101. Item Response Theory Modeling of Alcohol Problems
Robert F. Krueger, Penny Nichol, Brian M. Hicks, Kristian E. Markon, Christopher J. Patrick, William G. Iacono, and Matt McGue
University of Minnesota

Recent quantitative research on alcohol problems points towards the viability of conceptualizing these problems as arrayed along a continuum. Nevertheless, modern psychometric techniques designed to scale multiple problems along a continuum (Item Response Theory; IRT) have not been applied to alcohol problems. The current study applied IRT methods to data on problems reported during in-person interviews by middle-aged men from the general population. The results revealed a continuum of severity linking the problems, ranging from heavy and abusive drinking, through tolerance and withdrawal, to very serious medical and psychological complications of alcoholism. These results underscore the importance of moving towards a dimensional conceptualization of alcohol problems, as well as the relevance of modern psychometric methods to informing the conceptualization of alcohol problems and psychopathological syndromes more generally.

102. Individual Differences in Emotional Avoidance: Relation to Emotional Responding During States of Acute Physical Stress
Matthew T. Feldner(1), Michael J. Zvolensky(1), Ellen Leen-Feldner(1), Michelle Heffner(2), Hamid H. Hekmat(3), and Georg H. Eifert(4)
1) University of Vermont
2) West Virginia University
3) University of Wisconsin-Stevens Point
4) Chapman University

The present study consisted of two quasi-experimental investigations addressing how individual variation in emotional avoidance relates to anxious responding to acute periods of physical stress common to panic-related states. In Study 1, a well-established carbon dioxide-enriched air procedure was used to evoke escalating autonomic sensations. In Study 2, a well-established cold pressor task was utilized in an effort to replicate and extend the findings of Study 1 to another type of physical stress (acute pain). In both studies, pre-experimental individual differences in emotional avoidance, as measured by the Acceptance and Action Questionnaire (Hayes et al., 2002), evidenced incremental predictive validity relative to other theoretically relevant variables in terms of behavioral avoidance, but not physiological reactivity. Within Study 1, pre-experimental levels of emotional avoidance significantly predicted perceived intensity of physical symptoms and self-reported intensity of anxiety focused on bodily sensations. In Study 2, individual differences in emotional avoidance predicted affective recovery from the challenge, as indexed by return of self-reported pain intensity to baseline. The implications of these findings will be discussed in relation to contemporary theories of panic disorder specifically and anxious and fearful responding to bodily stress more generally.

103. Emotion Regulation in Post-Institutionalized Children: Implications for Risk for Psychopathology
Alison B. Wismer Fries and Seth D. Pollak
University of Wisconsin at Madison

This study examines the relationship between early social deprivation and emotion regulation deficits in 4–5 year old children adopted from Eastern European orphanages. Institutionalized caregiving dramatically increases children's risk for behavioral pathology. However, the mechanisms underlying this relationship are not clear. To better understand the processes affected by social deprivation, cognitive and physiological processes related to normal and
abnormal emotion functioning were assessed during two visits to participants' homes. At the cognitive level, we assessed children's ability to infer the emotions of others from situational cues. Children in the study were presented with a series of stories and asked to identify the emotion the protagonist in the story would feel as a result of the events in the story. To assess physiological mechanisms, regulation of hormone systems related to stress reactivity and affiliative behaviors in response to two different interpersonal interactions between children and either a familiar or unfamiliar adult was also examined. Results indicate that both cognitive and physiological aspects of emotion regulation are related to early deprivation. Implications for the socioemotional difficulties experienced by many post-institutionalized children will be discussed.

104. Adolescent Behavioral Inhibition and Response Suppression: An Experimental Examination
Ellen W. Leen-Feldner, Matthew T. Feldner, and Michael J. Zvolensky
University of Vermont

The present investigation will report on an experiment addressing the cognitive, physiological, and affective consequences of response inhibition within a fear-relevant paradigm. The specific purpose of the research is to establish that actively inhibiting one's emotional reaction during fear-relevant slide viewing results in emotional responding akin to that commonly seen in anxiety disorders, and that such effects are potentiated among those high, but not low, in behavioral inhibition sensitivity. We expect the results of this study will increase our basic knowledge about the role of biobehavioral vulnerability factors in anxiety disorders. Data collection has commenced using a 2 (group: high BIS, low BIS) X 2 (condition: suppression, observation) between groups design. Adolescents (N = 96) are being recruited from the community. Fear-relevant slides from the International Affective Picture System (Center for the Study of Emotion and Attention, 1996) are viewed while cognitive-affective (self-rated anxiety and ratings on the Self-Assessment Manikin; Lang, 1980) and physiological measures (vagal tone, heart rate, skin conductance, body temperature) are recorded. Preliminary analyses suggest the data are consistent with the hypotheses. Results from this investigation will be reported in the poster and findings will be discussed in relation to vulnerability to anxiety psychopathology among adolescents.

105. The Familial Transmission of Externalizing Psychopathology
Brian M. Hicks, Robert F. Krueger, William G. Iacono, Matt McGue, and Christopher J. Patrick
University of Minnesota

We applied structural equation techniques to model the transmission of "externalizing" psychopathology from parents to children. Externalizing (EXT) refers to a spectrum of disorders including child and adult antisocial behavior, alcohol dependence, and drug dependence. Our sample was composed of families (mothers, fathers, and their twin offspring) who participated in the Minnesota Twin Family Study. Conceptualizing transmission of risk for these disorders within the structural equations framework provides an approach that can deal directly with comorbidity among EXT disorders by allowing for both joint transmission of risk for all EXT disorders, as well as specific transmission of risk for specific EXT disorders. Thus, we modeled the transmission of the joint risk for all of the EXT disorders, as well as the residual risk for specific disorders. Our results provide evidence that the transmitted vulnerability is more general than specific. It appears that the vulnerability that is transmitted from parents to children is more a risk for a spectrum of disorders, rather than for specific disorders within the EXT spectrum.
106. Understanding Dysregulation: Capacity and Bias in Anxiety
D. G. MacCoon, and J. P. Newman
University of Wisconsin - Madison

Anxiety is associated with attentional biases to threatening cues. A model proposed by MacCoon, Lorenz, and Newman (2002) suggests that dysregulation depends on the interaction between limited capacity selective attention and bottom-up (i.e., secondary) cue sensitivity. Specifically, the model predicts that anxious individuals allocate more attentional capacity to secondary cues than controls and thus should show load-related performance deficits on a primary task. Results from four behavioral studies are broadly consistent with the model, demonstrating performance differences between anxious participants and controls that are moderated by perceptual load, motivation, and memory load. Discussion focuses on the allocation of limited capacity attention and its possible role in dysregulated emotion or behavior.

107. Social Anxiety and Interpretation of Neutral Facial Expressions
K. Lira Yoon, Richard E. Zinbarg, and Susan Mineka
Northwestern University

Although previous studies have found that highly socially anxious individuals have a bias toward interpreting ambiguous stimuli in a threatening fashion, most of these results were vulnerable to artifactual explanations based on experimenter demand and/or response bias. Thus, the major purpose of this study was to provide a further test of the presence of interpretation bias by applying a priming technique that is less vulnerable to these artifacts. The current study was designed to test the hypothesis that social anxiety is associated with the tendency to interpret neutral facial expressions in a threatening manner. One hundred and thirty eight participants, half of whom were led to believe that they would subsequently have to deliver a speech, were asked to look at pairs of pictures, presented one at a time, depicting various facial expressions. They were instructed to press appropriately labeled keys to indicate the valence of the facial expressions as fast as possible. The critical data were the reaction times to each of the pictures, which were recorded without participants' awareness. The results indicated that highly socially anxious individuals have a tendency to interpret neutral facial expression as exhibiting disgust whereas low socially anxious individuals do not.

108. Generalized Anxiety Disorder and Parasympathetic Activity: The Effects of Worry and Cognitive-Behavioral Therapy
The Pennsylvania State University

Generalized anxiety disorder is characterized by chronic, excessive, uncontrollable worry. Past research has demonstrated evidence of decreased parasympathetic activity associated with both worry states and chronic worry (Lyonfield, Borkovec, & Thayer, 1995; Thayer, Friedman, & Borkovec, 1996). However, few studies have investigated the role of parasympathetic activity in the context of psychotherapeutic treatment. In the present study, parasympathetic activity was examined through measures of vagal activity in participants with GAD (N = 33), as compared to nonanxious control participants (N = 37) during a resting baseline, a relaxation task, and a worry task. It was expected that the worry task would be associated with significantly lower vagal activity. However, no significant differences were found either between groups or related to psychotherapy treatment. The lack of between-group differences, as well as inconsistent findings in
the literature, indicate that future research may need to focus in other areas beyond tonic-level measures.

109. Autonomic Activity During Exposure to Emotion-Eliciting Stimuli in Generalized Anxiety Disorder
Evelyn Behar, Alissa S. Yamasaki, T.D. Borkovec, and William J. Ray
Penn State University

Borkovec's avoidance theory of worry (Borkovec, Alcaine, & Behar, in press) posits that generalized anxiety disorder (GAD) is likely characterized by a suppression of physiological reactivity and, consequently, emotional processing. Much of the empirical work in this area, however, has investigated the effects of worry on physiological activity during anxiety-eliciting tasks as opposed to emotionality in general. Therefore, the present investigation sought to compare individuals with and without GAD on their physiological reactions to emotion-eliciting stimuli. Participants' heart rates (HRs) and respiratory sinus arrhythmia (RSA, an index of parasympathetic activity) were measured as they were presented with IAPS that were selected on the basis of their elicitation of varying levels of arousal (low, medium, high) and valence (positive, neutral, negative). Results revealed a GAD Status X Arousal interaction. While GAD and NonGAD participants showed equivalent HRs for low arousal pictures, GAD participants' HRs remained stable between low and medium arousal pictures whereas NonGADs' HRs decreased. Additionally, while NonGADs' HRs continued to decrease between medium and high arousal pictures, GADs' heart rates increased further. This finding is in stark contrast to previous findings consistently indicating lower physiological reactivity to highly arousing stimuli in individuals with GAD. Reasons for and implications of the discrepancy are discussed.

110. Rumination, Physiological Reactivity and Laboratory Aggression
Michele Pole, Edelyn Verona, and Nancy Docherty
Kent State University

Recently in the research literature, ruminative tendencies have been associated with aggressive behaviors (Caprara, et al., 1987). In the current study, unprovoked laboratory aggression was examined as a function of state rumination (not anger-specific) and autonomic activity (skin conductance level; SCL). Aggressive behavior was measured by recording the intensity level, duration, and speed of participants’ shock administrations to a putative “employee”. State rumination was measured using the Rumination Scale of the Reflection-Rumination Questionnaire at four time-points: during baseline, following the main experimental blocks, following a period of physiological recovery, and at the end of the experiment. Rumination was related to longer latencies to respond with shock but, simultaneously, with higher shock intensity administration. As well, rumination scores covaried with increases (from baseline) in self-reported hostility across the experiment. Increases in rumination also predicted increases in tonic SCL from a baseline block to subsequent experimental blocks. These findings suggest that rumination, generally conceptualized as anxiety-specific, may actually influence the expression of anger and aggressive behavior.

111. Development and Validation of Personality Disorder Scales for the Schedule for Nonadaptive and Adaptive Personality
Leonard J. Simms(1), Lee Anna Clark(1), Sarah K. Reynolds(2), and Kevin D. Wu(1)
1) University of Iowa
2) University of Washington

Measurement of personality pathology has been the topic of much empirical inquiry. To aid personality disorder (PD) research and clinical assessment, the Schedule for Nonadaptive and Adaptive Personality (SNAP) was adapted to
create PD scales keyed to DSM-IV. Preliminary scales were rationally created by mapping existing and experimental SNAP items onto DSM-IV PD criteria. Next, iterative analyses were conducted in a sample of 108 psychiatric patients by examining the convergence between SNAP PD scales and ratings of PD obtained using the Structured Interview for DSM-IV Personality (SIDP-IV). Items were added and deleted, and various decision rules were tested, to maximize convergence and maintain equivalent base rates at the criterion- and PD-level. Final convergence was moderate to excellent (median rs = .61 and .54 using dimensional and criterion scoring, respectively). As expected, convergence was attenuated when PD scales were scored dichotomously (median r = .34). Normative, reliability, and validity data were collected in a separate sample of 561 community-dwelling adults. Results revealed that the SNAP PD scales, scored dimensionally, were temporally stable (median r = .85) and internally consistent (median alpha = .78). Moreover, the PD scales correlated in predictable and meaningful ways with other measures of personality and psychopathology.

112. Structured Diagnostic Interviews and Peer Reports for Narcissistic Personality Disorder: Contrasting Opinions
Melissa Gruber, Edna R. Fiedler, Thomas Oltmanns, and Eric Turkheimer
University of Virginia

Although structured diagnostic interviews are the "gold standard" in assessing psychopathology, they sometimes provide an incomplete picture of the person. This study used videotaped SIDP-IV interviews that were collected as part of a larger study comparing self- and peer-report for personality disorders. Sixteen tapes were identified (from a total sample 432). Eight were "targets" (people whose peers said they exhibit multiple features of Narcissistic Personality Disorder (NPD) but who did not admit to any features of narcissism during the SIDP-IV). Eight were "control" tapes (people whose peers said that they do not have any features of a PD and who did not endorse any narcissism features during the SIDP-IV). Forty-eight undergraduate students watched these videotapes and rated the personalities of the people using the Five Factor Model (FFM) and narcissism features from DSM-IV. We examined relationships among the current students' ratings, the nominations by the original peers, and SIDP-IV scores. Undergraduate raters accurately predicted peer scores on narcissism. Raters viewed the targets as being more narcissistic than the controls, even though both targets and controls denied symptoms of NPD during their interview. The methodology used in this analysis could be useful in the design of diagnostic interviews.

113. Is Mental Health Treatment Associated With Self-Awareness of Pathological Personality Traits?
E. David Klonsky, Thomas F. Oltmanns, and Eric Turkheimer
University of Virginia

One goal of mental health treatment is to encourage realistic perceptions of oneself and one's environment. Nevertheless, little research has examined whether having undergone treatment is associated with improved meta-accuracy (knowing what others think of you). The present study examined whether participants who had recently received mental health treatment demonstrated superior meta-accuracy. Data were collected from 1,538 Air Force recruits (60% male) and 663 college students (40% male). Twenty-five recruits and 59 students endorsed the item, "Within the past 12 months, have you received professional treatment for a psychological problem (such as depression, anxiety, a substance use disorder or an eating disorder)?" All subjects completed self- and peer-measures of the 79 DSM-IV personality disorder criteria. Each person served as both a target and a rater. In addition, for each personality disorder criterion participants rated how they expected to be perceived by their peers. Correlation and regression analyses revealed that subjects who had been in treatment
predicted more accurately the descriptions provided by their peers, even though these same participants were not more likely to agree with their peers’ views. Effects were largest for the Schizotypal, Schizoid, and Avoidant personality disorders. Mental health treatment appears to be associated with increased self-awareness.

114. Ethnic Identification Biases Responses To Obsessive-Compulsive Disorder Inventories
Monnica Terwilliger, Eric Turkheimer, Karen Schmidt, and Thomas Oltmanns
University of Virginia

Research has shown that one popular measure of obsessive-compulsive disorder (OCD) exhibits differential item functioning between Black and White college students (Thomas et al 2000). We report a replication and extension of this finding using an Internet-generated sample administered the 60-item Padua Inventory (PI; Sanavio 1988). Included were 105 Blacks, 67 Hispanics, 582 Whites, and 136 subjects reporting an OCD diagnosis. Factor analysis of our sample replicated prior work indicating the PI consists of four factors: contamination fears, checking behaviors, impaired control over thoughts, and fear of losing control over impulses. Four contamination items were endorsed more strongly by Blacks than persons with OCD. Furthermore, there were no significant differences in mean contamination sub-scale scores between Blacks, Hispanics, and OCD groups, though Whites scored significantly lower. Applying an IRT graded response model to each factor, we found significant mean differences between Blacks and Whites on 15% of items, with biased items appearing in each sub-scale. Results suggest extraneous factors contribute to group differences on PI scores. Cultural practices and fear of being prejudged in accordance with negative stereotypes may be resulting in bias on questions relating to health-related behaviors and impropriety; distrust of the medical establishment may exacerbate this effect.

115. Anxiety, Depression, and OCD
Kevin D. Wu and Lee Anna Clark
University of Iowa

Obsessive-Compulsive Disorder (OCD) is an anxiety disorder that frequently is comorbid with Major Depression. This important finding is consistent with Mineka, Watson, and Clark's (1998) integrative hierarchical model of anxiety and depression: The anxiety disorders and depression share a common general distress component, but can be distinguished on the basis of additional features unique to each condition (e.g., anhedonia is relatively specific to depression). This study investigates relations among anxiety, depression, and OCD in psychiatric patients and psychology undergraduates who completed multiple OCD measures and the Mood and Anxiety Symptom Questionnaire (MASQ). Data collection is in progress; the final sample is projected at more than 600 total participants. Analyses will focus on relations between OCD symptoms (e.g., obsessions of doubt, washing compulsions) and MASQ scales. Our hypothesis is that OCD scores will relate more strongly to general distress than to either anxious arousal or anhedonia--symptoms relatively specific to panic disorder and depression, respectively. Such findings would lend support to the inference that OCD shares with depression and the other anxiety disorders the experience of general distress, but--within the integrative hierarchical model--also is distinguished from these other conditions by "obsessive" and "compulsive" experiences unique to OCD.

116. Examining Racial Differences in Symptom Report
Liat Ayalon and Michael A. Young
Illinois Institute of Technology

The study evaluated two types of racial group differences on the SCL-90-R subscales: (a) differences in symptom report for reasons unrelated to the severity of the subscale pathology (Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, ...
Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism); and (b) differences in how the symptom is related to the subscale pathology. In the second stage, the role of mental health locus of control beliefs as mediators of the two types of racial differences was evaluated. Seventy African American and 66 Caucasian American community college students completed the SCL-90-R and the Revised Multidimensional Health Locus of Control. Racial group differences were found on 20 SCL-90-R items. Symptom severity on 8 items differed across groups, but for reasons unrelated to the severity of the specific subscale. On 12 items, there were group differences in how the symptom is related to the severity of the subscale. African Americans endorsed significantly more external locus of control beliefs (Chance, Powerful Others, God) than Caucasian Americans. External locus of control beliefs mediated some of the racial differences identified. Results suggest that racial differences in symptom report exist and occur for several reasons.

117. Mood Induction Elicits Differential Processing of Affective Stimuli in Previously Depressed Individuals
Patricia Di Parsia and Nicholas B. Allen
University of Melbourne.

This study examined psychophysiological responses to affective stimuli amongst 37 currently non-depressed individuals with a past history of Major Depressive Disorder, and a demographically matched group with no lifetime history of psychopathology. As some vulnerability factors are only observable in previously depressed individuals during depressed mood states, all participants were tested twice; once in a neutral mood and once in a depressed mood. Mood was manipulated using a musical mood induction procedure. On each testing occasion participants viewed a set of 32 affective pictures from 4 categories; pleasant, neutral, social threat and physical threat. Startle eyeblink, heart rate, and facial responses were measured while viewing the pictures. The degree of startle modulation induced by social threat pictures was significantly modified by both mood state and clinical status, such that fear potentiated startle was only elicited by social threat pictures in formally depressed individuals during the depressed mood condition. Facial and heart rate responses to the affective pictures revealed that responses to pleasant pictures were blunted in the previously depressed group during the sad mood induction only. The relevance of mood state dependant abnormalities in processing affective stimuli for understanding vulnerability to depression will be discussed.

