Normative Data Indicating the Extent of an Emotion Perception Deficit in Serious Mental Illness

Paul S. Nabity, M.S., Hayden C. Bottoms, M.A., and William Spaulding, Ph.D.
University of Nebraska-Lincoln

Background

Individuals with serious mental illness (SMI) demonstrate abnormalities in all aspects of emotion processing – including emotion perception. The Face Emotion Identification Test (FEIT) is an instrument designed to measure deficits in identification of facial emotions specifically for individuals with schizophrenia (Kerr & Neale, 1993). Although this instrument has been used to demonstrate , show correlates of, and indicate interventions that improve that impairment, no current normative data describing healthy controls' performance exist. While the nature of the emotion perception deficit is well-researched, the absence of normative data precludes an informed evaluation of the *extent* of that deficit in the SMI population. To that end, the present study presents preliminary normative data in a psychiatrically healthy population. Furthermore, it compares that normative data to a sample of individuals with SMI receiving day rehabilitation services to evaluate the extent of emotion perception deficits in that population.

Method

Population
- Undergraduates, n=206
- SMI, n=38

Procedure
- Undergraduates – administered online
- SMI – administered in person using computer program with verbal instructions

FEIT
- Developed using black and white pictures of faces of various emotional expressions
- Identify the expression associated with each face: Happy, Angry, Afraid, Sad, Surprised, Ashamed

Tables/Figures

Table 1. Demographics of Participants

	Undergraduate (n=206)		SMI (n=38)	
	Mean	Std	Mean	Std
Age (Yrs)	20.36	1.62	40.00	12.72
Education (Yrs)	14.65	1.20	12.20	2.25
	n	%	n	%
Sex (male)	63	30.6	28	74
Ethnicity				
Caucasian	170	82.5	37	97.4
Hispanic	11	5.3	1	2.6
Asian American	12	5.8		
Other	13	6.3		

Table 2. Percentage correct recognition of facial emotions

	Undergraduate (n=206)		SMI (n=38)	
	Mean	Std	Mean	Std
Total	70.21	11.97	61.63	13.79
Happy	97.33	11.27	93.42	20.70
Angry	84.59	18.54	65.80	30.44
Afraid	56.23	23.52	46.05	24.94
Sad	65.70	27.73	58.77	28.40
Surprised	81.80	26.98	78.95	25.02
Ashamed	51.46	32.73	55.26	32.44

