

Abstracts from the 2003 International Conference on Eating Disorders Clinical and Scientific Challenges: The Interface between Eating Disorders and Obesity May 29–31, 2003 Omni Interlocken Resort, Denver, CO

SCIENTIFIC PAPER ABSTRACTS

Abstract 001

QUALITY OF LIFE IN BED PATIENTS

Richard I. Stein, Division of Behavioral Medicine, Univ. at Buffalo, State University of New York, Buffalo, NY, Elizabeth Rieger, Valentina Marino, Center for Eating and Weight Disorders, San Diego State Univ. & Univ. of Calif. at San Diego, San Diego, CA, Scott Crow, Department of Psychiatry, University of Minnesota, Minneapolis, MN, Denise E. Wilfley, Department of Psychiatry, Washington University School of Medicine, St. Louis, MO

Quality of life (QOL) refers to satisfaction with various physical and psychosocial aspects of one's life, thus serving as a broad-based indicator of one's functioning, as lowered QOL can indicate a wide scope of impairment if it is across several domains. Although the impact of obesity on QOL has been studied, little is known about how it differs between obese individuals with and without BED. The present study investigates whether BED is associated with diminished QOL within various areas of functioning, among clinical obese samples with and without BED. Prior to treatment, the Impact of Weight on Quality of Life (IWQOL-Lite) questionnaire was administered to 60 obese individuals participating in a randomized controlled trial of sibutramine for BED, as diagnosed using the Eating Disorder Examination (EDE). A comparison sample of 62 non-BED obese individuals also completed the IWQOL-Lite, prior to participating as parents in family-based behavioral treatment targeting weight loss in themselves and their obese children. Lack of BED diagnosis was confirmed with an Eating Disorder Examination Questionnaire followed by an interview using EDE methodology to probe endorsed items. Preliminary results indicate that the BED sample scored significantly lower in all psychosocial areas of QOL (i.e., public distress, work, sexual life, and self-esteem), but not in the area of physical functioning. Final analyses will be available at the AED meeting. To date, findings indicate that among clinical obese samples, those with BED have lower QOL in a range of psychosocial domains. In contrast, the negative impact of obesity on physical functioning appears to be equivalent for those with and without BED. These findings underscore the pervasive impact of BED in obese individuals, across a variety of psychosocial aspects of QOL, as the eating disorder is associated with more impairment compared to obesity alone.

Abstract 002**APPETITE-FOCUSED CBT FOR EARLY INTERVENTION OF BINGE EATING DISORDER**

Katherine A. Elder, Arnica Buckner, Linda W. Craighead, Heather M. Niemeier, Meredith A. Pung, Psychology, University of Colorado, Boulder, CO

The goals of this research were (1) to develop and evaluate a brief psychoeducational group intervention for women with subclinical or recent-onset binge eating disorder (BED) and (2) to compare it to CBT, the current treatment of choice for BED. The intervention is based on Appetite-focused CBT (CBT-AF), a cognitive-behavioral treatment focused on teaching individuals to recognize and utilize satiety cues in order to regulate eating patterns. We hypothesized CBT-AF would be particularly appropriate for early intervention because: (1) the goal is to teach participants to eat "normally", i.e., in response to moderate appetite cues and (2) appetite monitoring is less likely to exacerbate food preoccupation than the food monitoring typically used in standard CBT. Two studies were conducted sequentially to assess the CBT-AF early intervention program. Study 1 was a pilot study to assess the efficacy of CBT-AF (comparison of baseline to 1-month follow-up). Participants for Study 1 were 21 normal weight (BMI 19–25) undergraduate women. Results of Study 1 indicate that participants in the CBT-AF program demonstrated significant reductions in binge eating. In addition, participants demonstrated significant improvement on measures of eating-specific symptomatology (Binge Eating Scale) and measures of general distress (Brief Symptom Inventory). After attaining promising results in Study 1, Study 2 was designed to compare CBT-AF to a standard CBT program. Data for Study 2 are in the process of being collected, but thus far, participants who have completed the program include 17 overweight (BMI 25–33) undergraduate and graduate women. Results from Study 2 will be available for the 2003 AED conference.

Abstract 003**NEGATIVE COGNITIONS AND FOOD INTAKE IN RESPONSE TO FOOD CUES IN BINGE-EATING DISORDER AND BULIMIA NERVOSA**

Anja Hilbert, Brunna Tuschen-Caffier, Psychology, University of Siegen, Siegen, Germany

The aim of the present study was to experimentally investigate cognitions and food intake in response to food cues in binge-eating disorder (BED) and in bulimia nervosa (BN). Participants were 20 female volunteers diagnosed with BED, 20 female volunteers with BN, and 20 non-eating disordered individuals matched to BED in age and weight. The experimental procedure consisted of two consecutive exposure trials. During the first exposure trial with response prevention, participants were asked to touch, smell, and taste food they had previously chosen from a list of sweet and savoury snacks. During the second exposure trial without response prevention, participants were additionally allowed to eat ad libendum. As dependent variables, frequencies of negative cognitions concerning eating, body image, and self-esteem were repeatedly assessed throughout the experiment using a self-report cognition inventory. To examine counterregulatory/disinhibitive effects of food exposure, food intake during the second exposure trial was monitored. Participants with BED consumed a significantly larger amount of food in response to food cues than participants with BN and than non-eating-disordered participants. During cue exposure with response prevention, negative eating-related cognitions were significantly increased in BN when compared to BED and NC. In both eating disorder groups, the presence of negative cognitions on eating was significantly correlated with food intake, while this was not the case for NC. Cognitions on body image and

self-esteem were unrelated to food intake. Results suggest disinhibitive effects of cue exposure in BED, while control over eating presumably was maintained in BN.

Abstract 004

OUTCOME PREDICTORS FOR THE TREATMENT OF BINGE EATING DISORDER

Carlos M. Grilo, Robin M. Masheb, Psychiatry, Yale University School of Medicine, New Haven, CT, G. Terence Wilson, Psychology, Rutgers University, Piscataway, NJ

The aim of this study was to identify predictors of treatment outcome for binge eating disorder (BED). Baseline and treatment course data were used to predict outcomes in a randomized placebo-controlled trial of cognitive behavioral therapy and fluoxetine treatments. One hundred and eight (108) patients with BED were randomly assigned to one of four conditions for 16 weeks of individual treatments (placebo, fluoxetine (60 mg/day), CBT plus placebo, CBT plus fluoxetine). We considered two different “outcomes”: treatment completion (80%) and remission from binge eating (47% of patients). We tested four approaches to prediction selected from the literature: (1) co-morbidity of psychiatric and personality disorders; (2) cluster analytic sub-typing of BED into dietary and dietary-negative affect groups; (3) factor analytic findings (binge frequency, restraint, attitudinal features, body dissatisfaction, self-esteem, depression); and (4) time course data. The treatment conditions and the four prediction approaches were not significant predictors of treatment completion. In predicting remission from binge eating, logistic regression analyses revealed that treatment emerged as a significant predictor (CBT plus placebo and CBT plus fluoxetine were superior to fluoxetine and placebo). Patient variables obtained by the three different approaches were unrelated to remission. In terms of time course, 60% reductions in binge eating occurred by the fourth week of treatment, and this “rapid response” significantly predicted binge remission at post-treatment. Our findings suggest that while efficacious treatments for BED have been found, patient predictors of outcome have not been identified. Early response to treatment may have utility to predicting outcomes.

Abstract 005

THE USE OF MINDFULNESS MEDITATION TECHNIQUES IN TREATMENT OF BINGE EATING DISORDER

Jean L. Kristeller, Psychology, Indiana State University, Terre Haute, IN, Ruth Quillian-Wolever, Duke Center for Integrative Medicine, Duke University, Durham, NC

This workshop will provide an overview of the conceptual background and clinical components of a mindfulness meditation treatment for binge eating disorder. Jean Kristeller will present the theoretical and conceptual framework of this intervention approach, both in regard to mindfulness and self-regulation theory, and in regard to application to binge eating disorder. This treatment approach has shown substantial effectiveness in a pilot study and is now being evaluated in an NIH-funded randomized clinical trial. Both Dr. Kristeller and Dr. Quillian-Wolever will present the components of the treatment approach and the data based on their work to date. Dr. Quillian-Wolever and Dr. Kristeller will present clinical material drawn from their experiences with conducting the treatment groups. There will be substantial experiential elements to the workshop, introducing participants to some of the focused meditations used in our treatment program, including exercises with actual food to address awareness of hunger, satiation and emotional cues to eating.

Abstract 006**A COMPARISON OF THE BES, QEWP-R, AND EDE-Q-I WITH THE EDE IN THE ASSESSMENT OF BINGE EATING DISORDER AND ITS SYMPTOMS**

Angela A. Celio, Clinical Psychology, SDSU-UCSD Joint Doctoral Program, San Diego, CA, Denise E. Wilfley, Psychiatry, Washington University School of Medicine, St. Louis, MO, Scott J. Crow, Psychiatry, University of Minnesota, Minneapolis, MN, James E. Mitchell, Neuropsychiatric Research Institute, Fargo, ND, Timothy B. Walsh, Clinical Psychiatry, Columbia University, NY State Psychiatric Institute, New York, NY

Psychometrically sound, self-administered measures of binge eating are essential for describing and studying binge eating disorder (BED) in a reliable, valid, and resource-efficient way. The current study assesses concordance between self-administered measures and an expert-rated interview on diagnostic criteria and overall diagnosis of BED in a large sample of binge eaters. The Questionnaire for Eating and Weight Patterns-Revised (QEWP-R), Binge Eating Scale (BES), two items from the Eating Disorder Examination Questionnaire with Instructions (EDE-Q-I), and the Eating Disorder Examination (EDE) were administered as part of the initial screening phase of a randomized controlled trial on sibutramine for the treatment of BED. Ss were 157 adults (86.6% female) of whom 129 (79%) were diagnosed with BED using the EDE. In comparison with EDE diagnoses, the QEWP-R misdiagnosed 26% of BED Ss as non-BED and 65% of non-BED Ss as having BED. Using a score of >27 to indicate severe binge eating, the BES misclassified 14.9% of BED Ss as having mild/moderate binge eating and identified 80% of non-BED Ss as having severe binge eating. Weekly frequency of binge eating days over the past 6 months on the EDE correlated with the QEWP-R at $r = 0.57$ ($p < .001$) and 63.2% of Ss reported the same frequency of binge eating on both instruments. Frequency of binge eating days and episodes on the EDE correlated highly with the EDE-Q-I (0.65, 0.48, respectively; $p < .001$) and means were not significantly different. Additional analyses of the symptoms of BED will be presented. Similar to prior research, use of instructions with the EDE-Q improves congruence with the EDE. Although the QEWP-R and BES may be adequate for screening purposes, sole reliance on these measures for the diagnosis of BED is not recommended due to the large percentage of misclassifications. These preliminary data highlight strengths and limitations of self-administered binge eating assessments.

Abstract 007**FUNCTIONAL ANALYSIS OF BINGE-EATING IN THE OBESE**

Kathryn E. Henderson, Psychology, Yale University, New Haven, Connecticut, Fred J. Boland, Psychology, Queen's University, Kingston, Ontario, Canada

The etiological model underlying Cognitive Behavioral Therapy (CBT) for Binge Eating Disorder (BED) suggests that physiological hunger, negative affect, and anxiety are functional antecedents of binge episodes. However, there is limited empirical work demonstrating the specific role of these proposed antecedents in maintaining binge eating. The present study examined the role of these variables as functional antecedents of and consequences of binge-eating episodes and regular meals in a sample of 50 obese binge-eaters and 50 obese non-binge-eaters. In addition, measures of eating pathology, general psychopathology, and weight and eating history variables were examined as predictors of these functional operators. Participants completed a telephone screening, an in-person interview, and a take-home monitoring task. The take-home task consisted of a brief self-

report affective measure completed at prescribed intervals before, during, and after binge-eating episodes (for binge-eaters) and regular meal consumption (for both groups). Results of mixed effects regression analyses provided partial support for the CBT model. For binge-eaters, anxiety was elevated during the pre-binge period over baseline and pre-meal, then decreased throughout the course of the binge. Negative affect was elevated during the binges compared to meals but did not decrease over the course of the binge, challenging its role as an operant. Physiological hunger appeared to play little role in maintaining binge-eating: Surprisingly, binge-eaters were less hungry pre-binge than pre-meal. The overall pattern of anxiety and negative affect before, during, and after meals differed significantly between binge-eaters and obese non binge-eaters. The results add to the understanding of the role of hunger, anxiety, and negative affect in BED.

Abstract 008

DEPRESSION, SELF-ESTEEM, AND MEASURES OF DISORDERED EATING IN OBESE BINGE EATERS

Jean L. Kristeller, Psychology, Indiana State University, Terre Haute, IN, Ruth E. Quillian-Wolever, Center for Integrative Medicine, Duke University, Durham, NC, Virgil Sheets, Psychology, Indiana State University, Terre Haute, IN, Michael Lowe, Clinical and Health Psychology, MCP Hahnemann University, Philadelphia, PA

Depression is a common characteristic of individuals with binge eating disorder that is thought to relate to feelings of loss of control and to poor self-image. Participants are obese individuals ($n = 42$ to date) enrolled in a randomized clinical trial (comparing a meditation-based treatment to a psychoeducational treatment and a waiting list control). Depression (as measured by the BDI) showed a substantial range (2 to 50), although the mean (19.80) was approximately at a level of clinical significance. Depression was not related to weight or BMI (mean BMI = 41; $r = .08$) but was related to number of binges per month (as evaluated on the EDE) ($r = .28$, $p < .05$). However, it was more highly related to the Binge Eating Scale ($r = .68$, $p < .001$) and to a lesser degree to Lowe's Power of Food Scale (Total PFS: $r = .34$, $p < .025$) and to each subscale. On Stunkard's Three Factor Questionnaire (TFQ), it was not related to Cognitive Restraint ($r = -.04$) or Disinhibition ($r = .18$), but was related the Pressure of Hunger ($r = .31$, $p < .025$). Number of binges per month was also related to the BES ($r = .33$, $p < .01$), somewhat less to the PFS ($r = .23$, $p = .08$), and not at all to the TFQ. Depression was also highly related to the Rosenberg Self-Esteem Scale ($r = .71$, $p < .001$). Regression analyses, with the current sample size, found the BES and Rosenberg together account for most of the variance. Depression appears to be jointly related to a perceived sense of being out of control of eating and to general self-esteem, but is not present for all obese binge eaters. The BES shows the most usefulness in evaluating eating disturbance in relation to depression.

Abstract 009

IMPACT OF OBESITY AND BINGE-EATING ON HOSPITALIZATION RATES IN A POPULATION-BASED SAMPLE OF SWEDISH TWINS

Cynthia M. Bulik, Patrick F. Sullivan, Psychiatry, Virginia Commonwealth University, Richmond, VA, Nancy L. Pedersen, Medical Epidemiology, Karolinska Institutet, Stockholm, Sweden

Background: Obesity is associated with an array of health risks. It less clear the extent to which the presence of binge-eating is associated with health problems independent

of those associated with obesity. We explored the extent to which obesity, binge eating and the obesity \times binge-eating interaction were associated with rates of hospitalization. Method: We linked data from 27,864 individuals under the age of 65 who were participants in the Swedish Twin Registry with the Swedish National Hospital Discharge database. We defined current obesity as a BMI > 30 and coded binge-eating as present if the individual reported recurrent episodes of uncontrolled binge-eating. Results: 8.2% of the sample was obese and 0.8% of the sample reported binge-eating. The mean number of admissions for non-obese/non-binge-eating individuals was 3.0, for obese/non-binge-eating individuals 4.1, for non-obese/binge-eating individuals 7.2, and for obese/binge-eating individuals 16.3. In a multiple regression model, age, gender, obesity, binge-eating, and the obesity \times binge-eating interaction all significantly predicted number of admissions ($p < .001$ for each term). Conclusions: Both obesity and binge-eating contribute significantly and independently to hospital admissions. Moreover, there was a strong interaction between these two predictors. In other words, there appear to be independent effects of binge-eating and interactive effects of binge-eating and obesity on hospital admission rates when controlling for age and gender.

Abstract 010

BINGE EATING DISORDER AND NIGHT EATING SYNDROME AMONG MORBIDLY OBESE PATIENTS BEFORE AND AFTER BARIATRIC SURGERY

Janet D. Latner, Psychology, University of Canterbury, Christchurch, New Zealand, Scott Wetzler, Psychiatry, Elliot Goodman, Surgery, Montefiore Medical Center, Bronx, NY

The purpose of this research was to determine the prevalence of eating disturbances and other psychopathology in patients undergoing gastric bypass surgery for morbid obesity, prior to surgery and at follow-up. This study also examined the relationship between pre-surgical eating disturbances and post-surgical outcome. Sixty-five patients were evaluated by semi-structured interview prior to surgery and at a mean follow-up period of 16 months. Prior to surgery, 42% of patients met criteria for binge eating disorder (BED). This number decreased to 0.5% of patients at follow-up. In contrast, the frequency of depressive disorders or anxiety disorders did not change post-surgery. The frequency of night eating episodes decreased from 2.8 to 0.4 per month, with 36% of patients meeting criteria for night eating syndrome prior to surgery and 8% of patients at follow-up. Frequency of vomiting increased from 0.2 to 2.9 episodes per month. Average weight loss at follow-up was 56.3 kg. Other changes in health-related behaviors included a decrease in smoking frequency and an increase in exercise frequency. Between patients with or without BED and between those with or without night eating syndrome (NES) prior to surgery, there were no differences in post-surgical weight loss, binge eating or night eating frequency, or shape and weight concerns. The only post-surgical difference between these groups was that binge eaters reported significantly greater satisfaction with the results of the procedure than non-binge eaters. Patients who met criteria for other psychological disorders prior to surgery, however, did report higher shape and weight concerns following surgery than did patients without such disorders. These findings suggest that a substantial proportion of morbidly obese patients undergoing bariatric surgery exhibited BED and NES prior to surgery, but that these conditions were rare following surgery and did not appear to affect its outcome.

Abstract 011**RELATIONS BETWEEN PERCEIVED PRESSURES TO BE THIN IN A SPORT CLIMATE AND EATING DISORDER SYMPTOMS IN ELITE FEMALE GYMNASTS**

Annick Buchholz, Psychology, Children's Hospital of Eastern Ontario, Ottawa, Ontario, Canada, Heidi E. Mack, Pinecrest Queensway Health and Community Services, Ottawa, Ontario, Canada, Erinn Steringa, Pinecrest Queensway Health and Community Services, Ottawa, Ontario, Canada, Michelle D. Mathias, School of Human Kinetics, University of Ottawa, Ottawa, Ontario, Canada

This study examined the relations between perceived pressures to be thin in a sport climate, sense of self-efficacy, and internalization of societal pressures in predicting appearance-esteem and disordered eating in young female athletes. The subjects were 106 elite adolescent gymnasts (ages 12 to 18) recruited from 7 competitive gymnastic clubs. The gymnasts completed several measures to assess perceived pressures to be thin in their club, sense of self-efficacy over these pressures, internalization of societal pressures to be thin, appearance-esteem and disordered eating. It was hypothesized that athletes' with higher levels of perceived pressure to be thin, lower levels of self-efficacy related to these pressures, and higher levels of internalization of sociocultural standards would be more likely to demonstrate poorer appearance-esteem and disturbed eating attitudes and behaviour. Separate multiple regressions revealed that the variables significantly predicted a total of 48% of the variance in both appearance-esteem and disordered eating. Perceived pressures to be thin and the internalization of sociocultural pressures contributed uniquely to the predictions of both appearance-esteem and disturbed eating. Sense of self-efficacy over pressures to be thin contributed uniquely to the prediction of disturbed eating. This study suggests that young female gymnasts who perceive pressures to be thin in their club, and who experience little control over appearance-demands, and internalize societal beauty standards, are at risk for disordered eating.

Abstract 012**PARENT AND CHILD PERCEPTIONS OF THE PARENTAL RELATIONSHIP IN ANOREXIA NERVOSA**

Janet W. Solomon, Kelly L. Klump, Psychology, Michigan State University, East Lansing, MI, Matt McGue, William Iacono, Irene Elkins, Psychology, University of Minnesota, Minneapolis, MI

Parental relationships have been examined for their significance in the development of disordered eating. However, less research has studied similarity in parent and child perceptions of parental relationships among children with anorexia nervosa (AN). The purpose of this study was to investigate perceived relationships between parents and their AN daughters from both the parent and child's perspective. These perceptions were compared to those of a control group in order to determine the significance and specificity of observed differences for eating pathology. Subjects included 31 women with AN (ages 17 and 20), 31 controls with no eating pathology, and parents of both groups who participated in the Minnesota Twin Family Study. Parent-child relationships were assessed with the Parental Environment Questionnaire, including the conflict, parental involvement, regard for parent, regard for child, and structure subscales. Differences in perceptions of parental relationships were examined using one-way analysis of variance (ANOVA) with Tukey's post-hoc *t*-tests. Overall, few differences in perceptions were observed, and those that were present existed among AN as well as control families. Specifically, for both AN and controls, mothers reported significantly more involvement with their daughters than the daughters reported. Mothers also reported significantly

higher regard for their daughters than their daughters reported for them. Finally, fathers and daughters did not report significant differences on the PEQ scales. Results suggest that mothers and daughters experience their relationship in different ways, particularly in the areas of involvement and regard for child. However, these differing perceptions are not specific to families with an AN daughter. These findings highlight the necessity of including controls in research examining perceptions of parental relationships in order to determine the specificity of observed differences for eating pathology.

Abstract 013

DO PARENTS SEE THEIR FAMILIES AS DYSFUNCTIONAL AS THEIR DAUGHTERS WITH EATING DISORDERS DO?

Ida Dancyger, Victor Fornari, Lisa Scionti, Willo Wisotsky, Francine S. Mandel, Psychiatry, North Shore University Hospital, Manhasset, NY

The current study compared the perceptions of family functioning between daughters with eating disorders and their parents. This archival investigation was an expansion of the Fornari and colleagues (1999) study, which investigated the relationship between the perceived family functioning and depressive symptomatology in individuals with EDs receiving outpatient (OP) services. Clinical charts of 236 female subjects, ranging in age from 11 to 63 years, were studied by ED diagnosis (AN-R, AN-B/P, BN, EDNOS) and reported family functioning (using the FAD), examined for significant differences and predictive variables on the following measures: SADS-L, EDI and BDI. Data was analyzed using regression, zero-order correlation, ANOVA and Tukey comparisons. A statistically significant difference was found between patient and parental perception of overall family functioning. Parents rated family functioning as healthier and less chaotic than patients. There were no significant differences between maternal and paternal perceptions of family functioning. In addition, the BDI (but not a diagnosis of MDD) and BN were significant predictors of family dysfunction as perceived by both parents and children. At this time it is unclear how this difference in viewpoints between parents and daughters regarding the family environment may contribute to the continuation of a dysfunctional family pattern, maintenance of the eating disorder and/or the impact on the course of treatment. The results of this study strongly support the importance of including the patient's family in the initial evaluation, regardless of the patient's age.

Abstract 014

FAMILY-BASED OUTPATIENT TREATMENT FOR ADOLESCENT ANOREXIA NERVOSA: A CLINICAL CASE SERIES

Daniel le Grange, Psychiatry, The University of Chicago, Chicago, IL, Katharine Loeb, B. Timothy Walsh, Psychiatry, Columbia University, New York, NY, James Lock, Psychiatry, Stanford University, Stanford, CA

The first controlled studies of family-based treatment for AN were conducted at the Maudsley Hospital in the U.K. These studies have demonstrated that this unique outpatient family-based intervention holds promise for adolescents with AN. There are, however, no published data on this treatment's effectiveness or ease of dissemination in the U.S. The purpose of this study was to provide a description of a clinical case series of adolescents with AN undergoing this treatment in the U.S. Participants were recruited from two sites and comprised of 50 adolescents with AN [mean age 14.9 (*SD* 1.99) years, and duration of illness 14.7 (*SD* 14.13) months] and their family members. Therapists adhered to the manualized Maudsley approach. The primary outcome measure was

weight expressed as BMI and percent IBW. Height and weight were obtained at baseline and termination while weight was also measured at every treatment session. Analyses were intent-to-treat. The mean number of treatment sessions was 14.9 (*SD* 10.79), while the mean entry BMI was 17.2 (*SD* 2.18). At last visit or termination, the mean BMI was 19.3 (*SD* 2.71) ($p = .000$). Percent IBW also significantly increased over the course of treatment [83.0 (*SD* 9.12) versus 93.7 (*SD* 11.87), $p = .000$]. Of the 35 female patients who were amenorrheic at the start of treatment, 24 (69%) experienced a resumption of menses at the time of their last visit. Findings from this clinical series in the U.S. are similar to results from the U.K., suggesting that (1) the Maudsley family-based approach is an effective and viable outpatient intervention for adolescents with AN, and (2) this treatment can be disseminated beyond its place of origin.