118. Cortisol Release, Memory Dysfunction and Depression
Deborah J. Walder, Elaine F. Walker, Annie Bollini, and Lisa Kestler, M.A.
Emory University and Harvard Medical School

There is recent evidence that depressed patients manifest hippocampal volumetric reductions, as well as impaired memory functions associated with the hippocampus. Moreover, dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis, which is modulated by the hippocampus, is a well documented biological marker of depression. This study examined the relationship of acute stress-induced increases in cortisol with declarative (DM) and working memory (WM) among clinically depressed individuals and healthy normal controls, and the relationship of depressive symptoms with HPA activity and memory following acute stress-exposure. It was hypothesized that (1) higher cortisol would be associated with more severe depressive symptoms and greater memory deficits and (2) heightened post-stress cortisol would be associated with declines in DM and WM performance from pre- to post-stress. The sample consists of 24 (7 male) individuals who met DSM-IV diagnostic criteria for a depressive disorder, 32 (4 male) healthy controls, and 5 (0 male) individuals with other psychiatric disorders. The SCID-I for DSM-IV, Beck Depression Inventory-II, computerized memory tests and a stress test were administered. Cortisol was assayed from multiple saliva samples.
Correlational analyses suggest a significant role of the hippocampus and HPA axis in memory and a potentially more sensitive role of the HPA system in WM. In addition, cortisol secretion may serve a differential role in memory across various populations. In populations marked by HPA dysregulation, heightened cortisol may interfere with memory, whereas in non-psychiatric populations heightened cortisol may augment memory. Moreover, the mechanism regulating symptom expression may be linked with HPA activity and memory.

**119. EEG Activity During Anticipation of Reward and Threat in Depression**

Corrina J. Mueller(1), Allison J. Jahn(1), Katherine M. Putnam(1), Alexander J. Skolnick(1), Ruth M. Benca(2), and Richard J. Davidson(1)

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1) Psychology Department
2) Psychiatry Department

Previous research and clinical experience has found depression to be a heterogeneous disorder. Examining the neurobiological underpinnings of depression may help to better parse such heterogeneity. For example, some individuals with depression experience or exhibit a lack of positive affect. Others experience prolonged and/or exaggerated negative affect in response to seemingly stressful events. This study sought to examine depressive symptomatology and to ascertain whether patterns of brain activity differentiate among objectively characterized differences in affective responsivity in patients with depression. Analyses will focus on differences within groups in anticipation of a positive or negative event. We measured alpha power in participants with Major Depressive Disorder or Dysthymia (n = 16) and a control group (n = 17) using 128-channel electroencephalography. The task involved a lottery type task designed to assess the anticipation of a positive or negative event. Participants were told they would either have a chance/no chance of winning money or chance/no chance of hearing an aversive noise.

We predict that patients with depression will exhibit less relative left frontal activation during anticipation of reward (especially for those who experience anhedonic-like symptoms) and will exhibit greater relative right frontal activation during anticipation of threat (especially for those who experience pervasive negative affect symptoms) compared to controls.

**120. The Relationship Between Hippocampal Activation, Emotion, and Stress in Depression**

Allison L. Jahn, Katherine M. Putnam, Hillary S. Schaefer, Corrina J. Mueller, Ruth M. Benca, Ned H. Kalin, and Richard J. Davidson

University of Wisconsin-Madison

The hippocampus is a structure noted to be involved in both affective and cognitive processes. Hippocampal abnormalities and diurnal cortisol disruption have been implicated in the stress response, as well as in depressed individuals. This is not surprising as depression involves an exaggerated stress response. The hippocampus contains a large number of glucocorticoid receptors and regulates the release of glucocorticoids. Therefore, it is relevant to examine the relationship between activation in the hippocampus during an affective task and cortisol levels in depression. In the present study, individuals (depressed, n = 15; control, n = 15) were presented with affective (positive and negative) and neutral images during a fMRI scan. To examine cortisol, saliva was collected 4 times across 3 consecutive days. Activation will be extracted from each hippocampus as a region of interest in addition to the extraction of a control ROI not implicated in the glucocorticoid stress response. A Repeated Measures MANOVA will examine percent signal change in the hippocampus with activation in the control ROI as a covariate. Furthermore, a linear regression, using the hippocampus and the control ROI as predictors, will be used to predict diurnal variation in cortisol.
121. The Effects of Sertraline on the Attentional and Mnemonic Components of Emotional Processing.
Julian G. Simmons and Nicholas B. Allen
University of Melbourne.

Despite the involvement of serotonin in affective disorders, its impact on the processing of affective stimuli has not been investigated. Previous research from our laboratory found that administering fluoxetine, a selective serotonin reuptake inhibitor (SSRI), to healthy participants for 28 days resulted in constraint of mood and emotional responses, especially social defences. The specific influence of attention and mnemonic processes on these effects was, however, not examined. In the current study, sertraline (a more potent SSRI), or a placebo will be administered to healthy participants for 21 days. Baseline mood and personality measures will be collected. These measures will be re-administered on day 21, along with a battery of psychophysiological and cognitive tasks, which will assess the emotional, attentional and mnemonic components of the processing of affective picture stimuli. These measures will include affective and attentional startle modulation, facial EMG, self-report, and ERPs. Delayed match to sample and recall tasks of affective stimuli will also be employed. Plasma sertraline levels, and thus indirectly serotonergic activity, are predicted to correlate with constraint of mood and social defences, the potentiation of expressive behaviour, improved affective memory (in line with arousal levels), and a decreased modulation of attention by affective stimuli.

122. Sociotropy, Autonomy, and Self-Discrepancy with Gender Ideals: Gender Differences in Vulnerability to Depression
Tamar Mendelson, Clive J. Robins, and Timothy J. Strauman
Duke University

This research investigated the relation of sociotropy and autonomy to self-discrepancies with gendered ideals. The Personal Style Inventory (PSI), Selves Questionnaire, and Beck Depression Inventory were completed by 164 undergraduate men and women. Participants' Selves ideals were assessed by independent raters with respect to their "masculinity" and "femininity" and their association with PSI-congruent domains (e.g., nurturance, independence). It was predicted that: (1) women would report higher sociotropy, and men would report higher autonomy, (2) sociotropy would be associated with having feminine ideals and ideals pertaining to nurturance and/or sociability, whereas autonomy would be associated with masculine ideals and ideals pertaining to independence, success, and/or intelligence, (3) discrepancies with feminine ideals and with nurturance or sociability ideals would moderate the relation of sociotropy to depression symptoms, whereas discrepancies with masculine ideals and with independence, success, or intelligence ideals would moderate the relation of autonomy to depression symptoms, and (4) the moderation effects for sociotropy would be more pronounced for women than men, whereas the reverse would be true for autonomy. Predictions were largely supported for sociotropy, and the hypothesized two and three-way interactions were obtained. However, predictions were not supported for autonomy. Findings have implication for gender differences in depressive vulnerability.

123. Children's Attributions and Depressive Symptoms as Related to Parent's Attributions for their Children's Events
Patricia D. Walshaw, Annette G. Villari, Brandon E. Gibb, and Lauren B. Alloy
Temple University

It is well documented that children’s attributional styles are related to their levels of depressive symptoms. The social learning hypothesis proposes that parents teach their children how to explain life events, which in turn is related to the child's depressive symptoms. There have been mixed results, however, as to whether parent's attributions for events in their children's lives are associated with changes in children's
attributional styles. This study longitudinally examines the attributional styles and depressive symptoms of 4th and 5th graders, as well as their parent's attributions of events in their children's lives, over a 6-month follow-up. We predicted that children's attributional styles would be related to their parents' attributional styles for their children's events, and that parents' attributional styles at Time 1 would predict changes in children's attributions over the follow-up. In addition, we predicted that children's attributional styles would mediate the relation between parents' attributional styles and children's depressive symptom levels. Cross sectional results from Time 1 assessment support the relationship between children's attributions and parents' attributions, as well as children's depressive symptoms. Preliminary results from Time 2 replicate the prior analysis. Following the completion of the Time 2 assessment, prospective hypotheses will be tested.

124. Parent and Child Report of Stressful Events in Depressed and Control Adolescents
Anda Gershon, Pamela K. Schraedley and Ian H. Gotlib
Stanford University

Stress is a significant risk factor for depression in adolescents. Research indicates that stress may be more strongly associated with depression in girls than in boys. The present study examined parent and child report of stressful events in a community sample of depressed and control adolescents. Twenty-four adolescents between the ages of 11 and 18 were included in the study; 12 of these met criteria for current Major Depressive Disorder and 12 of these had no lifetime history of Axis I psychopathology. The experience and impact of both positive and negative life events in the adolescent's life were assessed via questionnaire, using both adolescent and parent report. Adolescent and parental reports indicated that depressed adolescents experienced significantly more negative events and fewer positive events than controls. There was no effect or interaction of gender for number of positive or negative events in adolescent report, however parents of depressed girls reported significantly more negative events in their child's life than did parents of depressed boys. There were no gender differences in report of stressful events among parents of controls. This study highlights a difference in parent perception of the role of stress in depression depending on their child's gender.

125. The Effects of Parental Mental Illness and Parental Bonding on Current Interpersonal Functioning in Bipolar I Disorder
Amy N. Cohen and Constance Hammen
University of California, Los Angeles

There is considerable variability in the interpersonal functioning of individuals with Bipolar I disorder. Interpersonal functioning is rarely studied despite being a likely contributor to symptomatic course and further functional outcomes. This study explored the possible link between the early parent-child relationship (parental mental illness, parent-child bond) and subsequent interpersonal functioning in 55 Bipolar I outpatients over a 1-year longitudinal study. The Parental Bonding Instrument measured the participants' perception of early care and overprotection received separately from mother and father. Interpersonal functioning over one-year was measured objectively in four relationship domains: best friend, romantic partner, social circle, and parental. Results indicated considerable variability in current interpersonal functioning, with the majority having significant relationship problems. Approximately half of the participants' parents had a diagnosable mental illness and the quality of early parental bond was variable. Analyses indicated that there was an interaction between maternal diagnostic status (psychiatric diagnosis or not) and maternal bond to predict interpersonal functioning in the Bipolar I adult offspring. Paternal bond predicted interpersonal functioning irrespective of paternal diagnostic status. Results indicated that biological and
psychological processes from childhood play a role in adulthood interpersonal functioning in this population, but actual mechanisms remain to be explored.

126. Life Stress and the Course of Early-Onset Bipolar Disorder
Eunice Kim and David J. Miklowitz
University of Colorado, Boulder

Studies of early-onset bipolar disorder have not examined environmental variables that may influence the course of the disorder. Prior studies have found that life stress is an important risk factor in the course of bipolar disorder among adults, and in the onset of depressive illness among adolescents. Based on these findings, we designed a prospective study of stress as a modifier of the symptomatic and behavioral adjustment of bipolar youths. A total of 40 adolescents with a bipolar I diagnosis will participate in assessments of stress, symptoms, and behavioral problems at 3-month intervals, over a 12-month study period. Youths reporting high levels of stress are expected to experience less improvement in bipolar symptoms and behavior problems over time than adolescents reporting low levels of stress. Chronic stressors are expected to have a more prominent role in predicting symptoms and behavioral problems than episodic stressful events. Early results suggest that the number of negative events experienced by an adolescent may be correlated with the severity of depression they report on the BDI-II. This study may clarify the types of stressors that influence the cycling of early-onset bipolar disorder, and variables that may mediate these relationships (e.g., compliance with medications).

127. Social Skills Deficits Among Adolescents with Bipolar Disorder
Tina R. Goldstein, and David J. Miklowitz
University of Colorado at Boulder

Understanding the nature of social skills deficits among adolescents with bipolar disorder may enable us to better tailor treatment interventions to meet the specific needs of this population. The aim of the present study is to compare the performance of bipolar adolescents (n=20) with an age-matched sample of normal controls (n=20) on measures of social skills knowledge and performance. Bipolar participants will complete social skills assessments when they are experiencing minimal affective symptoms (assessed via the K-SADS mania and depression scales). Social skills performance will be assessed in both groups using the Matson Evaluation of Social Skills with Youngsters (MESSY), a self-report scale requiring subjects to rate the frequency of social behaviors. The child's parent or guardian will simultaneously complete the T-MESSY (teacher/parent-rated version). Knowledge of appropriate social skills will be measured using the Interpersonal Negotiation Strategy Interview (INS), a structured interview asking participants to formulate solutions to hypothetical social dilemmas. Preliminary findings suggest that bipolar adolescents have age-appropriate knowledge of social skills, but exhibit more social skills performance deficits on both self- and parent-rated assessments than their age-matched controls. These findings are consistent with the hypothesis that adolescents with bipolar disorder possess the knowledge of appropriate social skills, but that emotional arousal during episodes of mood dysregulation interferes with consistent performance of these skills.

128. Social Rhythm Regularity and the Onset of Affective Episodes in Bipolar Spectrum Individuals
Gail H. Chang, Lauren B. Alloy, and Lyn Y. Abramson
Temple University and University of Wisconsin, Madison

Research suggests that disruptions of internal biological rhythms may contribute to the affective shifts experienced by bipolar patients. Given the power of social zeitgebers to entrain biological rhythms, social rhythm regularity should promote internal synchronization of circadian rhythms in bipolar spectrum
individuals. This study examined the relationship of social rhythm regularity and the onset of major depressive and hypomanic episodes in individuals diagnosed with Cyclothymic or Bipolar II Disorder and normal controls with no affective disorder. We found that participants diagnosed with Cyclothymic and Bipolar II Disorder reported significantly fewer regular daily activities than non-bipolar spectrum participants. Less regularity significantly predicted the prospective occurrence of hypomanic and major depressive episodes 13 months after the participants' initial reports of their social rhythm patterns. An interaction was also identified between participant diagnosis and regularity. Participants identified with cyclothymia and reporting low regularity had significantly more hypomanic episodes than their high regularity counterparts. However, regularity was not significantly related to the onset of hypomanic episodes in either the control or bipolar II groups. These relationships held when sleep related activities, meals, and exercise were examined separately. Social rhythm regularity may prove beneficial in preventing full syndromal affective episodes in bipolar spectrum individuals.

129. High Levels of Cortisol in The Adolescent Offspring of Parents with Bipolar Disorder: A Pilot Study
Mark A. Ellenbogen, Sheilagh Hodgins, and Claire-Dominique Walker
Université de Montréal and McGill University (Douglas Hospital Research Centre)

The hypothalamic-pituitary-adrenal (HPA) axis is compromised at a number of levels in major depressive and bipolar disorder (BD). However, it is not known whether HPA abnormalities predate the onset of these disorders. We conducted a pilot study comparing salivary cortisol levels of 10 adolescent offspring of parents with BD, and 10 offspring of parents with no mental disorder. For two days, samples were collected at awakening and during the day in the adolescents' natural environment. The offspring of parents with BD had higher mean cortisol levels in the mornings and afternoons than the offspring of parents with no mental disorder. None met criteria for anxiety, affective, attention-deficit or conduct disorders. Although the results are preliminary, we speculate that they indicate an early abnormality in the HPA system of the offspring of parents with BD.

130. Information-Processing Vulnerabilities in Offspring of Parents with Bipolar Disorder.

Saskia K. Traill, Kiki D. Chang, and Ian H. Gotlib
Stanford University

Cognitive theories posit that mood disorders are caused by intrapersonal vulnerabilities that interact with, or are activated by, negative life events to cause clinically significant episodes of depression or mania. Thus, individuals who are statistically at elevated risk for developing mood disorders are hypothesized to be characterized by the negative cognitive content and processes that comprise a negative schema, even before they exhibit overt symptoms of the disorder. The present study examined the processing of emotional information by adolescents who themselves have no history of mood disorders, but who are at elevated risk for the development of mood disorders by virtue of having a biological parent diagnosed with Bipolar Disorder. Attentional biases for depressed-content, manic-content, physically threatening, and socially threatening information, as well as memory biases for negative stimuli, were assessed while participants experienced a negative mood challenge. High-risk adolescents exhibited greater attention interference for manic-content and socially threatening stimuli, and better memory for negative words, than did adolescents of parents with no clinical disorders. These findings suggest that individuals who are at elevated risk for developing mood disorders are characterized by cognitive vulnerabilities prior to the onset of the disorder.
131. Negative Affect Toward Individuals with Bipolar Disorder
Amy K. Kizer and Sheri L. Johnson
University of Miami

One of the strongest predictors of patient outcome is Expressed Emotion (EE). Previous research has shown that attributions of control predict negative affect toward a psychiatric patient. One study goal was to examine explanations for symptoms and their links to negative affect. Undergraduate participants (N = 76) were randomly assigned to view a video of an actor in either a manic or depressive episode. Participants imagined that the person in the video was their sister and subsequently completed self-report measures of causal attributions of the sister's behavior, attributions of control over symptoms, and negative affect toward the sister. Attributes of greater control were associated with more negative affect across videos. The mania video elicited attributions of greater control and greater negative affect than the depression video. Nevertheless, attributions of control were only a partial mediator of the effects of different episode polarities on negative affect. In open-ended responses, some individuals described symptoms as due to attention-seeking or drug use, and then reported much greater negative affect compared to those who linked symptoms to an underlying mental illness or to life events. Implications for the attributional model of EE will be discussed.

132. Building a Mathematical Model of Dissociative Psychopathology Using Hierarchical Classification
Buddy Saunders(1), Karl Yngvar Dale(2), Rue L. Cromwell(3)
1) University of Kansas
2) University of Tromso

We propose a theory of dissociative psychopathology. We suggest that individuals create an asymmetrical overlapping construct hierarchy based on their temporal experience of sequential events. It is our contention that traumatic experience can disrupt the cohesion of sequential thinking. Such a disruption might leave an individual with only discreet flashbulb memories of the traumatic event. We intend to support our theory by building a mathematically derived model using Hierarchical Classification (DeBoeck & Rosenberg, 1988), a discrete, categorical model and corresponding data-analysis method for two-way two-mode binary data matrices. This model is built on set-theoretical formulations of the relationships among objects x attributes.

133. Comorbidity of Dissociation and Schizotypy Taxa
Roman Kotov and David Watson
The University of Iowa

The analysis and interpretation of comorbidity is complicated by shortcomings of the diagnostic system. An alternative to DSM diagnoses is offered by taxometrics, a family of statistical techniques that can detect naturally occurring latent groups. The existence of two of these groups, namely the dissociation and schizotypy taxa, is considered well established. However, their comorbidity has not yet been examined. The goal of this study is to evaluate the overlap of these two taxa. Taxometric analyses were conducted in a large sample of undergraduates (N = 955). Both taxa were identified and their overlap was examined. Comorbidity between the taxa was estimated to be close to 50%, which is 6 times greater than would be expected by chance. This high overlap can be explained using a dual-etiology model. According to this model, dissociation is the common final pathway of two etiological agents. One is genetic abnormality shared with schizotypy, which is responsible for the overlapping cases. The other is childhood abuse, which gives rise to pure, non-comorbid dissociation. Construct validation of the taxa revealed that they are unrelated to big five traits of personality and are not related to washing compulsions, but are strongly related to obsessions and checking compulsions.
134. The Identification of Schizotypy: Examining the Utility of Combining Neuropsychological and Psychometric Indicators
Winnie W. Leung, Lindsay M. Collins, Kimberly Adams, Minu Aghevli, Kari Tervo, and Jack J. Blanchard
University of Maryland, College Park

Previous psychometric high-risk studies of schizophrenia have identified social anhedonia as a potential indicator of schizotypy. However, social anhedonia is a fallible indicator of schizotypy and some individuals identified as putatively at-risk may instead be false positives. It has been suggested that the joint use of negative symptoms, such as social anhedonia, and neuropsychological impairments may increase sensitivity and decrease false positive rates (Faraone et al., 2001). This poster will utilize data from an ongoing study of a community sample of 18-year-olds to provide an initial examination of this issue. Social anhedonics (n = 40) and age-matched controls (n = 40) will complete a neuropsychological battery and clinical diagnostic assessments. The following questions will be addressed: 1) Compared to controls, do social anhedonics as a group show greater impairment in working memory, sustained attention, and general cognitive ability? 2) Within the social anhedonia group, can a subgroup with normative cognitive functioning be identified? and 3) Are these social anhedonics with intact cognitive abilities distinguishable from anhedonics with cognitive impairment in terms of clinical characteristics? Specifically, are schizophrenia-spectrum clinical characteristics limited to social anhedonics with cognitive deficits? The findings may have methodological implications for the more accurate identification of schizotypes.