FEIT Performance
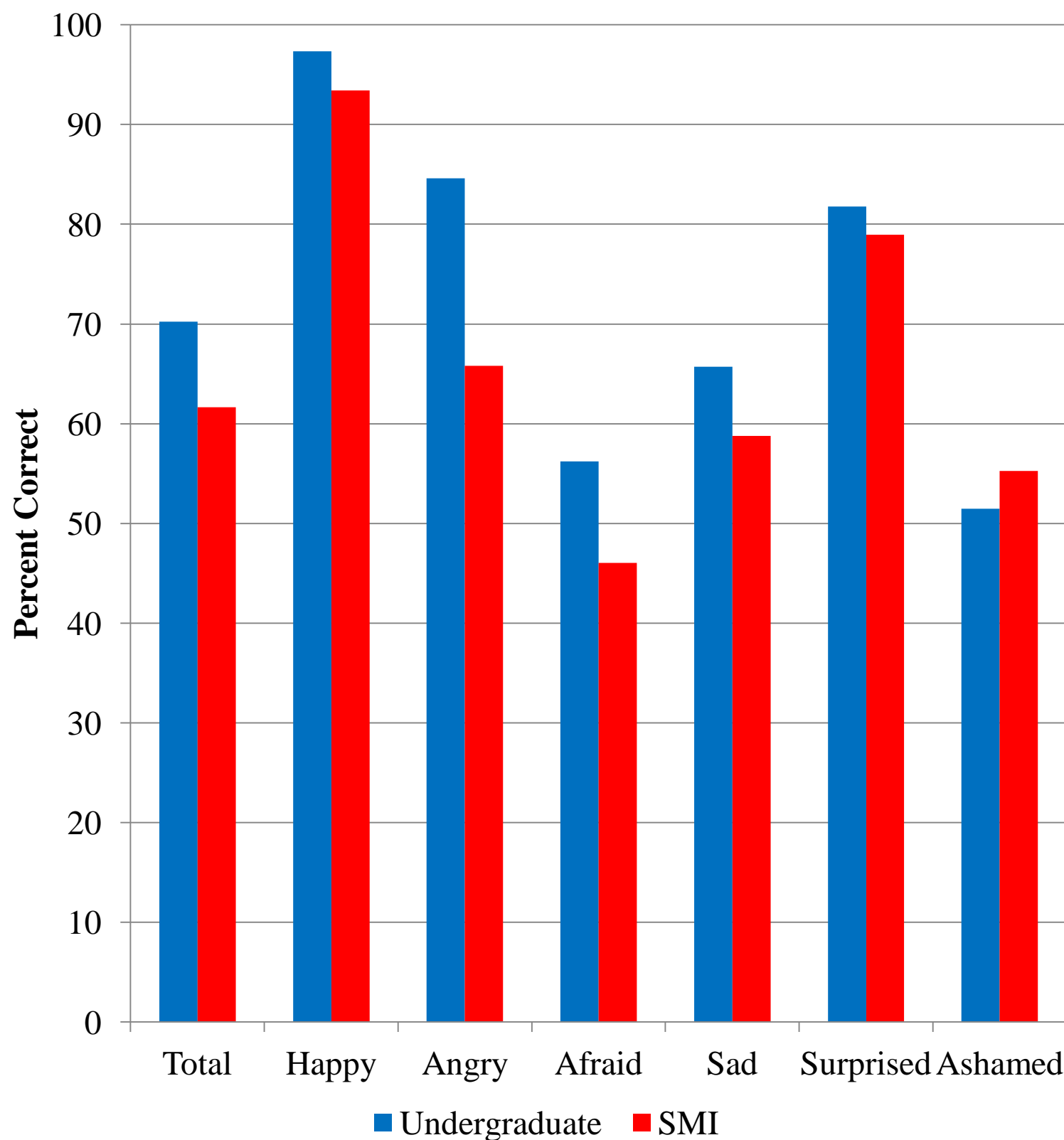
Results

- No significant gender differences within populations for total percent correct on FEIT after controlling for age, $F_{(4,239)}=2.90$, $p=0.09$
- No significant population differences for any of the facial expressions after controlling for age (FTEST?)
- Main effect of age for correct identification of anger, $F_{(4,239)}=4.31$, $p=0.04$, Mse=0.18
  - Younger participants correctly identified more angry faces than older participants
- Main effect of age for correct identification of surprise, $F_{(4,239)}=6.803$, $p=0.010$, Mse=0.47
  - Older participants correctly identified more surprised faces
- Main effect of gender for correct identification of surprise, $F_{(4,239)}=4.237$, $p=0.04$, Mse=0.29
  - Females correctly identified more surprised faces than males
- There were two faces of afraid expressions presented in the FEIT in which the majority of both the undergrad and SMI populations identified as surprised.

Conclusions

Contrary to other studies, our results indicate that there are no significant emotion perception deficits in the SMI population compared to an undergraduate population when controlling for age. However, the population sizes are unbalanced. The SMI population was much smaller than the undergraduate population and the two groups were not matched for age. Also, the administration methods were different between the SMI population and the undergraduate population. The SMI population was given verbal instructions and was administered on a computer in a controlled location. The undergraduates were not given verbal instructions and were able to access the FEIT from any computer with an internet connection. Therefore, attentiveness of the undergraduate population could not be monitored. The misidentification of two faces by the majority of the undergrad and the SMI population indicates that these two faces may not have strong validity.