Abstract 015

PARENTAL INFLUENCES ON EATING PSYCHOPATHOLOGY AND PSYCHOLOGICAL PROBLEMS IN OVERWEIGHT CHILDREN

Veerle Decaluwe, Caroline Braet, Developmental and Personality Psychology, Ghent University, Ghent, Belgium

The aim of the present study was to examine the influence of parental characteristics on eating psychopathology and psychological problems in overweight children. Data were collected from 196 families having an overweight child seeking weight loss treatment. Child psychological problems were measured using the Child Behavior Checklist, whereas the Child version of the Eating Disorder Examination was used to assess the eating psychopathology. Parental psychiatric symptoms were measured using the Symptom Checklist-90, whereas parental behavior was assessed with the Ghent Parental Behavior Scale. Approximately half of the overweight youngsters had an elevated score on internalizing or externalizing problems, with social problems as the most prevalent problem. Ten percent experienced binge eating episodes. A marked psychopathology was observed in the parents of the obese children and adolescents. Compared to a healthy weight control group, parents of obese children report more psychiatric symptoms and show less positive parental behaviour. Both parental psychopathology and parenting were significantly associated with emotional and behavioral problems in their children. Parental psychopathology and parenting was also associated with eating psychopathology in overweight children such as restraint, concerns on eating, weight and shape. No significant correlations were found between parental psychopathology respectively parenting and binge eating in their children. Finally regression analyses revealed that parenting predicted internalizing and externalizing behavior and eating, weight and shape concerns in their children. Parental variables did not account for any variance in childhood binge eating problems. The consequence of these findings for psychological problems in childhood obesity will be discussed.

Abstract 016

A PROPOSED PSYCHOSOCIAL CONSEQUENCES MODEL OF CHILDHOOD OBESITY

Helen A. Hayden-Wade, Psychology, Children's Hospital, San Diego—Child & Adolescent, San Diego, California, Denise E. Wilfley, Psychiatry, Washington University School of Medicine, St. Louis, Missouri, Richard I. Stein, Pediatrics, University at Buffalo—The State University of New, Buffalo, New York, Danyte S. Mockus, Epidemiology, Joint Doctoral Program, UCSD School of Medicine & SDSU School of Public Health, San Diego, California

The prevalence of pediatric obesity is rising, which has serious health implications. Data suggest that obese children are at increased risk for social problems, and that

obese children with clinically significant social problems fare poorly in weight loss (WL) treatment, yet little is known about the relation of social problems to weight control among these children. In the current study, 2 models regarding eating pathology and physical activity (PA) among overweight children were tested. This study investigated factors that mediate the relation between Percent Overweight (POV) and 2 outcome variables: Eating Pathology and PA Participation. Additional latent constructs included Level of Social Adjustment (LSA; social withdrawal, social problems, aggression) and Level of Personal Adjustment (LPA; self-esteem, teasing, loneliness, social dissatisfaction). A sample of 108 overweight (BMI 20–100%) children [mean age = 9.8 ($SD = 1.3$), 64.8% Caucasian, mean POV = 63.5% ($SD = 19.9\%$)], were recruited for a family-based behavioral WL study. Path analyses and cross-sectional SEM were used to examine relations between observed variables. Tests of the eating-pathology model yielded excellent goodness-of-fit indices ($\chi^2 = 31.34$, $df = 24$, $p = .15$; χ^2 -to- df ratio = 1.31; GFI = .94; NNFI = .96; CFI = .97; RMSEA = .05, 90% CI = .00–.10). LPA was found to mediate the relation between LSA and Degree of Eating Pathology. Zero-order correlations revealed that increased POV was significantly related to teasing experiences ($r = .23$, $p < .05$) and social problems ($r = .23$, $p < .05$). Overall, the eating pathology and PA models suggest that for a particular subset of overweight children, social and personal maladjustment may lead to increased eating pathology and perhaps poor PA participation, which may perpetuate an overweight and maladjustment cycle. These data suggest that optimal interventions for successful long-term pediatric WL may profit from focusing upon a broader scope of challenges faced by obese children.

Abstract 017

CARDIAC IMPAIRMENT IN ADOLESCENT GIRLS WITH ANOREXIA NERVOSA: WHAT EXERCISE STRESS TESTING REVEALS

Suzanne Riggs, Pediatrics, Rhode Island Hospital and Brown University, Providence, RI, Dalia Harel, Patricia A. Biros, Pediatrics, Rhode Island Hospital, Providence, RI, James W. Ziegler, Pediatrics, Rhode Island Hospital and Brown University, Providence, RI

Cardiac involvement is the most critical and potentially life threatening complication in patients with anorexia nervosa (AN). Since adolescents with AN tend to be involved in high intensity physical activity, it is imperative to clearly define their cardiovascular response to stress imposed by exercise. We evaluated the cardiovascular responses to exercise stress testing in adolescent girls with AN. Exercise stress tests were administered to 38 adolescent girls with severe AN admitted for inpatient care. Electrolyte abnormalities were corrected prior to testing. Exercise stress tests were performed on an Ergometrics 800 bicycle ergometer using an incremental, ramp protocol. Breath by breath measurement of oxygen consumption (VO_2), CO_2 production, and end tidal CO_2 were performed, and heart rate (HR), oxygen pulse, and 12 lead ECG were continuously monitored. Manual blood pressure (BP) and pulse oximetry were recorded at rest and at peak exercise. Degree of exercise impairment (none, mild, moderate, or severe) was determined based upon these measurements. Of the 38 patients tested, 9% tested within normal limits, 34% showed mild impairment, 28% showed moderate impairment, and 29% showed substantial impairment. Three of the severely impaired patients had significant ECG changes and/or arrhythmias revealed during the testing. The higher the percent body weight lost, the lower the peak workload ($p = 0.001$), the peak HR ($p < 0.05$), and the peak VO_2 ($p < 0.05$). The more rapid the weight loss, the lower the

peak workload ($p < 0.01$). Of the patients who were trained athletes, 36% were moderately or severely impaired, compared with patients who were not trained athletes, 71% of whom were moderately or severely impaired ($p < 0.05$). These findings are clinically relevant to advising AN patients about resumption of physical activity. Further studies are warranted to clarify individual risk profiles and to develop guidelines for restricting exercise in these patients.

Abstract 018

THE CRITICAL DURATION OF LOW BODY WEIGHT FOR SHORT STATURE IN EARLY ADOLESCENCE-ONSET ANOREXIA NERVOSA PATIENTS

Mari Hotta, Health Services Center, National Graduate Institute For Policy Studies, Tokyo, Japan, Rina Ohwada, Kazue Takano, Medicine, Tokyo Women's Medical University, Tokyo, Japan, Tamotsu Shibasaki, Physiology, Nippon Medical School, Tokyo, Japan

Anorexia nervosa (AN) patients often show deterioration of linear growth of height, and short stature is one of the serious complications. To investigate risk factors for reduction of the final height in early adolescence-onset AN patients, we evaluated the relationship between clinical profiles and height records of 14 women. They developed AN on an age below 14, and then their body weight as well as menstruation recovered. Patients were divided into two groups. Six patients were denoted as normal height (N) group, whose final heights were equal to or greater than expected final heights. Eight patients were denoted by short stature (S) group, whose final heights were less than expected final heights. The mean ages of N and S groups were 21.7 ± 1.1 and 21.4 ± 1.1 (mean \pm SE) years, respectively. The final heights of N and S groups were 156.0 ± 1.9 and 151.6 ± 2.1 cm, respectively. There was no significant difference in age of menarche (11.8 ± 0.3 versus 11.6 ± 0.2), age of onset (12.9 ± 0.3 versus 12.3 ± 0.3), height on onset (150.8 ± 2.0 versus 149.2 ± 1.5 cm), body weight on onset (40.8 ± 1.4 versus 42.8 ± 2.1 kg), the minimal body weight during illness (27.9 ± 1.6 versus 28.7 ± 0.7 kg) or the final body weight (46.6 ± 2.7 versus 44.0 ± 1.7 kg) between N and S groups. However, we observed a significant difference in the duration of body mass index less than 16 kg/m^2 between N and S groups (9.8 ± 1.6 versus 24.9 ± 3.2 months, $p < 0.01$), which is a main risk factor for osteoporosis found in AN. There was also a definite difference in bone mineral density between N and S groups (0.857 ± 0.025 versus $0.732 \pm 0.040 \text{ g/cm}^2$, $p < 0.05$). We suggest that duration of low body weight should be shortened within 1 year to prevent short stature in early adolescence-onset AN patients.

Abstract 019

DIETING IN OVERWEIGHT (OW) CHILDREN: AGE OF ONSET, LOSS OF CONTROL (LOC) EATING, AND PSYCHOPATHOLOGY

Marian Tanofsky-Kraff, Jane Elberg, Erica M. Fallon, Unit on Growth and Obesity, NICHD, National Institutes of Health, Bethesda, MD, Denise E. Wilfley, Department of Psychiatry, Washington University School of Medicine, St. Louis, MO, Susan Z. Yanovski, NIDDK, Jack A. Yanovski, Department of Endocrinology, NICHD, National Institutes of Health, Bethesda, MD

Little is known about the relationships between dieting, LOC eating and OW status in middle childhood. To examine these relationships, we studied 75 OW children (mean age 10.4y, $SD = 1.6$; BMI greater than or equal to 85th %ile; mean OW onset age 7.7y, $SD = 2.3$) using the child's Eating Disorder Examination (ChEDE), State-Trait Anxiety

Inventory-Trait form (STAIC), and Child Behavior Checklist (CBCL), and obtained data regarding dieting, weight, and eating history. Adiposity was assessed by BMI-SD and DXA. 57.3% of children reported past dieting (mean first diet at 8.9, $SD = 1.8$; mean # of diets 2.4, $SD = 2.1$). Children reported dieting by decreasing food intake (41.8%), both decreasing intake and exercising (41.5%), or using structured diet plans such as meal replacements (16.7%). Similar percentages of girls and boys engaged in past dieting. Children who dieted had an earlier onset age of OW ($p < 0.05$), greater body fat mass ($p < 0.01$), higher ChEDE scores (global score $p < 0.001$) and CBCL total- t scores ($p = 0.01$). 25.3% reported experiencing LOC while eating (mean first LOC at 8.8y, $SD = 3.0$). LOC children were more likely to report past dieting than non-LOC children ($p < 0.05$). Of the 15 who both dieted and experienced LOC, 5 reported dieting prior to LOC, 6 had LOC first, and 4 had LOC and dieting at the same age. Four reported LOC before OW, 7 were OW first, and 5 became OW and began LOC eating contemporaneously. Trait anxiety scores were highest for children with LOC before OW ($p < 0.05$). We conclude that OW children who report having dieted are heavier, have earlier onset of OW, endorse more eating disordered cognitions and have more parent reported behavior problems than non-dieting OW children. While LOC eating is common in OW children, prior dieting does not appear to be essential for its onset. Ongoing research is assessing the relationships between dieting, LOC and the development of both eating disorders and more severe obesity.

Abstract 020

“THE WEIGHT OF EMOTIONS”: EMOTIONAL EATING IN OBESE CHILDREN AND ADOLESCENTS

Barbara Soetens, Veerle Decaluwé, Caroline Braet, Psychology, Ghent University, Ghent, Belgium

Introduction: The clinical literature has long acknowledged that different eating habits can contribute to the existence of obesity. One of these eating styles is emotional eating, or the tendency to overeat when one experiences negative emotions. Previous research has indicated that emotional eating seems to be especially prevalent in adult binge eaters. Moreover, negative emotions such as depression, loneliness and anxiety are common factors in etiological models of Binge Eating Disorder (BED). One of these models is the Integrated Riskmodel of BED by Wilfley, Pike, and Striegel-Moore (1997), which identifies ‘affective dysregulation’ as a possible determining precursor of binge eating. **Method:** We investigated a population of 70 helpseeking, obese adolescents between the ages of 10 and 16, using selfreport questionnaires (DEBQ, LEKA, CDI, SPPA and EDI) and a clinical interview (EDE). The goal of our study was to determine the prevalence of emotional eating, its predictors and its association with binge eating. **Results:** Emotional eating appeared to be significantly correlated with low selfworth, feelings of loneliness towards parents, a lack of interoceptive awareness and feelings of worthlessness. Together these factors explained a significant portion (17.4%) of the variance in emotional eating. Factor analyses showed that emotional eating and its associated characteristics load on one factor (explaining 37.98% of the variance). Analyses of the prevalence of emotional eating, revealed that the subgroup of obese youngsters suffering from binge eating had to deal significantly more with emotional eating (70.0%), than the obese youngsters that showed no sign of binge eating (13.6%). These findings and their consequences for obesity treatment in adolescence will be discussed.

Abstract 021**RELATIONSHIP BETWEEN WEIGHT LOSS AND BODY IMAGE IN OBESE FEMALES SEEKING WEIGHT LOSS TREATMENT**

Deborah L. Reas, Ph.D., Donald A. Williamson, Ph.D., Department of Psychology, Louisiana State University, Baton Rouge, LA, Frank Greenway, M.D. Pennington Biomedical Research Center, Baton Rouge, LA, Bill Raum, M.D. Weight Management Center, St. Charles Hospital, New Orleans, LA, Ken Fujioka, M.D. Nutrition and Metabolic Research Center, Scripps Clinic, San Diego, CA, Iris Bethancourt Weight Management Center, St. Charles Hospital, New Orleans, LA, Lauri Stewart, R.N. Nutrition and Metabolic Research Center, Scripps Clinic, San Diego, CA, Damian Blanchard, Cheryl Arnett, Heather Walden, M.A., Jean Thaw, Ph.D., & Elizabeth Antolik, Pennington Biomedical Research Center, Baton Rouge, LA

The present study investigated predictors of body image in obese women seeking surgical or non-surgical weight loss treatment and examined the nature and extent of changes in body image following weight loss. Participants were 87 females (BMI > 30) recruited from the Pennington Biomedical Research Center in Baton Rouge, LA, the Scripps Clinic in San Diego, CA, and the Weight Management Center at the St. Charles Hospital in New Orleans. Body image was measured using a figural body image rating procedure (Body Image Assessment for Obesity; BIA-O, Williamson et al., 2000) and operationally defined as the discrepancy between participant estimates of current and ideal body size. Predictors of body image discrepancy at baseline included body mass index, self-esteem (Rosenberg Self-Esteem Scale; Rosenberg, 1979), ethnicity, and disinhibition (Three Factor Eating Questionnaire; Stunkard & Messick, 1985). Despite a similar pre-treatment BMI status, African-Americans demonstrated significantly less discrepancy than white participants, characterized by similar "ideal", but smaller "current" body size estimates. At 6-month follow-up, weight loss for the total sample averaged 27.5 lbs., or a loss of 11.4% initial body weight ($N = 60$, 30% attrition rate). Body image significantly improved between pre- and post-treatment, resulting from a decrease in participants' estimations of current body size, while selections of an ideal body size remained stable. At follow-up, amount of weight loss performed as the strongest predictor of body image improvement ($r = .56$). Data suggest that weight loss brought participants' perceptions of current body size closer in congruence with their ideal body size, thereby reducing levels of body image discrepancy. Overall, body weight accounted for approximately one-third of the variance in both body image discrepancy at baseline and body image improvement at follow-up.

Abstract 022**THE CLINICAL PRESENTATION OF JAPANESE WOMEN WITH ANOREXIA NERVOSA AND BULIMIA NERVOSA**

Kathleen M. Pike, Psychiatry, Keio University, Yokohama-shi, Kanagawa-ken, Tokyo, Japan Hiroko Mizushima, Psychiatry, Keio University, Nagata-cho, Chiyoda-ku, Tokyo, Japan

Background: The earliest studies of eating disorders in Japan suggested that both anorexia nervosa (AN) and bulimia nervosa (BN) were less common in Japan than in Western countries. Differences in dietary practice, cultural ideals of beauty, and limited problems with obesity in the Japanese culture were thought to limit the risk for eating disorders in Japan. However, more recent studies suggest that the number of recorded eating disorder cases is increasing in Japan. The purpose of this study was to provide descriptive data regarding the clinical presentation of anorexia nervosa and bulimia nervosa in Japan, and determine whether the clinical profile of eating disorder cases in

Japan differ in significant ways from comparable Caucasian samples. Methods: Forty-six women with AN and 43 women with BN who presented for evaluation at a university based treatment center in Tokyo participated in this study. Fifty-four non-eating disordered comparison subjects were recruited from the Tokyo metropolitan community. Specific demographic data and dimensions of eating pathology as measured by the EDI were analyzed. In addition, the Japanese cases and controls were compared to a standardization sample provided in by the EDI Manual. Results: As expected, the Japanese eating disorder cases reported significantly greater rates of eating pathology on the EDI compared to the Japanese community sample. Compared to EDI data of Caucasian women provided from the standardization study, the Japanese eating disorder cases differed on the EDI subscales of "Drive for Thinness," "Perfectionism," and "Maturity Fears." Similar differences were reported for the non-eating disordered comparison samples. Details of these findings and a discussion of cultural influences that may account for these differences will be presented.

Abstract 023

RELATIONSHIPS BETWEEN DISORDERED EATING, DEPRESSIVE SYMPTOMS, PERSONALITY, AND BODY MASS INDEX IN MALES

Kyle L. Gobrogge, Jessica H. Baker, Psychology, Kelly L. Klump, Clinical Psychology, Michigan State University, East Lansing, Michigan

Objective: Several investigators have found depression, personality, and body mass index (BMI) to be related to eating pathology. However, most studies have focused only on examining these relationships within female populations. The purpose of this study was to examine predictive relationships between depressive symptoms, the Big Five personality characteristics, BMI, and disordered eating in a sample of male college students. Methods: Subjects included 117 male twins and triplets participating in the MSU Twin Study. Disordered eating was measured with the Body Dissatisfaction, Compensatory Behavior, Binge Eating, and Weight Preoccupation subscales from the Minnesota Eating Disorders Inventory (M-EDI). Depressive symptoms were measured with the total score from the Beck Depression Inventory- II (BDI-II), while personality was assessed with the Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness subscales of the Neuroticism, Extraversion, and Openness to Experience Personality Inventory (NEO-PI). BMI was calculated using height and weight measurements. Multiple regression analyses were used to examine predictive relationships between BDI-II, NEO-PI, BMI, and M-EDI subscales. Results: BMI was a significant predictor of most M-EDI subscales. In addition, Neuroticism was also a predictor of Weight Preoccupation and EDI total score, while Extraversion was an additional predictor of Weight Preoccupation. Discussion: BMI appears to be a better predictor of general disordered eating behavior than depressive symptoms and most personality characteristics in a non-clinical sample of males.

Abstract 024

RELATIONSHIP BETWEEN EXERCISE AND LOCOMOTOR ACTIVITY IN ANOREXIA NERVOSA

Diane Klein, Columbia University, New York, NY

Patients with anorexia nervosa (AN) often demonstrate excessive locomotor activity, to the extent that this is considered by some a hallmark feature of the disorder. While such activity often complicates the treatment of AN, and may even play a role in the

pathogenesis of the disorder, few attempts have been made to quantify such activity, or to examine its correlates. In particular, it is unknown whether there is a relationship between a history of exercise and excessive physical activity during inpatient treatment. We studied twelve inpatients with AN, all within the first two weeks of admission and prior to starting weight-gain protocol, during which time unit privileges were restricted and formal exercise was not allowed. Commercially-available Sensewear (BodyMedia) activity armband monitors were used to record activity over twenty-four hour periods. Results are presented in terms of “steps” (pedometer equivalents provided by armband monitor). Correlational analyses were conducted to determine whether percent of ideal body weight and admission scores on CES (Commitment to Exercise Scale) were associated with overall activity scores. Percent of ideal body weight showed no relation to 24-hour locomotor activity on the unit. Scores on the CES, however, were significantly correlated with pedometer readings ($p = .001$). These results strongly support the presence of a relationship between exercise routines and/or ideation prior to admission, and continued locomotor activity in early hospitalization. This relationship may reflect an enhanced drive for activity in a subgroup of patients with AN.

Abstract 025

EARLY ONSET EATING DISORDERS: DESCRIPTION OF A BRAZILIAN SAMPLE OF CHILDREN AND ADOLESCENTS ATTENDING AN OUTPATIENT CLINIC (PROTAD)

Bacy Fleitlich-Bilyk, Tatiana Moya, Alicia Cobelo, Ana Paula Gonzaga, Cybelle Weinberg, Patricia Belluzzo, Louise Cominato, Marisa Granchelli, Eunice Labbadia, Vanessa Pinzon, Psychiatry, Institute of Psychiatry—University of Sao Paulo, Sao Paulo, Brazil

In spite of the social concern about eating disorders, information of its manifestation in developing countries is limited. Further studies in Latin American countries are needed to illustrate the frequency of this problem and its socio-demographic and psychopathological particularities. The population seen by a public eating disorders outpatient clinic (PROTAD) specialized for children and adolescents is described. Socio-demographic and clinical characteristics as well as comorbidities are illustrated. DSM-IV and ICD 10 diagnostic categories according to age range is discussed. There is a clear clinical presentation of eating disorders in a Brazilian sample of children and adolescents, with typical clinical features even in families from lower socio-economic status. The age ranged between 10 to 17 years. The most frequent diagnosis was eating disorders not otherwise specified (DSM-IV 307.50), rather than ‘pure’ anorexia or bulimia nervosa and the main comorbid diagnosis was depression.

Abstract 026

ETHNIC DIFFERENCES IN PERSONALITY PATHOLOGY AND BINGE CHARACTERISTICS AMONG A SAMPLE OF OBESE WOMEN WITH BINGE EATING DISORDER

Angela K. Picot, Carli H. Jacobs, Lisa R. Lilienfeld, Psychology, Georgia State University, Atlanta, GA

Previous research has suggested that ethnicity must be taken into consideration when accounting for personality variables in eating disorders. Although few in number, the majority of studies that have compared Caucasian and African-American women with binge eating disorder (BED) have found differences in the behavioral and psychological correlates of binge eating. The current study aimed to add to the growing knowledge base of ethnic differences in personality and binge characteristics among obese women who presented for treatment of BED. The sample included 22 Caucasian women and

16 African-American women. The EDE and the SCID-II were used to assess binge characteristics and personality pathology. Thirty-six percent of the Caucasian sample met full criteria for a personality disorder while none of the African-American women met criteria. The two groups did not differ on age, BMI, binge eating severity, frequency or amount of binge episodes, or cluster A or B personality disorder symptoms. However, the Caucasian women showed a significantly higher level of cluster C symptoms ($F = 4.59, p = .04$). Interestingly, among the Caucasian women but not the African-American women, frequency of binge eating was positively associated with cluster C symptoms. When entered in a hierarchical multiple regression analysis, ethnicity accounted for 16.7% of the variance above and beyond binge frequency, and the two variables together accounted for greater than one-third of the variability in personality pathology ($R^2 = .353, p < .001$). It appears that Caucasian women have higher levels of anxious or fearful symptoms that may increase the frequency with which they binge eat, whereas such symptoms do not appear to be related to binge frequency among African-American women. Future research should continue to address ethnicity and further explore the current finding that Caucasian women with BED have higher rates of personality disorder symptomatology and diagnoses.

Abstract 027

GENETIC ANALYSIS OF THE 5-HT_{2C} RECEPTOR AND THE NET TRANSPORTER GENES IN ANOREXIA NERVOSA

Diana Prata, Univeristy of Lisbon, Portugal

This study was designed to test the hypothesis that the 5-HT_{2C} (Serotonin receptor type 2c) and NET (Norepinephrine transporter) genes are genetic risk factors for anorexia nervosa (AN). DNA samples from 147 family trios with a DSMIV diagnosis of AN were collected from London and Vienna. Written informed consent was taken in all cases. Patients diagnosed with a structured clinical interview (EATATE) and divided into restricting AN (RAN), and Binge-Purging AN (BP-AN). Two polymorphisms were genotyped in the promoter region of the 5-HT_{2C} gene: a (CA)_n tandem repeat and a -995G/A single nucleotide polymorphism (Yuan et al., 2000; Deckert et al., 2000); and one in the NET gene, an (AAGG)_n insertion deletion polymorphism in the promoter (Unwin et al., 2002). Genotyping was by standard PCR methods. Transmission Disequilibrium Test (TDT) analysis was performed using the program ETDT. For the 5HT_{2C} (CA)_n repeat, TDT analysis of 147 family trios (B-PAN and RAN combined), allele 1 (sized 445 bp) was passed 31 times and not passed in 16 cases and allele 2 passed 17 and not passed 30 (chi-squared 8.16; p -value, 0.086). In a sub-group of 67 families with RAN allele 1 was transmitted 13 times versus 10 for allele 1 and for the allele 2 10 versus 15 cases (chi-squared 3.49, ns). For the -995G/A RFLP marker, analysis of 126 trios with AN showed a transmission of the G allele 9 times versus 22 times not transmitted (chi-squared 0.73; ns). The 60 RAN trios showed identical transmission of both alleles. For the NET gene (AAGG)_n VNTR marker, in 144 AN trios allele 2 (339 bp) was transmitted 39 times vs. 41 times, and allele 3 (343 bp) 41 times 40 times; chi-squared was 1.41 (ns). Within the RAN group of 67 families, allele 1 was transmitted 22 times and not transmitted 20 with a chi-squared of 0.095 (ns). We found no statistically significant difference in allele transmission within the families analysed, for any of the polymorphisms analysed, whether of the RAN or overall AN subtype, to support an association between the 5-HT_{2C} or NET genes and AN.