135. Clinical and Individual Difference Characteristics of Putative Schizotypes: A Comparison of Community and College Samples
Kari Tervo, Kimberly Adams, Lindsay Collins, Minu Aghevli, Winnie Leung, and Jack J. Blanchard
University of Maryland at College Park

The psychometric high-risk paradigm allows for the identification of putative schizotypes using measures such as the Revised Social Anhedonia Scale. However, many investigations using this model of identification have been limited to college students at selective universities. Severe psychopathology occurs less frequently in college samples, and the majority of the general population does not complete college. Thus, there is a question as to whether data collected using such college student samples can be generalized to the larger population. In this study, we psychometrically identified social anhedonics and control participants both from a heterogenous community sample and from a sample of students at a large, selective East Coast university. The community sample was obtained using random-digit dial methods to identify 18-year-olds residing within 15 miles of the University of Maryland, while the college sample was identified using an introductory psychology subject pool. Between-group analyses will address the hypothesis that socially anhedonic individuals from the community sample will demonstrate greater psychopathology (global functioning, schizophrenia-spectrum characteristics), worse cognitive impairment (sustained attention), and more psychosocial dysfunction (social support, family conflict) than will social anhedonics in the college sample. Implications for the utility of using college samples to generalize to the population as a whole will be discussed.
Minu Aghevli, Kari Tervo, Winnie Leung, Lindsay Collins, Kimberly Adams, and Jack Blanchard
University of Maryland, College Park

Social anhedonia may be a promising indicator of a latent liability for schizophrenia. However, among socially anhedonic individuals, only a minority show schizophrenia-spectrum disorders. It is hypothesized that development of schizophrenia may reflect both genetic risk and early environmental stressors (e.g., obstetric complications). "Developmental instability", which pertains to these early environmental stressors, refers to the inability of an organism to buffer the effects of such stressors on development, and has been associated with genetic risk for schizophrenia. This poster will examine two related questions using a cohort of psychometrically-identified high risk (socially anhedonic) and control 18-year-olds, and their biological mothers: First, are measures of developmental instability and maternal rates of obstetric complications higher in individuals putatively at risk for schizophrenia-spectrum disorders (e.g., socially anhedonic individuals)? Second, among social anhedonics, do developmental instability and obstetric complications predict poorer functioning on measures of psychopathology (SCID, IPDE, GAF, SDS) and neurocognitive functioning (CPT, WAIS, WMS)? Developmental instability will be studied using fingerprints, minor physical anomalies and handedness. In addition, obstetric history will be obtained from biological mothers when possible.

137. Processing of Facial Expressions of Emotion in Individuals at Risk for Psychopathology
Biliana Agin and Nicholas B. Allen
University of Melbourne.

Attentional and emotional aspects of processing facial expressions of emotion were investigated in individuals at risk for psychopathology. From an initial screening sample of 870 students, individuals at risk for unipolar depression, anxiety disorder, and psychosis were identified using the General Behavior Inventory, the Endler Anxiety Scales, and the Chapman Psychosis proneness scales, respectively. It was predicted that individuals at risk for unipolar depression and psychosis would find processing expressions more effortful, and would be less likely to make adaptive facial responses to these expressions. Participants viewed a series of happy, neutral and angry expressions presented at two viewing angles; facing the viewer (0 degrees) or with gaze directed at a 30 degree angle. Startle eyeblink, startle-elicited ERPs, heart rate, corrugator and zygomatic responses were measured while viewing the faces. Results indicated that those in the psychosis prone group did engage in more effortful attentional processing of emotional expressions (as indicated by greater startle inhibition during emotional compared to neutral facial expressions) and were less likely to make appropriate responses (as indicated by blunted zygomatic responses to happy faces) than were those in the low-risk control group. These effects were only evident when viewing the expressions in the non-direct (30 degree) condition, suggesting that facial processing deficits associated with psychosis proneness might only be observable in less direct social encounters.

138. Schizophrenic-Like Deficits in Nonpsychotic Children and Adolescents with 22q11 Deletion Syndrome
K.E. Lewandowski(1), T.R. Kwapil(1), V. Shashi(2), and M.N. Berry(2)
1) University of North Carolina at Greensboro
2) Wake Forest University School of Medicine

Recent retrospective studies suggest that adults with 22q11 Deletion Syndrome (22q11DS) suffer from elevated rates of psychosis. It is
estimated that approximately 35% of adults with 22q11DS are diagnosed with psychotic illnesses, including 25% with schizophrenia. These findings represent one of the strongest relationships between psychosis and a known genetic anomaly. They suggest that 22q11DS is associated with the development of schizophrenia and related disorders, and may identify an etiologically specific subgroup of schizophrenia. The present study examines the presence of schizophrenic-like cognitive, clinical, and neurodevelopmental deficits in a sample of nonpsychotic children and adolescents with 22q11DS and control participants. It is hypothesized that 22q11DS probands will exhibit schizophrenic-like deficits relative to controls, and that the probands who exhibit these deficits will be at especially heightened risk for developing psychosis. Longitudinal study of this sample will: a) assess the validity of 22q11DS as a risk factor for schizophrenia, b) explore the specific mechanisms of 22q11DS that contribute to the development of schizophrenia, and c) specify the clinical phenotype(s) associated with the genotype(s). The successful identification of individuals at risk for schizophrenia and etiologically specific subgroups of the disorder holds the promise of hastening the development of prophylactic treatment interventions.

139. Two-Year Follow-up Assessment of Social Anhedonia and Control Participants
Leigh Dickerson, Martha A. Diaz, and Thomas R. Kwapil
University of North Carolina at Greensboro

The present study reports preliminary findings from a two-year follow-up assessment of schizotypic young adults. We are currently reassessing 78 participants who scored deviantly high on the Revised Social Anhedonia Scale and 68 control subjects. At the initial assessment, the Social Anhedonia group had elevated ratings of clinical symptoms, impaired social and overall functioning, and poorer performance on the CPT-IP and WCST, relative to the control subjects. Confirmatory factor analysis supported a three-factor solution with positive symptom, negative symptom, and cognitive disorganization dimensions. Preliminary findings from the follow-up assessment indicate that the Social Anhedonia group continues to exhibit elevated rates of psychotic-like, negative, schizotypal, schizoid, and paranoid symptoms. Performance on the CPT-IP at the initial assessment accounted for a significant increment in the prediction of schizotypal symptoms at the follow-up assessment, over-and-above the variance accounted for by Social Anhedonia group membership and ratings of schizotypal symptoms at the initial assessment. Similarly, ratings on the Negative Symptom Manual at the initial assessment accounted for unique variance in the prediction of overall adjustment at the follow-up.

140. Are Executive Functioning Deficits an Illness-Indicator in Patients At-Risk for Schizophrenia?
Christopher R. Bowie, Christopher W. Smith, Andrea M. Auffer, Todd Lencz, and Barbara Cornblatt
The Zucker Hillside Hospital

At the Recognition and Prevention (RAP) program, individuals considered clinically at-risk for schizophrenia participate in a large battery of neuropsychological tests and symptom ratings. Among these are several tests of executive functioning, which putatively measure functioning of the prefrontal cortex (PFC). While impairments in executive functioning are very common and are associated with PFC dysfunction in adult schizophrenia patients, preliminary data at the RAP program suggest that at least some of the tests measuring executive functioning do not reveal PFC impairment in at-risk patients. Thus, it is possible that impairments in executive functioning are not evident until the onset of psychosis. That is, they may be an "illness indicator", rather than a "vulnerability marker". The present study will test the hypothesis that executive functioning deficits are an illness indicator by examining subjects with varying levels of symptomatology.
(attenuated positive symptoms, schizophrenia-like psychosis, schizophrenic) at different ages (early adolescence through young adulthood). If executive functioning impairment is an "illness indicator", then severity of impairment should be related to severity of psychosis across age ranges. Results will have implications for targets of early intervention.

141. Social Anhedonia and Schizophrenia-Spectrum Personality Traits in a Clinical High-Risk Sample of Adolescents and Young Adults
Andrea M. Auther, Christopher W. Smith, Christopher R. Bowie, Todd Lencz, and Barbara Cornblatt.
The Zucker Hillside Hospital

The Recognition and Prevention (RAP) Program is a research program and a full service clinic specializing in the assessment and treatment of adolescents and young adults at clinical high-risk for developing schizophrenia-spectrum disorders. One focus of this program is to identify early clinical symptoms, specifically attenuated positive and negative symptoms, that predict future breakdown. One prominent early symptom appears to be social isolation/withdrawal. When measured by the Chapman’s Social Anhedonia subscale, this trait enhances the prediction of college students who will experience a psychotic breakdown and is associated with a higher rate of schizophrenia-spectrum personality traits. However, these findings have not been extended to an adolescent clinical high-risk population. This study will examine the incidence of psychosis proneness and schizophrenia-spectrum personality traits in an adolescent clinical high-risk sample and will determine if commonly used measures of schizotypy can discriminate between the high-risk sample (n = 78) and controls (n = 62). All participants will complete the Chapman Scales of Psychosis Proneness and will be interviewed with the Structured Interview for the Diagnosis of Personality – DSM-IV (SIDP-IV). Particular attention will be paid to differences between groups on the Social Anhedonia subscale of the Chapman measure. The differences between methods of data ascertainment will also be examined by comparing self-report and interview measures. This investigation may aid in the development of an early screening battery that could be used to identify treatment seeking young people at clinical risk for serious mental illness.

142. Factorial Structure of Hallucination Predisposition
Nadine Chang, Jaime Elliot, Tommy Kot, Rachal Basher, Chris Bowie, Philip Harvey and Mark Serper
Hofstra University, NYU School of Medicine

The notion that schizophrenia-like traits and behavior occur in the general population is an old one (e.g., Sidgewick, 1894), and studies over the years have consistently found that many normal individuals report aberrant perceptual disturbances and other psychotic-like behaviors when asked the relevant questions regarding their experiences. Taken together, past findings indicate that schizophrenic-like perceptual aberrations are distributed normally within the population and only become manifest or symptomatic in individuals with a higher predisposition and under certain conditions, like environmental stress or internal arousal. The present report examined the factorial structure of hallucination predisposition using the Launey-Slade Hallucination Scale in normal (n=800), as well as psychotic but non-hallucinating (n= 60) and actively hallucinating (n=60) schizophrenic groups. Results will be discussed with regard to the continuum symptom model of psychotic symptom expression.

143. Dermatoglyphic Anomalies in Psychosis-Prone Young Adults
James T. Chok, Thomas R. Kwapis, and Angela Scheuermann
University of North Carolina at Greensboro

The present study examined dermatoglyphic anomalies as a marker of schizotypy in young adults. Dermatoglyphic anomalies are
hypothesized to indicate disruptions in the second trimester of prenatal development, a time period that appears to be critical in the etiology of schizophrenia. Schizotypic (n = 45) and control (n = 63) participants were selected based upon their scores on the Perceptual Aberration (Chapman, Chapman, & Raulin, 1978) and Magical Ideation Scales (Eckblad & Chapman, 1983). It was hypothesized that the Perceptual Aberration-Magical Ideation participants would differ from the control participants on rates of dermatoglyphic anomalies. The Perceptual Aberration-Magical Ideation group exhibited lower absolute finger ridge counts, less complex pattern types, and fewer triradii than control participants-findings consistent with anomalies reported in patients with schizophrenia. The groups did not differ on measures of fluctuating dermatoglyphic asymmetries. These findings encourage future examination of these anomalies in individuals at-risk for schizophrenia and related disorders.

144. An Exploration of Perseveration in Schizophrenia.
Ruth E. Dangelmaier and Nancy M. Docherty
Kent State University

Sandson and Albert (1984) have defined perseveration along three dimensions: continuous (failure to terminate a discrete response), recurrent (repetition of a previously emitted response to subsequent stimuli), and stuck-in-set (failure to switch modes after a shift in response-outcome contingencies). The current study seeks to examine these three layers of perseveration in a sample of schizophrenic inpatients. The number of perseverative responses to a word-listing task measured continuous preservation. Recurrent perseveration was measured as the number of times a topic inappropriately reoccurred during a ten-minute speech sample. The Wisconsin Card Sorting Test measured stuck-in-set perseveration. Preliminary results suggest that high levels of perseveration on the WCST (the traditional way of measuring perseveration) do not necessarily relate to perseveration in other forms. Possible explanations for the inconsistency in perseveration, as well as implications for the definition of perseveration, will also be discussed.

145. Working Memory Dysfunction in Schizophrenia: Evidence for Static Deficits
John A. Bates(1), Ray Johnson, Jr.(2), Howard Ehrlichman(2), Daniel C. Javitt(3), and Robert M. Bilder(3)
1) The Zucker Hillside Hospital
2) C.U.N.Y. Queens College
3) Nathan Kline Institute

Evidence supports an integral relationship between pre-frontal cortex (PFC) function and working memory (WM). Recently PFC and WM have been implicated as structures and functions respectively, that may underlie some of the cognitive deficits and symptomatology observed in schizophrenia. The present study employed tests of auditory-verbal WM (Letter Number Span (LN Span)) and visual-verbal WM (Continuous Performance Test (CPT)), in sixteen clinically and diagnostically stable schizophrenic outpatients and sixteen well matched healthy controls. Multi-modal WM dysfunction in schizophrenia subjects was evidenced in the present study. Auditory-verbal WM (LN Span) showed clear deficits in the patient group. Moreover, in the visual-verbal modality (CPT), patients consistently displayed reduced accuracy and increased reaction times (RT) across tasks. However, patient performance did not worsen when task complexity and delay intervals were increased, suggesting a generalized cognitive deficit, rather than a dysfunction specific to WM processes. Response inhibition, indexed by false alarms in the CPT, was worse in the schizophrenic group at a trend level. Poor response inhibition is suggestive PFC dysfunction and is consistent with other evidence implicating frontal structures in the deficits observed in schizophrenia.
Stressful life events have been linked to the onset and relapse of psychotic symptoms among individuals vulnerable to schizophrenia. However, the identification of psychological factors that may influence sensitivity to psychosocial stressors among vulnerable individuals has received minimal attention, particularly during the early stage of this disorder. In this prospective, longitudinal study, recent-onset schizophrenia patients (n = 78) and matched controls (n = 73) completed monthly life events assessments over a 12-month period and provided subjective appraisal ratings of experienced life events in terms of desirability, controllability, how well events were handled, and emotional distress. Schizophrenia patients experienced significantly fewer major and minor life events per month than controls and differed in their pattern of subjective appraisals. For major life events, patients' ratings of desirability and distress were similar to controls for positive and negative events, but patients appraised these events as handled less well. For minor life events, patients appraised positive events as less desirable and negative events as less distressing than controls, but appraised both positive and negative events as less controllable and handled less well. Results suggest that even in the early stage of schizophrenia, patients express diminished self-efficacy and tend to appraise both positive and negative minor life events within a narrow emotional range relative to controls.

The construct of expressed emotion (EE) refers to the emotional attitudes towards a patient with a mental disorder by his or her relative(s). Studies in the U.S. and England demonstrate that EE is related to relatives’ causal beliefs of the schizophrenia patient's negative behaviors. However, such a link has not been assessed in China, where cultural attribution patterns and causal models of schizophrenia differ from Western countries. We examined the relationship between relatives’ causal attributions and EE by examining 48 Camberwell Family Interviews collected from 1990-1999 in three cities in China. Spontaneous causal attributions were extracted from these interviews using the Leeds Attributional Coding System. Consistent with theoretical predictions, among attributional variables indicating that the patient played a causal role in his or her own negative behaviors, high critical and high critical/hostile EE groups articulated attributions that were more controllable and personal than high emotionally overinvolved and low EE groups. A combination of EE measures with controllability and personal attributional variables significantly predicted relapse at 18 months among Chinese patients with schizophrenia. Although there was a trend for EE alone to predict relapse at 18 months, controllability and personal attributions incrementally improved prediction when considered in conjunction with EE.
M. T. D. Knight, T. Wykes, T., and P. Hayward
Institute of Psychiatry, London.

The nature of the correlation between stigmatisation and self-esteem has implications for the theoretical understanding of stigma, and for the focus of specific subject areas within a therapeutic intervention. Previous research has demonstrated the prevalence of lowered self-esteem in persons with mental illness (Freeman, et al., 1998; Leclerc, et al., 2000), and the role of stigma and perceived stigma upon self-esteem (Link, 2001; Penn and Martin, 1998). Perceived stigma, and the diminished self-efficacy that results from self-stigma, can prove a further barrier to recovery and rehabilitation. Knight and colleagues (2001) examined the perception of stigma among individuals with schizophrenia and reported that insight and IQ influence the level of perceived stigmatisation. The current study (n = 50) investigates the putative ramifications of such stigmatisation, and the nature of its association with an individual's self-esteem. A model is proposed in which the relationship of perceived stigma and self-esteem affects, and is modified by, coping, depression, empowerment and IQ, and is tested using covariance modelling techniques. The study also investigates the assertions that empowered consumers endorse positive attitudes about themselves despite societal stigma (Corrigan et al., 1999), and that stigma coping orientations of avoidance, education and secrecy are counterproductive (Richman, 2001).

149. MMPI Correlates of Unawareness of Illness in Schizophrenia.
Victoria Irzhevsky, Kenneth L. Subotnik, Jim Mintz, and Keith H. Nuechterlein
University of California, Los Angeles

Psychological defensiveness may be a contributor to unawareness of illness (poor insight) in schizophrenia, albeit one that is difficult to measure. We examined the relationship between insight and psychometric indexes of psychological defensiveness in 30 outpatients with a recent onset of schizophrenia who were treated with risperidone, psychoeducation, group therapy, and individual case management. The Scale for Unawareness of Mental Disorder (SUMD) and the Minnesota Multiphasic Personality Inventory (MMPI) were administered soon after the index episode. It was hypothesized that scales presumed to be indicative of psychological defensiveness, K, Hy, and R, would be related to unawareness of illness. Higher scores on these scales were associated with poorer overall awareness of having a mental disorder (logistic regression likelihood ratio: p < .02). Stepwise regression identified scales Hy (p < .05) and R (p < .02) as making significant independent contributions to predicting unawareness of mental disorder. Thus, in addition to neurocognitive deficits that have been previously identified, psychological defensiveness is likely to be a contributor to unawareness of illness in schizophrenia patients.

150. Examining the Relationship Between Controllability Attributions and Attitudes Toward People with Schizophrenia
Stephen M. James, Michael L. Hirt, and Nancy M. Docherty
Kent State University

Weiner’s research on stigma has suggested that negative conditions deemed controllable lead to more negative attitudes than negative conditions viewed as uncontrollable. This study assessed whether controllability attributions negatively influence attitudes toward people with schizophrenia. People who abuse drugs and/or alcohol were used as a comparison group. It was predicted that controllability attributions would be minimally related to attitudes toward people with schizophrenia but would be related to more negative attitudes toward people abusing substances. Participants were 200 college students. Participants read a vignette describing the behaviors of either a person with schizophrenia or a person abusing substances and then filled out attitude measures and an attribution of controllability measure.
Correlations were used to determine relationships between attributions of controllability and attitudes. Results did not support the idea that perceptions of controllability were associated with more negative attitudes toward either group. In fact, there was some indication that perceptions of controllability of behavior were associated with more positive attitudes, especially in the substance abuse condition. The findings suggest that overall perceptions of controllability of behavior may not lead to more negative attitudes.

