The Relationship of Affective Lability and Cognitive Functioning in Schizophrenia-Spectrum Disorders
Colin Gallagher, Aubrey Moe, Emily Bell, Mohammed Shakeel, Nancy Docherty
Kent State University

Abstract
Research on affect in schizophrenia-spectrum disorders has shown complex relationships with cognitive functioning, but has often neglected the change in affective lability. Specifically, affective lability, defined as uncontrolled and unmodulated mood swings and/or elevated or depressed mood, is a central feature of the DSM-5 and has been linked with cognitive impairment in neurological illnesses, yet its role in schizophrenia-spectrum disorders is largely unknown. The primary goal of the prospective study was to assess whether the relationship between cognitive impairment and affective lability observed in other disorders is similarly evident in schizophrenia-spectrum disorders, and to assess how affective lability is related to different real-world cognitive impairments. Using a combination of self-report measures of affect along with the within-subject variation in ratings of emotion across two administrations, we tested a model of the relationship between affective lability and cognitive impairment.

Affective Lability & Cognitive Functioning
Affective lability is observed as rapidly shifting expressiveness of emotion often termed “mood swings.” In a single-individual experiment reporting high affectable experience of emotion is found to be associated with more errors in daily functioning than just impaired social relationships. A link between affective lability and cognitive impairment has been discussed in studies on Attention-Deficit/Hyperactivity Disorder (ADHD). Studies suggested that a higher presence of affective lability is associated with greater rates of depression and anxiety and substance abuse disorders [2]. Recent research in first-episode psychosis has shown that rates of self-harm are higher for those with comorbid ADHD, and that stable affect in those individuals may be an indicator of underlying neurological impairments [3].

The present study was designed to assess the relationship between two time periods. Administered twice, approximately 30 days apart. Visual Attention & Affect Study.

The Trail Making Test was administered with both the A and B conditions.

Participants were required to complete Trails A & Trails B time regulated in order to control for the impact of individual motor skills on time totals.

Previous Study
In the present study, we tested a sample of 78 individuals diagnosed with schizophrenia or schizotypal disorder. Participants were measured at multiple points, approximately one month apart, on measures of affective lability and cognitive functioning.

Hypotheses

1. In a proportion of our overall sample, a greater change will be found from emotion ratings at Time 1 (T1) to emotion ratings at Time 2 (T2).

2. An association will exist between the raw change scores from T1 to T2 in emotion ratings and cognitive functioning.

3. Individuals with statistically significant change in emotion ratings from T1 to T2 will display a cognitive functioning from those who do not display such changes.

Method
Participants included 78 outpatients with DSM-IV schizophrenia (34) or schizoaffective disorder (44) who were in treatment at one of two local outpatient clinics. They were asked to rate their mood using the Emotional Assessment Scale (EAS) at two points in time: baseline and follow-up. The Trail Making Test was administered with both the A and B conditions.

Results
Hypothesis 1
Results showed that the emotions of “Delighted,” “Frightened,” and “Nervous” showed the highest number of individuals with statistically significant change as indicated by the RCI. (Table 1). Reliable change as indicated by the RCI was found to be a very small subset of our participants for the majority of the 24 pairs of emotion changes, over 42% of the items showing reliable change in less than 10% of the individuals tested.

Hypothesis 2
A correlation analysis showed a statistically significant relationship between the change in “Delighted” ratings and Digit span backwards total as the change in “Delighted” and Digit span backwards total; however, the change in emotion ratings from T1 to T2 was not associated with any consistent difference in the measures of cognitive functioning. Furthermore, groups did not differ in cognitive functioning performance, though there was a trend toward significance in a measure of working memory for these individuals. The findings showed reliable change over time in the “Frightened” emotion ratings. Future studies should utilize more time points with less of a gap between administrations in order to better identify the relationship between affect and cognitive functioning. Including multiple methods of assessing affect may increase the likelihood of finding differences present in self-reported emotional experience in individuals with psychiatric disorders.

Conclusions
Significant change was observed in the majority of individuals for the 24 emotions rated along the EAS. The largest proportion of change was observed in the emotion ratings of “Delighted,” “Frightened,” and “Nervous,” indicating that both positive and negative emotions were affected in those participants showing more reliable affect. Analysis revealed evidence of a relationship between the change in “Delighted” ratings and Digit span backwards total; however, the change in emotion ratings from T1 to T2 was not associated with any consistent difference in the measures of cognitive functioning. Furthermore, groups did not differ in cognitive functioning performance, though there was a trend toward significance in a measure of working memory for these individuals. The findings showed reliable change over time in the “Frightened” emotion ratings. Future studies should utilize more time points with less of a gap between administrations in order to better identify the relationship between affect and cognitive functioning. Including multiple methods of assessing affect may increase the likelihood of finding differences present in self-reported emotional experience in individuals with psychiatric disorders.

References