Abstract 028**A POLYMORPHISM IN THE PROMOTER REGION OF THE SEROTONIN TRANSPORTER GENE (5-HTTLPR) CORRESPONDS TO IMPULSIVITY AND REDUCED PAROXETINE BINDING IN BINGE-EATING WOMEN**

Howard Steiger, Mimi Israel, Ridha Joobar, Kenneth R. Bruce, N.M.K. Ng Ying Kin, Lise Gauvin, Simon N. Young, Jasmine Joncas, Adam Torkaman-Zehi, Andrea Byrne, Eating Disorders Program, Douglas Hospital, Psychiatry Department, McGill University, Montreal, Quebec, Canada

Findings in various populations link Bulimia Nervosa (BN), binge eating, and impulsive behavior to polymorphisms at several serotonin (5-hydroxytryptamine: 5-HT) system genes. In data from 23 healthy women and 48 women with bulimia-spectrum eating disorders, we explored implications of a polymorphism in the promoter region of the 5-HT transporter gene (5-HTTLPR) for: eating symptoms (like bingeing, vomiting, body dissatisfaction), psychopathological traits (like impulsivity, compulsivity, and perfectionism), psychiatric comorbidity (on Axes I and II), and platelet paroxetine binding (presumed to reflect 5-HT reuptake activity). Preliminary analyses have linked neither genotypic nor allelic variations with presence of a psychiatric diagnosis or eating disorder. However, in eating-disordered participants, the short ("s") variant of 5HTTLPR coincided with significantly higher impulsivity (according to self report and behavioral-task performance), lower compulsivity, and lower paroxetine binding. Such effects were not observed in the normal eaters. These results corroborate findings (obtained in other symptomatic populations) associating the "s" allele of the 5-HT transporter gene with impulsive potentials and reduced 5-HT transporter activity. Furthermore, our findings imply that presence of a binge-eating syndrome (or of some factor associated with risk for such syndromes) may mobilize expression, at both neurobiological and behavioral levels, of the 5HTTLPR gene.

Abstract 029**ANOREXIA NERVOSA AND ANXIETY DISORDERS: AN EXAMINATION OF SHARED TRANSMISSION**

Gillian M. Stavro, Kelly L. Klump, Alex von Eye, Psychology, Michigan State University, East Lansing, MI, William G. Iacono, Matthew McGue, Psychology, University of Minnesota, Minneapolis, MN

Anorexia nervosa (AN) and anxiety disorders are frequently comorbid, yet the nature of their relationship is unknown. The current study sought to determine whether the two disorders share a common diathesis by examining rates of both types of disorders in parents of probands with AN and anxiety disorders. Shared transmission would be indicated if parents of AN and anxiety disordered individuals showed equivalent rates of both eating and anxiety disorders, and if these rates were higher than those found in families with no eating or anxiety pathology. Female probands, assessed at 17 and 20 years of age, were selected from the Minnesota Twin and Family Study. Frequencies of eating and anxiety disorders were examined in parents of probands with AN ($n = 31$ moms, 27 dads), parents of probands with an anxiety disorder (i.e., panic disorder with/without agoraphobia, generalized anxiety disorder, social and specific phobias, post-traumatic stress disorder, overanxious disorder and separation disorder; $n = 153$ moms, 129 dads), and parents of control probands with no eating or anxiety disorders ($n = 44$ moms, 40 dads). Eating disorder diagnoses were obtained through the Eating Disorders Structured Clinical Interview, while anxiety disorders were assessed with the Diagnostic Interview for Children and Adolescents—Revised and the Structured Clinical Interview for DSM Axis I Disorders.

Prediction analysis supported cross-transmission in AN families, such that parents of probands with AN had increased rates of eating disorders and anxiety disorders, regardless of proband comorbidity. However, there was only partial support for shared transmission in parents of probands with anxiety disorders, as slightly increased rates of eating disorders were found, but not of anxiety disorders. Differences across study groups highlight the need for future research examining AN and anxiety disorder families in order to more precisely define etiologic relationships between the two phenotypes.

Abstract 030

REDUCED 5-HT_{2A} RECEPTOR BINDING AFTER RECOVERY FROM ANOREXIA NERVOSA; DIFFERENCE BETWEEN SUBGROUPS

Shannan E. Henry, Guido K. Frank, Claire W. McConaha, Nicole C. Barbarich, Carolyn C. Meltzer, Psychiatry, Julie C. Price, Phil Greer, Carl Becker, Radiology, Sarah Brooks, Walter H. Kaye, Psychiatry, University of Pittsburgh Medical Center, Pittsburgh, PA

Abstract Background: Several lines of evidence suggest that a disturbance of serotonin neuronal pathways may contribute to the pathogenesis of anorexia nervosa (AN) and bulimia nervosa (BN). This study applied positron emission tomography (PET) to investigate the brain serotonin 2A (5HT_{2A}) receptor, which theoretically could contribute to disturbances of appetite and behavior. **Methods:** To avoid the confounding effects of pathologic eating behavior, we studied women recovered (>1 year normal weight, and regular menstrual cycles, no bingeing or purging) from restricting-type AN ($n = 13$, REC RAN), bulimic-type AN ($n = 8$, R BAN), and 11 matched healthy control women (CW) using [18F]altanserin, a specific 5-HT_{2A} receptor antagonist with PET imaging. **Results:** Preliminary analysis showed that both REC RAN and REC BAN women had significantly reduced [18F]altanserin binding relative to CW in mesial temporal (amygdala and hippocampus) regions. However, R RAN had reductions of lateral orbital frontal regions whereas R BAN women had reductions of lateral temporal and orbital frontal regions. **Conclusion:** This study replicates and extends studies suggesting that altered 5-HT neuronal system activity persists after recovery from AN. Both subgroups appear to have disturbances of mesial temporal lobe function. In comparison, alterations of other brain regions may be different in these subgroups. The persistence of altered 5-HT neurotransmission after recovery supports the possibility that this may be a trait-related disturbance that contributes to the pathophysiology of AN.

Abstract 031

SEROTONIN INDICES, PERSONALITY TRAITS, AND LIKELIHOOD OF SEXUAL ABUSE IN BULIMIA NERVOSA

Howard Steiger, Lise Gauvin, Mimi Israel, N.M.K. Ng Ying Kin, Simon N. Young, Julia Finkelstein, Eating Disorders Program, Douglas Hospital, Montreal, Quebec, Canada

Recent evidence links serotonergic propensities in Bulimia Nervosa (BN) to variations on psychological traits and childhood-abuse experiences. In 60 women with bulimia-spectrum eating disorders and 43 healthy women, we assessed platelet paroxetine binding, diverse psychopathological tendencies (e.g., impulsivity, compulsivity, perfectionism, Axis-I disorders, borderline personality symptoms), and childhood abuse. Eating-disordered participants were clustered (using B_{max} and K_d indices from paroxetine-binding tests) into "low" and "high" serotonin (5-hydroxytryptamine: 5-HT) reuptake groups. These groups showed similar eating and psychopathological symptoms on most dimensions. However, the "low 5-HT" group evinced more borderline personality symptoms and

childhood sexual abuse, while the “high 5-HT” group showed more perfectionism, proneness toward compulsivity and emotional overcontrol. We understand our results to indicate competing trait-related serotonergic processes—one associating behavioral dysregulation and childhood abuse with hyposerotonergic status; the other, behavioral over-regulation with hyperserotonergic status. Results indicate a principled convergence of serotonergic, trait, and developmental tendencies in BN.

Abstract 032

A CASE CONTROL STUDY OF LONG TERM OUTCOMES IN ANOREXIA NERVOSA

Juliet Vyryan, Health Services Research Unit, University of Aberdeen, Foresterhill, Aberdeen, Scotland, UK, John M. Eagles, Psychiatry, Royal Cornhill Hospital, Aberdeen, Scotland, UK, Magnus A. McGee, Health Services Research Unit, University of Aberdeen, Aberdeen, UK, Harry Millar, Psychiatry/Eating Disorder Service Unit, Royal Cornhill Hospital, Aberdeen, UK, Simon Naji, Fiona Wardell, Health Services Research Unit, University of Aberdeen, Aberdeen, UK

The aims of this study are to measure long term mental and physical health status in patients with anorexia nervosa as well as to identify prognostic indicators of outcome. This is a case control study based on a large cohort of confirmed cases of anorexia nervosa who presented to Psychiatric Services in North East Scotland between 1965 and 1999. Each case has been matched for age and sex with a general population control. Four methods of data collection have been used. Participants completed a questionnaire incorporating validated measures: EDEQ, HADS and the perfectionism subscale of EDI. Trained interviewers assessed current and lifetime psychiatric diagnosis using the structured clinical interview for DSM IV Axis I disorders (SCID-I/NP). Current health status has been assessed by primary care note review for the preceeding 2 years focusing on nature, frequency and timing of consultations, tests, medications, referrals and admissions. Psychiatric case notes have also been reviewed. Information has been obtained on age at onset, duration of illness at presentation, BMI at presentation, family history, psychiatric comorbidity, type of anorexia at diagnosis (binge eating/purging or restricting type), and mode of treatment. This information will be used to investigate prognostic indicators of outcome. Out of a sample of 100 female cases 88% were aged under 30 years at the time of presentation and 68% have been followed up at more than 10 years since presentation. Preliminary results from the questionnaire only, indicate that 49% satisfied criteria for a current eating disorder, with 17% remaining anorexic. 71% met caseness for anxiety and 27% for depression. Data collection is currently ongoing and for this paper results will be presented on differences between cases and controls in terms of eating pathology and other psychiatric diagnosis as well as prognostic indicators of outcome.

Abstract 033

A 35 YEAR FOLLOW-UP OF HEALTH AND HEALTH SERVICE USE IN ANOREXIA NERVOSA

Fiona Wardell, Health Services Research Unit, University of Aberdeen, Aberdeen, Scotland, UK, John M. Eagles, Psychiatry, Royal Cornhill Hospital, Aberdeen, UK, Mary M. Kilonzo, Health Economics/Health Services Research Unit, Magnus A. McGee, Health Services Research Unit, University of Aberdeen, Aberdeen, UK, Harry Millar, Psychiatry/Eating Disorder Service Unit, Royal Cornhill Hospital, Aberdeen, UK, Simon Naji, Juliet Vyryan, Health Services Research Unit, University of Aberdeen, Aberdeen, UK

Anorexia nervosa has the highest rate of premature death among patients with mental illness. Yet little is known of its aetiology, sequelae and long-term outcomes. Here we

present a case-control study to examine the long-term outcomes and service use in anorexia nervosa. We will identify characteristics associated with good and poor outcomes, examine current and lifetime psychiatric diagnoses and measure long-term health service use. This research will provide a major contribution to the existing knowledge base and enable more rational service planning and targeted interventions. We have identified a large and unique cohort of confirmed cases of anorexia nervosa who first presented to psychiatric services in North-East Scotland between 1965 and 1999. Each case has been matched (for age and sex) with a general population control. Health status and health service use were examined by self-report and primary care case note review. The validated measures EDEQ, HADS and EDI (Perfectionism subscale) were used to assess current eating disorder status and related mental illness. Economic analysis has been conducted to determine the cost of anorexia nervosa to health service providers. This paper will (1) present primary care health service use including nature, frequency, and timing of investigations, specialist referrals, prescriptions and admissions, (2) assess current eating disorder status, chronic morbidity and psychiatric comorbidity, and (3) report on total additional costs of anorexia nervosa. Preliminary findings from the first 100 female matched cases and controls (mean follow-up 16.5 years; mean age 37.7 years) will be presented. Participant's health service use will be reported, including frequency and timing of treatment, intervention and admissions. Current eating disorder diagnosis, chronic morbidity and psychiatric comorbidity will be presented. The costs of anorexia nervosa to service providers will also be presented.

Abstract 034

INDEPENDENCE OF EATING SYMPTOMS AND GENERAL PSYCHIATRIC FUNCTIONING IN WOMEN IN TREATMENT FOR EATING DISORDERS

Kenneth R. Bruce, Howard Steiger, Mimi Israel, Julia Finkelstein, Eating Disorders Program, Douglas Hospital, Montreal, Quebec, Canada

Purpose: Several reports have suggested that general psychiatric functioning and eating symptomatology may follow somewhat independent courses in patients with eating disorders (EDs). The current study examined the relationship between general psychiatric functioning and ED symptoms in women during the course of their participation in multimodal ultraspecialized treatment for EDs. **Method:** In a naturalistic design, women with Anorexia Nervosa (Restricting type: ANR, $N = 13$; Binge/Purge type: ANBP, $N = 10$), Bulimia Nervosa (BN, $N = 22$), and Binge Eating Disorder (BED, $N = 5$) completed a multidimensional scale measuring general psychiatric functioning (BASIS-32) as well as standard eating-related questionnaires (EDE, EAT-26) pre- and post-treatment. Additionally, DSM-IV GAF scores and overall ED severity were evaluated by therapists pre- and post-treatment. Treatment itself consisted of individual and group therapy sessions, nutritional counseling and psychiatric consultation. **Results:** Using ANOVA for repeated measures, significant improvements were found pre- to post-treatment in eating symptoms, as well as in measures of daily living, impulsivity, and relations with self and others. Systematic associations were found among pre-treatment and post-treatment measures of general psychiatric functioning but general psychiatric functioning measures did not correlate with pre- or post-treatment ED symptoms, or with improvements in ED symptoms. **Conclusion:** Findings are consistent with the notion that ED symptoms and general psychiatric functioning may evolve somewhat independently in individuals participating in treatment for EDs.

Abstract 035**WEIGHT SUPPRESSION PROSPECTIVELY PREDICTS COMPLETION OF TREATMENT AND ABSTINENCE FROM BINGEING AND PURGING IN A MULTI-SITE BULIMIA NERVOSA TREATMENT OUTCOME STUDY**

Megan Butryn, Drexel University, Philadelphia, PA

Dieting plays a central role in the CBT model of the maintenance of bulimia nervosa (BN). However, two different forms of dieting may be relevant to bulimia: Significant past weight loss (weight suppression) and current dieting or food restriction. No study has examined the relation of both types of dieting in the prediction of treatment outcome. Relative weight suppression (RWS) is defined as the difference between highest pre-morbid weight and current weight (in this case, at the start of treatment). In the present study, current dieting was measured with the Eating Disorder Examination-Restraint (EDE-R) and the Three-Factor Eating Questionnaire-Cognitive Restraint (TFEQ-CR) subscales. The relationship between RWS and treatment outcome was studied in 182 bulimic outpatients enrolled in a multi-site CBT study (Agras, Crow, Halmi, Mitchell, Wilson, & Kraemer, 2000). At the conclusion of treatment, 26.37% of subjects had dropped out of treatment, 43.96% completed treatment but continued bingeing and purging, and 29.67% completed treatment and were abstinent from bingeing and purging. RWS differed significantly between these three levels of outcome ($p^2 = .31$). Tukey's post hoc analyses (all p values $< .01$) indicated that dropouts ($M = 17.73$ kg, $SD = 10.36$) were higher in RWS than nonrecovered completers ($M = 8.30$ kg, $SD = 8.48$), who in turn were higher in RWS than recovered completers ($M = 3.76$ kg, $SD = 4.16$). Within the sample of completers, RWS at baseline was a significant predictor of abstinence and continued to be when various covariates (baseline BMI, TFEQ-CR, EDE-R, length of disorder) were entered in a logistic regression. These data suggest that relinquishing bulimic behaviors and adopting normal eating patterns may be most feasible for patients who are closest to their highest premorbid weights. Biological or psychological pressures resulting from high levels of RWS may limit a patient's ability to make the behavioral changes taught in CBT.

Abstract 036**THE EMOTIONAL, PHYSICAL, AND FINANCIAL OUTCOMES OF CAREGIVING FOR GIRLS WITH ANOREXIA, BULIMIA, AND EDNOS**

Cheryl A. Dellasega, Internal Medicine and Humanities, Penn State University—The Milton S. Hershey Medical, Hershey, PA, Margaret Marino, Middletown, PA

While there are many studies on the relationship between family function and the development and treatment of eating disorders, there is little information on specific outcomes of caregiving for a daughter with anorexia, bulimia, or EDNOS. It was the goal of this research to explore the physical, emotional, and financial impact of caregiving for a girl with an identified ED. The Caregiving Information Form (Dellasega & Nolan, 1999), which has established validity and reliability, was modified for use in this study. The CIF contains 30 questions designed to assess stressors related to caregiving for an ill family member. After IRB approval, volunteers were recruited through organizations and therapists specialized in the treatment of eating disorders. To date, 153 questionnaires were mailed out; 29 (13%) have been returned. Using SPSS, descriptive statistics generated a demographic profile of respondents and paired t -tests compared emotional and physical health before and after the development of the daughter's eating disorder. Mean costs of care were calculated to address financial outcomes. Respondents are primarily middle-aged, female, married professionals caring for a young woman aged 20 (range

12–44). Most daughters have had anorexia (72%) for 5.8 years. The primary stressor identified is fear of the daughter dying. A significant decrease in both physical (.000) and mental (.001) health occurred since their daughters developed an eating disorder. Respondents spend an average of \$112/typical week (range 0–850) on care of their daughter related to her eating disorder. In addition, they miss .83 days of work per month (range 0–3) due to caregiving responsibilities. The eating disorder of a daughter has significant impact on family members. Further study with a larger sample is needed to explore specific issues related to the physical, emotional, and financial outcomes of caregiving for daughters with eating disorders.

Abstract 037

BODY IMAGE DISTURBANCE IN OBESE OUTPATIENTS BEFORE AND AFTER WEIGHT LOSS IN RELATION TO RACE, GENDER, BINGE EATING AND AGE ONSET OF OBESITY

Maria Sorbara, Nutrition and Physiology, Columbia University/Barnard College, New York, NY, Allan Geliebter, Psychiatry, St. Lukes-Roosevelt Hospital—Columbia University, New York, NY

Body image disturbance was assessed as a composite of three aspects (distortion, discrepancy, and dissatisfaction) in obese subjects before and after weight loss. Disturbance was then related to race, gender, binge eating behavior, and age onset of obesity. Eighty-two obese outpatients (24 males, 58 females) completed the Stunkard Figure Rating Scale (FRS). A disturbance score was derived from the weighted sum of distortion, discrepancy, and dissatisfaction. The measures were repeated 4 weeks after subjects started a medically supervised liquid formula diet. Prior to weight loss, race ($r = .28, p = .01$) and gender ($r = .25, p = .02$) were each predictive of disturbance, with Caucasians and men having the most disturbance. Binge eaters exhibited more discrepancy ($p = .03$) and dissatisfaction ($p = .005$) than non-binge eaters. Early-onset subjects demonstrated more discrepancy than adult-onset subjects ($p = .02$). Following weight loss, disturbance scores decreased for all groups ($p = .009$). Early-onset subjects, however, continued to display more discrepancy ($p = .002$) and more dissatisfaction ($p = .005$) than adult onset subjects. We developed a composite disturbance score. Prior to weight loss, the high Disturbance score in Caucasians may be due to greater cultural pressure to be thin. Also, the men may have exaggerated their degree of obesity because of less denial of being overweight than women. Following weight loss, disturbance decreased for all groups but remained elevated for those with early onset, possibly because of a persistent overweight self-image from adolescence.

Abstract 038

PREDICTORS OF DROPOUT FROM A STUDY OF BULIMIA NERVOSA IN A PRIMARY CARE SETTING

Robyn Sysko, Psychology, Rutgers University, Piscataway, NJ, B. Timothy Walsh, Psychiatry, New York State Psychiatric Institute, New York, NY, Christopher G. Fairburn, Psychiatry, Warneford Hospital, Oxford, United Kingdom, Diane Mickley, Wilkins Center for Eating Disorders, Glenville, CT, G. Terence Wilson, Psychology, Rutgers University, Piscataway, NJ

Purpose: To determine whether pre-randomization characteristics of patients predict premature dropout from a treatment trial for broadly defined bulimia nervosa. **Methods:** Ninety-one patients were enrolled in a study to examine the benefits of two treatments for bulimia nervosa: fluoxetine, an antidepressant medication; guided self-help, an adaptation of cognitive-behavioral therapy; and their combination. Approximately 30% of the patients completed the treatment trial. Pre-randomization demographic,

behavioral, and psychological characteristics were analyzed as predictors of premature termination. Results: Compared to those who did not terminate treatment prematurely, those patients who dropped out had higher levels of psychosomatic symptoms as measured by the 53-item version Symptom Checklist (SCL-53), negative affect as measured by Beck Depression Inventory (BDI), and personality disturbance as measured by Personality Diagnostic Questionnaire for DSM-IV (PDQ-4). A multi-variate analysis will be conducted to assess the significance of these differences. Discussion: The treatment of patients with bulimia nervosa in a primary care setting is hampered by the high dropout rate. As the high dropout rate was not anticipated at the outset of the treatment trial, our analyses of predictors of dropout were conducted on a post-hoc basis. However, there are indications that increased psychopathology, personality symptoms, and negative affect are predictive of dropout from treatment. The rate of dropout suggests that patients with these characteristics are probably best managed in specialist settings.

Abstract 039

TEMPERAMENT, MOOD, DIETARY RESTRAINT AND BULIMIC SYMPTOMATOLOGY

Rebecca M. Ringham, Marsha D. Marcus, School of Medicine, University of Pittsburgh, Pittsburgh, PA

Several studies have shown that temperament is significantly related to eating disorder symptomatology. Less is known about this relationship when state-related risk factors are considered concurrently. Thus, we examined whether genetically-influenced temperamental traits implicated in the pathogenesis of disordered eating behaviors contribute to its development over and above state negative affect and dietary restraint. Participants ($N = 276$) were primarily Caucasian (83.7%), averaged 19.2 years of age and had an average BMI (kg/m^2) of 23.9. All women completed the Bulimia Test-Revised, Beck Depression Inventory-II, State Anxiety Scale, Dietary Restraint Scale, Multidimensional Personality Questionnaire, 2 subscales of the Temperament and Character Inventory, and a demographics questionnaire. Temperamental characteristics, particularly increased Negative Emotionality and decreased Positive Emotionality, were associated with increased levels of bulimic symptomatology, $ps < .001$. Moreover, these dimensions accounted for small, but significant amounts of the variance of bulimic symptomatology over and above current negative affect and dietary restraint, $\Delta R^2 = .04$, $p < .001$. Contrary to previous findings, impulsivity did not predict bulimic symptoms. The current findings provide evidence that temperamental dimensions related to mood rather than impulsivity are associated with sub-threshold bulimic symptomatology. Moreover, these temperamental variables contribute to bulimic symptoms over and above state mood and dietary restraint. Future empirical studies are needed to clarify conceptualizations of potential relationships among temperament, state-related factors, and subclinical eating disorders.

Abstract 040

PRO OR CON? ANOREXIA NERVOSA AND THE INTERNET

Eric B. Chesley, Richard E. Kreipe, Pediatrics, University of Rochester, Rochester, NY

We describe content of 3 types of Web sites associated with anorexia nervosa (AN: pro-anorexia [100 "pro-ana" advocating AN], 50 pro-recovery and 20 professional organizations) identified by a public search engine. Results: Pro-ana sites provided specific instructions for initiating and maintaining AN. Technique and nutrition sections prescribed practices for rapid weight loss. Definitions of AN were detailed to evade clinical

detection. Motivational images, “creeds and commandments” encouraged continued weight loss. “Support groups” fostered competitions for weight loss. Content analysis: 64% contained a biography (mean: 16.7 years old); 60% counted visits (mean 34,998); medical/weight advice 58%; nutrition content 91%; methods to avoid detection 75%; support groups 49%; motivation content 94%; links to other sites 87%; mortality associated with AN 5%. Pro-recovery sites presented introspective first person views on AN with little nutritional advice. Content analysis: biography 94%; counted visits 50% (mean 27,878); medical/weight advice 69%; nutrition content 25%; support groups 25%; motivation content 92%; links 56%; mortality associated with AN 38%. Professional sites contained clinical information about AN, and less nutritional content or advice to modify behaviors. Content analysis: mission statement 100%; counted visits 10%; medical/weight advice 54%; nutrition content 5%; support groups 18%; motivation content 33%; links 91%; mortality from AN 22%. Conclusions: Despite efforts to eliminate web sites advocating eating disorders, pro-ana sites continue to flourish. Pro-anorexia sites are better organized, comprehensive, and more numerous than sites based on recovery or professional services. Because of the tremendous potential of pro-ana sites to harm and pro-recovery sites to help, awareness of the existence and the content of both of these resources is essential for professionals who evaluate and treat patients with emerging or established eating disorders.

