



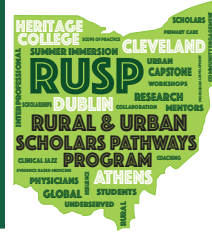
Heritage College of Osteopathic Medicine

Examining Osteopathic Medical Students' Perceptions of Social Support

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Background

Physician burnout is strongly associated with anxiety and depression, factors that are thought to contribute to physician and medical trainee suicide.¹ Studies on burnout indicate that burnout may begin in medical school, as early as the pre-clinical years.² Most concerning is that increased levels of stress and depression are not episodic but chronic and persistent, worsening over time.³

Social support is a function of social relationships⁴ and is a key component of resilience, or the ability to recover and thrive in the face of adversity.⁵ There are four constructs of social support: 1) *tangible support* is the perceived availability of material aid, 2) *appraisal support* is the perceived availability of someone with whom to discuss issues of personal importance, 3) *self-esteem support* is the perceived presence of others with whom the individual feels he/she compares favorably, and 4) *belonging support* is the perception that there is a group with which one can identify and socialize.⁶

We were interested in determining how medical students perceive social support at Ohio University Heritage College of Osteopathic Medicine. We were specifically interested in understanding the factors that influence perceptions of social support.

The study was framed around the following questions:

1. How do osteopathic medical students experience social support?
2. Are there differences in levels of perceived social support between preclinical and clinical years?
3. How does participation in student organizations and activities affect perceptions of social support?
4. Are there differences in perceived social support between different identity groups, i.e. race, ethnicity, sex, sexual orientation, and rural vs urban hometown?

Methods

Participants were recruited from the student body of OU-HCOM. Emailed invitations invited participants to take the Interpersonal Support Evaluation List (ISEL) Assessment. The ISEL consists of a list of 40 statements concerning the perceived availability of potential social resources; participants indicated agreement using a Likert-like scale, with 0 indicating definitely false and 3 indicating definitely true. The ISEL measures overall social support, as well as the four individual constructs of social support: tangible support, appraisal support, self-esteem support, and belonging support.

Results

Table 1: Characteristics of the study population (N = 290)

	Overall n (%)
Age	
21-24	113 (39.0)
≥ 25	177 (61.0)
Gender	
Male	131 (45.3)
Female	158 (54.7)
Race	
Non Hispanic white	235 (81.3)
Non Hispanic black	19 (6.6)
Asian	28 (9.7)
Other	7 (2.4)
Hometown	
Rural	94 (32.1)
Suburban	173 (59.0)
Urban	26 (8.9)
Year in school	
Pre-clinical (1 st or 2 nd year)	187 (66.6)
Clinical (3 rd or 4 th year)	94 (33.4)
Campus	
Rural	148 (51.0)
Suburban	100 (34.5)
Urban	42 (14.5)
RUSP	
Yes	37 (18.4)
No	154 (81.6)
	Mean (SD)
Appraisal support	26.22 (2.14)
Belonging support	26.48 (2.10)
Self-esteem support	23.50 (2.00)
Tangible support	25.75 (1.89)

Abbreviations: n Frequency, % Percentage, SD Standard deviation

Table 3: Association between study population characteristics and social support constructs by gender

	Appraisal support		Belonging support		Self-esteem support		Tangible support	
	Male Adj. B	Female Adj. B	Male Adj. B	Female Adj. B	Male Adj. B	Female Adj. B	Male Adj. B	Female Adj. B
Age	1.21*	0.07	-0.90	-0.42	0.19	0.02	0.97	0.64
Race	-0.40	-0.27	0.32	-0.15	0.65	0.01	-0.10	-0.02
Hometown	0.17	0.01	-0.01	-0.96**	-0.71	0.17	-0.03	0.18
Year in school	-0.23	0.26	0.57	-0.83	-0.11	0.43	-0.53	-0.22
Campus	0.10	-0.07	-0.29	0.32	-0.26	-0.17	0.36	0.33
RUSP	-0.49	0.47	-0.01	0.33	0.13	-0.68	0.69	0.39
Appraisal support	0.18	-0.01	0.21	-0.01	0.32*	0.15	0.03	-0.08
Belonging support	0.18	-0.01	0.21	-0.01	0.32*	0.15	0.03	-0.08
Self-esteem support	0.32*	0.16	0.03	0.15	0.04	0.02	0.03	0.03
Tangible support	0.03	-0.14	0.19	0.16	0.02	0.04	0.03	0.03

Abbreviations: * p < 0.05; ** p < 0.01

- Among pre-clinical students, the study found that as social support increased, the appraisal support increased and vice versa (p<0.01) (Table 4).

