacy | .745 | [.718, .773] |
| | Interest (diff. inv.) | .644 | [.616, .672] |
| A | Interest | .838 | [.812, .864] |
| | Self-efficacy | .732 | [.704, .759] |
| | Interest (diff. inv.) | .787 | [.761, .814] |
| S | Interest | .965 | [.869, .994] |
| | Self-efficacy | .708 | [.681, .736] |
| | Interest (diff. inv.) | .681 | [.653, .710] |
| E | Interest | .751 | [.721, .781] |
| | Self-efficacy | .667 | [.639, .697] |
| | Interest (diff. inv.) | .734 | [.707, .762] |
| C | Interest | .809 | [.781, .836] |
| | Self-efficacy | .715 | [.687, .744] |
| | Interest (diff. inv.) | .730 | [.706, .754] |
| Mean (SD) | Interest | .868 (.083) | |
| | Self-efficacy | .711 (.027) | |
| | Interest (diff. inv.) | .720 (.050) | |

Figure 2: Latent variable factor loadings for correlated trait–correlated uniqueness CFA model

- The model showed moderate fit:
 - Comparative fit index = 0.943
 - Root mean square error of approximation = 0.092 [0.089,0.096]
 - Mean absolute residual correlation = 0.042
- Only sources of misfit were modest overestimates of correlations among select self-efficacy scales and between select self-efficacy scales and different-inventory interest scales.

References

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45(1), 79–122. [https://doi.org/10.1016/0039-0690\(94\)90003-8](https://doi.org/10.1016/0039-0690(94)90003-8)

Rottinghaus, P. J., Larson, L. M., & Borgen, F. H. (2003). The relation of self-efficacy and interests: a meta-analysis of 60 samples. *Journal of Vocational Behavior*, 62(2), 221–236. [https://doi.org/10.1016/S0001-8791\(02\)00039-8](https://doi.org/10.1016/S0001-8791(02)00039-8)