Abstract 041

PERSONALITY AND BINGE EATING IN COMMUNITY WOMEN: PRELIMINARY FINDINGS

Kristin M. von Ranson, Stephanie E. Cassin, Sharlee D. Braun, Amy E. Baxter, Karen McDowall, Psychology, University of Calgary, Calgary, Alberta, Canada

Personality traits may help determine why the interaction of various factors, i.e., low self-esteem and body shape concern, result in eating disorders among only some individuals, and also may help to maintain an eating disorder. No pattern of personality characteristics has yet been identified in binge eating disorder (BED). More research is needed to examine whether there is adequate evidence to include BED in DSM-V as a distinct eating disorder. The purposes of the present study were to identify any personality characteristics uniquely associated with BED and evaluate the degree of similarity between personality traits in BED and in bulimia nervosa (BN). The sample from this ongoing, community-based study included 24 women with BED, 13 women with BN, and 19 women with no history of an eating disorder. Diagnoses were confirmed with the Structured Clinical Interview for DSM-IV Disorders (SCID, First et al., 1996). Subjects completed the Multidimensional Personality Questionnaire (MPQ, Tellegen, 1978/1982). This measure of personality dimensions has three higher-order scales: Positive Emotionality, Negative Emotionality, and Constraint. A multivariate analysis of variance indicated that BN women had higher scores than controls on Negative Emotionality ($F(2, 46) = 6.69, p < .01$) and lower scores than controls on Positive Emotionality ($F(2, 46) = 3.11, p = .05$). BED women were intermediate between BN women and controls in their tendency to experience positive and negative emotions, but did not differ significantly from either BN women or controls on any scale. These preliminary findings suggest that BN women tended to experience more negative and fewer positive emotions than non-eating disordered controls, consistent with previous findings of distress and emotional reactivity in BN women. Implications of these findings, including with respect to the inclusion of BED in future editions of DSM, will be discussed.

Abstract 042**EATING DISORDER ATTITUDES AND BEHAVIORS AND MEDIA EXPOSURE IN EAST AFRICAN WOMEN**

Kamryn T. Eddy, Moira Hennessey, Clinical Psychology, Boston University, Boston, MA

Aim: To assess the presence of eating disordered attitudes and behaviors in Tanzanian women, and to evaluate the relationship between media exposure/globalization and eating pathology in this East African country. **Methods:** A random sample of 200 women between the ages of 13 and 30 recruited through schools, churches, and villages participated. The women completed a battery including a Kiswahili version of the Eating Disorders Inventory (EDI-2), a brief clinical interview designed to assess DSM-IV eating disorder symptoms, a measure of individualism-collectivism, and a demographics questionnaire designed to assess level of media exposure (including television, video/film, magazine, and radio). **Results:** Preliminary results suggest that the majority of participants did not meet clinical levels on the EDI-2, and likewise did not receive DSM-IV eating disorder diagnoses. Notably, approximately half the sample reported an ideal weight greater than their current weight. According to the clinical interview however, a minority of participants endorsed cognitive eating disorder symptoms including fear of gaining weight, body image disturbance, and over-concern. Participants ranged widely on levels of media exposure and individualism-collectivism. **Discussion:** The nature of eating related attitudes and behaviors among Tanzanian women, and their relation to media exposure/globalization will be discussed.

Abstract 043**AN OPEN TRIAL OF OLANZAPINE IN ANOREXIA NERVOSA**

Nicole C. Barbarich, Claire W. McConaha, Jill Gaskill, Maria C. La Via, Guido K. Frank, Sarah Brooks, Katherine H. Plotnicov, Walter H. Kaye, Psychiatry, University of Pittsburgh Medical Center, Pittsburgh, PA

Introduction: Recent reports raise the possibility that olanzapine assisted weight gain and improved behavioral symptoms during refeeding in anorexia nervosa. **Method:** Seventeen ill anorexia nervosa subjects engaged in an open label treatment with olanzapine for up to six weeks. Baseline pre-drug weight and symptoms were compared to status at the end of treatment. **Results:** Olanzapine administration was associated with a significant reduction in depression, anxiety, and core eating disorder symptoms, and a significant increase in weight. A comparison with our historical data suggests that subjects on olanzapine had a significant decrease in depression. **Conclusion:** These data lend support to the possibility that olanzapine may be useful in anorexia nervosa. However, a controlled trial is necessary to demonstrate that olanzapine is efficacious.

Abstract 044**ENHANCED PRE- AND POSTSYNAPTIC 5-HT_{1A} RECEPTOR BINDING AFTER RECOVERY FROM ANOREXIA NERVOSA: RELATIONSHIP TO PSYCHOPATHOLOGY**

Nicole C. Barbarich, Walter H. Kaye, Claire W. McConaha, Shannan E. Henry, Guido K. Frank, Psychiatry, Carolyn C. Meltzer, Julie C. Price, Radiology, University of Pittsburgh Medical Center, Pittsburgh, PA, Wayne C. Drevets, NIMH Mood and Anxiety Disorders Imaging Section, National Institute of Mental Health, Bethesda, MD, Chester A. Mathis, Radiology, University of Pittsburgh Medical Center, Pittsburgh, PA

Background: Women with anorexia nervosa, when ill and after recovery, have alterations of serotonin neuronal activity. In order to further characterize the 5HT system,

this study investigated brain 5-HT_{1A} receptors because of the possibility that this receptor could play a role in behavioral or feeding disturbances. **Methods:** To avoid the confounding effects of malnutrition, we studied 36 women who had recovered from anorexia nervosa (>1 year normal weight, regular menstrual cycles, no bingeing or purging). Subjects were compared to 18 healthy control women. 5-HT_{1A} receptor activity was characterized by using positron emission tomography imaging with [carbonyl-11C]WAY100635, a specific 5-HT_{1A} receptor antagonist. **Results:** Individuals recovered from anorexia nervosa had a significant increase in binding potential of [carbonyl-11C]WAY100635 in the raphe nucleus (pre-synaptic 5-HT_{1A} autoreceptors) and cortical-limbic-striatal regions (post-synaptic 5-HT_{1A} receptors). 5-HT_{1A} post-synaptic receptor binding in many cortical regions was positively correlated with trait anxiety and harm avoidance in the anorexia nervosa group. **Conclusions:** This study confirms that altered serotonin neuronal pathway activity persists after recovery from anorexia nervosa. Importantly, these data suggest that elevated 5-HT_{1A} receptor binding is associated with anxiety and harm avoidance in anorexia nervosa. Persistent serotonergic and anxiety symptoms after recovery support the possibility that these psychobiological alterations might be trait-related and contribute to the pathogenesis of anorexia nervosa.

Abstract 045

PLACEBO RESPONSE IN PHARMACOTHERAPY FOR BINGE EATING DISORDER

M. Joy Jacobs, Clinical Psychology, SDSU-UCSD Joint Doctoral Program in Clinical Psychology, San Diego, CA, Denise E. Wilfley, Psychiatry, Washington University School of Medicine, St. Louis, MO, Therese Gregory-Bills, Center for Eating and Weight Disorders, San Diego, CA, Scott Crow, Psychiatry, University of Minnesota, Minneapolis, MN, Lisa R. Lilenfeld, Psychology, Georgia State University, Atlanta, GA, Delia Smith-West, Behavioral Medicine, University of Alabama at Birmingham, Birmingham, AL, B. Timothy Walsh, Department of Psychiatry, Columbia College of Physicians and Surgeons, NYS Psy, New York, NY, Christopher G. Fairburn, Department of Psychiatry, Oxford University, Oxford, UK

Variable and marked placebo response in pharmacological studies of binge eating disorder (BED) has raised questions about the possible heterogeneity of the BED diagnosis and stability of its course. In the present study, sibutramine hydrochloride was investigated as a treatment for BED in a multisite clinical trial. The primary aims of the present study are to (1) compare pre-treatment characteristics of placebo responders (PR) to nonresponders (NR) during the placebo run-in phase of treatment across multiple domains and (2) to examine a subset of individuals who responded to placebo during the placebo run-in phase to determine (a) the course of their symptomatology over a 1-year follow-up period and (b) to investigate attributions made by PR regarding remission and/or return of symptoms. The study sample was composed of 418 subjects, ages 19–63, diagnosed with BED at one of 20 U.S. centers. 306 subjects did not respond to placebo; 112 did respond. A subset of 5 sites was then chosen to assess the secondary aims of the study. Data from 35 PR were collected at 1-year follow-up. Baseline comparisons of PR and NR were conducted using t-tests and chi-square analyses. Multivariate tests of the follow-up sample are planned. Preliminary data indicate a mean placebo response rate of 27%, although rates did vary across sites. Preliminary results of baseline comparisons of PR and NR indicate that the groups were equivalent in race, age, gender, BMI, and general mental health. However, the groups differed significantly at baseline in severity of binge eating (days/episodes OBEs), social functioning, and quality of life; the PR

group was less impaired in these domains. Preliminary analysis of follow-up data indicates that many PR were once again symptomatic at 1-year follow-up. Final analyses will be available at the AED meeting. To date, findings suggest that there is heterogeneity in symptom profile and course of illness within the BED diagnosis.

Abstract 046

A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY OF SIBUTRAMINE IN THE TREATMENT OF BINGE EATING DISORDER

Jose C. Appolinario, *Psychiatry, Institute of Psychiatry—Federal University of Rio, Rio de Janeiro, Brazil*, Josue Bacaltchuck, *Psychiatry, Federal University of Sao Paulo, Sao Paulo, Brazil*, Rosely Sichieri, *Epidemiology, State University of Rio de Janeiro, Rio de Janeiro, RJ, Brazil*, Angelica M. Claudino, *Psychiatry, Federal University of Sao Paulo, Sao Paulo, Brazil*, Amelio Godoy-Matos, *Endocrinology, State Institute of Diabetes and Endocrinology of Rio, Rio de Janeiro, Brazil*, Christina Morgan, *Psychiatry, Maria T. Zanella, Endocrinology, Federal University of Sao Paulo, Sao Paulo, Brazil*, Walmir Coutinho, *Endocrinology, State Institute of Diabetes and Endocrinology of Rio, Rio de Janeiro, Brazil*

The objective of this study was to evaluate the efficacy and tolerability of sibutramine in obese patients with BED. After a 2-week run-in period, sixty obese outpatients (body mass index greater than 30 kg/m²), meeting DSM-IV criteria for BED were randomly assigned to receive either sibutramine ($N = 30$) 15 mg/day or placebo ($N = 30$) in a 12-week double-blind study, at two centers. The primary outcome measure was binge frequency expressed as the number of days with binge eating episodes per week. Secondary outcome measures included: number of patients with remission, Binge Eating Scale (BES), Beck Depression Inventory (BDI) scores and weight (kg). There was a significant reduction in the number of days with binge episodes per week in the sibutramine group in comparison to placebo ($t_{203} = 2.14$, $p = 0.03$) followed by an important and significant weight loss (−7.4 kg) compared to a small weight gain in the placebo group (+1.4 kg), ($t_{147} = 4.88$, $p < 0.001$). Forty seven percent of patients on sibutramine compared to 27% on placebo attained full remission of binge episodes (OR = 3.0, CI = 1.53–5.87). Compared to placebo, sibutramine was also associated with a significantly greater rate of reduction in BES scores ($t_{202} = 3.64$, $p = 0.0003$) and BDI scores ($t_{201} = 3.72$, $p = 0.0003$). Only two adverse reactions were more common with sibutramine than placebo group: dry mouth ($p = 0.01$) and constipation ($p = 0.01$). The results of the present study shows that sibutramine is effective and well tolerated in the treatment of obese patients with BED. Its effects were unique in addressing three main domains of the BED syndrome: binge eating, weight and related depressive symptoms.

Abstract 047

AMENORRHEA IN ANOREXIA NERVOSA: PSYCHOLOGICAL NUTRITIONAL AND METABOLIC VARIABLES

Kelly A. Gendall, *Ph.D., Peter R. Joyce, M.B.ChB., Ph.D., FRANZCP, Frances Carter, Ph.D., Dip. Clin. Psyc, Virginia McIntosh, B.A., Hons. Dip. Clin. Psyc, University Department of Psychological Medicine, Christchurch School of Medicine, University of Otago, Christchurch, New Zealand*, Cynthia M. Bulik, *Ph.D. Virginia Institute for Psychiatric and Behavioral Genetics, Virginia Commonwealth University, PO Box 980126, Richmond, VA, 23298-0126, USA*

Purpose: This study aimed to: (1) identify variables associated with amenorrhea in anorexia nervosa (AN); and (2) to clarify the significance of amenorrhea as a diagnostic criterion in AN. Method: Participants were 39 women aged 17–40 years with AN according

to either strict (body mass index (BMI) $< 17.5 \text{ kg/m}^2$) or lenient weight criterion (BMI $17.5\text{--}19 \text{ kg/m}^2$). Due to recent challenges regarding the usefulness of amenorrhea as a diagnostic criterion, amenorrhea was not required for inclusion. Assessment included the Structured Clinical Interview for DSM-IV, the Hamilton Rating Scale for Depression, the Eating Disorders Examination, and additional questions relating to eating and weight history. Participants completed the Temperament and Character Inventory and a 7-day diet record. Weight, height, body fat, blood pressure and heart rate were measured and blood samples were taken. Results: Half of the women with lenient criteria AN and two-thirds with strict criteria AN had amenorrhea. After controlling for BMI, younger age of AN onset, low systolic blood pressure (SBP), low pulse rate, using exercise to control weight, being a non-smoker, not being in a current sexual relationship, low novelty seeking and high persistence were associated with amenorrhea. When these variables were entered into a regression model, exercise (OR = 3.5, CI = 1.3–9.9, $p = 0.02$), low novelty seeking (OR = 0.7, CI = 0.58–0.94, $p = 0.02$) and low SBP (OR = 0.9, CI = 0.84–0.99, $p = 0.04$) emerged as predictors of amenorrhea. These three factors successfully predicted 88.0% of those with, and 85.7% of those without amenorrhea. Amenorrhea was also associated with lower body fat percent, thyroid hormones, and leptin concentrations in the subgroup with strict criteria AN. Energy and macronutrient intakes were similar between groups. Conclusion: Constrained personality features, energy expenditure in excess of intake and indirect measures of reduced resting metabolic rate appear to be associated with amenorrhea in AN. The relative absence of distinguishing eating disorder or psychopathological characteristics adds weight to concerns regarding the value of amenorrhea as a diagnostic criteria for AN.

Abstract 048

TREATMENT OF STRESS-INDUCED ANOVULATION

Rebecca M. Ringham, Marsha D. Marcus, Psychiatry, Western Psychiatric Institute and Clinic, University, Pittsburgh, PA, Tammy Loucks, Department of Obstetrics, Gynecology and Reproductive, Magee Womens Research Institute, Pittsburgh, PA, Sarah Berga, Department of Obstetrics, Gynecology and Reproductive, University of Pittsburgh School of Medicine, Pittsburgh, PA

Stress-induced anovulation (SIA) is the cessation of ovulation that is not due to discernible organic causes. We previously documented that sub-threshold symptoms of disordered eating discriminate women with SIA from those with organic amenorrhea or regular menstrual cycles. In light of this finding, we developed a cognitive behavioral intervention (CBT) for SIA that was adapted from evidence-supported CBT for the treatment of bulimia nervosa. Participants were women with SIA: (1) amenorrhea for >6 months, (2) 90–110% of ideal body weight, (3) no weight loss >10 lb during previous year, (4) exercised <10 hours/week or ran <10 hours/week, and (5) no Axis I psychiatric disorder. All participants were admitted to the Clinical Research Center to document SIA [LH pulse frequency of <10 pulses/24 hours]. Women with SIA were randomized to CBT ($n = 8$) or observation ($n = 8$) and followed for 36 weeks. CBT consisted of 16 sessions over 20 weeks and was provided by a master's level psychologist. Treatment focused on improving diet and minimizing maladaptive eating behavior, problem-solving, and restructuring maladaptive thoughts and beliefs regarding dieting, shape and weight. Participants completed the Bulimia Test-Revised, the Beck Depression Inventory, and a blood draw to document hormone profiles before and after treatment. Of 8 women treated with CBT, 6 showed full recovery, 1 had partial recovery, and 1 did not recover. In contrast, of those randomized

to observation, 1 fully recovered, 1 partially recovered, and 6 did not recover, $p = .03$. Women treated with CBT also evidenced significant decreases in serum cortisol and symptoms of disordered eating. In summary, CBT was associated with return of ovarian activity and amelioration of subthreshold eating disorders symptoms in women with SIA. These data provide evidence of the effects of a psychological intervention on biological parameters, and suggest that CBT may be an alternative to drug treatment of SIA.

Abstract 049

NIGHT-EATING SYNDROME; CORTISOL STRESS RESPONSE AND PSYCHOPATHOLOGY

Allan Geliebter, Marci E. Gluck, NY Obesity Research Center, Psychiatry, St. Luke's-Roosevelt Hospital, Columbia University, New York, NY

First described by Stunkard (1955), the Night Eating Syndrome (NES) has received renewed attention. HPA axis overactivity and greater stress responsivity have been observed in other eating disorders. Therefore, we examined cortisol baseline, cortisol response to stress, and cortisol response to a dexamethasone suppression test (DST) in NES. Of 28 overweight women, 10 women had NES (age = 30 ± 8 , Wt = 96 ± 16 , body fat = $44\% \pm 6$) and 18 women did not (age = 30 ± 8 , Wt = 94 ± 12 , body fat = $46\% \pm 4$); their characteristics did not differ. NES comprised either (1) morning anorexia, evening hyperphagia, and insomnia, or (2) awakening from sleep to eat. Psychological scales administered, included depression, global stress, and self-esteem. The participants had a cold pressor test (CPT) at 12 noon, with the non-dominant hand kept in ice water for 2 min. Blood was drawn at -10, 0, 5, 15, 30, 45, 60 min. In the NES group, the cortisol area under the curve (AUC) was greater ($p < .05$) following the CPT. On another day, cortisol levels at 8 am following 1 mg dexamethasone at 11 pm, did not differ between groups. However, those with NES had more depression ($p = .01$) and lower self-esteem ($p = .02$). Thus, NES is a syndrome with pathophysiology of the HPA axis and distinct psychopathology. NES individuals may be more responsive to stress, which may contribute to their night eating. Supported by NIH Grant DK 54318.

Abstract 050

OBES BINGE EATERS REPORT MORE PAIN, HUNGER AND DESIRE TO BINGE EAT FOLLOWING A COLD STRESS TEST, AND HAVE HIGHER CORTISOL LEVELS RELATED TO WAIST-HIP-RATIO (WHR)

Marci E. Gluck, Allan Geliebter, Medicine & Psychiatry, NY Obesity Research Center, St. Luke's/Roosevelt Hospital, New York, NY

Stress often precipitates binge eating, and high cortisol levels and vulnerability to stress are related to central body fat and food intake following a laboratory stress. We therefore investigated the relationship between WHR, cortisol responsivity, hunger and desire to binge eat in obese binge eaters. Thirty-five overweight (BMI = 36.7 ± 6.5 SD) females (age = 43.5 ± 9.5) were screened using the QEWP and confirmed by interview. Eleven were normal, 11 were subthreshold (B), and 11 had binge eating disorder (BED). They completed psychological scales and body composition measures. Following an overnight fast they underwent a cold stress test (CPT) and immersed their hand in ice water for 2 min. At 0, 2, 5, 15, 30, 45, and 60 min, ratings of pain, stress, hunger and desire to binge were taken, and blood was drawn. Groups did not differ on BMI, age, or WHR. Compared to normals, the BED group had greater depression ($p = .04$) and the B group had more night eating ($p = .068$).

Groups did not differ on any baseline measures, or on the area under the curve (AUC) or changes in cortisol following CPT. There were no differences in stress ratings, but the BED group had a greater change ($p = .02$) and greater AUC ($p = .05$) for pain ratings than normals. Furthermore, the BED group had a greater change ($p = .008$) and greater AUC ($p = .003$) for hunger, and a greater AUC for desire to binge eat ($p = .06$) compared to the normals. AUC for cortisol was positively correlated with AUC for hunger ($p = .02$), and AUC for desire to binge was correlated with AUC for stress ($p = .004$). WHR was related to basal cortisol ($p = .02$), AUC for cortisol ($p = .002$), and cortisol change ($p = .003$) only in the BED group. Our findings demonstrate that obese women with BED, especially those with a high WHR, have greater stress induced cortisol, which might contribute to their greater hunger and desire to binge eat. Supported by NIH grant DK 54318 to AG, NIH training grant DK 07559 to MG, and GCRC grant MO1 RRO064529.

Abstract 051

LIFE STRESS INCREASES CALORIC INTAKE

Jennifer R. Shapiro, Drew A. Anderson, Psychology, University at Albany-SUNY, Albany, NY

There are a number of studies that have examined how stress affects food intake, particularly in restrained eaters. As a result of these studies, it is widely thought that restrained eaters increase food intake when stressed, while non-restrained eaters either decrease or do not change their food intake. However, the majority of these studies have used laboratory procedures to induce stress, which may not be representative of stressors outside the lab. This study was designed to examine the effects of stress on food intake using a real-life stressor. Seventy-three college students recorded daily food intake for one week before and one week after a midterm examination, which served as a real-life stressor. Repeated measures ANOVAs revealed that participants ate approximately 100 calories per day more before the examination than after the examination. Surprisingly, there was no effect for restraint status on changes in intake. These results partially support and partially refute previous studies using laboratory stressors to investigate the effects of stress on eating behavior.

POSTER ABSTRACTS

Abstract 200

EATING DISORDERED SYMPTOMATOLOGY AND PSYCHOLOGY HEALTH IN ELITE AND SUB-ELITE FEMALE GYMNASTS: A LONGITUDINAL STUDY

Mirisae Foroughe, Caroline Davis, York University, Toronto, ON, Canada

Purpose: The purpose of this study was to investigate interactions between eating disordered symptomatology and psychological health in elite versus sub-elite Canadian gymnasts over two seasons of training and competition. **Method:** Participants comprised two groups of National-level female gymnast in Canada (elite and sub-elite groups) for a total of 57 gymnasts, ranging in age from 12 to 20 years. There were 29 gymnasts in the elite group (mean age = 14.5, $r = 12-19$, $SD = 1.53$) and 28 gymnasts in the sub-elite group (mean age = 16.0, $r = 12-20$, $SD = 2.01$) at final assessment in March 2000. Self-esteem, mood, and eating disordered symptomatology were assessed at five assessment times throughout a sixteen-month period. **Results:** The analysis revealed an interaction of Competitive Group by Time of Assessment, such that increases in eating disordered symptomatology, low self-esteem,

and negative mood were highly significant from Time 1 to Time 5 for the sub-elite group only. A multiple regression analysis was conducted for each time of analysis and revealed that self-esteem was the only variable that contributed significantly to the variance in eating disordered symptomatology at every assessment time except time 1. Conclusion: Despite the very different pattern of results for the elite group versus the sub-elite group, previous research has failed to make this important distinction between the groups. The current study and previous findings strongly indicate a high risk for eating disorders among sub-elite gymnasts. The poor mood and self-esteem profile of sub-elite gymnasts was indicated as the main explanation in the current sample. A program of prevention may strongly benefit the sub-elite group of female athletes, as several lines of evidence have indicated their vulnerability to low self-esteem and high eating disordered symptomatology.

