

BACKGROUND

- Early career pediatric hospitalists (ECPH) seek career development support & clearer visions
- A yearlong cohort-based curriculum, Steppingstones, was designed with self-determination theory in mind to improve self-efficacy, professional fulfillment, and connectivity of ECPH
- Steppingstones covered values clarification, career planning, promotions, mentorship, & networking
- The program was launched in 2021 with 9 ECPH

OBJECTIVE

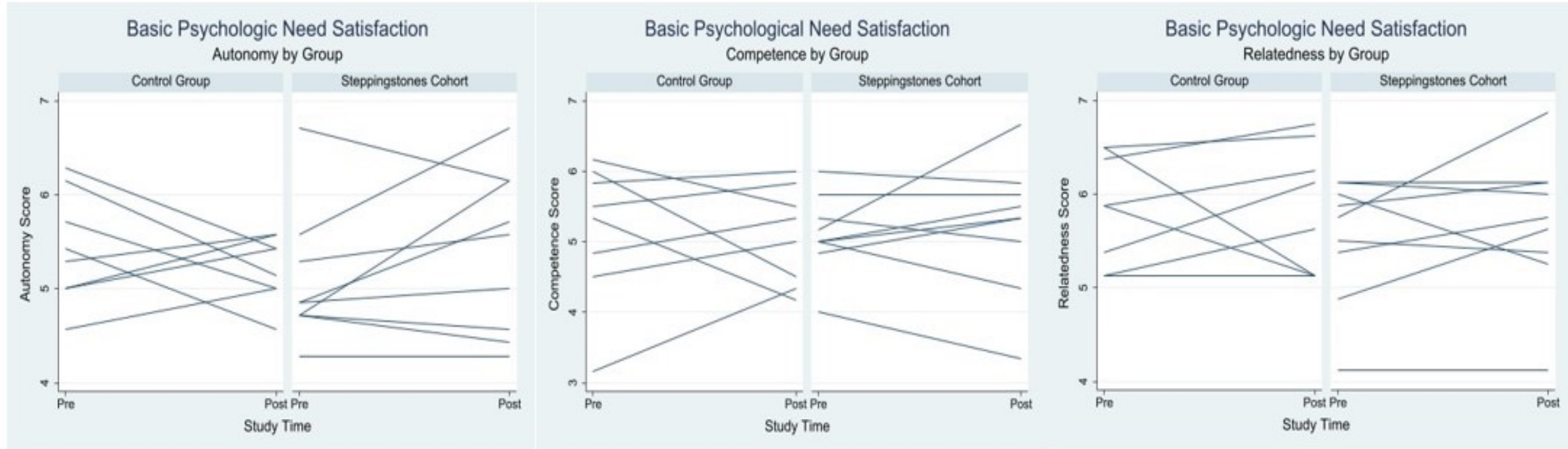
To assess the effect of Steppingstones on professional fulfillment, autonomy, competence, and relatedness of ECPH

METHODS

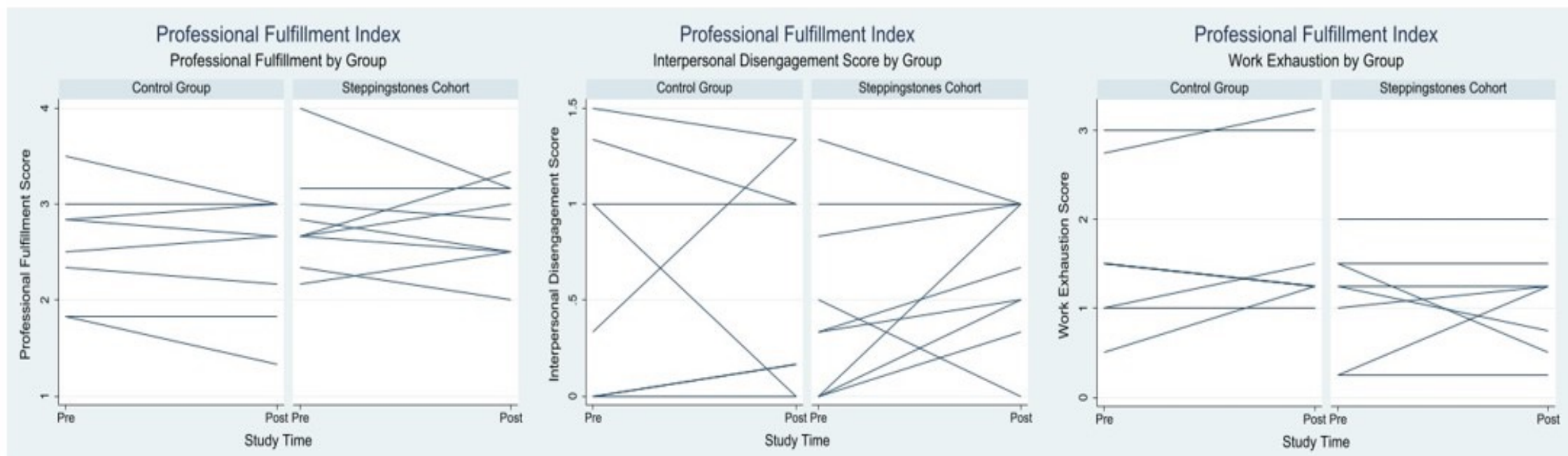
- Case-control study with 9 cohort subjects & 9 controls
- Pre- and post-intervention surveys (Fall 2021 & 2022) assessing demographics, Stanford Professional Fulfillment Index (PFI) & Basic Psychologic Need Satisfaction Work Scale (BPNS)
- Fisher's Exact test used to compare demographics
- t-tests used to compare pre- and post-curriculum for all 6 scales accounting for unequal variances
- Random-effect models to assess influence of curriculum on post-scores

