Predicting Civic Involvement through Social-Emotional Learning and Leadership Style with Bayesian Inferencing

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INTRODUCTION

- Social and emotional learning (SEL) supports the development of skills related to social awareness, self-awareness, self-management, healthy relationships, and responsible decision-making, all of which are essential to student success within and outside the classroom (Herrenkohl, 2020).
- SEL is increasingly recognized as a major component in academic and overall life success for children (Durlak et al., 2011).
- Similar to SEL, civic involvement (the participation of an individual or group within the community) has been associated with higher academic performance, prosocial behavior, and ambition (Borjian, 2018; Morimoto, 2013).
- Furthermore, a more diverse leadership team has been associated with heightened levels of civic engagement (Gordon & Louis, 2009) while self-management (an aspect of SEL) has been shown to be associated with effective leadership (Wildesen, 2012).
- It has been postulated that there are two distinct forms of leadership styles. Systemic leadership occurs when the leader emphasizes a democratic approach to management while hierarchical leadership involves delegating through a more top-down method (Wielkiewicz et al., 2005).

Present Study

- Both leadership styles and SEL could be associated with one's level of civic involvement (the amount one engages with their community).
- As such, we aimed to investigate SEL's predictive ability of civic involvement when controlling for leadership style.
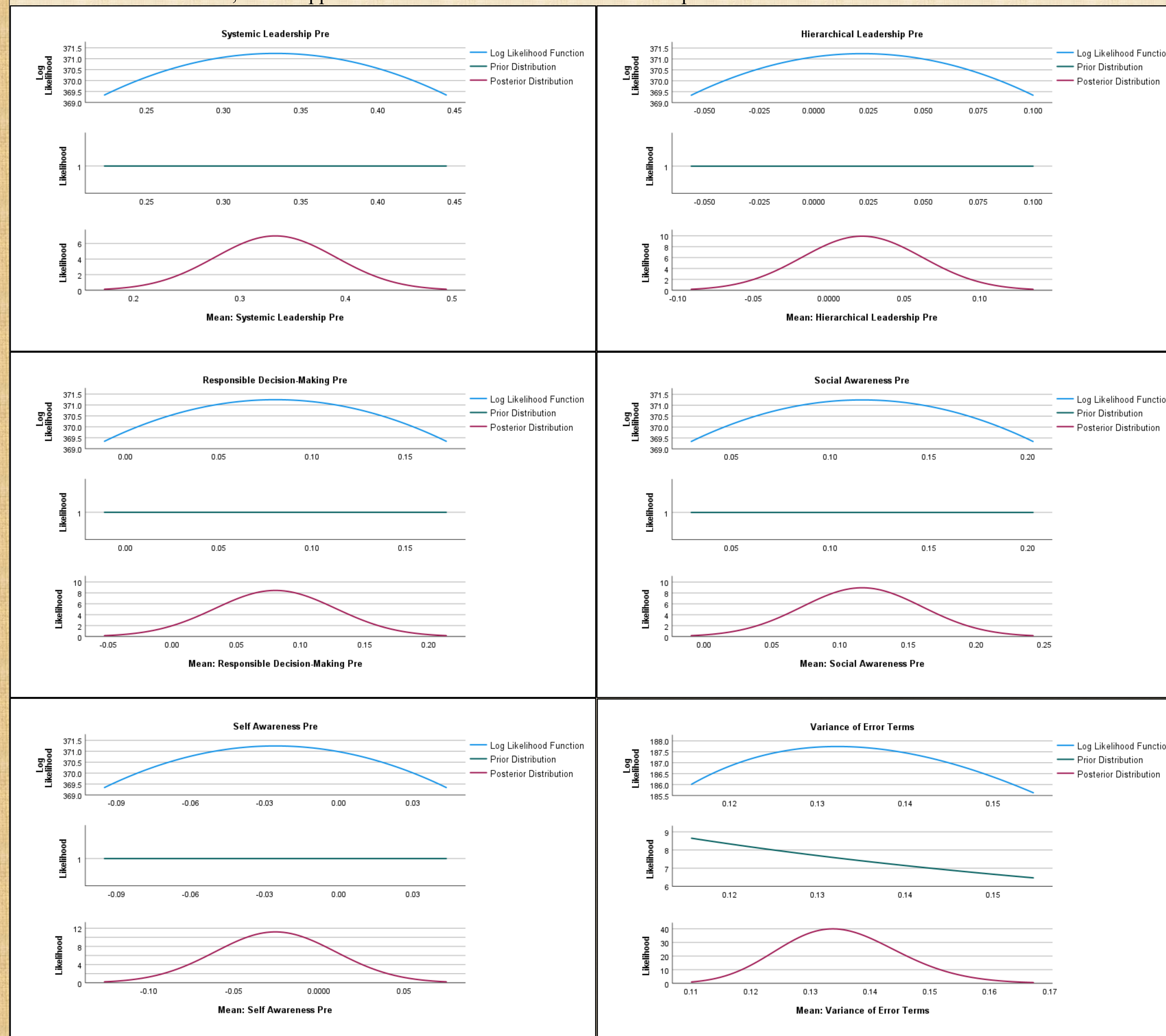
METHOD