Abstract 201

A CLINICAL PRACTICE GUIDELINE FOR THE INPATIENT MEDICAL TREATMENT OF RESTRICTIVE EATING DISORDERS: A YEAR IN REVIEW

Sara F. Forman, Beth I. Schwartz, Sarah Machado, Elizabeth R. Woods, Adolescent Medicine, Children's Hospital Boston, Boston, MA

There is little research describing the efficacy of treatment protocols for medical stabilization and refeeding of patients with eating disorders. In 2001, a Clinical Practice Guideline (CPG) for the inpatient medical treatment of restrictive eating disorders was developed and piloted at Children's Hospital Boston in an effort to standardize care. The CPG consists of a structured multidisciplinary care plan that includes daily consultations, parent and patient workbooks, and an expectation of 0.2 kg/day weight gain through advancing meal plans and added supplements. The goals of this study were to describe the patients enrolled in the CPG and to follow short-term outcomes of their hospitalization (weight change, caloric intake, parent and patient workbook use, post-hospital disposition). We hypothesized that younger patients would be admitted at higher percent ideal body weight (%IBW) and that post-hospital disposition would be dependent on age and initial %IBW. Data were collected retrospectively on 81 patients (4 males, 77 females) for 96 separate medical admissions from 2/1/01–1/31/02: 69 patients had 1 admission, 9 had 2 admissions, and 3 had 3 admissions. Mean age was 15.7 years (range 10–20). 86% of parents received the parent information packet, and 96% of patients received the patient workbook. Mean BMI was 16.6 ± 2.6 , and mean %IBW was $84\% \pm 12\%$. Mean hospital stay was $6.2 \text{ days} \pm 2.6 \text{ SD}$. The CPG was successful at initial nutritional rehabilitation with a mean weight gain during hospital stay of $1.6 \pm 1.3 \text{ kg}$ ($0.28 \pm 0.23 \text{ kg/day}$). Only 29% of patients under age 18 were $<80\%$ IBW, compared to 64% of those over age 18 ($p = 0.016$). 44% of patients were discharged to be followed as outpatients and 54% were transferred to inpatient or day treatment, but there was no difference by age or initial %IBW. In conclusion, the CPG was effective in standardizing care on an inpatient medical unit and will provide the basis for future comparisons of outcomes among treatment protocols.

Abstract 202

PATIENT'S RELATIONSHIP WITH FOOD IN BULIMIA NERVOSA

Marle S. Alvarenga, Karin L. Dunker, Erika C. Blandino, Fernanda L. Ribeiro, Daniela L. Pereira, Cimani C. Santos, Claudia M. Cesena, Milena M. Moraes, Elisa R. Kemen, Debora B. Eufrazio, Sonia T. Philippi, Alicia Cobelo, São Paulo, São Paulo, Brazil

The goal of this work is the evaluation of the relationship between bulimia and food, in patients with bulimia nervosa. It is known that in this pathology the dietary patterns and

behaviors are deeply altered and inadequate. This work was based on a questionnaire, containing 24 statements. The possible answers were: always, very often, frequently, sometimes, rarely and never. The questionnaire was developed by dietitians from the Group of Study in Nutrition and Eating Disorders (GENTA) at AMBULIM-IPq-HC-FMUSP (Out-patient Clinics of Bulimia and Anorexia Nervosa at the Institute of Psychiatry of the Hospital das Clínicas of the College of Medicine at the University of São Paulo)—BRAZIL. The questionnaire was based on patient's accounts and on the nutritional counseling practice of patients diagnosed with bulimia nervosa at AMBULIM. Responses from 30 patients with bulimia nervosa, (DSM-IV) selected for multidisciplinary treatment, were evaluated. It was observed that for the statement "I'm worried with what I'm going to eat." 70% answered always and 16.67% answered very often, no patient answered never. For "I'm worried about my weight all the time" 10% responded never. For "I wish I had not the need to eat" 43.3% answered always and 13.3% answered very often. "I dream with a pill that would substitute a meal" (this question is intrinsically related to the last one): 36.67% answered always. For "I believe my relationship with food is normal", 73.33% answered never. These results illustrate what diet represents to these patients. Most of them say that they are worried about what they are going to eat all the time, as well as they admit that hate to feel hungry. Based on these data we conclude that it is of utmost importance to study and to treat the eating behavior of these patients, as well as to understand their relationship with food and their reactions towards it.

Abstract 203

COMORBIDITY OF EATING DISORDERS AND SUBSTANCE RELATED DISORDERS: A BRAZILIAN STUDY OF DRUG DEPENDENT WOMEN

Silvia Brasiliano, Patricia B. Hochgraf, Psychiatry, Women Drug Dependent Treat. Center University of SP, São Paulo, Brasil

The co-occurrence of eating disorders and substance related disorders has received considerable attention in the last 20 years. A large number of studies have documented substantial lifetime comorbidity between these two disorders. Moreover, these researches have observed prevalence both of substance abuse in eating disordered patients and of eating disorders in patients who abuse drugs or alcohol at rates much higher than those reported in the general female population. Although these studies provide important information concerning the relationship between eating disorders and substance disorders there is less agreement on the reasons for the eating disorder-substance abuse link and the nature of this association remains controversial. Other limitation is that an overwhelming majority of research utilized samples of women with eating disorders and only few studies focused individual whose primary problem was substance abuse. In order to address these limitations the present study investigated the prevalence of eating disorders in a sample of 57 drug dependent women seeking treatment in the Women Drug Dependent Treatment Center, a Brazilian only-women drug addiction facility. Baseline demographics, clinical characteristics and other comorbidities were also evaluated. Lifetime or present eating disorder was found in 16 (31%) patients. Of these, 13 met criteria for binge eating disorder, 2 for bulimia nervosa and 1 for anorexia nervosa. Only one significant difference was found between the group with and without an eating disorder: the last one was less likely to have a companion. As the comorbidity between substance disorders and binge eating disorders is an unusual finding possible explanations were presented and some hypothesis that may mediate this association

were discussed: the addictive process, an underlying impulsivity disorder, a common psychobiological vulnerability and the self-medication proposal.

Abstract 204

GENDER, SOCIOECONOMIC STATUS, ETHNICITY, AND THE JUDGEMENT OF FOOD AMOUNTS

Faith-Anne Dohm, Fairfield University, Fairfield, CT, Fary M. Cachelin, Psychology Department, California State University, Los Angeles, CA, Ruth Striegel-Moore, Department of Psychology, Wesleyan University, Middletown, CT

To date, little is known about how individuals judge amounts of food. The Food Amount Rating Scale (FARS; Dohm & Striegel-Moore, 2002) is a newly developed instrument designed to be used in studies exploring whether there are personal characteristics that influence judgments of food amounts. In this study, we examined FARS ratings for a sample of 360 undergraduate students (46 Asian or Asian American, 17 Hispanic or Latino, 36 Black or African American, 27 European or European American, and 238 White or Caucasian) who completed either Form W ($N = 178$) or Form M ($N = 182$) of the FARS (Form W instructs the rater to rate the average woman; Form M instructs the rater to rate the average man).

Abstract 205

BINGE CESSATION AND WEIGHT LOSS IN PATIENTS WITH BED: WHAT IMPACTS BODY IMAGE AND SELF-ESTEEM?

Ilyse J. Dobrow, Sara L. Wolk, Michael J. Devlin, Juli A. Goldfein, Psychiatry, New York State Psychiatric Institute, New York, NY

Recent studies of the use of CBT for patients with Binge Eating Disorder (BED) have focused on physical and behavioral measures of treatment outcome. This study examined whether changes in weight or binge frequency are accompanied by changes in body shape/weight concerns and self-esteem. Subjects were 115 adult men and women with BED who were randomized to receive either group behavioral treatment or combined group and individual behavioral treatment; and fluoxetine or placebo. Subjects completed the Body Shape Questionnaire (BSQ) and Rosenberg Self-Esteem measure (RSE) and were interviewed with the Eating Disorders Examination (EDE) pre- and post-treatment. Subjects were grouped based on treatment outcome: those who lost significant weight (5% or more of pre-treatment weight) and ceased to binge eat (no episodes in 4 weeks prior to EDE administration) (Group 1); those who did not lose weight but ceased to binge eat (Group 2); and those who did not lose weight or stop binge eating (Group 3). Patients who lost weight but did not stop binge eating were too few to be included in this analysis. All subjects experienced significant improvements in their body concerns and self-esteem following group behavioral treatment. Subjects in Groups 1 and 2 reported significantly greater improvements in BSQ scores than those in Group 3 ($p < .000$ and $p < .017$, respectively). Subjects in Group 2 reported significantly greater improvement in RSE scores than those in Group 3 ($p < .000$); a trend in the same direction was noted when Group 1 was compared to Group 3. It appears that group CBT for BED leads to significant improvements in body shape concerns and overall self-esteem, whether or not patients have experienced reductions in weight or binge frequency. Further, binge cessation, not weight loss, is associated with more dramatic post-treatment changes in body shape and weight concerns, and may also be associated with greater improvement in self-esteem.

Abstract 206**A COMPARATIVE DESCRIPTION OF ADOLESCENT BULIMIA NERVOSA**

Katharine L. Loeb, Psychiatry, Columbia University, New York, NY, Daniel le Grange, Psychiatry, University of Chicago, Chicago, IL, B. Timothy Walsh, Psychiatry, Columbia University, New York, NY, W. Stewart Agras, Psychiatry and Behavioral Sciences, Stanford University, Stanford, CA, G. Terence Wilson, Psychology, Rutgers University, Piscataway, NJ, Christopher G. Fairburn, Psychiatry, Oxford University, Oxford, United Kingdom

Purpose: BN in adolescents has received scant research attention with only a few reports on the clinical characteristics of adolescents with BN available. The purpose of this study was to provide a description of a cohort of adolescents with BN relative to their adolescent AN counterparts and to their adult BN counterparts. **Methods:** Participants were 50 adolescents with BN [mean age 15.9 (1.7)], 50 adolescents with AN [mean age 15.0 (2.1)], and 50 adults with BN (mean age 25.8 (4.6)) presenting for outpatient eating disorder treatment. The primary measure of comparison was the Eating Disorder Examination (EDE). In addition, baseline demographic information was compared across the three groups. **Results:** Adolescents with AN were younger than both BN groups. As expected, adolescents with AN [17.2 (2.2)] had a lower mean BMI than adolescents with BN [22.8 (3.9)] or adults with BN [21.9 (2.3), $F 54.337, p < .000$]. On the EDE, adolescents with BN scored as high as adults with BN, and significantly higher than adolescents with AN (all p 's $< .003$) on all four subscales (Restraint, Shape Concern, Eating Concern, Weight Concern). However, EDE OBE frequency was higher for adults with BN [29.3 (20.5)] than for adolescents with BN [14.7 (18.0), $t = -3.766, p < .000$]. There was no parallel difference in EDE purge frequency [30.4 (30.8) and 37.3 (37.9) respectively, $t = -1.003, p = .318$]. **Conclusion:** This comparative description revealed that adolescents with BN were quite similar to adults with BN on most measures of eating disorder pathology. However, objective binge eating was more frequent in adults with BN. Since BN might be in evolution in adolescents, early intervention may prevent more severe presentation in adulthood. It remains unclear whether treatment with demonstrated efficacy for adult BN (e.g., CBT) or for adolescent AN (e.g., family therapy) will be most helpful for this clinical population.

Abstract 207**BODY FAT DISTRIBUTION AND BODY DISSATISFACTION: IS THERE A CONNECTION?**

Deborah R. Glasofer, Laurel Mayer, Evelyn Attia, B. Timothy Walsh, Psychiatry, Columbia University, New York, NY

Body dissatisfaction is a core feature of anorexia nervosa (AN). The purpose of this study is to examine measures of body dissatisfaction, mood, and anxiety in relation to body fat distribution in women with AN before and after weight normalization. Eighteen hospitalized women with AN underwent body composition assessments by total body MRI. Body fat distribution was quantified as follows: total adipose tissue (TAT), subcutaneous adipose tissue (SAT), intramuscular adipose tissue (IMAT), and visceral adipose tissue (VAT). As VAT is present only within the abdomen, it served as a measure of trunk fat. Psychological assessments included the Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI), and the Eating Disorders Inventory (EDI), including the Body Dissatisfaction subscale (BD). Patients were studied upon admission and after normalizing weight. Mean age of patients was 22.8 ± 3.9 years. Average duration of illness was 6.8 ± 3.7 years. All measures of body fat significantly increased with weight gain. All psychological measures significantly improved with weight normalization except for the body dissatisfaction subscale of the EDI, which did not change (low-weight mean: 18.33

± 9.12 , weight-restored mean: 19.71 ± 6.99). At low weight, there were no significant correlations between body fat distribution and the psychological measures. After weight restoration, however, there was a significant negative correlation between VAT and body dissatisfaction ($r = -0.51$, $p < 0.04$). Counter-intuitively, the results from this study suggest that with weight normalization, patients with more fat concentrated in their abdomen feel less dissatisfied with their bodies. These findings do not support patients' frequent contention that body dissatisfaction will worsen with weight gain.

Abstract 208

PREVALENCE OF BULIMIA NERVOSA IN TAIWAN—A QUESTIONNAIRE STUDY

Kuan-Yu Chen, Adult Psychiatry, Taipei City Psychiatric Center, Taipei, Taiwan, Ya-Ting Lin, Psychiatry, Buddhist Tzu-Chi General Hospital, Hualien, Taiwan, Chia-Jung Hsieh, Nursing, Taipei Medical University, Taipei, Taiwan, Su-Lin Tsai, Department of Health, Committee on Chinese Medicine, Taipei, Taiwan Liang-Yin Lin, Child & Adolescent Psychiatry, Chiao-Chicy Chen, Adult Psychiatry, Wei-Herng Hu, Taipei City Psychiatric Center, Taipei, Taiwan

This study investigated the prevalence of bulimia nervosa in students and clinical population in Taiwan. Three thousand two hundred fifty eight students from a general and an occupational high schools (O.H.S.) in Taipei City and one occupational high school in eastern Taiwan (954 males, 2304 females), 453 students from nursing schools of 2 universities in Taipei City (all females), 202 first-visit psychiatric outpatients (95 males, 107 females) completed a questionnaire set including Chinese version of the Bulimic Investigatory Test, Edinburgh (BITE) and a personality questionnaire. Seventy-three outpatient (2 males) with an eating disorder were also recruited to fill out the same questionnaire. With the BITE score more than 25 as criterion, the prevalence rate of bulimia nervosa is 2.3% in the female and 0.4% in the male high school students, 2.2% in the nursing school students, 12.1% in the female and 5.3% in the male psychiatric outpatients. The prevalence rate in female high school students varied greatly, with the highest rate (3.3%) in students from the O.H.S. in Taipei. In contrast, both of male and 93% of the female eating-disordered patients met the criterion. The clinical subjects have a higher score in the neuroticism subscale of the personality questionnaire and the subjects meeting bulimia criterion have higher neuroticism scores than those not meeting criterion. The extroversion subscale distinguished students from clinical population but did not distinguish subjects meeting bulimia criterion from those not. The cause of different prevalence rates between schools and the clinical meanings of the results will be discussed.

Abstract 209

IS THERE A RELATIONSHIP BETWEEN PERCEIVED FAMILY DYSFUNCTION AND COMORBID PSYCHOPATHOLOGY? A STUDY IN AN EATING DISORDER DAY TREATMENT PROGRAM

Willo Wisotsky, Ida Dancyger, Victor Fornari, Psychiatry, North Shore University Hospital, Manhasset, NY, Charles Swencionis, Ferkauf Graduate School of Psychology, Bronx, NY, Martin Fisher, Adolescent Medicine, North Shore-Long Island Jewish Health System, New Hyde Park, NY, Marcie Schneider, William Wisotsky, North Shore University Hospital, Manhasset, NY

The role of the family in the development of eating disorders has been a predominant research focus. However, few studies of patients in an eating disorder (ED) day treatment program (DTP) have explored the relationship between self-reported family system functioning, self-reported comorbid psychopathology and current comorbid psychological symptom status. This study examines patients at presentation to an ED DTP, their self-reported perception of family functioning and the relationship with characteristics

of their own comorbid psychopathology characteristics. Medical records of 51 day treatment female patients, ranging in age from 12 to 26 years, were examined by ED diagnosis and family type (using the FACES-II), and for significant differences on four self-report measures: SCL-90, EDI-2, BDI and TAS-20. Using MANOVA analyses and Bonferroni comparisons, significant differences on the self-report instruments for the entire sample and for the AN and BN patients were obtained when studying patients within different family types as defined by FACES-II. In sum, these data specific to DTP patients support previous findings for both IP and OP ED family studies. Overall, as family functioning is perceived to be more dysfunctional, the level of self-reported eating pathology and current comorbid psychological symptoms is also more severe.

Abstract 210

GASTRIC BYPASS OUTCOME AND PRE OPERATIVE BINGE EATING SEVERITY

Margaret Malone, Pharmacy Practice, Albany College of Pharmacy, Albany, NY, Sharon Alger-Mayer, Medicine, Albany Medical College, Albany, NY

Purpose: To evaluate the impact of binge eating severity prior to gastric bypass on outcome in terms of weight loss, change in binge eating behavior, depression scores and health status. **Methods:** Patients were asked to complete the Gormally Binge Eating Scale (BES), Beck Depression Inventory (BDI) and SF-36 prior to and after surgery. All data are expressed as mean (SD). **Results:** 110 patients (92F, 18M) were recruited, age 45(8)y, initial BMI 48(15) kg/m². Pre surgery: 52 were non bingers (NB)[BES 11(6)], 31 were moderate bingers (M)[BES 21(3)] and 27 were severe bingers (S)[BES 32(5)]. Baseline BDI scores were 9(8)NB, 12(8)M and 19(8)S. Baseline SF-36 physical component summary scores (PCS) were 38(11)NB, 37(11)M and 38(9)S. Baseline mental component summary scores (MCS) were 52(9)NB, 50(11)M and 36(12)S. 56 patients completed a second set of questionnaires 12 mos after surgery. Follow up: BES scores were: 4(3)NB *n* = 25, 10(7)M *n* = 18, 13(9)S *n* = 13; BDI scores were 4(6)NB, 4(4)M and 10(9)S; PCS scores were 49(11)NB, 49(12)M and 50(8)S; MCS scores were 51(10)NB, 51(13)M and 45(14)S. There was no difference in max excess wt(#) between groups at baseline: 167(43)NB, 169(34)M and 162(32)S. All patients had follow up weight data beyond 12 mo. The % excess wt loss at 6 mo was: 47(12)NB, 46(13)M and 49(15)S and at 12 mo was: 55(18)NB, 55(15)M and 76(41)S. **Summary:** S had greater BDI scores at baseline than either NB or M but had the greatest improvement after surgery. Post op BES scores were reduced in all groups to a greater extent in S. PCS scores were below normal in all groups prior to surgery but improved to population norms after 12 mo. MCS scores were low only in the severe bingers pre op but improved significantly after surgery. The % excess wt loss at 12 months was greatest in severe bingers. **Conclusion:** in the present study severe bingers had the best outcome in terms of weight loss, BES, BDI and SF 36 scores 12 months after gastric bypass.

Abstract 211

COLLEGE STUDENTS' KNOWLEDGE OF NUTRITION AND PHYSICAL ACTIVITY RECOMMENDATIONS

Drew A. Anderson, Jennifer R. Shapiro, Jennifer D. Lundgren, Caroline A. Paulosky, Rachel G. Morier, Psychology, University at Albany-SUNY, Albany, NY

College is a critical time period for the development of both obesity and eating disorders, and lack of knowledge concerning appropriate nutrition and physical

activity may play a role in the development of both of these problems. However, it is unclear if college students understand and follow current recommendations for diet and exercise. The purpose of this study was to determine the level of knowledge of these recommendations in college students and to what extent they follow these guidelines. Over 200 college students were asked to list the categories of the food guide pyramid, as well as how many daily servings of each category are recommended. Additionally, participants were asked about the current physical activity recommendations and to list whether various activities are considered light/moderate/rigorous activity. They were also asked to describe their current physical activity level. Finally, participants were administered several other questionnaires pertaining to their eating behavior, physical activity and weight. Knowledge of current diet and activity recommendations were low, with approximately half of students were not aware of them at all. Among those who had some idea of the recommendations, most participants did not adhere to these standards. These results have important implications for the development of both eating disorders and obesity as well as the dissemination of public health information.

Abstract 212

DEVELOPMENT AND VALIDATION OF A MULTIDIMENSIONAL EATING BEHAVIORS AND BODY IMAGE SELF-REPORT SCALE FOR PUBESCENTS

Teresita Saucedo, Nutriology, School of Nutrition ISSSTE, Distrito Federal, Mexico, Gilda L. Gomez Peresmitre, Psychology, National University of Mexico, Distrito Federal, Mexico, Nayeli Cantu, Nutriology, School of Nutriology ISSSTE, Distrito Federal, Mexico

Objectives: To understand the meaning of somatic changes in puberty, sociocultural influences and their possible effects on eating behaviors and body image, a multi-dimensional self-report scale (PAIC) was developed for Mexican pubescents. **Outline:** Data on a sample of 1300 young adolescents boys and girls, 10–15 years old, are reported. Boys and girls were rated their pubertal status using the Tanner scale stage schematics and some items of Pubertal Developmental Stage (PDS) which was adapted to Mexican pubescents. To evaluate eating behaviors a pool of items (26) was generated by psychologists and nutritionists, and to evaluate body image, the scale developed by Gomez-Peresmitré (2001) was used. In an attempt to measure the sociocultural influence, the CIMEC questionnaire (Toro, Salamero, Martínez, 1994) was modified (12 items). Height and weight measurements of each subject were obtained. The scale shows good reliability, as indicated by Cronbach's alpha coefficient (0.79 for boys and 0.85 for girls). Factorial analysis are completed. The availability of such measures is important because few eating-related and body image related scales have been developed and validated for pubescents in Mexico.

Abstract 213

RISK FACTORS FOR THE DEVELOPMENT OF EATING DISORDERS IN MEXICAN WOMEN

Claudia Unikel, Clinical Psychology, Gilda Gómez Peresmitré, Psychology, National University of Mexico, Distrito Federal, Mexico

The main purpose of the following paper was to develop an instrument for the detection of risk, subclinical and clinical eating disorders in Mexican adolescent women. Risk factors associated to the development of eating behaviors were assessed in 3 samples of Mexican women (mean age = 18.8 ± 3.7): (1) Clinical ($N = 74$), (2) Subclinical

($N = 144$), and (3) Normal controls ($N = 265$). A questionnaire was developed using a qualitative methodology (in-depth interviews to patients in treatment) that included the following areas: demographic data, substance use, self-esteem, depression, self-harming behaviors, sexual abuse, interpersonal relationships (brothers, sisters, males, mother and father), and personality traits (perfectionism, maturity fears and body dissatisfaction). Analysis were held to assess the scales reliability and factorial distribution with good internal consistency obtained (Cronbach alphas from .6218 to .8945). The 3 samples were compared for all the variables of the study. Significant statistical differences were found between the three samples in all variables but alcohol and sedative use. The continuum hypothesis of the severity of eating behaviors and psychopathology was verified in this population. This is a proposal of a new instrument for non clinicians, developed directly from Mexican population, that will be helpful for the detection of people at risk for eating disorders and subclinical and clinical eating disorders cases.

Abstract 214

DO YOU USE THE F-WORD?: REDEFINING FITNESS AND UTILIZING EXERCISE IN THE TREATMENT OF WOMEN WITH EATING DISORDERS

Rachel M. Calogero-Wah, Kelly N. Pedrotty, The Renfrew Center, Philadelphia, PA, Cindy Byfield, Colorado State University, Greeley, CO

Exercise issues have been given little attention in the treatment of women with eating disorders. Likewise, exercise issues in large-sized women have rarely been addressed in traditional eating disorder programs. Although recommendations for exercise in these populations have been made, and exercise has been shown to improve mental and physical health in numerous ways, it remains a second-class symptom that is often eliminated instead of normalized during treatment. Through the use of a power point presentation, Rachel and Kelly will describe their innovative exercise program and how it is utilized to treat exercise issues and body disconnection in women struggling with eating disorders. Cindy will discuss barriers to exercise specific to large women and present techniques for helping them reconnect with their bodies in a positive way through physical activity. Selected exercises will be modeled and case study material presented illustrating women's experiences in the programs. Relevant literature and preliminary research findings supporting the effectiveness of these programs will be examined. The benefits, challenges, and personal experiences of treating exercise issues in women with eating disorders and larger women will be discussed.