RESULTS

- 17 of 18 participants completed all survey components (BPNS missing for 1 control)
- Demographics across both groups were similar (Table 1)
- No significant differences were found between groups for PFI or BPNS scales, pre- or post-curriculum (Table 1)
- All participants showed highly varied score trajectories (Figure 1)
- Random-effects model confirmed that Steppingstones did not have a statistically significant effect on post-curriculum scores
- Higher pre-curriculum scores significantly increased post-curriculum scores for all PFI sub-scales



Autonomy	-0.02 (p=0.965)	Competence	0.31 (p=0.272)	Relatedness	0.44 (p=0.295)
Steppingstone Cohort	-3.87 (p=0.145)	Steppingstone Cohort	-4.28 (0.135)	Steppingstone Cohort	-2.11 (p=0.495)
Interaction Effect	0.80 (p=0.113)	Interaction Effect	0.87 (0.119)	Interaction Effect	0.38 (p=0.480)
Model Constant	5.30 (p=0.021)	Model Constant	3.49 (p=0.028)	Model Constant	3.27 (p=0.190)



Professional Fulfillment	1.00 (p<0.001)	Interpersonal Disengagement	0.57 (p=0.036)	Work Exhaustion	0.93 (p<0.001)
Steppingstone Cohort	1.53 (p=0.087)	Steppingstone Cohort	0.22 (p=0.477)	Steppingstone Cohort	0.32 (p=0.516)
Interaction Effect	-0.52 (p=0.103)	Interaction Effect	-0.21 (p=0.597)	Interaction Effect	-0.41 (p=0.229)
Model Constant	-0.10 (p=0.857)	Model Constant	0.27 (p=0.231)	Model Constant	0.22 (p=0.505)

Note: Higher scores indicate higher autonomy, competence, relatedness, professional fulfillment but also higher interpersonal disengagement and work exhaustion.

Figure 1: Trajectory of PFI and BPNS Sub-scales Overtime: Comparing Individual Scores Between Subjects and Controls Pre- and Post-Curriculum Completion Utilizing Random Effect Model Coefficients

Characteristic	Overall (n=18)	Steppingstones Cohort (n=9)	Control Group (n=9)	p- value
	% (n) or Mean (SD)			
Background Characteristics (n=18)				
Fellowship	44 (8)	44 (4)	44 (4)	1.0
Years Since Training				
0-1	22 (4)	22 (2)	22 (2)	0.267
2-3	56 (10)	67 (6)	44 (4)	
4-5	17 (3)	0 (0)	33 (3)	
>5	6 (1)	11 (1)	0 (0)	
>1 Departmental Appointment	22 (4)	22 (2)	22 (2)	1.0
Clinical FTE				
0-25%	11 (2)	0 (0)	22 (2)	0.565
26-50%	17 (3)	22 (2)	11 (1)	
51-75%	17 (3)	11 (1)	22 (2)	
76-100%	56 (10)	67 (6)	44 (4)	
Academic Rank				
Clinical Instructor	44 (8)	56 (5)	33 (3)	0.637
Assistant Professor	56 (10)	44 (4)	67 (6)	
Basic Psychologic Need Satisfaction at Work (BPNS)				
	Pre (n=18)	(n=9)	(n=9)	
Autonomy ¹	5.24 (0.64)	5.08 (0.71)	5.40 (0.56)	0.311
Competence ¹	5.10 (0.76)	5.11 (0.56)	5.09 (0.95)	0.961
Relatedness ¹	5.67 (0.61)	5.53 (0.66)	5.81 (0.51)	0.352
	Post (n=17)	(n=9)	(n=8)	
Autonomy ¹	5.31 (0.66)	5.40 (0.87)	5.21 (0.35)	0.573
Competence ¹	5.16 (0.82)	5.22 (0.95)	5.08 (0.70)	0.733
Relatedness ¹	5.76 (0.71)	5.69 (0.76)	5.84 (0.68)	0.676
Professional Fulfillment Index (PFI)				
	Pre (n=18)	(n=9)	(n=9)	
Professional Fulfillment ¹	2.73 (0.54)	2.83 (0.53)	2.63 (0.56)	0.440
Interpersonal Disengagement ²	0.58 (0.54)	0.48 (0.48)	0.69 (0.60)	0.441
Work Exhaustion ²	1.35 (0.72)	1.17 (0.59)	1.53 (0.83)	0.305
	Post (n=18)	(n=9)	(n=9)	
Professional Fulfillment ¹	2.64 (0.53)	2.78 (0.43)	2.51 (0.61)	0.315
Interpersonal Disengagement ²	0.66 (0.46)	0.66 (0.36)	0.66 (0.57)	1.0
Work Exhaustion ²	1.39 (0.74)	1.14 (0.55)	1.64 (0.86)	0.163

¹Higher values indicate higher degree of satisfaction or fulfillment. BPNS is scored 1-7. PFI is scored 0-4.
²Higher values indicate higher degree of disengagement or exhaustion. PFI is scored 0-4.

Table 1: Comparisons for Background Characteristics and for Pre- and Post-Scores on the BPNS and PFI between the Steppingstones Cohort and Control Group

CONCLUSIONS

- Steppingstones participation did not significantly impact professional fulfillment or satisfaction of basic psychologic needs as measured by the indices
- However, score trajectories were generally more positive for participants
- Limitations include:
 - Indices ask for general reflections, not those specific to Steppingstones
 - Small sample size
 - Curriculum coincided with COVID-19 pandemic & likely confounded results
- To better understand the unique impact of Steppingstones, we have initiated a qualitative study

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