Junghhee Lee and Sohee Park
Vanderbilt University

CPT has been suggested to tap sustained attention but some versions of the CPT may also assess working memory. To perform CPT-AX or CPT-IP successfully, subjects must maintain the preceding cue during a short period. The underlying mechanism of CPT deficit in schizophrenia patients is not clearly understood although CPT deficit may be useful as a vulnerability marker of schizophrenia. Recent studies suggest that encoding problems may lead to deficits in working memory and attention. Therefore by facilitating encoding, it might be possible to improve working memory and attention. The major goal of this study was to improve CPT-AX performance in schizophrenia patients by manipulating the salience of the target to maximize the role of stimulus-driven attention at encoding stage. We manipulated target salience by using an occasional red target in CPT single or red cue in CPT-AX. Working memory component within the CPT-AX was manipulated by varying the interstimulus interval (ISI). Salient (red) stimuli improved the performance of schizophrenia patients in CPT-AX with long ISI condition, relative to normal controls, but not in CPT-AX with short ISI or CPT-Single. Furthermore this effect was not due to the speed-accuracy tradeoff. These results suggest that facilitating encoding may be a key to improving attention and working memory in schizophrenic patients.

152. Specificity vs. Generality of Verbal and Spatial Working Memory Deficits in Medicated Schizophrenia Patients
Theresa M. Becker(1,2), Angus M. MacDonald(2), Melissa K. Johnson(2), Christy E. Belanger(2), Rachel K. Walfish(1), James Baird(3), Michael F. Pogue-Geile(1), Cameron S. Carter(1,2)
1) University of Pittsburgh, Department of Psychology
2) University of Pittsburgh School of Medicine, Department of Psychiatry
3) Mayview State Psychiatric Hospital

The construct of working memory and its subcomponents were examined in terms of a differential deficit, a vital component of the identification of the neural or genetic causes of schizophrenia. We hypothesized that the visuospatial sketchpad and central executive would be impaired in patients, but the phonological loop would remain intact. This study evaluated these potential impairments using four working memory tasks comparing both verbal and spatial memory using storage and executive processes in schizophrenia patients and normal controls. Discriminating power was matched across tasks to allow for the demonstration of a differential deficit. Contrary to expectation, impairments were noted in all aspects of working memory, including phonological and spatial storage and phonological and spatial executive processing. These results have several interpretations. Patients could be impaired in the storage component of working memory, which is a necessary aspect of all the conditions. Furthermore, working memory as a construct could be differentially impaired relative to other constructs necessary for cognitive functioning or may be a part of the generalized deficit in schizophrenia patients. The results are significant in that they suggest verbal vs. spatial
modality differences prevalent in the literature may be measurement artifacts.

**153. Dynamic Perceptual Grouping in Schizophrenia: Effects of Presentation Context and Learning.**
Sandra M. Wilkniss(1), Steven M. Silverstein(1), Michi Hatashita-Wong(1), Lindsay Schenkel(1), Ilona Kovács(2), and Akos Fehért(2)
1) Weill Medical College of Cornell University
2) Laboratory of Vision Research, Rutgers University

Schizophrenia patients have demonstrated abnormalities on a variety of tests of perceptual organization. Using a psychophysically rigorous measure of contour integration, we recently demonstrated that compared to psychiatric and nonpatient controls, schizophrenia patients were less able to detect contours comprised of Gabor elements as the detection of these contours relied increasingly on long-range spatial interactions (Silverstein et al., 2000). In this study, we sought to determine whether: 1) repeated exposure to the stimuli leads to improved task performance; 2) deficits in baseline performance and/or learning are similar in schizophrenia and other psychotic disorder patients, and 3) presentation context (i.e., presenting stimuli in order of increasing difficulty versus randomly) effects performance and/or perceptual learning. Results indicate that schizophrenia patients' performance shows no effect of either presentation context or learning with repeated exposure regardless of acuity status (acute, chronic, and outpatient). However, the other psychotic disorders group (OPD) showed improved performance with repeated exposure across levels of acuity. Chronicity was a significant factor in the OPD group with more chronic patients performing worse at baseline than the schizophrenia group but still showing improved performance with exposure. Nonpatient controls showed learning with exposure in the random compared with the sequential context condition but reduced range of performance in the latter was likely due to a ceiling effect.

**154. Interpersonal Attributional Biases in Hallucinatory-Prone Individuals**
Eva Levine, Heather Jonas and Mark Serper
Hofstra University and NYU School of Medicine

Research in the area of auditory hallucinations has found that the reporting of hallucinatory experiences is influenced by a bias towards making an external attribution for private events and experiences. The current study examined whether external attributional biases in hallucinatory experiences extends to the interpretation of interpersonal events. University students scoring high and low on the Launay-Slade Hallucination Scale (LSHS) were compared on self-report > measures of locus-of-control orientation, psychosis proneness and on the Phares (1957) “betting task” designed to encourage internal locus-of-control attributions. We predicted that high LSHS scorers would be less susceptible to a reinforcement paradigm designed to encourage internal locus-of control judgments compared to low LSHS scorers. While the two groups did not significantly vary in their responses to the internal/external locus of control manipulation, our results suggested that hallucinatory predisposed individuals are less likely to show increased success expectancy following reinforcement and to decrease success expectancy following failure than were non-predisposed subjects and that LSHS scores was significantly associated with subjects’ locus of control orientation on the Rotter IE scale and Chapman Psychosis Proneness scales.

**155. Time of Day of Testing (TOD) and Cognitive Functioning in Schizophrenia: Associations with Awareness of Illness**
Felicia D. Reynolds, Craig Neumann, and Andrea R. Gonterman
University of North Texas

Past research has shown that schizophrenia patients show variations in neurocognitive
abilities as a function of time of day of testing (TOD). Specifically, participants exhibited better visual memory performance during afternoon compared to morning testings (D'Reaux, Neumann, & Rhymer, 1999). The current study sought to replicate the TOD effect and determine if improvements in cognitive functioning were associated with awareness of mental illness (i.e., insight). Forty individuals diagnosed with a schizophrenia spectrum disorder were rated on David's Schedule for Assessing Insight-Expanded and completed Birchwood's self-report Insight Scale. Cognitive assessments included measures of attention, verbal and visual memory, and executive functioning. The results showed that patients performed better during afternoon compared to morning testings, but the TOD effect was only evident for nonverbal visual attention and visual memory. Verbal memory and executive functioning did not change as a function of TOD. Finally, individuals judged to have good insight displayed better nonverbal visual attention. The findings suggest that certain cognitive abilities improve during afternoon testings and that such improvements may be associated with insight. The results have implications for research on cognitive functioning in schizophrenia, and may help in further understanding the lack of insight characteristic of individuals with psychosis.

156. Social Inference in Schizophrenia: Relationships with Childhood Functioning and Later Cognitive Impairment
Lindsay S. Schenkel and William D. Spaulding
University of Nebraska-Lincoln

Poor social functioning is commonly observed in individuals with schizophrenia spectrum disorders and is thought to be one of the core features of the illness. In particular, the ability to understand the mental states and intentions of others has been shown to be markedly impaired. However, less is known about the development and underlying cognitive processes associated with these deficits in schizophrenia. Using the Hinting Task, the present investigation examined the relationship between childhood social functioning and later social inference ability, context processing, social learning, and executive functioning in adult patients diagnosed with schizophrenia or schizoaffective disorder. Overall, patients with more impaired social inference abilities had more difficulty making friends and getting along with peers during childhood. In adulthood, poor social inference ability was associated with deficits in social learning, visual perceptual organization, and verbal fluency. Social inference ability was not associated with symptomatology ratings, measures of executive functioning, age, gender, number of previous hospitalizations, or education. Results suggest that social inference deficits among individuals with schizophrenia may become apparent early in life and are likely mediated by a combination frontal lobe functioning and basic context processing abilities. These results replicate previous findings linking impaired social inference in schizophrenia with measures sensitive to verbal fluency and social learning.

157. Childhood Assessed Minor Physical Anomalies and Symptom Profiles in Adulthood
Jason Schiffman, Sharon Ishikawa, and Sarnoff Mednick
University of Southern California

Research suggests a link between early environmental gestational disturbances during the 2nd trimester of human fetal development and adult schizophrenia. Two studies note predominately paranoid symptoms characterizing schizophrenia patients experiencing an environmental 2nd trimester disruption. Minor physical anomalies (MPAs) relate to schizophrenia, and may mark environmental disturbances occurring during the 2nd trimester. Longitudinal studies comparing genetically "high" and "low-risk" children ("HR," "LR;" i.e., children born to parents with and without hospital records of schizophrenia respectively) suggest a specific association between MPAs and schizophrenia among
genetically vulnerable (HR) individuals. The effects of MPAs on a specific symptom presentation in HR subjects, however, have yet to be investigated. The present investigation uses a longitudinal data set to study the relation between childhood assessed MPAs and adult paranoid symptoms, as assessed through the MCMI-II, among HR and LR subjects. Results indicate a significant relation between MPAs and the Paranoid Scale among HR subjects. The MCMI-II scales are highly correlated. We therefore performed follow-up analyses assessing the relation of MPAs to other psychopathology scales. The results from these analyses suggest that MPAs among HR subjects correlate with general psychopathology as assessed through the MCMI-II, and do not appear specific to the Paranoid Scale.

158. Effects of Antidepressant and Atypical Antipsychotic Interaction on Maintenance of a Visual Signal
Summer Sheremata and Yue Chen
Harvard Medical School

Serothonergic and dopaminergic blockade are central to atypical antipsychotic (APD) efficacy. However, many schizophrenia patients take other medications, in addition to APDs, that may affect activity of these neurotransmitters. Here, we investigated a visual processing deficit in schizophrenic patients taking antidepressants and APDs. Six patients taking APDs and antidepressants and nine patients taking only APDs completed a visual task that requires maintenance of visual information across two time intervals per trial. In this task, a moving grating appeared either at the first or the second interval. Subjects indicated at which interval the grating appeared. The time between intervals was 500 msec. Contrast of the grating was adjusted according to a staircase procedure. Subjects also completed a task using identical stimuli but not requiring maintenance of visual information; in this task, the grating appeared at each interval and subjects simply indicated direction of motion. Performance on the task requiring maintenance of visual information was significantly poorer in the patients taking APDs and antidepressants than those taking only APDs. In contrast, performance on the task not requiring signal maintenance did not differ between groups. The results suggest that the interaction between APDs and antidepressants hinders schizophrenia patients’ maintaining a visual signal under 1000 msec.
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Friday, September 27th

8:15-8:30 AM - Welcoming Remarks
Raymond A. Knight and Ann Kring

8:30-9:30 AM - Invited Talk I
Barbara Knowlton
Psychiatric manifestations of basal ganglia disorders

9:30-10:30 AM - Paper Session I
Cognitive Functioning in Schizophrenia and Developmental Disorders
Chair: Steven Silverstein

1. Thought Disorder in Clinically Unaffected Relatives of Schizophrenia Patients: Implications for Linkage Studies
Deborah L. Levy, Fei Ji, Ayse Ulgen, Michael Coleman, Dewon Shon, Steven Matthysse, Philip S. Holzman, and Nancy R. Mendell
McLean Hospital, Harvard Medical School, Department of Applied Mathematics and Statistics, SUNY at Stony Brook

Traits that are correlated with schizophrenia and that are more prevalent than schizophrenia among clinically unaffected first-degree biological relatives, may be pleiotropic manifestations of the gene(s) for schizophrenia. These more penetrant traits may enhance the power of linkage studies to detect a predisposing locus. In this study we show that both categorical and quantitative measures of thought disorder (TD) support the specificity of selective kinds of TD as a schizophrenia-related trait, both in patients and in their clinically unaffected relatives. Thought disorder with "schizophrenic" features occurred at a significantly higher rate in schizophrenic patients and their siblings than in bipolar patients, their siblings, and nonpsychiatric controls. A quantitative TD score, QTD, mirrored the findings based on categorical assignments, distinguishing schizophrenic patients and their siblings from bipolar patients, siblings of bipolar patients and nonpsychiatric controls with excellent specificity and sensitivity. These results were replicated in an independent sample of unaffected siblings of schizophrenic patients and in a combined group of siblings, parents and adult offspring of schizophrenic patients. The findings indicate that TD can be considered as both a qualitative phenotype and as a quantitative phenotype in linkage studies of schizophrenia.

2. Slowed Consolidation of Items Into Working Memory in Schizophrenia
James Gold(1), Rebecca Fuller(1), Christopher Wilk(1), Robert McMahon(1), and Steven Luck(2)
1) University of Maryland Baltimore
2) University of Iowa

This study examines the time course for consolidation of information into working memory in 16 schizophrenia patients and 16 healthy controls. Subjects performed 3 visual change detection tasks where a target display was followed by a 1000ms delay, followed by a test display requiring a same/different response. In task 1, a single item target array was exposed for 1000ms, but the 3 item 100ms test array was masked at 5 different intervals (17-483 ms) to determine the rate subjects were able to perform perceptual discriminations. Each group demonstrated masking (compared to their no-mask condition) for the 17 ms interval only. In the second task, the test array included 3 colored rectangles and an unfilled delay. No group differences were observed in this condition. The third task differed from #2 by the inclusion of pattern masks at 5 intervals (as above) during the delay period. Major results: Controls only differed from no-mask performance at the 17 and 133ms intervals: patients demonstrated masking (relative to controls and their own no-mask performance) at the 250,367, and 483ms mask intervals. Thus, WM consolidation is dramatically prolonged in schizophrenia and this impairment cannot be explained on the basis of perceptual level masking effects. Acknowledgement. This research was supported by NIMH grant 2 R21 MH65034-01.
3. Spared and Impaired Executive Function as Measured by Saccadic Tasks in Developmental Social Processing Disorders.
Dara S. Manoach, Kristen A. Lindgren, and Jason J. S. Barton
Harvard Medical School

The prefrontal cortex mediates executive functions including the inhibition of reflexive behavior and switching between activities at will. We investigated inhibition and task-switching using identical saccadic tasks in 28 individuals with developmental social processing disorders (SPDs, right hemisphere learning disability, Asperger’s Disorder or both) and 22 demographically-matched healthy subjects. Subjects performed randomly-mixed sequences of prosaccade and antisaccade trials. This gave rise to four trial types: prosaccades and antisaccades that were either repeated or switched. Response accuracy and latency were measured and the costs of inhibition and task-switching were derived. Consistent with our previous findings (Manoach et al., 1997), SPD subjects displayed significantly increased latency and error costs for inhibition. However, their task-switching costs were normal. This demonstrates selective rather than general impairments of executive functions in SPDs. We hypothesize that inhibition and task-switching are mediated by distinct prefrontal networks, only one of which is dysfunctional in SPDs. Such behavioral findings can guide investigations of dysfunctional neural circuitry in SPDs. More generally, this study demonstrates that different types of executive functions and their interactions can be examined within a single paradigm and that the findings can constrain hypotheses regarding the systems of exercising such control in both normal and pathological populations.

12:00-1:15 PM – Discussion Lunch
Robert Heinssen
The Translational Research Initiative at NIMH: Bringing Science into Practice

1:30-3:00 PM – Symposium I
Clinical and Psychophysiological Markers of Risk for Depressive Disorders
Chair: Gerard E. Bruder

Children of depressed parents are at increased risk for major depressive and anxiety disorders. This symposium will present findings from a multigeneration, longitudinal study of offspring of depressed or non-depressed probands. The main aim of this study has been to understand the long term nature and familial patterns of psychiatric and behavioral problems of high risk offspring from childhood, adolescence, and through young adulthood. More recently, psychophysiological measures were added as potential biological markers of risk for developing depressive or anxiety disorders. In the first presentation, Dr. Weissman will present preliminary clinical findings of diagnostic assessments for 2nd and 3rd generation offspring with particular attention to the nature and extent of psychopathology and its aggregation in families of depressed probands. Dr. Grillon will then present preliminary startle response findings for offspring tested in two fear-potentiating paradigms, and Dr. Bruder will present resting electroencephalographic (EEG) findings for 2nd and 3rd generation offspring. The findings have importance for developing clinical and biological markers for identifying high risk offspring who may benefit from preventive interventions. Dr. Hammen will discuss the presentations from the perspective of clinical issues and familial patterns of depression, and Dr. Heller will discuss neurophysiologic and methodological issues.

11:00 AM - 12:00 PM – Presidential Address
Raymond A. Knight
Hunting Snarks and Battling Jabberwocks: A Knight’s Quest for Etiology and Typology in Sexual Aggression against Women
1. Offspring at High Risk for Depression: Preliminary Findings from a Three Generation Study
Myrna Weissman, Virginia Warner, Yoko Nomura and Priya Wickramaratne
Columbia University College of Physicians and Surgeons and New York State Psychiatric Institute

Numerous studies have shown the familial transmission of major depression (MDD) in adult first-degree relatives of depressed patients. Many studies have also shown that MDD beginning in childhood and adolescence is the most familial form of depression. Consistent with these findings, children at high risk for MDD due to parental MDD as compared to children of controls have shown about a 3-fold increased risk of early onset MDD. None of these studies go beyond two generations; rarely, with few exceptions have both parents been assessed, and with one exception the studies were not longitudinal. Thus, conclusions about sequence of disorder, early signs, specificity, and stability of transmission of MDD are limited. We will present preliminary findings from our high risk longitudinal study aimed at understanding the timing, sequence and familial transmission of MDD across the generations. By following the 2nd and 3rd generation of a cohort, with well defined MDD (generation 1) as compared to matched non psychiatrically ill controls, their offspring and grandchildren, we aimed to understand stability of risk across the generations; to identify premorbid vulnerability factors; and to use this information to suggest appropriate and targeted preventive interventions. This talk will present early clinical findings.

2. The Startle Reflex: A Psychophysiological Index of Vulnerability to Mood and Anxiety Disorders
Christian Grillon, Jeffrey Hille, Virginia Warner, and Myrna Weissman.
National Institute of Mental Health

The startle reflex, a cross-species response to strong exteroceptive stimuli with abrupt onset, provides a particularly salient paradigm to identify markers of familial MDD characterized by early onset anxiety. Substantial evidence suggests that startle is potentiated by fear and anxiety. Research in our laboratory has demonstrated that the startle reflex may constitute a vulnerability marker for anxiety disorders. The most compelling feature of the startle reflex is abundant basic research that informs its underlying anatomic and functional basis. In rats, the central nucleus of the amygdala and the bed nucleus of the stria terminalis are critically involved in startle potentiation during aversive states. Thus, with its grounding in basic behavioral and neurophysiologic research, and consistent findings across human and animal studies, the startle reflex provides an extremely powerful tool to investigate aversive responses in anxiety and affective disorders. We have developed two ethically appropriate procedures to generate robust fear-potentiated startle in children and adults. One uses threat of an intense jet of air to the throat. The other examines anxiety responses in darkness. Preliminary results using these two procedures in children and grandchildren of probands with MDD will be presented and discussed in light of neurobiological studies in animals.