Abstract 215

TRANSLATION AND VALIDATION OF THE BRAZILIAN VERSION OF THE BINGE EATING SCALE (BES)—A SCALE TO EVALUATE BINGE EATING IN OBESE PATIENTS

Silvia Freitas, Psychiatry, State Institute of Diabetes and Endocrinology, Rio de Janeiro, Brazil, Claudia S. Lopes, Epidemiology, State University of Rio de Janeiro, Rio de Janeiro, Brazil, Jose C. Applonario, Psychiatry, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil, Waldir Coutinho, Endocrinology, State Institute of Diabetes and Endocrinology, Rio de Janeiro, Brazil

The purpose of the study was to translate into Portuguese and to assess the concurrent validity and the reliability of the Brazilian version of Binge Eating Scale (BES). A final BES Brazilian version was obtained after a careful translation and adaptation process

according to present recommendations concerning this process. A pre-test was conducted and the instrument was considered suitable for clinical purposes. The psychometrical properties of the Brazilian version were evaluated in a sample of 196 obese individuals (body mass index ≥ 30 kg/m²), aged 18 to 60, seeking treatment for obesity at an outpatient clinic of the Institute of Diabetes and Endocrinology of Rio de Janeiro. The scale, at cut-off point 17, was compared, concerning Binge Eating Disorder (BED) diagnosis, with the Brazilian version of the Structured Clinical Interview for the DSM-IV—Patient version (SCID-I/P). To assess the test-retest reliability, 133 individuals completed the scale again 15 days later. Validity: the values found for sensitivity (97.9%), specificity (49.5%) and predictive values (Positive Predictive Value = 64.5% and Negative Predictive Value = 96.1%) confirmed the validity of the Brazilian version of BES as a screening instrument for BED. The scale showed high sensitivity but low specificity, and it cannot be considered as a diagnostic instrument, even at very high scores. Thus, the BED diagnosis must always be confirmed by a clinical interview. The area under the ROC curve (0.87) confirmed the scales discriminatory power. Reliability: the internal consistency calculated by the Cronbach alpha's was 0.89 and the test-retest reliability measured by kappa and weight kappa statistics were substantial ($k = 0.68$ IC 95% 0.54–0.82 and $kw = 0.66$ IC 95% 0.49–0.83).

Abstract 216

CHARACTERISTICS OF WOMEN WITH PERSISTENT THINNESS: A POPULATION-BASED STUDY OF TWINS

Margarita C. Slob, Department of Psychiatry, Medical College of Virginia of VCU, Richmond, VA, Suzanne E. Mazzeo, Department of Psychology, VCU, Richmond, VA, Cynthia M. Bulik, Department of Psychiatry, Medical College of Virginia of VCU, Richmond, VA

Western society is increasingly obesogenic. Environmental influences including the wide availability of high-fat foods, large portions, and the prevalence of sedentary lifestyles contribute to the marked increase in obesity. In addition, these environmental factors increase vulnerability to obesity among individuals who are less genetically predisposed to this condition. Yet, despite these trends, some individuals maintain low body weights. Thus, our understanding of genetic and environmental influences on body weight might be advanced through investigations of individuals who remain thin despite living in this obesity-promoting environment. Although few studies have investigated the heritability of thinness, they are consistent in their conclusion that it appears to be at least as stable and heritable as obesity. This study examined characteristics of women who were persistently thin throughout childhood, adolescence, and adulthood. Participants were 1,022 female twins. They completed a survey that assessed demographics, body size in childhood, adolescence, and adulthood, health behaviors and satisfaction, disordered eating, perfectionism, and personality. In previous waves of data collection, participants completed diagnostic interviews assessing psychiatric disorders. Persistent thinness was associated with a significantly later age at menarche, lower rates of dieting and bingeing, greater health satisfaction, higher self-esteem, and lower neuroticism, perfectionism, and body dissatisfaction. Thus, persistent thinness appears to be associated with greater well-being in the present and a later age of menarche in the past. Future research should investigate whether later menarche is causally related to thinness or whether later menarche, persistent thinness, and enhanced well-being all result from an unmeasured variable such as sports participation.

Abstract 217**BINGE EATING, DEPRESSION AND ANXIETY IN ETHNICALLY DIVERSE UNDERGRADUATE MEN AND WOMEN**

Karen S. Mitchell, Suzanne E. Mazzeo, Psychology, Virginia Commonwealth University, Richmond, VA

Preliminary evidence suggests that Binge Eating Disorder (BED), unlike Anorexia Nervosa (AN) or Bulimia Nervosa (BN), affects African-Americans and Caucasians at about the same rate. Further, compared to AN and BN, BED is more likely to affect both men and women, and the average age of onset for BED is older than that of other eating disorders. For example, Mussell et al. found that the average age of BED onset was 18, compared to 13 for AN and 16–19 for BN. Yet, few studies have investigated BED symptomatology in a college population. Research has shown strong associations between depression, anxiety, and eating disorders. This research has been conducted primarily among Caucasians. A small number of recent studies have found a similar association between BED and negative affect among Caucasians and African-Americans. Studies have also shown a positive association between eating disorder symptomatology and alexithymia, or difficulty identifying or experiencing emotions. To our knowledge, the association between BED and alexithymia has not been studied, although several authors have proposed that binge eating may serve as an escape from aversive self-awareness. This study sought to investigate the associations between binge eating, depression, anxiety, and alexithymia in ethnically diverse undergraduate men and women. Participants were 338 students recruited from psychology classes; 25.5% were African-American. Results indicated that BED symptomatology was significantly correlated with depression, anxiety, and alexithymia; these relationships are stronger among women than men. There were no significant differences between African-Americans and Caucasians on measures of binge eating, depression, or anxiety. These results highlight the need to study binge eating and BED among traditionally underserved groups, such as men and ethnic minorities.

Abstract 218**A POTENTIALLY VICIOUS CYCLE: THE ASSOCIATION OF STIGMATIZATION AND BINGE EATING**

Kelli Friedman, Nancy Zucker, Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, NC, Simona Reichmann, Gerard Musante, Structure House Residential Weight Loss Program, Durham, NC

The stigmatization of overweight individuals has pervaded Western culture for decades. Despite this, the psychological and behavioral impact of such weight related stigmatization is a relatively new area of exploration. As negative verbal commentary (e.g. teasing) has been linked to eating disorder symptom development in longitudinal studies, stigmatizing attitudes and behaviors may likewise be associated with eating disorder symptoms. Thus, the purpose of this investigation was to explore the association of stigmatizing experiences with the presence of binge eating behaviors in a severely obese sample. Sixty-nine women (mean age = 54.2 years, mean BMI = 42.4) and 24 men (mean age = 51.8, mean BMI = 42.1) seeking residential weight loss treatment completed measures assessing the frequency of stigmatizing experiences (SSI; Myers & Rosen, 1999); the Binge Eating Scale (BES); and the Beck Depression Inventory (BDI). Due to the potentially biasing effect of depressive symptoms on perceived stigmatization, a regression analysis was performed in which depressive

symptoms were first controlled statistically followed by the examination of stigmatizing experiences regressed on binge eating symptoms. Results indicated that the frequency of stigmatizing experiences accounted for unique variance in symptoms of binge eating ($F = 24.66$ ($p < .01$)). R square for the complete model including depressive symptoms and stigmatizing experiences was .36 (Beta for the BDI = .42; for the SSI = .29). The cross-sectional nature of the current study design precludes conclusions of the temporal relation between weight based stigmatizing experiences and binge eating behaviors. Given the oft-cited function of binge eating as an escape from negative self-awareness, the role of stigmatizing experiences in further fostering such negative self-attitudes and exacerbating current binge eating or playing an etiological role in the development of binge eating is in need of further exploration.

Abstract 219

A LONGITUDINAL STUDY OF PERSONALITY AND EATING PATHOLOGY IN AFRICAN-AMERICAN AND CAUCASIAN WOMEN

Lisa R. Lilienfeld, Carli H. Jacobs, Prudence C. Wildman, Psychology, Georgia State University, Atlanta, GA

Purpose: Determine the extent to which putative personality risk factors can predict eating pathology in a non-clinical sample over time. **Methods:** Subjects included an ethnically diverse sample of 58 undergraduate women who were followed for two years. Eating pathology was assessed as a categorical (SCID I diagnoses), as well as a continuous variable (EDI-2 Drive for Thinness, Body Dissatisfaction, and Bulimia scores). The two personality disorders assessed, obsessive-compulsive (OCPD) and borderline personality disorder (BPD), were determined by previous personality literature. Both were treated as categorical (SCID II diagnoses) and continuous variables (SCID II symptom counts). Hierarchical linear regression and logistic regression were used when eating pathology was treated as continuous and categorical variables, respectively. **Results:** BPD predicted eating pathology at Time 2 after controlling for eating pathology at Time 1, while OCPD did not. The borderline symptoms of impulsivity and affective instability specifically, were significant predictors of eating pathology over time. When the sample was split by race, BPD continued to predict eating pathology in black and white women, while OCPD predicted eating pathology in black women only. **Conclusions:** OCPD and related traits (e.g., perfectionism) have been implicated as risk factors for anorexia, while BPD and related traits (e.g., impulsivity) have been implicated in the development of bulimia. However, true risk factors can only be identified with prospective designs. The current data support previous cross-sectional and family study research and suggest that borderline personality traits, specifically impulsivity and affective instability, may place one at risk for the development of eating pathology, particularly that involving bingeing and/or purging, over time. Interestingly, obsessive-compulsive personality traits may be a relevant risk factor for eating disorders in black women specifically.

Abstract 220

BARE NAKED LADIES: EFFECTS OF VIEWING NUDE, REALISTIC IMAGES OF WOMEN ON BODY IMAGE

Janet D. Murray, Psychology, University of Central Florida, Winter Park, Florida, Stacey Tantleff-Dunn, Psychology, University of Central Florida, Orlando, Florida

Exposure to media images of thin, unrealistic ideal female physiques plays a role in the etiology and maintenance of body image disturbance. Interventions that contribute to the

development of healthy body image are needed for treatment and prevention of body image and eating disturbance. The *Century Project*, a collection of nude photographs and personal stories of females from birth to 100 years-old, has been exhibited across the U.S. Women have responded positively, often describing the exhibit as having a therapeutic impact on body image. This pilot study tested the extent to which exposure to these realistic departures from cultural ideals affects body image. Fifty-six undergraduates, 41 females and 15 males, viewed 15 *Century Project* photographs and stories. Following exposure, participants rated their reactions on several dimensions using a scale from 1 (*changed negatively; unimportant*) to 5 (*changed positively; very important*). Results indicated that after exposure participants' views of their own bodies were slightly more positive, with females reporting more positive change (mean = 3.9) than males (mean = 3.3), $t(54) = -2.72, p < .01$. Participants also thought it was somewhat important to reevaluate personal values regarding *their own* appearance and body shape/size (mean = 3.7) and that of *others* (mean = 3.3). Given the adverse effects of exposure to unattainable ideals, there may be beneficial effects of exposure to more realistic female images and approaches to coping with body image concerns. In this preliminary study there were modest but positive effects. Further investigation is needed to delineate methods that may optimize therapeutic effects and identify mechanisms underlying the influence of exposure.

Abstract 221

IT'S NOT JUST A "WOMAN THING": GENDER STEREOTYPING AND BODY IMAGE

Stacey Tantleff-Dunn, *Psychology*, Rachel D. Peterson, *Clinical Psychology*, Jessica Gokee-Larose, *Clinical Psychology*, Sharon Hayes, *Psychology*, University of Central Florida, Orlando, FL, Reesa Donnelly, Orlando, FL

Body image dissatisfaction has become so prevalent among women that researchers have referred to it as a "normative discontent" (Rodin, Silberstein, & Streigel-Moore, 1984). The current study seeks to determine if this notion of normative discontent has become part of society's stereotypic gender schema for women, and to compare body image stereotypes of men and women. Thus far, 100 undergraduate students have completed a questionnaire in which they rate the percentage of women and men who have a variety of different characteristics or experiences. Preliminary results revealed that a large percentage of male and female participants believe that more than half of American women display characteristics associated with body image disturbance. Participants indicated that women are anxious about their appearance (85%), restrict their food intake (68%), worry about cellulite (74%), are critical of other women's appearance (82%), are fearful of aging (78%), and are conscious about their weight (82%). Interestingly, no significant gender differences were observed, indicating that both men and women view body image disturbance as "normative" for women. Somewhat surprisingly, similar results were found for stereotypes of men. A large percentage of participants indicated that more than half of American men are anxious about their physical appearance (70%), consider using steroids (62%), restrict fat intake (80%), are fearful of hair loss (80%), worry about love handles (55%), are driven to be muscular (82.4%), are critical of other men's appearance (82.4%), and are fearful of aging (62%). These preliminary results illustrate that body image disturbance not only has become a stereotypic view of women, but also of men. Continuing data collection is aimed at examining the extent to which these views vary as a function of sex role, eating behavior, and body image disturbance.

Abstract 222**MEDIA EFFECTS ON MALES' MOOD AND BODY IMAGE**

Daniel Agliata, Stacey Tantleff-Dunn, Clinical Psychology, University of Central Florida, Orlando, FL

Mass media shapes and reinforces appearance ideals and has been shown to adversely affect females' body image. With some indication that body dissatisfaction may be on the rise for males, the current study examined the impact of television viewing on mood and body satisfaction among males. Undergraduate males ($n = 158$; $M = 21.3$ years; $SD = 4.01$) were randomly assigned to watch advertisements that portrayed either the male ideal or neutral ads that were inserted within segments of a regularly viewed television program with neutral content. Pretest measures of body image, eating behavior, adherence to cultural standards of attractiveness, state measures of mood and body image, and demographic information were collected. Using a 2 (time of testing) $\times 2$ (ad type) $\times 2$ (disposition level) factorial design, it was expected that exposure to ideal images would result in significant body dissatisfaction and negative mood, most noticeably for individuals with high levels of appearance investment and adherence to cultural standards of attractiveness. There was a significant time by condition interaction, $F(4, 143) = 3.49$, $p < .009$. Participants exposed to ideal advertisements became significantly more depressed, $F(1, 144) = 7.88$, $p < .006$, and had higher levels of muscle dissatisfaction, $F(1, 144) = 4.34$, $p < .039$, than those exposed to neutral ads. Inconsistent with past research on females, no dispositional effects were noted. The findings question the notion of a schema activating effect for males, and suggest rather, that males perceive media messages at face value without filtering ideal images through a preexisting schematic set. Given the adverse impact of the ideal ads coupled with the fact that we are inundated with appearance-related advertising, future research should further test sociocultural models of disturbance with male samples and identify specific long-term media effects on body image.

Abstract 223**MODELING THE ACTIVATION OF AN EATING EXPECTANCY MEMORY NETWORK USING MULTIDIMENSIONAL SCALING**

Jessica Gokee-LaRose, Stacey Tantleff-Dunn, Michael E. Dunn, Psychology, University of Central Florida, Orlando, Florida

Alcohol expectancies predict drinking and mediate the influence of other antecedents (Goldman, Darkes, & DelBoca, 1997). MDS techniques have been used to model the organization and activation of alcohol expectancies in memory (Dunn & Goldman, 1996; 1998) and interventions that change activation of expectancies alter drinking behavior (Dunn, Lau, & Cruz, 2000). Application of this methodology to the cognitive organization of eating expectancies suggests that eating expectancies vary as a function of drive for thinness (Tantleff-Dunn, Dunn, & Gokee, 2001). The present study further investigated eating expectancies. Data collection consisted of five phases with a total of 1861 participants. Participants in Phase 1 generated words in response to the prompt "Eating food makes one —," and completed measures of body image and eating disturbance. Groups were created based on quartile splits for scores on disturbance measures. The most frequently reported words for each group were compiled into lists. Phase 2 validated that we mapped an eating expectancy network as opposed to a general semantic network. Participants in Phase 3 indicated the frequency with which

they experience each expectancy word. INDSCAL was used to map the cognitive organization of eating expectancies based on quartile groups. A two-dimensional solution was optimal for all groups. Results indicate that dimension emphasis varies as a function of eating pathology. The two dimensions were empirically labeled using PROFIT. Dimension 1 was labeled positive-negative and Dimension 2 was labeled satisfied-unsatisfied. PREFMAP was used to model paths of activation throughout the multidimensional space for each group. Results suggest that individuals with low levels of eating pathology emphasize positive and satisfying effects of eating, whereas individuals with high levels emphasize negative and unsatisfying effects. Implications for expectancy-based treatment and prevention models are discussed.

Abstract 224

THE DEVELOPMENT AND VALIDATION OF THE VERBAL COMMENTARY ON PHYSICAL APPEARANCE SCALE

Sylvia M. Herbozo, Megan Roehrig, Hemal Shroff, J. Kevin Thompson, Psychology, University of South Florida, Tampa, FL

Previous research has shown that appearance-related feedback plays an important role in the development of body image and eating disturbance (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Several questionnaires have been developed to assess various types of teasing about physical appearance and negative appearance-related feedback. Although these scales have facilitated research in this area, they have failed to examine the construct of positive appearance-related feedback. The present study is one of a series of studies that will be conducted to develop and validate a scale to measure three types of appearance-related commentary: negative, neutral, and positive. In this pilot study, 24 items were developed by graduate students whose research areas are body image and eating disturbance. An effort was made to select weight- and physical appearance-related comments. The VCOPAS contains a Negative, Neutral, and Positive subscale. The Neutral subscale includes ambiguous comments, which may be perceived as being negative or positive. A 5-point scale (never, seldom, sometimes, often, always) is used for all items. To date, 50 college students have been tested and plans are for an additional sample of 200 to be tested by February. The pilot data have been encouraging—a one-week test-retest reliability of .80 and an alpha of .81 were found. An item analysis indicated that six items were poor in terms of their item-total correlations and/or frequency of occurrence and this information, plus qualitative feedback from respondents will be used to modify the scale. Importantly, positive appearance-related feedback actually occurred more often than negative or neutral feedback. This finding suggests that positive feedback is an area worth examining in the context of body image and eating disturbance. Convergence of the VCOPAS with measures of body image and eating disturbance will be determined with the full sample and presented, along with the psychometric data.

Abstract 225

COLLEGE FEMALE SOCCER PLAYERS ARE LESS LIKELY TO DEVELOP EATING DISORDERS THAN NON-ATHLETES

Jackie Hafer, Jeff McClung, Kinesiology and Health Studies, Georgetown College, Georgetown, KY

Purpose of Research: The Structured Inventory for Anorexic and Bulimic Eating Disorders (SIAB) self-rating questionnaire according to DSM-IV and ICD-10 criteria was used

to show college female soccer players (SP) to be at a lesser risk for developing eating disorders than collegiate non-athletes (NA). Subject Sample and Statement of Methods: 63 SP age = 19.7(*SD*, 1.2) y, BMI = 22.2(2.1) from six NAIA colleges and 60 NA age = 19.1(1.4) y, BMI = 24.5(6.9) completed the SIAB. The SIAB comprises 87 items divided into seven sub scales covering eating disorder symptoms (binges, weight phobia, etc.), general psycho pathology (depression, anxiety, obsessive-compulsive symptoms), as well as social integration and sexuality. The results are coded on a five-point scale ranging from 0 (symptom/problem not present) to 4 (symptom/problem very severely present). Scores other than 0 are considered to meet diagnostic criteria. Scores for the past three months (NOW) as well as for the worst ever (PAST) were identified. A cut off average score of 1.3 is used to differentiate AN and BN from an eating disorder not otherwise specified. Summary of Results: Four SP (6.25%) were diagnosed with BN (DSM-IV 307.51 and ICD-10 F50.2) PAST, two BN NOW. One had binge eating disorder (DSM-IV 307.50). No SP were AN. Eight NA (14.8%) were BN PAST, six NOW. Four (7.4%) NA were AN PAST, three AN NOW. Differences were found ($p < .05$) between SP and NA respectively in several sub scales (body image NOW, 1.02(.54) versus 1.5(.97), general psychopathology NOW, .33(.32) versus .65(.47) and PAST, .64(.57) versus 1.49(.76), compensatory behaviors NOW, .08(.1) versus .27(.31), bingeing PAST .63(.75) versus 1.07(1.0), and sums of all sub scales NOW, 0.14(.18) versus 0.47(.26) and PAST, .22(.58) versus 0.69(.30). 42.8% of the NA had 2 or more sub scale scores > 1.3 NOW and 64.2% PAST.

Abstract 226

SELF-HARM AND EATING DISORDERED BEHAVIOR IN A COLLEGE POPULATION: PREVALENCE AND COMORBIDITY

Wendy D. Hoyt, David M. Garner, River Centre Clinic, Sylvania, OH

Research regarding self-mutilation has increasingly recognized a link between this direct form of self-harm, and more indirect forms, including disordered eating and substance use. The purpose of the present study was to expand upon current literature addressing the prevalence and comorbidity of these behaviors in the college population. Participants were 4,000 randomly selected undergraduate students. Each of the participants received by mail a survey packet including the Impulsive Behaviors Survey (IBS), which consisted of 59 questions designed to assess the prevalence of cutting behavior, disordered eating, drug and alcohol use, depressive symptomatology, and history of abuse/neglect. Participants who did not respond to the initial mailing of the survey packet were mailed a follow-up packet 4 weeks later. No incentives for participation were provided. A total of 1941 participants returned a completed survey. Of the 1206 responding females, 46.1% reported restrictive dieting, 73.4% feared becoming fat, 24.2% reported binge eating, and 6.4% reported intentional vomiting. Cutting was reported by 12%, 8.3% met criteria for depression, and 66.9% reported current substance use. Overall, 11.0% of the responding males reported cutting, 31.2% feared becoming fat, 17.9% restricted, 7.8% binged, and 0.5% reported intentional vomiting. There were 51 female participants who reported all of the following symptoms: (1) fear of becoming fat, (2) restricting, (3) bingeing, and (4) vomiting. Chi-square analyses indicate that these participants also reported significantly greater rates of past abuse, history of cutting (28.0%), depression and alcohol and nicotine use. When individual symptoms were analyzed separately, bingeing and intentional vomiting were most strongly related to cutting and substance use. These results support previous research identifying a similar function of the behaviors assessed, and a tendency of these behaviors to occur comorbidly.

Abstract 227**THE PREVALENCE OF ALEXITHYMIA AND IMPULSIVE/ADDICTIVE BEHAVIORS IN MIDDLE-AGED WOMEN WITH DISORDERED EATING**

Dana L. Rofey, Jennifer Loyden, Kevin J. Corcoran, Psychology, University of Cincinnati, Cincinnati, OH, Ellen Shuman, WellCentered Eating Disorders Treatment Center, Cincinnati, OH, Mary C. Birbaum, Psychology, University of Cincinnati, Cincinnati, OH, Karen Lucic, Michelle Schweibert, Cincinnati, OH

This study investigated the relationship between mood and behavior patterns in adult women with disordered eating. Three measures were used: Eating Disorder Inventory-2 (EDI-2; Garner, 1991)—is a self-report measure that assesses eating disorder symptomatology; Toronto Alexithymia Scale (TAS-20; Bagby, Parker, & Taylor, 1994) was administered—a 20-item self-report questionnaire that measures alexithymia—a disturbance in affective and cognitive function; and the Behavior and Symptom Identification Scale (BASIS-32; Eisen, Grobb, & Klein, 1986)—a self-report instrument that measures the outcomes of mental health treatment through the assessment of symptoms and functional abilities. The BASIS-32 is composed of five subscales: Relation to self/others, Depression/anxiety, Daily living/role functioning, Psychosis, and Impulsive/addictive behavior; the latter scale was used as an independent measure. The normative sample for the EDI-2 and the TAS-20 included undergraduate students ranging in age from 18–25. The BASIS-32 was developed on psychiatric inpatients but has been used on outpatient populations age 14 and up. In this study, the EDI-2, TAS-20, and BASIS-32 were completed by 120 outpatient, middle/upper socioeconomic status, female-eating-disorder clients (M age = 42.63, SD = 3.84). The majority of women in this sample were diagnosed with EDNOS (BED). It was hypothesized that alexithymia and impulsive/addictive behaviors would affect eating disorder symptomatology in older patients (similar to findings in younger samples). Regression analyses were performed yielding statistically significant main effects for alexithymia and impulsive/addictive behaviors on disordered eating symptoms ($t(109) = 6.40, p < .01$ and $t(112) = 6.14, p < .01$, respectively). These results show that mood and behavior disturbances in middle-age women are predictive of eating patterns similar to that of the normative (younger) sample.

Abstract 228**THE COURSE OF EATING DISORDERS TREATMENT: EVALUATION OF 6 AND 12 MONTHS OF TREATMENT**

Paulo P. Machado, John M. Klein, Psychology, Universidade do Minho, Braga, Portugal

Eating disorders (bulimia and anorexia) are psychopathological problems that affect mainly young women. Both clinical entities are relatively common and showed tendency to increase during the 1990s. Under the umbrella of COST B6 this naturalistic study was designed to assess the course of treatment of eating disorder patients of a national treatment center. Assessments were conducted at admission to outpatient or day-care treatment, every month during treatment, and at 6 and 12 month after admission. This presentation presents preliminary data on approximately 100 DSM-IV eating disorder patients (AN, BN, EDNOS) who have completed the 6 and 12 month evaluation (from admission). Data from the monthly short evaluations will be used to explore patterns of change in eating disorder symptoms.