Table 5: Association between study population characteristics and social support constructs by hometown

	Appraisal support			Belonging support			Self-esteem support			Tangible support		
	Rural Adj. B	Suburban Adj. B	Urban Adj. B	Rural Adj. B	Suburban Adj. B	Urban Adj. B	Rural Adj. B	Suburban Adj. B	Urban Adj. B	Rural Adj. B	Suburban Adj. B	Urban Adj. B
Age	0.87	0.47	0.03	-0.55	-0.59	-0.21	-1.26*	1.15	0.99	0.49	1.10*	1.65
Gender	0.24	0.28	-0.35	-0.01	0.29	2.25	0.42	-0.29	0.20	0.09	0.12	-0.24
Race	-0.03	-0.36	-0.55	-0.21	0.16	-0.80	-0.21	0.21	0.88	-0.05	-0.01	-0.11
Year in school	-0.86	0.58	-0.36	-0.05	-0.26	-1.58	0.50	-0.14	0.25	-0.54	-0.33	-1.80
Campus	-0.04	-0.33	-0.25	-0.24	0.12	1.48	0.21	-0.27	0.21	-0.13	0.50	1.62
RUSP	-0.11	0.13	-0.50	0.06	0.15	-0.06	-0.19	-1.30*	1.47	0.28	0.35	0.34
Appraisal support				0.01	0.03	0.40	0.22*	0.11	0.47*	-0.15	0.03	0.03
Belonging support	0.01	0.03	0.20					0.18	0.18	-0.11	0.17	0.17
Self-esteem support	0.42*	0.09	0.77*	0.21	0.14	-0.35				0.19	-0.07	0.04
Tangible support	-0.25	0.04	0.02	0.17	0.24	-0.08	0.17	-0.13	0.02			

Abbreviations: * p < 0.05

- Overall 18.4% of study participants were RUSP students (Table 1).
- Approximately 81.3% were non-Hispanic white (Table 1).
- 54.7% of participants were female (Table 1).
- Bivariate analysis found that the mean belonging support was lower among females compared to males (p=0.033) (Table 2).

Table 2: Characteristics of the study population by the four social support constructs

	Appraisal support		Belonging support		Self-esteem support		Tangible support		p
	Mean (SD)	p	Mean (SD)	p	Mean (SD)	p	Mean (SD)		
Age		0.101		0.126		0.238		0.186	
21-24	25.95 (2.27)		26.72 (1.98)		23.32 (2.14)		25.56 (1.79)		
≥ 25	26.39 (2.01)		26.31 (2.17)		23.62 (1.92)		25.88 (1.94)		
Gender		0.314		0.033		0.921		0.538	
Male	26.37 (2.14)		26.79 (2.10)		23.52 (1.90)		25.69 (2.03)		
Female	26.10 (2.16)	0.155*	26.23 (2.06)	0.941*	23.50 (2.09)	0.803*	25.83 (1.77)	0.955*	
Race									
Non Hispanic white	26.34 (2.08)		26.46 (2.13)		23.51 (1.94)		25.78 (1.92)		
Non Hispanic black	25.21 (2.53)		26.47 (1.22)		23.53 (2.14)		25.95 (1.54)		
Asian	26.04 (2.31)		26.54 (2.48)		23.48 (2.50)		25.70 (1.99)		
Other	25.83 (1.94)		27.00 (1.90)		24.33 (1.86)		25.50 (0.84)		
Hometown		0.061*		0.069*		0.786*		0.354*	
Rural	26.11 (2.41)		26.77 (2.08)		23.48 (2.03)		25.94 (1.96)		
Suburban	26.41 (1.98)		26.44 (2.01)		23.55 (2.02)		25.62 (1.79)		
Urban	25.33 (1.93)		25.67 (2.55)		23.25 (1.82)		26.00 (2.25)		
Year in school		0.376		0.053		0.172		0.964	
Pre-clinical	26.17 (2.26)		26.69 (2.14)		23.40 (2.11)		25.82 (1.94)		
(1 st or 2 nd year)	26.42 (1.96)	0.536*	26.14 (2.07)	0.298*	23.77 (1.86)	0.660*	25.80 (1.71)	0.114*	
Clinical	26.35 (2.09)		26.51 (2.10)		23.46 (2.04)		25.53 (1.84)		
(3 rd or 4 th year)	26.02 (2.15)		26.27 (2.23)		23.63 (1.96)		26.07 (1.81)		
Campus	26.23 (2.33)	0.939	26.90 (1.79)	0.833	23.29 (2.01)	0.213	25.74 (2.16)	0.182	
RUSP									
Yes	26.22 (1.93)		26.59 (2.17)		23.24 (2.03)		26.27 (1.84)		
No	26.25 (2.24)		26.52 (2.00)		23.72 (2.08)		25.82 (1.84)		