3. Electroencephalographic (EEG) Findings in Offspring at High and at Low Risk for Depression
Gerard Bruder, Craig Tenke, Jeffrey Hille, Paul Leite, Virginia Warner, and Myrna Weissman
Columbia University College of Physicians and Surgeons and New York State Psychiatric Institute

EEG studies in adults have found abnormal patterns of regional hemispheric asymmetry that characterize depressive and anxiety disorders. Findings in infants and young children at risk for depressive disorders, by virtue of family history of depression or temperament, suggest that EEG alpha asymmetries may be vulnerability markers.
for depressive and anxiety disorders. In an ongoing longitudinal study, resting EEG is being measured in 2nd and 3rd generation offspring of depressed versus non-depressed probands (1st generation) to evaluate this hypothesis in high and low risk offspring. Preliminary findings for 61 offspring in the 2nd generation show a difference between high and low risk offspring in parietal, but not frontal, alpha asymmetry. High risk offspring show evidence of less activation (greater alpha) over right than left posterior sites, which is not seen for low risk offspring. This finding is consistent with reduced right posterior activation seen in EEG studies of depressed adults and adolescents. High risk offspring in the 2nd and 3rd generation also showed less power in the theta band when compared to low risk offspring. The EEG findings in high risk offspring may be related to an abnormality in a network involving both anterior cingulate and right parietal cortex.

4. Discussant: Clinical Issues and Familial Depression
Constance Hammen
UCLA

Dr. Hammen will discuss the clinical findings of the presentations from the perspective of vulnerability factors for familial depression.

5. Discussant: Neurophysiologic and Methodological Issues
Wendy Heller
University of Illinois

Dr. Heller will discuss the methodological and neurophysiological implications of the presentations, with particular focus on the potential of psychophysiological measures as markers of risk for developing depressive and anxiety disorders.

3:30-5:00 PM – Symposium II
Parsing Psychopathology into More Etiologically Homogeneous Subtypes and Dimensions
Chair: Joseph Newman

There has been an explosion of interest and knowledge in the field of psychopathy since publication of Hare’s Psychopathy Checklist and Psychopathy Checklist-Revised (PCL-R; 1991). Using these measures, researchers have demonstrated that psychopathy is an outstanding predictor of antisocial conduct and criminal recidivism. Despite its excellent predictive validity, researchers often supplement PCL-R assessments using other measures or focus on sub-factors of psychopathy when investigating etiologically relevant variables. Increasingly, investigators recognize that progress in understanding, treating, and preventing psychopathy may require identification of more etiologically homogeneous subtypes and dimensions. This symposium highlights four approaches to parsing the heterogeneity of psychopathy. Analyses reported by Patrick and Kosson use cluster analysis to identify psychopathic subtypes. Despite using different measures and methods, both analyses distinguish primary psychopaths from another subtype displaying high levels of anxiety/negative emotionality and substance abuse. Newman and colleagues adopt an a priori strategy to identify primary and secondary subtypes and then examine their association with fearlessness and reward sensitivity using self-report and laboratory measures. Lynam and Widiger employ a variety of methods to demonstrate the utility of the Five-Factor Model for addressing the heterogeneity of psychopathy. Our discussant, Robert Hare, will discuss the alternative approaches and provide his perspective on parsing the heterogeneity of psychopathy.

1. Identifying Homogeneous Subgroups of Offenders with Psychopathic Traits
David S. Kosson, Marc Swogger, and Jasmin Vassileva
Finch University of Health Sciences / The Chicago Medical School

Both clinical accounts and research suggest that there may be meaningful subgroups of offenders with psychopathic traits. However, researchers
have not agreed about which or even whether subgroups are meaningful. For this reason, we address this issue using the atheoretical method of cluster analysis. Our initial study examined 200 male inmates in a county jail near Chicago. The variate included the two empirically validated Psychopathy Checklist-Revised (PCL-R) factors, the Interpersonal Measure of Psychopathy (IM-P), and measures of trait anxiety, alcohol, and drug abuse. Of the four clusters that emerged, two were comprised of offenders with high PCL-R scores. One cluster, Cleckley psychopaths, had high scores on PCL-R Factor 1 and the IM-P but average scores on other measures. A second cluster, secondary psychopaths, had high scores on PCL-R Factor 2, trait anxiety, and drug and alcohol abuse but average scores on other measures. Cleckley psychopaths were charged with more violent offenses than men in other clusters; secondary psychopaths were older and characterized by more nonviolent charges than men in most other clusters. A second study addresses whether these findings replicate in independent samples: (1) when separate analyses are conducted for Caucasian versus African-American offenders, and (2) with some different measures in the variate.

2. Profiling the Psychopath: Temperament-Based Subtypes
Christopher J. Patrick, Brian M. Hicks, Kristian Markon, and Robert F. Krueger
University of Minnesota

We used a statistical goodness-of-fit method, model-based cluster analysis, to identify subtypes of psychopathic criminal offenders defined on the basis of temperament trait profiles. Participants were 96 male prison inmates diagnosed as psychopathic using Hare’s (1991) Psychopathy Checklist Revised. Personality was assessed using the brief form of the Multidimensional Personality Questionnaire (MPQ-BF; Patrick, Curtin, & Tellegen, in press), which covers a range of trait constructs in the domain of temperament. The best fitting model was one involving two clusters. Stable psychopaths were characterized by low Stress Reactivity and high Agentic Positive Emotionality—a personality profile that is consistent with the concept of the “primary” psychopath. Aggressive psychopaths exhibited high Negative Emotionality, low Constraint, and low Communal Positive Emotionality—a personality profile that has been linked to chronic antisocial behavior and substance abuse (i.e., “externalizing” psychopathy). These results suggest that psychopaths as defined by the PCL-R comprise distinct subgroups that are differentiable in terms of personality structure and which may reflect different etiologies.

3. The Role of Fearlessness and Anxiety in Identifying Primary and Secondary Psychopathy
Joseph P. Newman, Donal G. MacCoon, and Leah J. Vaughn
University of Wisconsin

Investigators have traditionally distinguished between primary and secondary psychopathy. According to Cleckley (1976) primary psychopaths display “good intelligence”, absence of thought disorder, and minimal neurotic anxiety. Accordingly, researchers often exclude individuals with inadequate intelligence, psychosis, and high anxiety from their psychopathic samples. Other researchers (Lykken, 1957, 1995; Lilienfeld & Andrews, 1996), propose that fearlessness, as opposed to high anxiety, is a more relevant criterion for identifying primary psychopaths. Because neurotic anxiety and fearlessness are statistically independent (Watson & Clark, 1984), it is unlikely that these two methods identify the same individuals as primary psychopaths. Using measures of psychopathy (Hare, 1991), anxiety (Welsh, 1956), and fearlessness (Lilienfeld & Andrews, 1996; Tellegen, 1982), we examine the degree to which these methods (a) identify the same individuals; (b) map onto indicators of primary and secondary psychopathy such as Gray’s behavioral inhibition and behavioral activation systems; and (c) predict insensitivity to threat cues in a laboratory task. The results
suggest that (a) the two methods identify different participants; (b) low-anxious psychopaths report low sensitivity to threat whereas fearless psychopaths report hypersensitivity to reward; and (c) different processes underlie the insensitivity to threat cues demonstrated by both groups under laboratory conditions.

4. Using the Five Factor Model to Parse Psychopathy
Donald Lynam and Thomas Widiger
University of Kentucky

In this presentation, we argue that psychopathy is best understood as a constellation of common personality traits from the Five Factor Model of personality, a well-validated dimensional model of general personality functioning. We first provide a brief overview of the FFM and the evidence supporting it as a basic model of personality. Next, we review results from three approaches (i.e., conceptual translation, expert-ratings, and empirical relations) to describing psychopathy from the perspective of the FFM, provide a consensus FFM description, and present additional evidence consistent with this description. Additionally, we discuss and empirically demonstrate how the FFM accounts for certain facts within the field of psychopathy, namely why psychopathy is so strongly associated with antisocial behavior, the two-factor structure of the Hare Psychopathy Checklist, divergent conceptions of the successful psychopath, comorbidity with other disorders, and the litany of presumed psychopathic deficits. Finally, we conclude with implications of this model for research on psychopathy; these implications include the assessment of multiple deficits in the same sample, movement away from an extreme groups approach and towards an examination of individual components of the FFM description of psychopathy, and the use of the FFM to “diagnose” psychopathy.
Saturday, September 28th

9:00-10:00 AM – Invited Talk II
Stephen Grossberg
The Imbalanced Brain: From Normal Behavior to Schizophrenia

10:00-11:00 AM – Paper Session II (In-Depth Papers)
Methodological and Statistical Issues in Psychopathology Research
Chair: Greg Miller

1. Some Alternative Prediction Models for Psychopathology Researchers
Eric Turkheimer
University of Virginia

In the form of correlation and regression, ANOVA methods, or linear multivariate statistics, the general linear model is thoroughly entrenched as the dominant mode for statistical analysis of behavioral data. Unnoticed by most working researchers, in the last decade statisticians have developed a wide variety of alternative prediction models that leave behind linearity, additivity and parametric statistical assumptions. The defining characteristic of these methods is that they substitute cheap and plentiful computer power for simplifying if unrealistic statistical assumptions. Ironically, the models are probably particularly well suited to the weaker measurement properties of data commonly collected by behavioral scientists. This talk serves as an applied introduction to several of these methods, with emphasis on the general additive model (an additive nonlinear and nonparametric regression method) and classification and regression trees (which are nonlinear, nonparametric and nonadditive). Examples are presented from the personality, ability and psychopathology domains. In addition, I address the theoretical question of how linear models became so dominant in the first place, and show how abandoning the linear model could help the field wean itself from its chronic dependence on outdated null hypothesis significance testing methods.

2. Bayesian Strategies for Individualizing Group-Level Findings on Cognitive Psychopathology
Richard W.J. Neufeld, David Vollick, and Jeffrey R. Carter
University of Western Ontario, University College of the Cariboo, Madame Vanier Children's Services

Formal stochastic models of cognitive psychopathology can be used to profile patients' cognitive performance in terms of functions that are adversely affected and those that evidently are spared. One class of models that achieves this goal is composed of "mixture models". Mixture models accommodate individual-differences within groups of patients, and controls, in the formal expression of weaknesses and apparent strengths of cognitive transactions. For each group, performance-model parameters that are applicable to individual participants, are considered to be distributed randomly across the participants; psychopathology, then, is deemed potentially to affect the patients' parameter distributions. A major asset of mixture models is that they lend themselves to precise Bayesian statistical estimates of individual parameter values, in turn ushering in customized accounts of deviant cognitive-performance latency and/or accuracy. The method is numerically instantiated using the authors' published work on Sternberg-task stimulus encoding, among Paranoid Schizophrenia participants and relevant controls. Implications for elucidating selected aspects of individual symptomatology, and of stress-negotiation deficit, as well as for enhancing sample homogeneity in fMRI studies, are examined.
1. Life Events and Endogenous Depression: The Moderating Effects of Global Severity and Depression History
Kate L. Harkness
Queen's University

While theory suggests that endogenous depression is less likely to be precipitated by life events than non-endogenous depression, findings are controversial. Inconsistencies may be resolved by considering the moderating effect of other variables known to affect the event-depression association: global severity and depression history. The present sample comprised 76 women with major depression, of whom 31 met Research Diagnostic Criteria for endogenous depression. Life events occurring 3 months pre-onset were assessed with the Life Events and Difficulties Schedule, a rigorous contextual interview and rating system. Results indicated that the relation of pre-onset events to depression subtype was moderated by depression severity, such that endogenous depression was less likely to be precipitated by events than non-endogenous depression only for those of highest symptom severity. In addition, depression history moderated the relation between severity and events. Among those with few previous episodes, the presence of an event prior to onset was associated with increased depression severity, while no relation was found among those with multiple previous episodes. These results highlight the pathological heterogeneity of major depression, and are discussed in terms of whether endogenous depression is best defined qualitatively in terms of a unique symptom profile, or quantitatively in terms of global severity.

2. Identifying Patients with Schizophrenia who Benefit from Behavioral Family Management
Irwin S. Rosenfarb(1) and Alan S. Bellack(2)
1) Alliant International University
2) University of Maryland and VA Capital Network MIRECC

Do some patients with schizophrenia benefit from a short-term trial of Behavioral Family Management (BFM), even when already receiving supportive treatment? As part of the NIMH Treatment Strategies in schizophrenia (TSS) study, 76 patients and a relative (75% mothers) participated in 2 10-min. problem-solving discussions at baseline. Patients' odd thinking and relatives' negative affect during the interactions were examined and patients were followed for the next two years. Thirty-four patients and relatives participated in monthly psychoeducation support group meetings; the remainder received individual in-home BFM in addition to monthly family psychoeducation. After controlling for pharmacological intervention, a Cox regression analysis revealed a significant 3-way interaction among patients' odd thinking, relatives' negative affect, and type of family treatment in predicting days to first use of open-label medication in the TSS study. Post-hoc survival analyses revealed that when patients showed high levels of odd thinking with relatives and relatives showed high levels of negative affect with patients, BFM was associated with improved outcome. The results suggest that for patients from families with negative interaction patterns, a short-term trial of individual family treatment may aid in reducing relapse risk, even if families are already receiving monthly supportive psychoeducation.
3. Persistence And Implications Of Premorbid Cognitive Functioning Over A 20 Year Period In Individuals With Schizophrenia
Ellen S. Herbener and Martin Harrow
University of Illinois at Chicago College of Medicine

In the current study, we investigated persistence and change in cognitive functioning over a twenty year period in a sample of individuals with schizophrenia. In addition, we assessed whether differences in cognitive functioning achieved at the time of illness onset predicted course of cognitive and adaptive functioning over the next 20 years. Methods: 51 subjects with RDC diagnoses of schizophrenia were entered in the Chicago Follow-up Study during a psychiatric hospitalization, and followed up 2, 4.5, 7.5, 10, 15, and 20 years later. Results: Subjects showed quite consistent performance on cognitive measures across the 20 year period. Educational level assessed at time of hospitalization was able to predict some aspects of cognitive and adaptive functioning over the following 20 years. Trajectories for high- and low-educated groups were largely parallel, although there appears to be increasing divergence later in the course of illness for some variables. Discussion: Current results support conceptualizations of schizophrenia as a disorder in which cognitive functioning deficits occur prior to onset of illness. Better intellectual functioning at illness onset is related to a more positive trajectory of both cognitive and adaptive functioning over the next 20 years of illness.

4. A Randomized Controlled Trial of Cognitive-Behavioral Therapy for Older Patients with Schizophrenia: Improved Insight is Associated with Symptom Change
Eric L. Granholm, John R. McQuaid, Fauzia S. McClure, Paola Pedrelli, and Aaron T. Beck
VA San Diego Healthcare System and University of California San Diego

With the aging of the US population, there is increased demand for treatments for older psychiatric patients. Cognitive-behavioral therapy (CBT) improves outcomes in younger schizophrenia patients, but there is little research on psychotherapy for older patients. 50 middle-aged and older schizophrenia patients (M age = 55) were randomly assigned to either medication only or medication + CBT. Interventions were modified for use with older patients (e.g., targeting cognitive impairments, ageist beliefs, etc). Following 12 weekly 90-min group sessions, changes in positive and depressive symptoms were associated with changes in insight on the Beck Insight Scale (BIS), which is a new scale designed to tap aspects of thinking targeted by CBT. Patients in CBT showed significantly greater improvement in insight relative to controls. Greater increase in total BIS scores over three months of CBT was associated with greater reduction in positive symptoms. In contrast, greater improvement on a specific BIS subscale score, which may reflect reduced rigidity of beliefs, was associated with increased depression. Preliminary results from this trial in progress suggest that CBT interventions, when tailored for use with older patients with schizophrenia, can improve symptom outcome, but improvement may depend on changes in specific types of insight.

2:30-4:00 PM – Symposium III
Childhood Mood Disorders: Basic Processes, Longitudinal Outcome, and Treatment
Chair: David Miklowitz

The point prevalence of major depressive disorder among children may be as high as 2.5%, and among adolescents, 8.3%. Rates of bipolar disorder among children and adolescents appear comparable to rates among adults (1%). The increasing recognition of pediatric-onset mood disorders has led to new research on risk and protective factors in the developmental pathways to depression (from infancy to adulthood), longitudinal outcome of early-onset depressive disorders, and manual-based psychosocial treatments. The panel will examine
childhood depressive and bipolar disorders from the perspective of early mother/infant interactions in depressed women (Goodman), the interaction of life stress and cognitive-attributional patterns in predicting adolescent outcomes among children with depressed mothers (Garber), and outcome at age 30 among adolescents who initially met full or subsyndromal criteria for bipolar disorder (Lewinsohn). The fourth speaker (Miklowitz) will discuss early results from a treatment development study of family-focused psychoeducation for adolescents with bipolar disorder. The discussant (Hollon) will place the results within a developmental psychopathology framework, which views mood disorder as the product of a dynamic relation between the child's internal biological and psychological systems and social-contextual factors at different stages of development (Cicchetti & Rogosch, 2002; Sameroff, 2001). Discussion from the audience will be solicited following the panel.

References:

1. Treatment for Postpartum Depression: Secondary Benefits to the Infants?
Sherryl H. Goodman, Michelle R. Broth, Christine M. Hall, Erin C. Tully, and Zachary N. Stowe.
Emory University

As early as within the first few months after birth, infants of postpartum depressed mothers, relative to controls, have more social-emotional problems and neuro-regulatory dysfunction, each of which may be predictive of depression. Yet little is known about the variables that might influence either persistence of or recovery from these adversities. Data from the few longitudinal studies are suggestive of the persistence of children's problems despite the parent's recovery. We will present findings from a study that was designed to examine two of the variables that might be related to children's persistence of or recovery from early adverse outcomes: (1) the mother's reduction in depression symptoms and (2) an improvement in the quality of the child-rearing environment, both as a function of her treatment for postpartum depression. Participants were 19 depressed mothers and their less than six month old infants. Results will indicate the extent to which the mother's successful treatment for depression is associated with improvements in the quality of her parenting and whether such improvement relates to changes in the children. The findings contribute to the continuing discussion of risk and protective factors and developmental pathways toward depression in children.

2. Predictors of the Onset of Depression in Adolescents
Judy Garber(1), Nina Martin(1), and Margaret Keiley(2)
1) Vanderbilt University
2) Purdue University

The study examined the contribution of psychosocial risk factors to the prediction of the onset of depressive disorders in adolescents. Based on a review of the literature, we identified the following factors as potential predictors: maternal depression, sex, stress, and negative cognitions. The sample included 240 children (mean age = 11.86) first evaluated in 6th grade and assessed annually through 11th grade. The final sample of 240 families consisted of 185 mothers who had histories of mood disorders and 55 mothers who were lifetime free of psychopathology. Children's psychiatric diagnoses were assessed in 6th grade with the K-SADS for School-Aged Children and then annually with the LIFE Evaluation. Total level of stress ratings for the adolescents were derived from separate interviews with the adolescent and mother. A significant interaction between self-criticism (based on the Depressive Experiences
Questionnaire) and stress indicated that at higher levels of self-criticism, an adolescent was 8.5 times more likely to have an onset of a mood disorder per every 1-unit increase in the average level of stress compared to those at low levels of self-criticism. Furthermore, as stressors became more dependent on the adolescent's behavior, the likelihood of a depression onset became 10 times higher for adolescents whose mothers had a more chronic history of depression. The implications of these results for the prevention of mood disorders will be discussed.