Abstract 229**CORRELATIONS OF EATING SELF-EFFICACY IN AN OBESE BINGE EATING POPULATION**

Tamara A. Johnson, Counseling, Jean Kristeller, Virgil Sheets, Psychology, Michele C. Boyer, Counseling, Indiana State University, Terre Haute, Indiana

The purpose of this investigation was to explore correlates of eating self-efficacy for obese individuals with binge eating disorder. This scale is significant because it measures individuals' confidence in ability to control their eating in various situations. Subjects included 43 patients seeking treatment for binge eating disorder at a university psychology clinic. Among the measures patients completed, we were particularly interested in the relationship between eating self-efficacy (Glynn & Ruderman, 1986), self-esteem (Rosenberg, 1979), and indicators of disordered eating. Results indicated significant positive correlations between eating self-efficacy and self-esteem ($r = .41, p < .01$), significant negative correlations between eating self-efficacy and Lowe's Power of Food Scale ($r = -.66, p < .01$), but no significant findings related to the Gormally et al. (1982) Binge Eating Scale ($r = -.28, p = .08$). Based on these results, it appeared that individuals with higher confidence in their ability to effectively control their eating also had higher self-esteem, and food in the environment had less psychological influence over their behaviors. Interestingly enough, these findings also suggested eating self-efficacy is not related to excess weight or depression.

Abstract 230**COMPARISON OF BINGE EATING SYNDROMES AND COMORBID FEATURES IN A CLINIC SAMPLE**

Rachel A. Seel, Educational Psychology, Wayne State University, Ann Arbor, MI

The relationship between bulimia nervosa—purging type (BN-P) and comorbidity has been established. Five comorbid features have been identified as most common: depression, anxiety, personality disorders, substance abuse and history of sexual abuse. The DSM IV added the subtype of bulimia nervosa—nonpurging type (BN-NP) and proposed a new eating disorder: binge eating disorder (BED). Three binge eating syndromes are classified as distinct entities in the DSM-IV. The extent to which there are comorbid similarities and/or differences remains unclear. This study examined the relationship between BN-P, BN-NP and BED in terms of comorbidity. It was hypothesized that for each comorbid condition, the BN-P group would represent the highest level of severity, the BED group would represent the least, with BN-NP in an intermediate position. One hundred one clinic subjects were recruited. Three groups were diagnosed based on DSM IV criteria: BN-P ($n = 38$), BN-NP ($n = 21$) and BED ($n = 42$). Questionnaires were given measuring five dependent variables: depression, anxiety, personality disorders, alcohol abuse and history of sexual abuse. No differences between groups on overall rates of depression were found. The two bulimic groups were more likely to be more severely depressed than the BED group. The BN-P group exhibited the highest level of anxiety and the BED group exhibited the least. No differences in personality disorders were found. The BN-P group exhibited the highest rate of alcohol abuse, while the BN-NP and BED groups reported similar levels. There were no differences on levels of sexual abuse. This study lends some support to the diagnostic distinction between BN-P, BN-NP and BED. The BN-P group exhibited the most severe type of binge eating syndrome. The BN-NP group was more similar to the BN-P group in some ways, and to the BED group in others. More research is needed to clarify the position of BN-NP in relation to BN-P and BED.

Abstract 231**RELATIONSHIPS BETWEEN ESTROGEN AND DISORDERED EATING ATTITUDES AND BEHAVIORS**

Patrick S. Perkins, Kelly L. Klump, Psychology, Michigan State University, East Lansing, MI

Disturbances in sex hormones have been suggested as possible etiological factors in eating disorders. Specifically, alterations in the hypothalamic-pituitary-gonadal axis have been observed in individuals with anorexia (AN) and bulimia nervosa (BN), and recent twin results suggest possible shared genetic transmission between ovarian hormones and eating pathology. However, most findings are limited by the nutritional deficits and amenorrhea common in clinical samples of AN and BN. Only one previous study has examined sex hormones in a non-clinical population, with results showing high levels of estrogen in women at risk for eating disorders. The purpose of the present study was to extend previous research by examining relationships between estrogen levels and individual disordered eating variables in a non-clinical population of women. Participants included 18 menstruating undergraduate females from a large Midwestern university who completed assessments during the early follicular phase of their menstrual cycle. Basal salivary samples of estradiol were obtained in the morning following an overnight fast. Eating pathology was assessed with the Minnesota Eating Disorders Inventory (M-EDI) subscales M-EDI Total Score, Body Dissatisfaction, Weight Preoccupation, Compensatory Behaviors, and Binge Eating. Pearson correlations indicated moderate correlations between estradiol levels and M-EDI Total Score, Body Dissatisfaction, and Weight Preoccupation, suggesting an association between higher levels of estradiol and greater body and weight concerns. Findings from the present study are significant in providing preliminary evidence of associations between estrogen and specific eating attitudes and behaviors that have been shown previously to be risk factors for eating pathology. Future research should extend these findings by clarifying the etiological role of estrogen in eating pathology, including possible genetic relationships between the two.

Abstract 232**ESTIMATION OF THE POPULATION "AT RISK" FOR EATING DISORDERS AND ITS ASSOCIATION WITH COGNITIVE FACTORS IN MEXICAN MEN**

Rosalía Vázquez Arévalo, Xochitl López Aguilar, Georgina L. Alvarez Rayón, Juan M. Mancilla Díaz, Karina Franco Paredes, Nutrition Research, UNAM, FES-Iztacala, Tlalnepantla, México

The occurrence of the eating disorders in men has generated interest in the past ten years, this has focused mainly on attempts to explain the lesser incidence in men than women. In Mexico the study of the eating disorders is recent and in masculine population almost nonexistent. The purpose of the present paper was to estimate in the adolescent population "at risk" for eating disorders and its association with cognitive factors in Mexican men. The sample ($N = 512$) was formed by young men ranged from 15 to 29 years ($X = 19.29$, $DE = 2.79$). They were administered: Eating Attitude Test (EAT), Bulimia Test (BULIT) and Eating Disorders Inventory (EDI). It was found that 16.4% of boys were "at Risk" for Eating Disorder (RED). At a Greater age was significantly correlated with Diet, Driver for thinness, Avoidance of fattening foods and Bulimic symptoms. A later comparison was done between the participate who displayed RED ($n = 84$) and a group similar control in number. There were significant differences between the groups in all the factors of EDI (Bulimia, Drive for thinness, Maturity fears, Body dissatisfaction, Interoceptive awareness and Ineffectiveness) excepting to the Perfectionism and the

Interpersonal distrust. The results suggest that symptomatology of eating disorder also is present in Mexican men, being relevant cognitive factors in its presence. (PAPIIT-IN301901)

Abstract 233

THE IMPACT OF APPEARANCE RELATED TEASING BY FAMILY MEMBERS

Helene Keery, Kerri N. Boutelle, Center for Adolescent Health, University of Minnesota, Minneapolis, MN, Patricia van den Berg, Kevin Thompson, Department of Psychology, University of South Florida, Tampa, FL

Teasing by parents and siblings has seldom been examined in terms of its relationship to body dissatisfaction and eating disturbance. This study evaluated the prevalence and effects of teasing by family members in 325 middle school girls. These girls were part of a larger study in Pasco County, Florida (age range: 11–14 years; 85% Caucasian). Eighteen percent of the girls reported their fathers tease them about their appearance, 12% reported their mothers tease them about their appearance, and 28% reported that their siblings tease them about their appearance. In addition, 28% of girls with older brothers, 21% of girls with younger brothers, 23% of girls with older sisters, and 20% of girls with younger sisters reported that their sibling says or does things to make them feel bad about their appearance. After controlling for BMI and maternal teasing, teasing by a father was a significant predictor of thin-ideal internalization, social comparison, body dissatisfaction, depression, self-esteem, and restrictive and bulimic eating behaviors. After controlling for BMI and paternal teasing, maternal teasing was a significant predictor of restriction. Results of one-way ANOVAs indicate that girls who are teased by at least one sibling demonstrate significantly higher levels of internalization, comparison, body dissatisfaction, restriction, bulimic behaviors, and depression and significantly lower levels of self-esteem than those girls who are not teased by one or more of their siblings. When broken down into groups by type of sibling, unadjusted comparisons reveal a pattern in which teasing by any sibling leads to higher levels of comparison and body dissatisfaction than those who are not teased by that particular sibling. This study has implications for treatment and prevention of eating disorders. In addition, the results can help parents in understanding the negative impact of teasing within the family.

Abstract 234

BINGE EATING DISORDER IN MORBIDLY OBESE PATIENTS EVALUATED FOR GASTRIC BYPASS: SCID VS QEWP

Maureen Dymek, Daniel le Grange, Psychiatry, Vivec Prachand, John Alverdy, Surgery, University of Chicago, Chicago, IL

Background: Binge eating disorder (BED) has been hypothesized to be associated with poor outcome in gastric bypass surgery (GBP). However, past studies on BED in this population have provided quite different estimates of the number of patients with BED prior to surgery, and have yielded inconsistent results with regard to surgical outcome. These inconsistencies may be in part due to a wide variety of measures used to assess the presence of BED. The present study examines the utility of two commonly employed BED diagnostic tools with this population: The SCID and the QEWP. Methods: All patients evaluated at the University of Chicago for GBP between 2/02 and 9/02 were included in the study ($N = 168$). During their psychological evaluation for candidacy,

patients were evaluated for BED using both the eating disorders section of the SCID (structured interview) and the QEWP (self-report questionnaire). Results: Patients had a mean age of 39 (± 9), and a mean BMI of 51 (± 9). 27% of the sample received a diagnosis of BED using the QEWP, compared with 14% using the SCID. An additional 17% of the sample reported sub-clinical binge eating with the QEWP, compared with 16% using the SCID. Agreement between the two methods using Cohen's kappa was .39. Conclusions: While both methods of assessing BED were developed using the DSM-IV research criteria, the methods yielded quite different results. Further studies are needed to determine the most accurate method of assessing BED in this population, before we can determine if pre-surgical binge eating is related to surgical outcome.

Abstract 235

RELATIONSHIP BETWEEN CHILDHOOD SEXUAL ABUSE AND DISORDERED EATING: MEDIATING INFLUENCES

Anita R. Hund, Dorothy L. Espelage, Counseling Psychology, University of Illinois at Urbana-Champaign, Champaign, Illinois

Conflicting findings regarding the relationship between eating disorders and childhood sexual abuse (CSA) suggest a complex association involving mediators. Previous research has examined other forms of child abuse or has produced unreliable results due to small samples. The current study extends this body of research by using a larger sample to examine anxiety, depression, alexithymia, and dissociation as potential mediators between CSA and disordered eating behaviors. Study measures were completed by 475 university women. Forty-five participants (9.5%) reported CSA. Individuals with a score on the Eating Attitudes Test indicative of disordered eating comprised 18.7% of the sample. Data have been collected for 125 additional participants. Path analysis using a series of regression analyses (Baron & Kenny, 1986) was conducted to examine mediational processes of mental health symptoms between CSA and disordered eating. Regression analyses indicated that CSA significantly predicted bulimia and body dissatisfaction ($B = 0.10-0.11, p < .05$). Furthermore, CSA significantly predicted depression, anxiety, dissociation, and alexithymia ($B = 0.09-0.13, p < .05$). In a final set of regression analyses, CSA and mediator variables were entered as independent variables predicting bulimia scale scores. Previously significant associations between CSA and bulimia became non-significant when depression, anxiety, alexithymia, and dissociation ($B = 0.08-0.70, p > .05$) variables were included in the equation. Additionally, CSA no longer significantly predicted body dissatisfaction when depression and anxiety ($B = 0.06, p > .05$) were entered. These results provide evidence that depression, anxiety, dissociation, and alexithymia may mediate the relationship between CSA and disordered eating. In order to evaluate these variables simultaneously in a comprehensive model, structural equation modeling will be employed after the data collection is complete in November, 2002.

Abstract 236

EMOTIONAL EATING IN CHILDREN AND ADOLESCENTS IN GRADES 3-8: DEVELOPMENT OF AN EMOTIONAL EATING SCALE AND AN INVESTIGATION OF POTENTIAL CORRELATES

Mairin A. McCarthy, Psychiatry, Washington University School of Medicine, St. Louis, MO, Linda Smolak, Psychiatry, Kenyon College, Gambier, OH

Emotional Eating (EE) refers to eating in the absence of physiological hunger primarily for emotional regulation and comfort. In adults EE has been found to be associated with

obesity, restrained and disordered eating, low self-esteem and depression. At the time of this study, little research existed looking at EE in children, and no method existed even to assess effectively EE in children. This study investigated factors associated with EE in children and adolescents in grades 3–8 after developing a scale to assess EE in this age group. Participants in this study were 182 students recruited from two public schools in rural Ohio and one private school in Atlanta. The questionnaire developed for this study consisted of a series of vignettes about children eating after experiencing an emotional situation and a set of direct questions about EE, which were an adaptation of the EE sub-scale of the Dutch Eating Behavior Questionnaire (DEBQ). Participants completed both sections of the EE scale as well as the Children's Depression Inventory (CDI), the Body Esteem Scale (BES), and the self-esteem sub-scale of the Self Perception Profile for Children (SPPC), in order to examine potential correlates of EE in children. Results indicate that both the vignettes and questions used to assess EE are internally reliable measures of EE for elementary and middle school children of both sexes. The correlation between the two scales was higher in elementary school children than in middle school children, suggesting that the groups interpret the scales in different ways. The range of scores suggests that EE is indeed present in elementary and middle school children. For girls, depression, low body-esteem and low self-esteem predict EE, and for boys, low self-esteem and young age predict EE. Findings were discussed in terms of the impact of age and gender on the interpretation of the scale and what steps are needed to determine the best way to assess EE in various age groups.

Abstract 237

BODY IMAGE DISTORTION AND FEAR OF WEIGHT GAIN INDUCE EMOTIONAL STRESS IN ANOREXIA NERVOSA – A FUNCTIONAL MAGNETIC RESONANCE IMAGING STUDY

Angela Wagner, Chistopher Goepel, Child and Adolescent Psychiatry and Psychotherapy, Matthias Ruf, Dieter F. Braus, Psychiatry and Psychotherapy, Martin H. Schmidt, Child and Adolescent Psychiatry and Psychotherapy, Central Institute of Mental Health, Mannheim, Germany

Body image distortion is a major and often persistent symptom in anorexia nervosa causing relapses even after weight recovery. Being confronted with their own body shape, patients develop phobic fears. Fear causing stimuli are associated with differences in neuronal activity that can be detected by fMRI. It is supposed that confronting anorectic patients with their own digitally distorted body image induces fear reactions. This dysregulation in the emotional network leads to changes in neuronal activity visualized by means of fMRI. Currently ten inpatients with anorexia nervosa and age matched healthy controls were assigned to the study. A 1.5 T MRI-scanner with an in-plane resolution of 64×64 pixels was used. The paradigm consisted of three categories of stimuli: target (images with subjective maximum unacceptability of participants own body), non-target (images with subjective maximum unacceptability of another womans body image) and neutral (abstract images with a random mix of colors composed from participants own body images). In healthy controls no changes in neuronal activity pattern were detected in brainstem, gyrus fusiformis or amygdala. In contrast anorectic patients displayed a change in activity pattern in these brain areas when confronted with their own distorted body image indicating emotional disturbance. In the future fMRI could be a useful diagnostic tool in measuring the intensity of phobia-related fear after relevant stimulation. The degree of recovery from phobic reaction and normalization of

stress-induced neuronal activity, especially after behavioural treatment, could predict a positive clinical course.

Abstract 238

PREDICTORS OF BODY DISSATISFACTION AND DIETARY RESTRAINT ACROSS THE LIFESPAN

Rosanne Burton-Smith, Elaine E. Hart, Emma Davis, Psychology, University of Tasmania, Hobart, Tasmania, Australia

This study examined predictors of body dissatisfaction (BD) and dietary restraint (DR) in 212 females ranging in age from 10 to 75 years. Body Mass Index (BMI) and gender role identity measures from the Bem Sex Role Inventory were regressed against BD scores from the Eating Disorder Inventory 2, and DR measures from the Dutch Eating Behaviour Questionnaire in eight stepwise multiple regression analyses focusing on four developmental groups: pre-puberty, post-puberty but pre-pregnancy, post-pregnancy but pre-menopause, and post-menopause. Differential models of prediction were tested for each developmental group to explore the role of body adiposity and self-perceived masculinity/femininity in the prediction of both dietary behaviour and body dissatisfaction. The predictors were of interest because developmental milestones involving physiological changes associated with body adiposity and psychological transitions relating to gender role development defined the four groups. BMI was the strongest predictor in all four groups for both BD and DR, accounting for 36–57% of the variance in BD measures and 10–45% of the variance in DR measures. Masculinity and femininity measures added non-significant proportions of explanatory variance. Regardless of developmental stage, body adiposity is a major factor governing both eating behaviour and body image across the lifespan. This has important implications for future research in the area of body image in women across the lifespan, in that developmental status needs to be considered as well as the age of the participants.

Abstract 239

BODY SHAPE VERSUS BODY WEIGHT GOALS: ONE IN THE SAME?

Tiffany M. Stewart, Donald A. Williamson, Health Psychology/Eating Disorders/Obesity, Pennington Biomedical Research Center, Baton Rouge, LA

The primary aim of this study was to examine the relationship between body weight goals and body shape goals utilizing the BMA 2.0, a computerized measure of body image that employs contemporary techniques of computer morphing to attain a transformation from an emaciated body type to an obese body size. The BMA 2.0 may be used for measuring body image in White and Black men and women ranging from emaciated to obese. Strong evidence for the validity and reliability of the BMA 2.0 has been found for men and women. The BMA 2.0 was tested in a sample of 276 adults, (145 women and 72 men), Whites and Blacks. The BMA was used to examine the relationship between weight (BMI) goals and shape (BMA) goals. On the BMA, participants were asked to select their current body size, current weight, ideal body size, ideal weight, dream body size, dream weight, happy body size, happy weight, acceptable body size, and acceptable weight. Body weight goals were converted to BMI using individuals' self-reported height. Thus, the study measured weight goals in units of BMI and shape goals as measured by the BMA. A positive relationship was found between BMI goals and BMA goals, but the relationship differed for men and women.

Men perceived themselves as heavier and chose heavier weight and shape goals than women. Also, Whites and Blacks responded differently to the BMA stimuli. Black men and women perceived themselves as heavier and chose heavier weight and shape goals than White men and women. These preliminary findings suggest that the relationship between BMI and BMA estimates is complex and influenced by the interaction of sex, race, and shape versus weight goals. This finding suggests that there are different representations of body image based on size (pounds) and shape (picture). The findings of this study indicate that the BMA 2.0 procedure could be used to investigate the complexity of the body image phenomenon in a different way than it has been assessed in prior research.

Abstract 240

MULTIDISCIPLINARY AND INTEGRATED TREATMENT IN DAY HOSPITAL FOR EATING DISORDERED SUBJECTS: RESULTS

Caterina Renna, Silvia Perrone, Center for Treatment and Research on ED, Mental Health Department, Puglia, Italy

Purpose of research: To evaluate the change that occur in subjects affected by eating disorders after they receive a multidisciplinary integrated treatment in day hospital by a program of one year. The program is composed of three phases, intensive, transitional, and maintaining including: nutritional rehabilitation, physical educational therapy, group interpersonal psychotherapy, individual psychotherapy, family psychotherapy, multi-family group psychotherapy, pharmacological and nutritional therapy, and three laboratories of expressive arts, writing/theatre and body expression. Sample: 40 subjects affected by Eating Disorder (DSM IV) that received a one year multidisciplinary integrated treatment in day hospital. Methods: Each subjects was been evaluated by: Eating Disorders Inventory-2 (EDI-2), Bulimic Test of Edinburgh (BITE), Beck Depression Inventory (BDI), Self Esteem Inventory (SEI), Body Uneasiness Test (BUT), BAT (Body Attitude Test), Symptom Check List-90 (SCL-90), Dissociation Questionnaire (DIS-Q), Minnesota Multihasic Personality Inventory (MMPI), before of the beginning of therapy, after the first two phases (at 4 months) and at the end of the third phase (at one year). Statistical Analysis with T Student was been made. Results: Significant statistical changes were been observed in the most of subscales of each psychometric tests (T Student p : 0.01). References: C. Renna, G. Lucarelli, S. Perrone "Follow-up di soggetti affetti da DCA trattati con un programma di trattamento integrato multidisciplinare in regime di day hospital." "Competenze Multidisciplinari nei Disturbi del Comportamento Alimentare" Volume atti, a cura di Caterina Renna, Silvia Perrone e coll., Editore Manni, pp. 280–281 Kaplan A.S., Kerr A., Maddoks S.E.: Day hospital group treatment, in Group Psychotherapy for Eating Disorders. Harper-Guiffre H., MacKenzie K.R. (ed). Washington D.C., America Psychiatric Press, 1992.

Abstract 241

ASSESSMENT OF BODY IMAGE DISSATISFACTION IN MEN

Annette S. Kluck, Sheila Garos, Psychology, Texas Tech University, Lubbock, Texas

Body image disturbance is critical for the diagnosis and treatment of eating disorders. Research suggests that body image dissatisfaction is common among women with levels

of dissatisfaction extending from extremely low to extremely high. Recently, researchers have focused their attention on eating disorders in men; however, little empirical research has assessed men's body image dissatisfaction. Furthermore, given the current difference in sociocultural ideals of sexuality for men, men's dissatisfaction appears to be centered more on muscular appearance, rather than weight and size, which is common in women. Current measures of body image dissatisfaction may not adequately assess the men's experience of body image dissatisfaction. Thus, more accurate methods to assess body dissatisfaction in men are needed. Participants in this study included 414 undergraduate students enrolled at a large southwestern university. Participants completed a demographic sheet and the Visual Analogue Scale (Heinberg & Thompson, 1995). This scale was revised to include an additional item to assess dissatisfaction with muscular shape. Men and women's responses were compared using independent samples *t*-tests. Women reported significantly ($p < .05$) higher levels of dissatisfaction than did men on all three items: $t = 5.618$ for weight/size, $t = 5.622$ for overall appearance, $t = 2.845$ for muscular/shape. Women reported the greatest dissatisfaction with weight/size ($M = 57.35$ for women and $M = 39.82$ for men), whereas, men reported the greatest level of dissatisfaction with muscular shape ($M = 45.67$ for men; $M = 53.80$ for women) suggesting that muscular shape may play a more important role in men's behaviors related to disordered eating pathology. Thus the results of this study suggest that effective evaluations of eating disordered behavior in men requires further development of gender specific assessments.

Abstract 242

A COGNITIVE BEHAVIORAL INTERVENTION USING THE BODY PHOTOGRAPHIC HISTORY IN ORDER TO BRAKE THE BODY IMAGE DISTORTION: A CASE SERIES

Juanita Gempeler, Psychology, Javeriana University, Bogota, Colombia

Background: The body image distortion is a central issue in the eating disorders evaluation and treatment. Nevertheless it is quite interesting to realize that despite its central role in the course and prognosis of this pathology, only a few authors have been generating evaluation and intervention tools on it. **Proposal:** This poster propose an intervention strategy for the body image distortion in eating disorders. **Objectives:** 1. Describe a cognitive behavioral intervention technique that uses procedures of habituation, exposure and response prevention and sensorial integration. 2. Analyze and contrast the impact of the application of the technique in the study and control groups. **Study Population:** The study group includes 15 female patients, of urban procedence diagnosed as presenting Anorexia Nervosa (types 1 or 2), Bulimia Nervosa (types 1 or 2), or EDNOS, with Body image distortion according to DSM IV criteria, that received the proposed intervention and 20 patients that assisted to the same ambulatory program for eating disorders during 2002, that received the standard approach. **Design:** Descriptive Study. **Case series Materials and Methods:** Clinical Diagnosis in Axis I, II, III, IV, V according to the DSM IV. Clinical semi-structured psychological, psychiatric and nutritional interviews. CBT evaluation. Micro and Macro analysis. Non aleatory assignment using arrival order to the program. **Principal Outcome measure:** Flexibilization of the Body Image distortion and required time for achieving it. The data are compared and analyzed in both groups. **Hypothesis** are generated discussing the implications of the utilization of the technique and the role of the persistence of the body image distortion in the treatment outcome.