- **Participants**
  - Data were collected from 367 participants(M_{age} = 21.69, SD_{age} = 5.85; women = 78.2%; men = 21.3%; Asian American = 38.7%; White American = 27.0%; Latinx = 22.6%; other = 11.7%).
- **Procedures**
  - The sample was collected from a campus-based mentoring program at a public university in Northern California.
  - Upon agreeing to take part in the study, participants completed a series of inventories on a wide range of topics.
- **Materials**
  - Social and Emotional Learning Scale (SEL)
    - Self Awareness (6-Items; α = .830)
    - Social Awareness (5-Items; α = .772)
    - Responsible Decision-Making (5-Items; α = .793)
  - Higher Education Service-learning (HESL; Berkeley, 2000)
    - Civic Involvement (9-Items; α = .802)
  - The Leadership Attitudes and Beliefs Scale (LABS; Wielkiewicz, 2000)
    - Systemic Thinking (14-Items; α = .853)
    - Hierarchical Thinking (14-Items; α = .826)
- **Data Analysis**
  - Demographic and reliability tests were conducted through IBM SPSS versions 26 and 27.
  - SEL, HESL, and LABS subscales were averaged into their respective mean scores.
  - Subscale items were then entered into a two-step multiple regression with Bayesian inferencing. SPSS was used to generate the priors for the regression.

Results

Bayesian Coefficients Predicting Civic Involvement.

	Posterior			95% Credible Interval	
	Mode	Mean	Variance	LB	UB
Step 1	$F(2, 364) = 40.859, p < .001, BF > 1,000, R^2 = .183$, Adjusted $R^2 = .179$.				
(Intercept)	1.258	1.258	.044	.847	1.669
Systemic Leadership	.429	.429	.003	.330	.529
Hierarchical Leadership	.016	.016	.002	-.064	.096
Step 2	$F(5, 361) = 20.136, p < .001, BF > 1,000, R^2 = .467$, Adjusted $R^2 = .207$.				
(Intercept)	.915	.915	.052	.468	1.362
Systemic Leadership	.333	.333	.003	.221	.446
Hierarchical Leadership	.022	.022	.002	-.057	.101
Social Awareness	.116	.116	.002	.029	.204
Self Awareness	-.026	-.026	.001	-.096	.044
Responsible Decision-Making	.080	.080	.002	-.012	.173

Note. LB = Lower Bound; UB = Upper Bound. Both Models assume standards priors.

Results Continued

- **Model 1:**
  - An examination of the 95% credibility interval (CI) indicates that the only significant predictor of civic involvement is systemic leadership.
  - The weighted composite accounts for nearly 18% of the civic involvement variance.
- **Model 2:**
  - An examination of the CI's indicate that systemic leadership and social awareness significantly predict civic involvement.
  - The inclusion of the SEL variables in the model only account for roughly 3% more variance compared to model 1. This indicates that the SEL variables do not substantially contribute to the prediction of civic involvement.

Discussion

- The present study only partially met the expectations of the investigators.
  - To begin with, only one of the two leadership styles significantly predicted civic involvement for both models.
  - Furthermore, when controlling for leadership style, only social awareness significantly contributed to the model. The presence of the SEL scales only contributed a small portion to the explained variance, suggesting other variables may be integral to predicting civic involvement.
- The current results do find support in prior literature.
  - For instance, the link between social awareness and civic involvement has been well documented and even suggested to be from the same construct (Marques, 2014).
  - Moreover, systemic leadership has been found to increase the likelihood of tribal community members to engage in civic duties. It is possible that this link is more generalizable than once believed.

Limitations and Future Directions

- Two major limitations exist within the present study which provide avenues for future research.
  - First, the data collected only provides a snapshot of students at the time of collection. Future studies should utilize longitudinal methods to examine the causal effect of SEL and leadership style on civic involvement.
  - Second, the present data analysis uses uninformative priors due to a lack of published literature to guide the researchers. Future studies should implement prior distributions so they may be examined alongside the posterior distributions.

Conclusion

- The present study analyzes data from nearly 400 college students to examine the predictive ability of leadership style and SEL on civic involvement. Multiple regression analysis with Bayesian inferencing partially confirms the investigators' hypothesis that SEL and leadership style will predict civic involvement; however, more research is needed.

Contact Information