NEUTRAL BIASES IN SOCIAL PROCESSING CORRELATE WITH CURRENT SELF-ESTEEM AND FUTURE CHANGES IN DEPRESSION
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INTRODUCTION
A recent survey of over 94,000 college students found that 35% of females and 28% of males had at some time felt “so depressed it was difficult to function” (ACH, 2014). It is known that low self-esteem is a risk factor for depression. The sociometer model of self-esteem focuses on negative social information (Leary et al., 1995). Here we report two studies looking at negative social information, self-esteem, and depression.

Study 1 investigated whether those low in self-esteem have a memory bias for negative social information.

Study 2 used fMRI to examine whether subgenual activity to negative social images predicted worsening affect over time as clinical work has shown that the hyper-activation of the subgenual acc in response to negative stimuli is associated with failed treatment outcomes (Fu et al., 2013).

METHODS
Participants Study 2: N=55 (37 females). Depression assessed by PHQ8 (Kroenke et al., 2009).
Procedure study 1:
1. View Images
2. Filler Surveys
3. Surprise Memory Test

Procedure study 2:
1. Passive Viewing Task (during fMRI)
2. PHQ8 at 2 week intervals
Instruction: “Please indicate whether the image is indoors or outdoors.”

Analysis Study 1: Mixed model containing interaction between contrast of interest (negative social > other images) and self-esteem.
Analysis Study 2: Mixed model containing interaction between time and neural activity as well as by-subject random slopes for time.

RESULTS

Low Self-Esteem Individuals Recall More Negative Social Images
Subgenual Activity to Negative Social Images Correlates with Self-Esteem

CONCLUSIONS
In Study 1, we observed a memory bias across all participants for negative social stimuli. In turn, that bias was modulated by self-esteem such that those with low self-esteem remembered more negative social material.

In Study 2, we saw those lower in self-esteem displayed a heightened neural response in subgenual acc to negative social stimuli. However, it was brain activity, not self-esteem, that best predicted increases in depression.

Together, these results suggest that trait level characteristics and information about negativity biases should be taken into account when predicting negative affect.

FUTURE DIRECTIONS
While informative, an ROI based approach fails to take into account interactions between different regions of the brain.

Connectivity based approaches, such as resting-state or DTI, would help better capture the dynamic relationship between brain regions perhaps providing a better marker of those at risk for experiencing worsening affect.

References
Association ACH. American College Health Association-National College Health Assessment II (2014).

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