3. Longitudinal Course of Bipolar Disorder from Adolescence to Age 30
Peter M. Lewinsohn, John R. Seeley, and Daniel N. Klein
Oregon Research Institute and State University of New York at Stony Brook

Our presentation will update findings for bipolar disorder from the Oregon Adolescent Depression Project, up to age 30. Semi-structured diagnostic interviews were conducted initially on 1,709 community-residing adolescents. Follow-up interviews were conducted one-year later, at age 24, and at age 30. Direct interview and family history data from the first-degree relatives were also obtained. In previous publications we have presented findings for our community sample through age 24 emphasizing epidemiology (prevalence, incidence, comorbidity) and psychosocial adjustment; 83 bipolar and subthreshold bipolar cases were identified through age 24. We will focus on incidence (number of new cases occurring between 24 and 30); "switching" (proportion of cases with major depression who developed a manic or hypomanic episode); the risk factors for the occurrence of bipolar disorder by age 30; the association between an episode of bipolar disorder during adolescence and young adult functioning; and, using data regarding the offspring of our probands, the impact of bipolar disorder during adolescence on parenting behavior, parent-child interactions, and child functioning.

4. A Family Psychoeducational Approach to Bipolar Disorder in Adolescence
David J. Miklowitz, Elizabeth L. George, Eunice Y. Kim, Tina R. Goldstein, and David A. Brent
University of Colorado, Boulder and University of Pittsburgh Medical Center

Early-onset bipolar disorder is characterized by a rocky, pernicious course, with a preponderance of mixed episodes, a marked lability of moods, chronic, continuous cycling without interepisode recovery, and frequent comorbidity with other disorders. New data from our laboratory also suggest that teens with the disorder are delayed in social skills. Whereas pharmacological treatment guidelines for pediatric-onset bipolar patients have begun to be developed, there are no empirically supported guidelines for adjunctive psychosocial treatments for this condition. We describe a new family psychoeducational program modeled on the adult-based family-focused treatment (FFT). The research background of the adult approach will be reviewed briefly: in two randomized trials, FFT has been found to delay relapses and improve symptomatic functioning among adult bipolar I patients. We will discuss the ways in which the FFT model has been modified to meet the developmental requirements of adolescent patients. We will present data from a 1-year open trial suggesting the efficacy of FFT as adjunct to pharmacotherapy in improving mood symptoms and behavior problems among bipolar adolescents. A randomized trial of FFT for adolescents, currently in the planning stages, will be described.

4:30-5:30 PM
Zubin Award Address
Rue Cromwell
Schizophrenia: The fate of Shakow's adumbration
Sunday, September 29th
9:00 AM-12:00 PM
Poster Session II

201. Rater Intelligence and Accuracy of Judgments for Pathological Personality Traits
Derek C. Ford(1), Edna R. Fiedler(2), Thomas F. Oltmanns(1), and Eric Turkheimer(1)
1) University of Virginia
2) Federal Communications Commission

Intelligence plays a role in rater accuracy in judging personality traits. Previous studies have concluded that a positive correlation exists between rater intelligence and accuracy, suggesting that higher intelligence affords a rater better insight into the personalities of others. The present study examined this relationship for pathological personality traits. Air Force recruits were screened at the end of basic training using the Peer Inventory for Personality Disorders (PIPD). This measure includes self-report and peer-report measures consisting of items translated directly from Axis II of the DSM-IV. The recruits were asked to nominate themselves and others in their group for each of the personality disorder traits. Participants had completed the Armed Services Vocational Aptitude Battery (ASVAB) prior to the screening. Three groups were created using the ASVAB percentile scores: High Intelligence, Medium Intelligence, and Low Intelligence. Rater's nominations for an individual target were compared with the self-report data for that target. This comparison measures rater accuracy as a function of intelligence. Results are discussed in terms of rater-target correlations between peer-report and self-report ratings.

Craig Neumann, and Vincent Ramos
University of North Texas

A large sample of male children in an urban community mental health facility were assessed using parental reports on the Child Behavior Checklist (CBCL), and interviewed for history of violent acts and poor academic performance. The total sample consisted of: African-American (n=189), Caucasian (n=160), and Hispanic (n=131) children. All had DSM-IV diagnoses of disruptive behavior disorders. A primary goal of the study was to test a model which posited a distinction between violent and academic events versus the behavioral propensities assessed by the CBCL. Confirmatory factor analysis (CFA) was used to determine how the internalizing and externalizing factors, and a cognitive CBCL factor, were associated with violent acts and academic performance. Model fit results were excellent and supported the hypothesized distinction. The externalizing factor was strongly correlated with violence, while the cognitive and internalizing CBCL factors showed moderate to modest associations, respectively. Poor academic performance was modestly correlated with the CBCL factors, but strongly correlated with violence; suggesting that academic problems versus the behavioral propensities assessed by the CBCL may be a better correlate of violence. Multiple group CFA indicated that the groups showed broad similarity in factor structure, though some important differences were apparent.

203. Psychopathy, IQ, and Violence
Zachary Walsh, Elizabeth A. Sullivan, and David S. Kosson
Finch University of Health Sciences/ Chicago Medical School

Heilbrun (1982, 1990), reports the finding of a moderating effect of intelligence on the relationship between psychopathy and violence. Those studies found that low IQ psychopaths demonstrated more violent behaviors than low and high IQ nonpsychopaths and high IQ psychopaths. However, the participants in those studies were not assessed using the Psychopathy Checklist - Revised (PCL-R), the most widely validated measure of the disorder. The present
study aims to remedy this deficiency by using PCL-R scores and file and interview information from approximately 400 inmates at an Illinois count jail to explore the relationship between IQ, violence and psychopathy. IQ estimates are drawn from scores on the Shipley Institute of Living Scale-Revised (SILS), and the number of violent offences is estimated by the number of official charges for violent offenses, as estimated by both interview and file information.

204. Self-Report Psychopathy is Associated with Poor Interhemispheric Integration
Kristina D. Hiatt and Joseph P. Newman
University of Wisconsin-Madison

Recent evidence suggests that psychopathy may involve poor accommodation of right-hemisphere (RH) processing when the left hemisphere (LH) is predominantly engaged. Such a deficit would limit psychopaths' access to RH functions (e.g., emotion processing, behavioral inhibition, and contextual processing) when the LH is engaged (e.g., approach behavior, reward-seeking, language processing, and right-sided motor responses), and may provide a proximal mechanism for the disorder. The present study examined interhemispheric integration in undergraduates assessed with the Self Report Psychopathy Scale (SRPS; Levenson, Kiehl, & Fitzpatrick, 1995). Participants completed a version of Banich & Belger's (1990) name-identity task, which produces a reliable interhemispheric advantage (IHA; better performance on bilateral versus unilateral trials). As the IHA depends upon efficient integration of information across the cerebral hemispheres, poor interhemispheric integration should result in a reduced IHA. To determine whether psychopaths show a particularly weak IHA when the LH is predominantly engaged, we differentially activated the left and right hemispheres by manipulating response hand across blocks of trials. Consistent with our predictions, multiple regression analyses revealed that (a) SRPS was negatively related to IHA, and (b) that this association was specific to right-handed (LH-activating) trial blocks. This study is currently being extended to incarcerated PCL-R psychopaths.

205. Teenage Lowered Resting Heart Rate Predicts Adult Antisocial Behaviors
Melissa Kriscunas, Sharon Ishikawa, Jason Schiffman, and Sarnoff Mednick
University of Southern California

Lowered resting heart rate is characteristic of individuals with Antisocial Personality Disorder (APD). According to the stimulation-seeking hypothesis, lower heart rate indicates underarousal, and antisocial behaviors stimulate an underaroused individual to normal level. In this study, resting heart rate was assessed when subjects were a mean age of 15.1 years. Using a pre-morbid physiological test is beneficial to reduce the confounding effects of psychiatric diagnoses and medical interventions. More importantly, pre-morbid assessment may help identify physiological precursors predicting future antisocial characteristics and provide clues to the etiology of such behaviors. Subjects' teenage resting heart rates were correlated with answers 30 years later to a selected antisocial portion on the Personality Disorder Examination. Lowered resting heart rate at age 15 predicted future outcome of antisocial personality traits at age 39.

206. Affective Language Processing in a Non-Incarcerated, Psychopathic Sample
Stephen Long and Debra Titone
Department of Psychology, Harvard University; Department of Psychiatry, Harvard Medical School, Boston, MA, and Psychology Research Laboratory, McLean Hospital

Although a number of investigations have reported experimental emotion deficiency in incarcerated psychopathic samples, none has examined these deficiencies in non-incarcerated psychopathic samples. We replicated and extended Williamson et al.’s (1991) affective language processing study on incarcerated psychopaths and incarcerated nonpsychopaths.
Participants were the highest (Hi) and lowest (Lo) scorers on the Psychopathic Personality Inventory from a non-incarcerated sample of 1,226 (n = 35 and n = 51 for Hi and Lo groups, respectively). In Task 1, a lexical decision task, and Task 3, a positive word categorization task, no group differences emerged. In Task 2, a negative word categorization task, Hi participants identified affectively-negative stimuli with less speed and less accuracy than affectively-neutral stimuli as compared to Lo participants. These findings are evidence that experimental emotion deficiency, which is often attributed to prototypical psychopathy, exists in non-incarcerated samples.

207. Confirmatory Factor Analysis of the Psychopathy Checklist: Screening Version (PCL:SV) in Offenders with Axis I Disorders
Christie Hill, Craig Neumann, and Richard Rogers
Central Virginia State Hospital and University of North Texas

A sample of 149 male inpatients within a maximum security psychiatric facility were assessed using the Psychopathy Checklist: Screening Version (PCL:SV). Over two-thirds of the sample met criteria for a psychotic disorder. Similar to previous research, 30.2% of the total sample also meet criteria for psychopathy. Using confirmatory factor analysis (CFA), the PCL:SV was evaluated in terms of both the traditional two-factor model of psychopathy and a recent three-factor model. The CFA results indicated good fit for both models, with the three-factor model showing the best overall fit when the models had an identical number of items. Structural equation modeling (SEM) was used to determine how well the psychopathy factors from each respective model prospectively predicted an inpatient aggression factor. The SEM results indicated that the three-factor model accounted for more variance (34%) in aggression, as compared to the two-factor model (16%). For the three-factor model, aggressive behavior was significantly predicted by the arrogant/deceitful interpersonal style (ADI) factor and the irresponsible/impulsive behavior (IIB) factor. For the two-factor model, only the antisocial factor (F2) significantly predicted aggression.

208. A Statistical Comparison of the Construct Validity of the Two-Factor and Hierarchical Three-Factor Models of Psychopathy
Elizabeth A. Sullivan, David S. Kosson
Finch University of Health Sciences/ The Chicago Medical School

The two-factor model of psychopathy, based on the Psychopathy Checklist-Revised (PCL-R, Hare, 1991), has been the most widely accepted factor structure in use in psychopathy research. Recently, Cooke and Michie (2001) proposed a hierarchical factor model that is comprised of three factors forming a superordinate psychopathy factor. The present study has two aims. The first is to evaluate the replicability of the two models by performing a series of confirmatory factor analyses and to statistically compare the goodness of fit of the resulting solutions. The second aim is to examine the construct validity of each of the models by exploring their relationships to external variables, which include demographics, information on cognition and affect, interpersonal behavior and substance use/abuse and criminal history. The analyses will be conducted on a sample of male inmates from a county jail in the Chicago area that includes approximately 375 Caucasians and 375 African Americans; issues concerning ethnicity will be examined.

209. Etiology of Aggressive and Delinquent Behaviors in Young Twins: A Multivariate Study
Jennifer L. Tackett(1), Robert F. Krueger(1), Avshalom Caspi(1,2), and Terrie E. Moffitt(1,2)
1) University of Minnesota
2) Institute of Psychiatry (London, UK)

Does the underlying etiologic structure of childhood disruptive behavior support the
distinction between aggressive and delinquent sub-varieties of this behavior? The present study investigated this question in 1032 twin pairs from the Environmental Risk Longitudinal Study (E-RISK). Specifically, genetic and environmental influences were estimated for Aggressive Behavior and Delinquent Behavior syndromes from mothers’ reports (Child Behavior Checklist) and teachers’ reports (Teachers’ Report Form), based on the twin’s behavior at age 5. Results of biometric modeling suggested significant genetic and non-shared environmental influence on both syndromes, with no evidence for shared environmental influences. Furthermore, delinquent behavior appeared to have a distinct genetic influence beyond the genetic influence on both aggression and delinquency. In addition, estimates appeared similar across gender, suggesting that the etiology of disruptive behavior at an early age may not differ for girls and boys.

210. A Psychometric Study of DSM-IV Avoidant Personality Disorder and Dependent Personality Disorder
Maria J. Whitmore, Eric Turkheimer, and Thomas F. Oltmanns
University of Virginia

Past research has shown a pattern of high comorbidity between avoidant personality disorder (APD) and dependent personality disorder (DPD). The Diagnostic and Statistical Manual (DSM-IV) describes the two disorders as sharing common features of feelings of inadequacy, hypersensitivity to criticism, and a need for reassurance. The present study sought to assess the psychometric properties of the two disorders in a college student sample. 1691 students completed the Peer Inventory of Personality Disorders (PIPD), on which they nominated members of their dormitory hall who exhibited personality disorder traits. Participants also completed a self-report version of the same measure. Principal factors analyses were performed on the combined APD and DPD items for the PIPD and for the self-report inventory. These analyses indicated the presence of two factors closely related to APD and DPD diagnostic criteria. However, consistent with past research, the dependent item regarding tendency to avoid disagreement with others did not load on the DPD factor. In addition, two APD items did not load on their expected factor on the peer-report inventory only. Implications of these results for personality disorder assessment and the future of DSM PD criteria are discussed.

211. The Relationship Between EEG Asymmetry and Positive Emotionality in Young Children
Stewart A. Shankman, Craig E. Tenke, Gerard E. Bruder, C. Emily Durbin, Elizabeth P. Hayden, Maureen E. Buckley, and Daniel N. Klein
State University of New York at Stony Brook, New York State Psychiatric Institute

Rationale: Several researchers have investigated whether abnormalities in EEG activity recorded at rest reflect a predisposing, biological marker for depression. Some have found that a frontal asymmetry due to greater right than left activity is associated with depression. Others have reported that depression is associated with a posterior asymmetry indicative of reduced right sided activity. In the present study, we examined whether young children hypothesized to have a temperamental vulnerability to depression exhibited either of these asymmetries while at rest. Methods: We previously found that a community sample of 3-4 year old children who scored low on a laboratory measure of positive emotionality (PE) were more likely to have a maternal history of major depression. In this study, we followed the children up at age 5-6 who scored in the top and bottom 25% on PE. Results: We found that low PE children exhibited a posterior asymmetry with decreased right posterior activity and that high PE children exhibited no posterior asymmetry. Low PE and high PE children did not differ on frontal asymmetries. Conclusion:
These findings are consistent with a model of hemispheric activations in which a posterior asymmetry may be a marker for an anhedonic form of depression.

212. Attentional Control and Facial Emotion Processing in Physically Abused Children: Association with Child Distress
Stephanie Tolley-Schell and Seth D. Pollak
University of Wisconsin at Madison

Recent research suggests that maltreated children are biased in their processing of anger and/or threat related information. Yet, few studies to date have attempted to isolate the mental processes involved in processing threat related material that may differ in maltreated and typically developing children and confer risk for psychopathology. This poster will present the results of an orienting paradigm aimed at isolating attentional subprocesses that may underlie perceptual biases. Angry, happy, and neutral adult faces cued right or left peripheral locations at which a target could subsequently appear. Reaction time and event-related potential indicators of selective attention were compared on trials with coincident faces and targets (valid trials) and trials with non-coincident faces and targets (invalid trials). We examined the relative effects of maltreatment histories and internalizing symptomatology on children's attentional performance. Results indicated that, as predicted, abused children were slower than controls in disengaging from angry faces, but not from happy faces. This effect was not moderated by child internalizing symptoms. However, abused children with clinically significant internalizing symptoms were slower than controls in disengaging from neutral faces. Implications of this finding for the development of hostile attribution bias and risk for psychopathology will be discussed.

213. Distinct and Overlapping Patterns of Emotion Regulation in the Comorbidity of Generalized Anxiety Disorder and the Eating Disorders
David M. Fresco, Stephanie L. Wolfson, Janis H. Crowther, and Nancy M. Docherty
Kent State University

Although emerging from distinct theoretical traditions, contemporary models of generalized anxiety disorder (GAD) (Borkovec, et al. in press; Mennin, et al. 2002) and the eating disorders of the binge/purge type (Heatherton & Baumeister, 1991; Safer et al., 2000; Wiser & Telch, 1999) emphasize the presence of deficits in adaptive emotion regulation. Specifically, disordered individuals resort to maladaptive strategies such as worry or binging and purging to lessen or avoid emotional distress. The limited available information about comorbidity indicates high rates of GAD in women seeking treatment for an eating disorder (55%; Schwalberg, Barlow, Alger, & Howard, 1992). The present study sought to examine rates of comorbidity between GAD and eating disorders as well as patterns of emotion regulation using a non-patient population. Thirty-two women, identified from a larger screening sample, completed a structured diagnostic interview and a battery of self-report emotion regulation measures. Preliminary findings indicate high rates of comorbidity between GAD and eating disorders (9/14, 64%). Furthermore, the presence of GAD or an eating disorder conferred higher levels of maladaptive emotion regulation when compared to normal controls; the presence of both disorders tended to confer even greater deficits than either one disorder. Data collection continues.

214. Temperament of Infants and Children of Mothers Depressed during the Perinatal Period
Rebecca L. Huot, Amanda L. McMillan, Patricia A. Brennan, Zachary N. Stowe, Paul M. Plotsky and Elaine F. Walker
Emory University Department of Psychology; Emory University School of Medicine Department of Psychiatry and Behavioral Sciences
The affective state of the mother during the prenatal and postpartum period may contribute to the development of childhood affective disorders via genetic or environmental loading. The purpose of this study is to better understand the role of the mothers' affective state during gestation and the postpartum period in the development of child temperament. Specifically, by comparing women with a history of depression, prepartum depression, or postpartum depression as well as control subjects, we attempt to address whether the effects of maternal depression on child temperament are a consequence of genetic factors, prenatal exposure to the neurochemical milieu linked with maternal depression, or postnatal exposure to a depressed mom. Temperament will be evaluated using age-appropriate (infant, toddler, child) parental report questionnaires (developed by Dr. Mary Rothbart). Subjects (n=50/age group) include mothers of children aged 3-7 years (child behavior questionnaire), 18-36 months (early childhood behavior questionnaire) and 3-12 months (infant behavior questionnaire). A number of measures have already been administered to this sample in earlier studies, including Family Psychiatric History, Stressful Life Events, Perinatal History, Infant Health Questionnaire, Infant Heart Rate and Cortisol, Infant Attention, Infant Reactivity and an Infant Neurological Screen and some will be included in the analyses.

Josephine H. Shih and Constance Hammen
University of California, Los Angeles

Much of the research on vulnerability factors of depression has focused on how vulnerable individuals react to stress and whether their reactions put them at greater risk for the development of depression. The diathesis-stress approach emphasizes how individuals react to the world and does not consider the role a person plays on his/her own environment. It is likely that both processes of reacting more negatively to stress and generating more stress are at work in predisposing vulnerable individuals to depression. The present study explores the relationship between the vulnerability factors sociotropy/autonomy and the occurrence of stressful life events from a person-environment perspective, considering the possibility that highly sociotropic or highly autonomous individuals may generate more stressful life events than individuals low on these two personality characteristics. More specifically, the present study examines the incidence and type of stress (interpersonal or achievement) as well as gender differences in the relationship between sociotropy/autonomy and stressful life events.