Abbreviations: SD Standard deviation; *ANOVA test statistic 'F' value

- Among male students, the study found that the appraisal support was higher among older age groups compared to younger ones (p<0.05). Similarly, as social support increased, the appraisal support increased and vice versa (p<0.05).
- Among female students, the study found that the belonging support was lower among urban and suburban groups compared to rural group (p<0.01) (Table 3).

Table 4: Association between study population characteristics and social support constructs by year in school

	Appraisal support		Belonging support		Self-esteem support		Tangible support	
	Pre-clinical Adj. B	Clinical Adj. B	Pre-clinical Adj. B	Clinical Adj. B	Pre-clinical Adj. B	Clinical Adj. B	Pre-clinical Adj. B	Clinical Adj. B
Age	0.50	1.92	-0.60	-0.54	0.31	-1.51	0.69	1.56
Gender	0.22	0.40	0.21	0.94	-0.02	-0.12	-0.05	0.01
Race	-0.25	-0.26	0.02	0.01	0.23	0.16	-0.21	0.29
Hometown	-0.23	0.63	-0.43	-0.96	-0.36	0.41	0.02	0.26
Campus	-0.21	0.75	-0.09	0.50	-0.22	-0.12	0.39	0.40
RUSP	0.44	-0.92	-0.19	0.95	-0.57	-0.38	0.15	1.04
Appraisal support	0.03	0.18	0.03	0.13	0.25**	0.06	-0.03	-0.06
Belonging support	0.03	0.18	0.03	0.13	0.11	0.15	0.13	0.14
Self-esteem support	0.26**	0.06	0.11	0.12	0.02	0.15	0.02	0.07
Tangible support	-0.04	-0.13	0.15	0.23	0.02	0.15	0.02	0.07

Abbreviations: ** p < 0.01

- Among students from a rural hometown, the study found that as social support increased, the appraisal support increased and vice versa (p<0.05). Also self-esteem support was lower among older age groups (p<0.05).
- Among students from suburban hometown, self-esteem support was higher among RUSP students (β = -1.30) (p<0.05), and tangible support was higher among older age group students (p<0.05).
- Among students from urban hometown, as social support increased, the appraisal support increased and vice versa (p<0.05) (Table 5).

Discussion

- There were some statistically significant results produced by this study.
- Female medical students had lower levels of Belonging Support, but students from rural hometowns reported a higher sense of Belonging Support than any other group.
- Students in the clinical phase of medical education (OMS 3-4) reported lower levels of Belonging Support than students in the non-clinical phase.
- Students in the RUSP Program had higher perceived belonging and tangible support compared to students who are not in the RUSP program.
- Students from suburban hometowns who participate in the RUSP program reported higher Self-esteem Support.
- We found associations between the types of social support in some groups, suggesting that the constructs are not discrete but are inter-related.
- Our results suggest some potential implications for practice including focusing on increasing Belonging Support in female students and in students who are in the clinical phases of medical education. Overall, Self-esteem Support was the type of social support with the lowest mean in all groups for all variables. As such, medical educators should consider ways to strengthen this type of social support in their students.

- Limitations: Sample size. Some of the grouping variables, i.e. participation in specific student organizations, had only a few participants and as such we are not able to accurately determine results for those variables. We utilized a convenience sample so selection bias could also be a limitation. Results should be interpreted with these limitations in mind.

Disclosures

None to disclose.

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