216. Ruminative Response Style: Stable Across Transient Mood State in Remitted Depressed Sample
Rebecca E. Cooney, Jennifer E. Champion, and Ian H. Gotlib
Stanford University

Several theorists have proposed that a ruminative response style in response to depressed mood is a trait-like vulnerability that persists after the individual has recovered from the depressive episode. The current study was designed to test this formulation by examining the trait and state levels of ruminative response style in a remitted depressed community sample. Trait levels of rumination, measured by the Response Styles Questionnaire (RSQ; Nolen-Hoeksema & Morrow, 1991), were assessed in three groups of participants: depressed (MDD), remitted depressed (RMD), and never depressed (ND) participants. A negative mood was induced in half of the RMD and ND participants to examine state levels of rumination. In the no-mood-induction condition, RMD and ND participants had significantly lower levels of rumination than did MDD participants. In contrast, in the mood-induction condition participants in all three groups differed significantly on reported levels of ruminative
response style. Moreover, examination of mood manipulation checks showed that although RMD participants in the mood-induction condition reported significantly higher levels of sadness than did RMD participants with no mood induction, they did not differ with respect to levels of rumination. These data suggest that rumination may represent a stable, dispositional response style that is not dependent on transient mood states.

217. Risk for Depression in Daughters of Depressed Mothers: Examination of Potential Psychosocial Mechanisms
Pamela K. Schraedley, Saskia K. Traill, Jonathan Rottenberg, and Ian. H. Gotlib
Stanford University

Parental history of depression is a significant known risk factor for depression in adolescence, however the mechanisms underlying this risk are unclear. The present study examined potential psychosocial mechanisms of risk for depression in 9-14-year-old daughters of depressed mothers. Three groups of mothers were included: currently depressed, remitted-depressed (a depressive episode in the past five years), and control mothers. Daughters were included only if they had no lifetime Axis I psychopathology. Stress, coping, and social support were assessed in both mothers and daughters. In addition, mothers and their daughters participated in several interactions, including the discussion of a problem in the daughter's life. Preliminary results indicate that, compared with daughters of control mothers, daughters of both currently and formerly depressed mothers reported elevated levels of stress and diminished resources for dealing with this stress. Further analyses of the behavioral interactions will test the hypotheses that high-risk daughters learn less adaptive methods for coping with stress and receive reduced social support from their mothers. Because stress is a risk factor for many forms of psychopathology, reducing the impact of stress in high-risk adolescents may decrease the likelihood that they will experience a lifetime of depression.

218. Indices of Stress: Relations Between Cortisol, Skin Conductance, and Subjective Ratings Following Stress Induction
Lisa P. Kestler, Anna M. Bollini, and Elaine F. Walker
Emory University

Stress has been implicated in the etiology of numerous mental and physical illnesses. As a result, stress has become a focus of many studies over the past decade. The effects of stress are measured by various biological and psychological indices, such as HPA activation, autonomic arousal, and subjective ratings of stress. However, these different measures have yielded varying results, which may impact conclusions. The purpose of the current study was to compare the subjective, biological and physiological stress response in an effort to clarify the relationship between these stress indices. Stress was induced with noise-, cognitive-, and social-stress paradigms. Salivary cortisol, skin conductance, and subjective ratings of stress were measured repeatedly over the course of the study. Results indicate no significant correlations between the various measures of stress responsivity. The lack of association between HPA activity and autonomic arousal is surprising, given the assumption of shared neural mechanisms, and may be due to differences in sensitivity or time course of the two response systems. Also, individuals may be poor judges of their internal stress reactions.

219. Depression and the Interpretation of Ambiguity
W. Christopher Skidmore, Suzanne Pineles, and Susan Mineka
Northwestern University

Information processing research has demonstrated that anxious individuals often interpret ambiguous information in a threatening way (e.g., Mathews & Mackintosh, 2000). Although depressed individuals show a tendency to focus on negative aspects of their lives (e.g., Clark & Beck, 1999), research has not
confirmed an interpretive bias in depression. The present experiment attempts to assess if depressed individuals (compared to nondepressed individuals) interpret ambiguous situations in a negative way. One hundred and sixty-five undergraduates who formed the top and bottom 20% of scores on the Inventory to Diagnose Depression completed a task assessing on-line encoding (previously used to study interpretive biases in social anxiety). Participants read a series of paragraphs followed by either a negative, positive or neutral word. Participants immediately indicated whether or not the word had appeared in the paragraph by pressing one of two buttons. It is hypothesized that depressed participants (compared to nondepressed participants) will take longer to correctly indicate that a negative word had not appeared in an ambiguous scenario, because they interpreted the ambiguous scenario in a negative way. It is further hypothesized that depressed participants will more often incorrectly report that a negative word had appeared in the ambiguous scenario than nondepressed participants.

220. **Neural Activation in Response to Affective Images as a Predictor of Symptom Reduction in Depression: An Event-Related fMRI Study**
Katherine M. Putnam, Hillary S. Schaefer, Allison L. Jahn, Corrina J. Mueller, Ruth M. Benca, and Richard J. Davidson
University of Wisconsin-Madison

Treatment response in depression has been found to be associated with greater functional activation in various neural regions. This study investigated the relationship of affective reactivity, measured by neural activation in response to affective images, and symptom reduction during anti-depressant treatment in a heterogeneous group of depressed individuals. Before beginning Venlafaxine treatment, 9 depressed participants underwent a whole-brain fMRI scan where participants viewed positive, negative, and neutral affective images. Linear regressions between percentage signal change maps and symptom reduction were performed on a voxel-by-voxel basis within each affective valence. Symptom reduction was predicted by greater pretreatment activation of the following regions during the viewing of negative images (all p's < .05, corrected): medial prefrontal cortex, insular cortex, right medial frontal gyrus, right superior temporal gyrus, right inferior parietal lobule, and the right amygdala. During the viewing of positive images, symptom reduction was predicted by greater pretreatment activation in the following regions: medial prefrontal cortex and the left hippocampus. As the neural regions identified in this study have been found to be associated with normal affective response in previous work, the functional hypoactivation that predicted poorer treatment response in this study could represent a process of "affective disengagement" that may differentiate a more treatment resistant form of depression.

221. **The Depression - Cognition Link in Chronic versus Episodic Depression**
L. P. Riso, J. A. Blandino, and S. Penna
Georgia State University

Lewinsohn et al. (1999) recently studied vulnerability to depression by examining the association between dysphoric mood and dysfunctional attitudes. Those groups exhibiting a stronger association (or correlation) between dysphoria and dysfunctional attitudes were thought to have greater cognitive vulnerability. These authors found that the dysphoria-dysfunctional attitudes correlations were higher for those with recurrent depression compared to those with a first onset of depression. The greater mutual activation between depressed mood and negative thinking in the recurrent group was thought to reflect the accumulated effects of recurrent episodes of depression. Given these findings, we predicted a stronger association between depression and dysfunctional attitudes for chronic forms of depression compared to episodic depression. Subjects included 48 patients with chronic forms of depression (i.e., dysthymic disorder and chronic major depressive disorder) and 31...
patients with episodic depression (i.e., nonchronic major depressive disorder). All diagnoses were derived using the Structured Diagnostic Interview for DSM-IV. The correlation between depression severity and mood was higher for the chronic group ($r=.47$, $p<.001$) than for the episodic group ($r=.11$, ns). Importantly, the standard deviations for the dysfunctional attitudes scores and the depression severity scores were similar for the two groups. These differences in the correlations may indicate the accumulated impacts of chronic depression, or perhaps greater premorbid mood reactivity in the chronically depressed group.

222. Psychometric Properties and Concurrent Validity of the Schizotypal Ambivalence Scale
Thomas R. Kwapil(1), Monica C. Mann(1), Amanda G. Vaughn(1), and Michael L. Raulin(1)
1) University of North Carolina at Greensboro
2) State University of New York at Buffalo

The Schizotypal Ambivalence Scale (Raulin, 1986) is a nineteen-item revision of the Intense Ambivalence Scale (Raulin, 1984) that was designed to identify ambivalence described by Meehl as characteristic of schizotypy and schizophrenia. The present study examined the psychometric properties of the Schizotypal Ambivalence Scale in a sample of 2000 college students. The study also investigated the concurrent validity of the measure for identifying schizophrenic-like symptoms and other forms of psychopathology in a sample of 31 high scorers on the scale and 31 control participants. The Schizotypal Ambivalence Scale has good internal consistency reliability (coefficient alpha = .84) and test-retest reliability ($r = .72$ over a two-month interval). The Schizotypal Ambivalence group exceeded the control group on ratings of schizotypal, schizoid, paranoid, and negative symptoms, as well as exhibiting poorer overall functioning. Elevated scores on the scale were not associated with mood disorders or ratings of substance use and abuse.

223. Reaction Time in the CPT-IP: Vulnerability for and Prediction of Schizophrenia Spectrum Traits
Christopher W. Smith, Christopher R. Bowie, Andrea Auther, Todd Lencz, and Barbara Cornblatt.
The Zucker Hillside Hospital of the North Shore - Long Island Jewish Health System

The Hillside Family Study is a genetic high-risk study of adolescent siblings of adolescent and young adult schizophrenia patients. The goal of this study is to establish clinical and neurocognitive predictors of schizophrenia and schizophrenia-spectrum disorders. Attention, as measured by the Continuous Performance Test - Identical Pairs Version (CPT-IP), is one of the best-established neurocognitive indicators of vulnerability for schizophrenia. Studies have consistently found $d'$ (a signal detection theory index of discriminability) to be impaired in studies of individuals at increased genetic risk for schizophrenia. While reaction time (RT) has also been found to distinguish at-risk relatives from normal controls in other complex information-processing paradigms, little attention has focused on whether RT in the CPT-IP can also distinguish between high-risk relatives and controls. This presentation will use logistic regression to examine whether RT increases the potential of the CPT-IP to differentiate high-risk siblings (n=39) from controls (n=49). A further analysis will explore the predictor potential of the CPT-IP by examining differences in $d'$ and RT in high-risk siblings with SIDP-IV schizophrenia-spectrum personality traits (n=26; at least 2 subthreshold traits or 1 clinically significant trait) compared to siblings with minimal clinical traits (n=16; 1 subthreshold trait or no traits).

224. Differential Visual Motion Discrimination in Schizophrenia and in Bipolar Disorder
Yue Chen, Summer Sheremata, Deborah Levy, Steven Mattysse, and Philip Holzman
Department of Psychiatry, Harvard Medical School/McLean Hospital
Bipolar disorder and schizophrenia are hypothesized to involve either one or two different pathophysiological processes. Many, but not all, clinical symptoms are common to these two mental disorders. Our previous studies showed that velocity discrimination, a sensitive measure of the visual motion system, is deficient in schizophrenia. In this study, we examined velocity discrimination in patients with bipolar disorder (n=16), in patients with schizophrenia (n=21), and in normal controls (n=20). Velocity discrimination of the bipolar patients were normal at intermediate velocities, the range in which velocity cues dominate the perceptual response. At the same velocities, velocity discrimination was deficient in the schizophrenia patients. This result suggests that bipolar disorder spares the visual motion processing system whereas schizophrenia does not. It further suggests that the pathophysiological processes of the two mental disorders diverge at the stage of visual motion processing, a sensory component mediated primarily in the extrastriate cortex of the primates.

225. Event-Related fMRI Study of a Specific Deficit in Context Processing in Unmedicated First-Episode Schizophrenia Patients and the Healthy Relatives of Patients
Angus W. MacDonald, III, Melissa K. Johnson, Edward Fleming, V. Andrew Stenger, and Cameron S. Carter
Western Psychiatric Institute and Clinic, University of Pittsburgh School of Medicine

We examined the relationship among cognitive deficits, neuroanatomical dysfunction and genetic risk for schizophrenia. As part of a translational research program, we developed a context processing paradigm that can be used in fMRI and performed by unmedicated psychotic patients while retaining sensitivity to impairments in healthy relatives of patients and addressing the generalized deficit confound. METHODS: We compared 1) unmedicated, first-episode schizophrenia patients, 2) the unaffected relatives of patients with schizophrenia, and 3) appropriate demographic controls all of whom performed a spatial variant of the Stroop task in a 3T MR scanner. RESULTS: Behavioral results suggested a specific deficit in first-episode patients and unaffected relatives in context processing, as indicated by slower reaction times when context processing was adaptive, and slightly faster reaction times when context processing was a hindrance. Preliminary imaging data of correct trials suggested a dysfunction in left dorsolateral prefrontal cortex (L. DLPFC), among other regions. Still other regions showed intact activity during task performance across all groups. Differences between relatives and first-episode patients were also examined. These findings suggest a specific context processing deficit that is a trait associated with L. DLPFC dysfunction and the genetic risk for schizophrenia.

226. Older Patients with Schizophrenia Over-Allocate Processing Resources to Masks on the Backward Masking Task: A Pupillography Study
Steven P. Verney and Eric Granholm
VA San Diego Healthcare System and the University of California, San Diego

Studies of schizophrenia have consistently found cognitive impairment on the visual backward masking (VBM) task, but the nature of this deficit remains unclear. This study used pupillography to investigate the allocation of processing resources of older patients with schizophrenia during the VBM task with greater pupillary dilation reflecting greater cognitive resources allocated to the task. Patients (n=14; age=52 yrs) and age and education-matched controls (n=14) completed a VBM task while their pupillary responses were recorded. A principle components analysis on the pupillary waveforms revealed three time-related factors: an early factor was likely a constriction reflex to display light, a middle factor occurred when target-detection peak dilation responses are typically observed, and a late factor may reflect resources devoted to mask processing. Relative to controls, the patients demonstrated less dilation during the middle factor (i.e., target-
detection) and greater dilation during the late factor (i.e., mask processing). Consistent with a filtering deficit hypothesis, this suggests that the patients allocated fewer resources to target processing and more resources to mask processing (an irrelevant stimulus) than controls. Furthermore, the association between age and the mask-processing factor was stronger for patients than controls possibly suggesting age-related cognitive decline occurs at a faster rate for patients with schizophrenia than for controls.

**227. Duration of Untreated Psychosis, Cognitive Deficits, and Symptom Course in First-Episode Schizophrenia**
Keith H. Nuechterlein, Ph.D., Joseph Ventura, Ph.D., Kenneth L. Subotnik, Ph.D., Michael Gitlin, M.D., and Brecht Isbell
University of California, Los Angeles

Although not a consistent finding, several recent studies have suggested that the length of time that active psychosis remains untreated with antipsychotic medication during the first episode of schizophrenia predicts the initial illness course. Some investigators (e.g., Yung & McGorry, 1996; McGlashan, 1999) have hypothesized that this initial duration of untreated psychosis might be related to the progression of schizophrenic deficits, including neurocognitive deficits. In a prospective study of 39 first-episode schizophrenia patients, we examined the duration of untreated psychosis prior to project entry and its relationship to the level of schizophrenic cognitive deficits and symptom severity during treatment with antipsychotic medication. As hypothesized, longer duration of untreated psychosis during the first episode was associated with greater deficit on a neurocognitive performance factor score (p < .05, one-tailed), and with one factor score component, Degraded Stimulus CPT d’ (p < .05, one-tailed). Longer duration of initial untreated psychosis was also moderately associated with greater severity of positive psychotic symptoms averaged over a one-year initial period on antipsychotic medication (p < .05, one-tailed), but not with the average level of negative symptoms or with one-year social or work outcome. The causal mechanisms underlying these relationships deserve further study.

**228. Thought Disorder in Schizophrenia and Bipolar Disorder: Specificity and Familial Aggregation.**
Michael J. Coleman, Deborah L. Levy, and Philip S. Holzman
McLean Hospital, Harvard Medical School

Formal thought disorder has long been regarded as a distinguishing feature of schizophrenia (Kraepelin, 1919; Bleuler, 1950). In a study using the Thought Disorder Index (TDI) (Johnston & Holzman, 1979) to compare formal thought disorder in schizophrenia and mania patients, Solovay et al., (1987) found the thought disorder of mania patients to be characterized by excessively elaborated, often playful or whimsical, combinatory thinking, whereas the thought disorder of schizophrenia patients was characterized by disorganization and peculiar word usage. Cognitive slippage, or mild thought disorder, has also been found in the unaffected relatives of schizophrenia and bipolar patients (Shenton et al. 1989). Here, we continue this line of inquiry and replicate previous findings using the TDI to assess the quantity and quality of disordered thinking in a new sample of 73 schizophrenia patients, 83 bipolar patients, 108 first-degree relatives of schizophrenia patients, 52 first-degree relatives of bipolar patients, and 25 normal control subjects. We show that the TDI distinguishes schizophrenia from bipolar patients by identifying distinctive types of thought disorder and that the relatives of schizophrenia and bipolar patients produce thought disorder that is qualitatively similar, but at levels that are quantitatively lower, than in the respective patient groups.
229. Formal thought disorder, referential communication disturbances, and psychosis over time
Nancy M. Docherty, Tasha M. Nienow, Alex S. Cohen, and Thomas J. Dinzeo
Kent State University

This study examined several different types of communication disturbances in the speech of outpatients with schizophrenia, and the degree to which each of these disturbances is stable over time and across clinical state. Levels of clinically rated formal thought disorder and frequencies of six different types of referential disturbances were assessed in speech samples of 48 stable, relatively high functioning schizophrenic outpatients and 28 nonschizophrenic control subjects. Participants were reassessed at nine months. Formal thought and referential disturbances were examined for stability over time in both patients and controls. Formal thought disorder and five of the six types of referential disturbances showed significant stability in patients over time. The sixth type of referential disturbance, vague references, showed no stability over time in patients or controls. To test for associations between specific types of thought and language disturbances and clinical state in patients, symptom correlates of clinically rated thought disorder and referential disturbances were examined. Formal thought disorder was associated significantly with current severity of the core psychotic symptoms of delusions and hallucinations in patients, whereas referential disturbances showed little association with severity of psychosis.

J. Fiszdon, G. Bryson, S. M. Silverstein, and M. D. Bell

Patients with schizophrenia have consistently been found to exhibit cognitive deficits, particularly in working memory, which have been suggested to mediate functional outcomes. Several recent reviews of cognitive retraining have concluded that these deficits respond to training, although the sustainability of cognitive improvement following completion of training has not been adequately evaluated. Most studies had small samples and very short follow-up periods. As part of a larger study (Bell, Bryson, Greig, Corcoran & Wexler, 2001), we examined digit span performance in two groups of participants: those who received neurocognitive enhancement therapy in addition to work therapy (NET + WT, n = 45), vs. those who only received work therapy (WT, n = 49). NET included hierarchical training on a computerized digit span task. Assessments using the same computerized digit span task were made at three time points: baseline, at the end of active intervention (6 months from baseline), and 12 months from baseline. A significant time by condition interaction was found for the two key variables: total number of digits recalled (p < .001) and digit span length (p < .0001). NET + WT condition showed significantly greater increases in both variables after training, and these gains were maintained 6 months later. This study has important implications for sustained improvement of cognitive function in schizophrenia. Acknowledgement: Research funded by the Department of Veterans Affairs, Rehabilitation Research & Development Service.

231. The Impact of Cognitive Remediation on Psychiatric Symptoms of Schizophrenia
Alice Medalia(1), Nadine Revheim(3), Firdouse Huq(2), Vitaliy Khalderov(2), Nigel Bark(1)
1) Department of Psychiatry and Behavioral Sciences, Albert Einstein College of Medicine
2) Bronx Psychiatric Center
3) Nathan Kline Institute for Psychiatric Research

Objective: The relationship between psychopathology and cognitive functioning in schizophrenia is of interest, both for an understanding of the nature of the disease, and
for comprehensive treatment planning. The aim of this study was to investigate how psychiatric symptoms affect, and are affected by, cognitive remediation. **Method:** Fifty-four psychiatric inpatients received either cognitive remediation exercises (remediation group) or no cognitive intervention (control group). The subjects’ scores on tests of cognition and on the Positive and Negative Symptoms Scale (PANSS) were measured before, immediately after the 10 session treatment, and again four weeks after the treatment ended. **Results:** Only the remediation group showed significant and persistent improvement on all three PANSS Subscales as well as on the Positive Symptoms and Depression Factors. There were no significant between-group differences on any PANSS pre/post-treatment change scores. Baseline measures of psychopathology did not correlate meaningfully with amount of change made on cognitive measures after rehabilitation. **Conclusions:** Cognitive remediation has some positive effects on psychopathology as measured by the PANSS, but it does not add significantly to the effects of standard psychiatric treatment. Furthermore, psychiatric symptom profile is not predictive of the degree to which cognitive symptoms respond to cognitive remediation. The differential impact of cognitive remediation on cognition and psychopathology, may imply that psychopathology and cognitive functioning follow fairly independent treatment courses.

**232. Does "Errorless Learning" Compensate for Neurocognitive Impairments in the Work Training of Schizophrenia Patients?**

Robert S. Kern, Michael F. Green, Sharon Mitchell, Anita Herrera, Debra Doran, Katie Kogler, and Robert P. Liberman

UCLA and Department of Veterans Affairs VISN 22 Mental Illness Research, Education, and Clinical Center (MIRECC), Los Angeles, California

Because neurocognitive impairments of schizophrenia appear to be “rate limiting” in the acquisition of skills for community functioning, it is important to develop efficacious rehabilitative interventions that can compensate for these impairments. The present study examined the ability of a training method based on errorless learning to compensate for neurocognitive deficits in teaching two entry-level job tasks (index card filing and toilet tank assembly) to a sample of sixty-five unemployed, clinically stable schizophrenic and schizoaffective disorder outpatients. Participants were randomly assigned to one of two training groups, errorless learning vs. conventional trial-and-error type instruction. Prior to randomization, all subjects were administered a neurocognitive battery. Job task performance was assessed by percent accuracy scores immediately after training. For three of the six interrelationships among neurocognitive functioning and training condition, the pattern was the same: The errorless learning group scored high in job task performance regardless of neurocognitive impairment, whereas the conventional instruction group showed a close correspondence between job task performance and degree of neurocognitive impairment. These findings support errorless learning as a compensatory training method for use in schizophrenia.

**233. Learning Potential and The Wisconsin Card Sorting Test: An Analysis of Subgroup Differences in Cognition and Daily Functioning**

Melisa Rempfer, Tana Brown, Edna Hamera and Rue Cromwell

University of Kansas Medical Center and University of Kansas - Lawrence

A growing literature indicates that among individuals with schizophrenia, cognitive factors play an important role in day-to-day functioning. Research in this area has focused on cognition as a potential predictor of outcome, as well as viewing cognition as a target for rehabilitation itself. Recent work has explored dynamic assessment methods that identify whether individuals are able to improve their performance on cognitive measures. The current project builds on that research by examining the
ability of persons with serious mental illness to improve performance on the Wisconsin Card Sorting Test. Based on their WCST performance, participants were identified according to a classification system developed recently by Wiedl et al. (Wiedl, 1999; Wiedl et al., 2001) to describe learner status (cognitive modifiability). This project aims to 1.) replicate the learner classification system outlined by Wiedl et al., 2.) explore the performance of learner subgroups on a battery of other cognitive measures, and 3.) examine group differences in daily living outcomes. This poster will also report preliminary evidence on the applicability of this learning status classification for individuals with other serious mental illness diagnoses, including bipolar disorder.

Clare Reeder, Elizabeth Newton, Sophia Frangou, and Til Wykes.
Institute of Psychiatry (London, UK)

There is increased interest in designing psychological treatments to improve cognitive function in schizophrenia, in the hope that this may lead to improved functional outcome. This study examined the link between cognition and functional outcome to identify useful targets for intervention and to explore the mechanisms by which cognitive change can effect changes in everyday living. Participants from two randomised control trials (n=63) with poor social functioning, positive and negative symptoms, and cognitive impairment completed seven measures of executive function. Three cognitive factors were extracted: (i) verbal memory, (ii) response inhibition speed, and (iii) stimulus-driven responding. Participants received either intensive individual Cognitive Remediation Therapy (n=18), a control therapy (n=14) or treatment-as-usual (n=19). Only the CRT group improved on the verbal memory factor. No group improved on the other two factors. Verbal memory significantly predicted social functioning (and also symptoms to some extent) three months later, but change in this factor did not predict change in functional outcome. There was a significant interaction between group and the stimulus-driven responding factor, such that for the CRT group only, a change to a more externally-focused style of responding was associated with a reduction in social problems. Stimulus-driven responding may therefore make a useful target for intervention.

Kathryn Greenwood and Til Wykes
Institute of Psychiatry (London, UK)

The psychomotor poverty syndrome in schizophrenia comprises core negative symptoms of flat affect and poverty of speech and is associated with impaired executive processes of working memory, initiation and strategy use and poor functional outcome. This study investigated the relationship between executive impairments and functional outcome based on a theoretical model of executive impairments in the psychomotor poverty syndrome. Participants comprised psychomotor poverty schizophrenia (n=23), non-psychomotor poverty schizophrenia (n=22) and normal control participants (n=20) matched for age, sex and premorbid IQ. Participants completed a previously validated shopping task with novel measures developed to emphasize relevant executive processes. Four executive tasks were also administered, which provided 6 measures of working memory, initiation and strategy use. Interesting results emerged concerning the relationship between initiation and strategic processes in contributing to functional impairment and inefficiency in shopping skills in the psychomotor poverty syndrome. The study also provided a novel insight into the executive and automatic skills which underlie the everyday task of shopping. Skill differences in relation to sex and IQ were explored. This study demonstrates that experimentally determined executive impairments are
ecologically valid in their impact on functional outcome in schizophrenia. A theoretical rationale is also provided for remediation of functional impairments in the psychomotor poverty syndrome.

236. Dynamical Course Patterns of Neurocognitive and Psychosocial Functioning in Severe Mental Illness
Anita H. Sim, Jason Peer, Thea L. Rothmann, A. Jocelyn Ritchie, and William D. Spaulding
University of Nebraska-Lincoln

The present study sought to investigate dynamical course patterns in psychosocial functioning for individuals with severe mental illness (SMI). Utilizing a quantitative approach similar to that of Kupper & Hoffman (2000), individual patterns of psychosocial functioning were classified for 34 participants with SMI utilizing the Nurse Observation Scale for Inpatient Evaluation (NOSIE-30; Honigfeld et al., 1966). The NOSIE-30 was administered to all participants on a weekly basis over a period of 6 months. Preliminary analyses were consistent with the findings by Kupper & Hoffman. Specifically, a cluster analysis yielded 4 distinct groups. Individuals in cluster 1 were characterized by having a high-level course (stable and high NOSIE scores). Individuals in cluster 2 were characterized by having a middle-level course (stable and moderately high mean NOSIE scores). Individuals in cluster 3 were characterized by low-level functioning, with low mean NOSIE scores, high variability, and a steep descending slope. Lastly, individuals in cluster 4 were characterized by a fluctuating low-level of functioning with a mild to moderate ascending trend. The cluster analysis groupings were subsequently utilized an independent grouping variable to assess patient characteristics at pre-assessment. Results indicated significant main effects for PANSS positive (p = .025), PANSS negative (p = .002), and DSM-III GAF scores (p = .002). There were no significant main effects for the Rey Auditory Verbal Learning Task (RAVLT) or Trails B scores. Post hoc comparisons using Games-Howell found that higher levels of negative and positive symptoms are associated with a low and highly variable level of psychosocial functioning (cluster 3), while lower levels of negative and positive symptomatology are associated with a high and stable level of psychosocial functioning (cluster 1).

237. A 15-year Followup of Outcome and Recovery in Schizophrenia versus Other Psychotic Patients
Martin Harrow, Ellen S. Herbener, Russell S. Omens, Linda S. Grossman, and Kori Summers
University of Illinois College of Medicine

GOAL: Recent evidence has challenged traditional concepts of schizophrenia as a disorder with poor course and outcome. The current research studied this theoretical issue with a prospective 15-year followup comparing schizophrenics to other psychotic patients. METHOD: 274 patients from the Chicago Followup Study (including 69 schizophrenics and 31 schizoaffective patients) were assessed prospectively, and then followed up 5 times over the next 15 years. Employing standardized assessments, patients were evaluated at each followup for psychosis, negative symptoms, affective syndromes, psychosocial functioning, rehospitalization, medications, global functioning and new measures assessing clinical course over time. RESULTS: 1. The course of schizophrenia over the first 15 years was significantly poorer than that of other types of psychotic patients (p < .01). 2. As schizophrenics approach their mid-40s in age the data do not indicate a "burn out" of psychotic symptoms, although psychotic symptoms begin to show a slight decline. 3. Psychosis was related to poorer instrumental work functioning over time (p < .05). CONCLUSIONS: Our longitudinal data indicate schizophrenia is still a poor outcome disorder. Supporting our recent hypothesis, one factor involved in poor schizophrenic outcome, which cuts across multiple domains, involves slower recovery and less resiliency. Contrary to recent views, our data indicate psychosis is an important influence...
over time on psychosocial functioning in schizophrenia.

238. Does Neurocognitive Decline Continue After the First Episode? A Comparison with Two Very Chronic Schizophrenia Samples
William S. Kremen, Larry J. Seidman, Stephen V. Faraone, and Ming T. Tsuang
UC Davis School of Medicine, Harvard Medical School and Harvard Institute of Psychiatric Genetics

We sought to determine whether neuropsychological (particularly executive-abstraction) function continues to decline long after the first episode in schizophrenia, and to evaluate the effect of premorbid capacity on neuropsychological outcome. We compared first-episode (FE) patients with two very long-term chronic schizophrenia samples. Utilizing two different chronic groups provided a key advantage for distinguishing sampling and severity differences from chronicity effects. Subgroups based on premorbid intellectual ability, age of onset, and inpatient-outpatient status were derived from Stony Brook FE patients, Brockton/Boston (BB) chronic patients, and Napa State Hospital (NSH) chronic patients. Controls were from BB and NSH sites. NSH patients performed significantly more poorly than FE or BB patients; BB inpatients and outpatients were similar to FE patients on most tests. However, both chronic groups were significantly impaired on executive-abstraction function relative to FE patients. We conclude that most cognitive abilities do not necessarily continue to decline even after nearly 20 years of illness, but there is disproportionate decline in executive-abstraction function. This may reflect a synergistic combination of frontal lobe dysfunction in schizophrenia and normally occurring, selectively greater frontal lobe volume reductions later in life. Interestingly, essentially opposing conclusions would have been drawn had we included only one chronic sample.

239. Expressed emotion, Coping, and Clinical Outcome in Schizophrenia
Harvard University

Expressed emotion is an established psychosocial predictor of symptom relapse in schizophrenia. However, it is not clear what variables mediate the association between EE and relapse. To explore this issue, we examined coping styles of high and low EE relatives using an adapted version of the COPE (Carver, Scheier, & Weintraub, 1989). Interviews with 78 relatives were coded by raters who were blind to EE levels. The results revealed that high EE relatives used more Maladaptive Coping styles than did low EE relatives. In particular, high EE relatives were more likely to use disengagement as a coping strategy. They were also more inclined than low EE relatives to focus on and vent their emotions. Although we had expected that patients who lived with relatives who used more forms of Adaptive Coping would do better clinically over a nine-month follow-up period, this was not the case. Rather, certain aspects of Maladaptive Coping were associated with patients' clinical outcomes. These findings suggest that modifying certain specific coping behaviors might be of value in family-based interventions for patients with schizophrenia.

240. Schizophrenia Outpatients' Perceptions of Stress, EE, and Sensitivity to Criticism.
Linda P. Cutting and Nancy M. Docherty
Kent State University

This study was designed to get an "insider's view" of expressed emotion (EE), from the perspective of schizophrenia patients. Thirty-two patient and "influential other" pairs participated. Patients' perceptions of EE attitudes in influential others were examined to determine whether they corresponded with actual EE ratings. Patients rated how "stressed" they felt when interacting with influential others, and patients' sensitivity to criticism was assessed. As predicted, patients' perceptions of critical
attitudes were related to actual EE ratings of criticism, although patients’ perceptions of emotional overinvolvement (EOI) were not related to EOI ratings. Patients reported feeling more stressed when interacting with high EE influential others, supporting an "EE as stressor" hypothesis. Patients’ sensitivity to criticism influenced the level of stress they report.

241. Reasons for Living, Hopelessness and Suicidal Ideation in Schizophrenia
Belinda E. Barnett, Larry Glanz, Stuart R. Steinhauer and Gretchen L. Haas
VA Pittsburgh Healthcare System and University of Pittsburgh School of Medicine

Suicide is the leading cause of premature death among individuals with schizophrenia. Identification of factors that protect against suicide risk in schizophrenia is imperative. Reasons for Living (RFL) is a construct that serves as a protective factor in individuals with borderline personality disorder, but has not been investigated in schizophrenia. Eighty-four inpatients with DSM-IV schizophrenia or schizoaffective disorder participated in diagnostic interviews and completed several self-report instruments, including the Reasons for Living Inventory. Those with a history of suicide attempts were younger, and reported more suicidal ideation, more depressive symptoms, higher ratings of hopelessness, and fewer reasons for living as compared with non-attempters. Mediation analyses revealed that hopelessness (but not RFL) mediated the effects of depression on suicidal ideation. Path analyses demonstrated that while models including RFL provided an acceptable fit to the data, the most parsimonious model included depression and hopelessness alone in the prediction of current suicidal ideation. While RFL did not contribute to variance in current suicide ideation, it was a correlate of suicide attempt history (those with a history of suicide attempt reported fewer reasons for living following the most recent attempt). Thus, reasons for living may serve as a deterrent to suicide attempts but not suicidal ideation among individuals with schizophrenia.

Jason Peer, Rachel Penrod, and Will Spaulding
University of Nebraska-Lincoln

Previous research has found that facial affect recognition abilities are impaired in schizophrenia. However, relatively little research has been conducted on the relationship of these impairments to specific symptoms of schizophrenia or on the types of facial affect misattributions persons with schizophrenia are likely to make on these tasks. That is, when making an error on a facial affect recognition task does a participant err systematically, e.g. selecting "anger" instead of the correct response? The present exploratory study investigated differences in facial affect recognition abilities, the specific pattern of facial affect misattributions, and symptomatology within a sample of persons with schizophrenia spectrum disorders. Based on social cognitive models of paranoid symptoms, it was predicted that participants with paranoid symptoms would make more misattributions of interpersonal threat ("anger" and "disgust") and that these participants would demonstrate better facial affect recognition abilities. Participants (N=64) completed a measure of facial affect recognition (FAR) and the Brief Psychiatric Rating Scale (BPRS). Overall FAR performance was calculated as percentage correct and based on FAR errors, misattributions for each affect type were tabulated. To evaluate differences in the affect recognition variables based on symptomatology the sample was divided into different symptom groupings. Results indicate some support for the hypotheses of this study. Specifically, a high paranoid symptom group showed the expected pattern of performance (significantly greater number of misattributions of interpersonal threat). This group was also significantly more impaired in facial affect
recognition ability. A high anxiety/depression symptom group showed a somewhat similar pattern of results. Results are discussed in the context of social information processing and current social cognitive models of paranoid symptoms.

243. Motivation and Psychosocial Outcome in Schizophrenia
Kimmy Kee, John Brekke, Robert Kern, Scott Fish, Poorang Nori, and Michael Green
University of California, Los Angeles and Department of Veterans Affairs, VISN22 MIRECC

Motivation is a core component of human experience in everyday life. It involves processes such as needs, drive, goals, and rewards that give our behavior strength and purpose. In schizophrenia, how such processes might affect daily functioning is unclear. The present study examined the relationship between aspects of motivation and psychosocial functioning in a sample of 166 schizophrenic patients from community-based rehabilitation programs. Measures of motivation included sense of purpose (e.g., plans; short-term goals; long-term goals), drive (enthusiasm; energy; drive), and degree of curiosity (interests in one's surroundings). Psychosocial outcome was assessed using the Strauss and Carpenter Outcome Scale and Role Functioning Scale. Moderate associations were found between motivation measures and independent living, work functioning, and social and family relationships (coefficients ranging from 0.29 to 0.43, p < .0002). When positive and negative symptoms were controlled statistically, the relationships remained significant (coefficients ranging from 0.26 to 0.37, p < .0008), indicating that they were not mediated by psychiatric symptoms. These findings suggest that motivation is a key determinant of functional outcomes for individuals with severe mental illness.

Mark J. Sergi(1), Bi Hong-Deng(2), and Michael F. Green(2)
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2) University of California, Los Angeles

Social perception is the ability use encoded social cues (e.g., facial expressions) to form judgments about important interpersonal areas such as intimacy, mood state, and status. Social perception is impaired in persons with schizophrenia and may be related to the impaired social functioning typical of schizophrenia. The aim of the current study was to examine the validity of the Interpersonal Perception Task - 15 (IPT-15; Archer & Costanzo, 1993) as a measure of social perception in schizophrenia. Fifty-nine persons with schizophrenia and 34 healthy participants completed the IPT-15 and/or the Half Profile of Nonverbal Sensitivity. The performances of the persons with schizophrenia on the two measures of social perception were highly correlated (r (53) = .43, p < .001). Both measures were able to identify differences in social perception between persons with schizophrenia and healthy persons (IPT-15: t (89) = 3.83, p < .03; Half PONS: t (88) = 3.83, p < .03). However, when education was covaried in the analyses, only the Half PONS was able to identify group differences. Alan Fiske's Relational Models Theory, an established theory of relationship perception, is offered as a new perspective on social perception and social functioning in schizophrenia.

245. Neurocognitive Correlates of Unawareness of Having a Mental Disorder in the Early Course of Schizophrenia
Kenneth L. Subotnik, Keith H. Nuechterlein, Victoria Irzhevsky, and Jim Mintz
University of California, Los Angeles

We examined the relationship between awareness of having a mental disorder and neurocognitive deficits among 47 outpatients
recently diagnosed with schizophrenia who were treated with risperidone, psychoeducation, group therapy, and individual case management. The Scale for Unawareness of Mental Disorder (SUMD), the Degraded Stimulus Continuous Performance Test (DS-CPT), a memory load CPT (3-7 CPT), and the Span of Apprehension Test (Span) were administered soon after study entry. Better target discrimination (d') on the DS-CPT (p < .04) and 3-7 CPT (p < .05) were associated with better overall awareness of having a mental disorder. Stepwise regression identified only the DS-CPT d’ as making a significant independent contribution to predicting awareness of mental disorder (p < .02). The results support the growing evidence that neurocognitive deficits may be one of the limiting factors in the development of insight in schizophrenia patients.

247. Stability of the Expressed Emotion and Behavioral Control of Psychiatric Care Staff: Implications For the State-Trait Debate
Daniel Serrano, Jennifer Snyder, and David Penn
University of North Carolina at Chapel Hill

The majority of the Expressed Emotion (EE) literature has focused on the association between familial EE and relapse in various psychiatric disorders. In addition, a smaller literature has looked into the nature of EE in psychiatric care staff. An unsettled issue in the EE literature is whether EE is a stable or dynamic construct in the caregivers of the mentally ill. This study attempted to determine the stability of EE and behavioral control in psychiatric care staff across discrete levels of perceived patient difficulty. Participants were psychiatric care staff working with chronically ill and violent inpatients residing on a long-term psychosocial rehabilitation ward at a regional psychiatric hospital. In 40 interviews, 20 psychiatric staff discussed 20 patients with whom they worked. Findings suggested that staff EE and behavioral control were independent of one another. Both EE and behavioral control varied as a function of perceived patient difficulty. Interestingly, while higher levels of EE and behavioral control were observed when staff were discussing patients with greater perceived difficulty, subsets of the sample tended to remain stable across levels of perceived patient difficulty. Whereas low EE tended to be more stable than high EE, high behavioral control tended to be more stable than low.