Abstract 243**ARE ADOLESCENTS WITH ANOREXIA NERVOSA, BINGE-EATING TYPE MORE SIMILAR TO ADOLESCENTS WITH ANOREXIA NERVOSA, RESTRICTING TYPE OR BULIMIA NERVOSA ACROSS SELF-REPORTED PSYCHIATRIC SYMPTOMS**

Kathleen D. Robinson, Brad Jackson, Psychiatry, Eating Disorders, The Children's Hospital, Denver, Colorado

The purpose of this ongoing research project is to investigate whether adolescents diagnosed with Anorexia Nervosa, Binge-Eating Type (ANBT) are more similar to adolescents diagnosed with Anorexia Nervosa, Restricting Type (ANRT) or Bulimia Nervosa (BN) in terms of self-reported symptoms of depression, anxiety, dissociation and self injurious behavior, as the adult specific research would predict. At the time of this submission, the subject sample included 55 individuals who were admitted to The Children's Hospital Eating Disorder Program starting January 2002. These individuals, all female, were between 12 and 22 years old. Thirty-four percent of the sample were diagnosed with ANRT, 27.3% with ANBT, and 26.6% with BN. The remaining 14.6% were diagnosed with Eating Disorder, NOS (EDNOS). Each participant was administered a series of questionnaires including the Beck Depression Inventory, Trauma Symptom Checklist/Trauma Symptom Inventory, Dissociative Experiences Scale (DES) and a self-injury questionnaire upon admission to the program if she was at or greater than 80% of her ideal body weight (IBW) or once she attained 80% IBW. Preliminary data suggest that subjects with ANBT reported similar depressive symptoms to those in the BN and EDNOS subgroups, more than those in the ANRT subgroup; however all subjects fell within the moderate range. Regarding dissociation, patients in the ANBT, BN and EDNOS subgroups had higher scores on the DES than those patients in the ANRT subgroup. The most surprising result at the time of submission is that 31.2% of the ANRT subgroup endorsed history of self-injurious behavior, while only 26.7% of ANBT and 23.1% of BN endorsed a self-injury history; 37.5% of the EDNOS subgroup reported a history of self-injury. No differences were found across subgroups regarding anxiety. Implications for evaluation, treatment, and case conceptualization will be discussed.

Abstract 244**VALIDITY OF SKINFOLDS IN ASSESSING PERCENT BODY FAT IN ADOLESCENT FEMALE PATIENTS WITH ANOREXIA NERVOSA**

Terri L. Rubio, Amy A. Drescher, General Clinical Research Center, The Childrens Hospital, Denver, Colorado, Eric Sigel, Pediatrics, Erin Pryor, Center for Human Nutrition, Teresa A. Sharp, Stephanie Y. Ward, Pediatrics, University of Colorado Health Sciences Center, Denver, Colorado, Sharmilla Chakravarti, Nicole Withrow-McDonald, Clinical Nutrition, The Childrens Hospital, Denver, Colorado

Estimation of body composition is an important part of the nutritional assessment and monitoring of patients with anorexia nervosa (AN). The primary aim of this pilot study was to determine which SF equations were in closest agreement to the criterion method, Dual Energy X-ray Absorptiometry (DEXA). We studied 5 previously published combinations of Body Density (Db) and percent body fat (%BF) prediction equations. Bland Altman analysis was used to test the agreement of %BF between SF and DEXA. Twenty subjects age 12–21 (mean age 16.6 + 2.3 yrs, body weight 39.4 + 6.2 kg) were included in the analysis. Ideal body weight ranged from 60–89% (mean 75 + 7.76%). The mean %BF from DEXA was 8.8 + 4.9. All the equations estimated %BF within 5% of the mean between DEXA and SF. Two equations were found to perform within 2%. Although the

Table 1.

Abbr.	Prediction Equa.	Mean %BF.	Mean Diff.	Std. Dev.	r^2	p value
JS	Jackson 7-site	8.4 (2.1)	0.37	3.71	0.45	<0.05
SI	Slaughter 2-site	9.9 (3.7)	1.74	3.19	0.05	NS
JA	Jackson 7-site	4.2 (3.1)	-3.89	3.64	0.13	NS
JJ	Jackson 7-site	10.2 (2.1)	2.10	3.71	0.47	<0.05
DW	Durnin Wormersl	11.2 (4.4)	3.32	3.86	0.01	NS

JS equation had the lowest mean difference it also had a significant r^2 . The SI equation had the lowest mean difference with no significant slope. Although further study is needed, the Bland Altman analysis suggests the SI SF equation for %BF is interchangeable with measures from DEXA in patients with AN. The SI equation requires taking SF measures at only 2 as opposed to the current 7-site standard that requires measures in sensitive areas such as the hip, abdomen, chest and thigh.

Abstract 245

INDIVIDUAL DIFFERENCES IN RESPONSE TO FOOD CUES: RESTRAINT, BINGE EATING, AND FOOD CRAVINGS

Laura E. Sobik, Kent Hutchison, Linda Craighead, Psychology, University of Colorado at Boulder, Boulder, CO

Bulimia nervosa and binge eating disorder are both characterized by episodes of binge-eating, high levels of psychopathology (Yanovski et al., 1993), and numerous physiological problems. Cognitive, affective, and physiological factors all contribute to pathological eating behavior, but there is still debate about how these mechanisms precipitate such behaviors. Individuals who have restrained eating habits and periodically overeat have shown more physiological reactivity during food exposure (Nederkoorn et al., 2000); such cue reactivity has been implicated in addiction studies involving alcohol and drugs (Monti et al., 1987) as well as binge eating (Carter & Bulik, 1994). The objective of the current study was to closely examine the relationship between food cravings and restrained eating (as measured by the cognitive restraint factor of the TFEQ). Participants ($n = 63$) were exposed to a neutral cue (pencil), a food cue, and 3 small servings of a preferred food. Craving and mood were monitored with self-report measures after each trial. Compared to female non-restrained eaters, female restrained eaters reported significantly higher levels of craving after eating ($p < .01$). The findings of the current study suggest that restrained-eaters may have more cravings and attend more to food cues, which may contribute to the development of binge-eating behavior. The next step in this research is to develop an intervention to decrease restrained eating in sub-clinical restrained-eaters, and thus decrease food craving and binge eating.

Abstract 246

GENDER DIFFERENCES IN THE FACTOR STRUCTURE OF THE PREOCCUPATION WITH EATING, WEIGHT, AND SHAPE SCALE

Diana M. Hill, Linda W. Craighead, Psychology, University of Colorado, Boulder, Boulder, CO

The Preoccupation with Eating, Weight, and Shape Scale (PEWS) is an 8-item self-report questionnaire adapted by Craighead and Niemeier (1999) from the Modified Distressing Thoughts Questionnaire (Clark, Feldman, & Channon, 1989). The PEWS assesses amount

of time (percent of waking day) spent thinking about food (PF subscale) and weight and shape (PW/S subscale), the degree of distress associated with the thoughts, the amount of difficulty in stopping the thoughts, and the degree that they interfere with concentration. In the present study, 383 college men and 610 college women in introductory psychology completed the PEWS: 95% of the participants were between the ages of 18 and 22, 86% were Caucasian, 4% were Asian American, 4% were Hispanic, 1% African American, and 1% Native American. Factor analyses were performed separately for males and females. For females, only one factor was retained, explaining 65% of the variance. This result suggests that women did not distinguish between thoughts about food/eating and thoughts about weight/shape. For males however, two factors were retained, explaining 53% and 18% of the variance respectively. All four questions from the PW/S subscale and one question from the PF subscale (distress) loaded highly on the first factor. The food questions regarding time spent, difficulty stopping, and interference loaded highly on the second factor. Thus, men appeared to make distinctions between having thoughts about food and being distressed about thoughts about food, with only the latter being linked to weight and shape concerns. These results are consistent with previous findings that have demonstrated that men and women relate differently to food, weight, and shape (Rolls, Fedoroff, & Gunthrie, 1991). Future studies could investigate the factor structure of PEWS in samples of women and men with eating disorders. Additionally, the relationship between body-mass index and preoccupation with food, weight, and shape could be explored.

Abstract 247

APPETITE MONITORING IN CBT FOR BULIMIA NERVOSA

Stacy L. Dicker, Linda W. Craighead, Psychology, University of Colorado, Boulder, CO

Appetite-focused CBT (CBT-AF), which is based on appetite monitoring, was originally developed for Binge Eating Disorder. The present study evaluated a modified version of CBT-AF that also addressed purging behavior. Twenty-six college women with Bulimia Nervosa were randomly assigned to CBT-AF or a wait-list control. After 8 weekly sessions, 9 of the 13 treated women (69%) were abstinent or remitted compared to 3 of 13 (23%) remitted controls. Controls were then offered treatment. Treated women continued for 8 more weeks, reducing to biweekly sessions as soon as warranted. At post-test, 10 of the 13 treated women (77%) were essentially recovered—8 were abstinent and 2 had only two episodes/past month. Only the three most severe (initially 75, 80 and 120 purges/month) were not yet remitted. Notably, those three women had all failed prior psychological treatments (two had had inpatient stays) and were on anti-depressants. However, initial severity level rather than being on medication turned out to be the variable best predicting slow response to treatment. Two women who were on medication and initially purged daily (30/month) did recover. Thus, 12 to 16 sessions of CBT-AF was adequate to essentially eliminate purging for all 9 participants with no more than 30/past month at pretest, regardless of their medication use. However, only 1 of 4 women initially purging more than once a day recovered. For the three not remitted, purging reduced on average 78% but further treatment was indicated. All wanted to continue treatment and are currently being followed. All treated women rated CBT-AF very positively and rated appetite monitoring as highly preferred—compared to their past experiences with food monitoring. Thus, modifying the self-monitoring component of CBT to focus on appetite may enhance its acceptability for some women with bulimia and CBT-AF is highly effective for women initially purging no more than once a day.

Abstract 248**EATING BEHAVIORS IN SUBTHRESHOLD BINGE EATERS VERSUS NORMAL CONTROLS***Arnica L. Buckner, psychology, University of Colorado, Boulder, CO*

High concern about weight and shape is often labeled "normative discontent" and associated with subclinical levels of disordered eating (Rodin, Silberstein, & Striegel-Moore, 1985). However, relatively little is known about how such disordered patterns differ from "normal" eating patterns. The present study compared the eating attitudes and behaviors of normal weight college women ($n = 29$) who reported low concern about body weight and no history of eating disorders to normal weight college women ($n = 14$) with subclinical binge eating. Although the two groups did not differ significantly on BMI, the binge eaters reported a desire to lose substantially more weight (on average 17.4 lbs.) than the normal eaters (on average 6.5 lbs.); ($t(1, 40) = 3.58, p < .01$). On the Emotional Eating Scale (Arnow, Kenardy, & Agras, 1995), binge eaters reported stronger urges to eat in response to emotions ($t(1, 40) = -6.86, p < .01$). Both groups self-monitored their eating behavior for one week using a measure which assesses level of hunger and satiety for each eating episode (REE-H; Craighead & Allen, 1995). Each episode is also labeled as generating positive/neutral or negative feelings. Binge eaters ate the same number of meals/week as the normal eaters but twice as many snacks ($t(1, 39) = -2.21, p < .03$). The groups had similar hunger and satiety ratings for meals, but binge eaters were on average less hungry before snacks than were normal eaters ($t(1, 37) = -2.26, p < .03$). Thus, "normal" eaters limit most eating to meals and snack mainly when hungry. Binge eaters are less hungry when snacking than are normal eaters, snack more frequently, and are more likely to eat in response to emotions. Finally, the binge eaters' average level of satiety for the positive episodes was lower than that of normal eaters ($t(1, 38) = 5.22, p < .03$). Thus, binge eaters may not allow themselves to get as full as the normal eaters during an eating episode and still consider that episode as positive/acceptable.

Abstract 249**CONFIRMATORY FACTOR ANALYSIS OF THE 26-ITEM EATING ATTITUDES TEST***Meredith A. Pung, Heather M. Niemeier, Linda W. Craighead, Psychology, University of Colorado, Boulder, Boulder, CO*

Since its introduction, the Eating Attitudes Test (Garner et al., 1979) has become a widely used screening instrument. Though the psychometric properties of the measure are generally well-established, to our knowledge all published factor analyses of the 26-item version have been exploratory in nature. The purpose of this study is to conduct a confirmatory factor analysis with a college sample in order to provide a more stringent test of the hypothesized factor structure. The EAT-26 (Garner et al., 1982) was sent to all incoming first-year, female students at a large, public university for two consecutive years. Four hundred ninety-five women returned the survey. Eight cases were eliminated due to missing data on 1 or more of the EAT-26 items, resulting in a total sample size of 487. Mean age was 18.2 years ($SD = 0.5$). Sixty-eight percent self-reported as Caucasian, 3% as Asian American, 2% as Latina, 1% as African American, 0.2% as Native American, and 5% as biracial or "other", 21% did not indicate their ethnicity. The mean EAT-26 score was 13.39 ($SD = 12.7$), and 27% scored above the clinical cutoff. A maximum-likelihood confirmatory factor analysis was performed using Amos 4.01. The hypothesized models were based on exploratory analyses by Garner et al. (1982), who proposed a three-factor model, and Koslowsky et al. (1992), who proposed

a four-factor model. Both the three-factor and the four-factor models yielded significant chi-square statistics, $\chi^2(296) = 1611.06$, $p < 0.01$ and $\chi^2(164) = 733.84$, $p < 0.01$, respectively. Because of the large sample size, we also examined the chi-square/ df ratio, which exceeded 3 for both models, indicating an inadequate fit. Moreover, the fit indices of both the three-factor (GFI = 0.78, NNFI = 0.77, RMSEA = 0.096) and the four-factor (GFI = 0.85, NNFI = 0.87, RMSEA = 0.085) hypothesized models were unacceptable with this sample. Post hoc modifications will be performed in order to develop a satisfactory model for this sample of American college women.

Abstract 250

ESTABLISHING NORMS FOR HISPANIC WOMEN ON THE EDI AND THE EAT

Denise N. Lash, Jaime L. Milford, Jane E. Smith, Sarah J. Erickson, Psychology, University of New Mexico, Albuquerque, NM

Given the importance of cultural factors in the development of body image and eating disorders, there are surprisingly few studies of ethnic differences in the assessment validity of instruments intended to measure these phenomena (Striegel-Moore & Smolak, 2001; Sawyer-Morse, 2001). Of those studies that do exist, most of them have compared only Blacks and Whites. Nevertheless, popular instruments for assessing body dissatisfaction and disturbed eating behaviors, such as the Eating Disorders Inventory (EDI) and the Eating Attitudes Test (EAT), are used in studies comparing a variety of ethnic groups. A few studies have compared Hispanic women with other ethnic groups using these instruments, with interesting results (Arriaza et al., 2001; Pidcock et al., 2001; Henriques et al., 1996). However, the data for these studies were collected in the absence of any norms for Hispanic women. Additionally, one study which used the EAT with a Malaysian population suggested there may be a cultural bias to the questionnaire (Indran et al., 1995). Furthermore, Rutt (2001) examined the factor structure for the EAT and determined that a new instrument should be developed for Hispanic women. The data presented in this poster were collected as part of a larger study examining body image and eating symptoms in mothers and daughters. Tentative analyses using independent samples t-tests revealed significant differences between Hispanic ($n = 36$) and White ($n = 48$) moms on two scales of the EDI: Masculinity/Femininity, $t < .028$; and Perfectionism, $t < .01$. Means and standard deviations for the EAT, as well as the other scales of the EDI will also be reported. This poster represents the first attempt to establish norms for the EDI and the EAT among Hispanic women, filling an important gap in the literature.

Abstract 251

EXAMINING ADOLESCENT RISK FACTORS ASSOCIATED WITH DISORDERED EATING ATTITUDES AND BEHAVIORS IN PREADOLESCENT GIRLS

Donna I. Padilla, Sarah J. Erickson, Jane Ellen Smith Ph.D., Psychology, University of New Mexico, Albuquerque, NM

Preventive efforts are now being targeted towards preadolescent girls due to concerns about the increased prevalence of body dissatisfaction and disordered eating attitudes and behaviors among them. The purpose of this study was to explore the relationships of documented adolescent risk factors associated with disordered eating attitudes and behaviors in an ethnically diverse sample of preadolescent girls. One hundred and nine

girls ($N = 36$ Hispanic, $N = 45$ White/Non-Hispanic, $N = 28$ Others), ages 8–12, were assessed using the Children's Eating Attitude Test, KIDCOPE, Body Esteem Scale, Body Dissatisfaction Scale and the Children's Depression Inventory-Short Form. Examining age with each of the variables we found that age was negatively correlated with body esteem and positively correlated with BMI (Body Mass Index). In terms of the association of the risk factors with one another, we found significant correlations in the predicted direction: depressive symptoms correlated negatively with body esteem and positively with body dissatisfaction, body dissatisfaction correlated negatively with body esteem and avoidance coping correlated positively with depressive symptoms. Controlling for age and BMI, low body esteem, body dissatisfaction and depression accounted for 13.3% variance of the ChEAT scores, with body esteem and body dissatisfaction contributing unique variance. In contrast to findings with adolescent girls, our measure of disordered eating attitudes and behavior was not significantly associated with avoidance coping at this age; however, this relationship was in the predicted direction. These findings provide preliminary evidence that risk factors identified in adolescents deserve further examination as potential risk factors in preadolescence. In addition, these findings suggest that preventive efforts towards increasing body esteem and attenuating body dissatisfaction in preadolescent girls is warranted. Funded in part by NIMH grant T34-MH19101.

Abstract 252

EXPLORING ETHNIC DIFFERENCES IN DISORDERED EATING ATTITUDES AND BEHAVIORS IN PREADOLESCENT GIRLS

Sarah W. Feldstein, Jeanne Hetter, Sarah J. Erickson, Clinical Psychology, University of New Mexico, Albuquerque, NM

The literature evaluating the role of ethnicity in the development of disordered eating patterns has been inconsistent. Within the last several years, research has challenged prior beliefs that disordered eating is significantly more prevalent among adolescents and women of the mainstream White culture than for adolescents and women of other ethnic backgrounds. In addition, although the research is limited, the findings have identified preadolescence as a salient time to recognize disordered eating patterns before they become pathological eating disorders. Therefore, the goal of this study was to investigate the interplay between ethnicity and disordered eating attitudes and behaviors in a diverse preadolescent Southwestern population. We hypothesized that Hispanic and White preadolescent girls would not differ on scores of disordered eating attitudes or behaviors. Using independent sample *t*-tests, we evaluated ethnic group differences on the scores of 77 girls ($N = 33$ Hispanic, $N = 44$ White), aged 8 to 12, on the Body Dissatisfaction Scale of the Eating Disorders Inventory (2), the Body Esteem Scale, the discrepancy score of Perceived versus Ideal Body Image of the Child Figure Drawings (a measure of body dissatisfaction) and the Children's Eating Attitude Test. Consistent with previous studies in older populations, there were no significant differences between the scores of the two ethnic groups on any of the aforementioned measures. This finding supports the contention that potential precursors for developing disordered eating patterns may not be limited to the mainstream White culture, as children's eating attitudes and behaviors did not consistently differ by ethnicity. This has implications in the development of health and body image education, indicating that similar programs may be applicable to girls across ethnic groups.

Abstract 253**DEPRESSIVE SYMPTOMS AS A PREDICTOR FOR DISORDERED EATING ATTITUDES AND BEHAVIORS IN ETHNICALLY DIVERSE PREADOLESCENT GIRLS**

Melissa Gerstle, Kathryn T. Wiggins, Sarah J. Erickson, Psychology, University of New Mexico, Albuquerque, NM

Previous studies have shown that depressive symptoms are a significant predictor of disordered eating behaviors in preadolescents. In addition, in preadolescent girls, research has indicated that body mass index (BMI) is significant in predicting disordered eating patterns and is associated with a mild increase in depressive symptoms. However, these studies have primarily focused on Caucasian samples. The objective of this study was two-fold: one, to further investigate the relationship between level of depressive symptomatology and disordered eating attitudes and behaviors as they relate to BMI, and two, to do so in an ethnically diverse sample of preadolescent girls. One hundred and four girls ($N = 33$ Hispanic, $N = 44$ Caucasian, $N = 27$ Other), ranging in age from 8 to 12, completed the children's version of the Eating Attitude Test (chEAT) and the Children's Depression Inventory (CDI) and were measured for body weight and height. We found that depressive symptoms were a significant predictor of disordered eating patterns ($R^2 = .064$, $p < .01$). While BMI was significantly related to scores on the chEAT, BMI did not represent a unique contribution to prediction of disordered eating patterns beyond depressive symptoms. In other words, the association between BMI and disordered eating appears to be almost entirely mediated by depressive symptoms. This finding was consistent across the sample, revealing no differences among ethnic groups. This uniformity in response may be due to the high level of acculturation in our sample, but it also demonstrates that disordered eating is a problem that concerns girls from a variety of ethnic groups. Furthermore, our results suggest that this modest association between depressive symptomatology and disordered eating attitudes and behaviors does indeed develop at an early age and may be the precursor to the later co-morbidity between depression and eating disorders.

Abstract 254**TELLING FAIRY TALES: REVELATIONS FROM WOMEN WITH EATING DISORDERS**

Tara L. Matus, Fary Cachelin, Psychology, California State University, Los Angeles, Los Angeles, CA

Psychoanalytic theory holds that fairy tales allow one to study the comparative anatomy of the psyche (vonFranz, 1970). In an informal study of female students, 9 out of 12 eating disordered women identified with Cinderella while only 1 out of 12 non-eating disordered students did (Hill, 1992). A community sample of 86 Mexican American women and 45 Euro-American women, average age of 25.4 and 29.1 years respectively, participated in this study. Each woman completed the Structured Clinical Interview-DSM-IV (SCID-IV) and a demographic questionnaire over the phone. Women who met DSM-IV criteria for an Eating Disorder also completed the Eating Disorder Exam. During the course of the SCID, participants were asked, "What is your favorite fairy tale character?" To be consistent with "free association" methodology, women who stated they had no association were scored as, "none". Women suffering from eating disorders (cases) were equally likely to endorse Cinderella as were the women without any psychiatric disorder or controls (26.9% versus 27.1%, respectively, $p = 0.982$). Some cultural variations were apparent. Among Mexican-American women, cases were

slightly less likely to identify with Cinderella than were controls (25.8% versus 31.8%, respectively, $p = .573$). Among Euro-American women the opposite pattern emerged where cases were somewhat more likely to endorse Cinderella than were controls (28.6% versus 13.3%, respectively, $p = .278$). Examples of characters endorsed only by cases were Smurfette, Jessica Rabbit, Piglet, Tinkerbell, Violet from Willy Wonka and the Chocolate Factory, Strawberry Shortcake, and Hanzel and Grettel. In the context of object transference, fairy tales become an important aspect of psychoanalytic therapy with women suffering from eating disorders.

Abstract 255

PSYCHIATRIC CO-MORBIDITY AMONG WHITE AND MEXICAN AMERICAN WOMEN WITH EATING DISORDERS

Alison Cerezo, Psychology, California State University Los Angeles, Whittier, CA, Tara Matus, Robert Schug, Sara Chovan, Carolina Bravo, Araksiya Dovlatyan, Laura Juarez, Fary Cachelin, Psychology, California State University Los Angeles, Los Angeles, CA

The purpose of this study was to examine the occurrence and types of psychiatric co-morbidity in a community sample of women with eating disorders. Psychiatric co-morbidity was characterized as the diagnosis of an eating disorder along with the diagnosis of at least one other Axis I disorder. Participants were 72 women (34 European American/White and 38 Mexican American) with clinical eating disorders (31 BED, 32 BN, 5 AN, 4 EDNOS). Disordered eating was identified with the Structured Clinical Interview for the DSM-IV-TR (SCID-IV-TR) and confirmed with the Eating Disorder Examination (EDE). Axis I disorders were identified with the SCID-IV-TR. Results indicated that 81% (42% European American/White, 39% Mexican American) of our sample experienced psychiatric co-morbidity. There was no significant difference in the occurrence of co-morbidity between White and Mexican American women ($p = .17$). European American/White and Mexican American women experienced a similar range in the number of co-morbid (i.e., other than ED) Axis I disorders (35 versus 32 with one disorder; 23 versus 17 with two disorders; 14 versus 8 with three disorders; 3 versus 3 with four disorders; 2 versus 1 with five disorders). Both groups of White and Mexican American women were most likely to experience depression as their primary Axis I disorder (60% and 45%, respectively), followed by substance abuse (32% and 32%, respectively) and anxiety disorders (31% and 37%, respectively). The mean number of co-morbid Axis I disorders experienced by both groups was two. Research has yet to report the prevalence of psychiatric co-morbidity among Mexican American women with eating disorders. More outreach programs are needed to aid in the treatment of women with co-morbidity and to help identify women who may present with the symptoms of disordered eating under the guise of depression or other Axis I disorders.

Abstract 256

PATIENT PERSPECTIVES ON FAMILY-BASED TREATMENT FOR ANOREXIA NERVOSA IN ADOLESCENTS

James Lock, Tonja Krautter, Department of Psychiatry and Behavioral Sciences, Stanford University, Stanford, CA

Introduction: Patients' perspectives on treatment shed light on the acceptability, dissemination, and usefulness of treatments. The present study aimed to assess the perspectives of families treated with a manual-driven family-based treatment for anorexia nervosa.

We hypothesized that overall the treatment would be viewed as acceptable and helpful, but that adolescents would report lower satisfaction than parents. **Methodology:** Parents and patients were distributed an outcome effectiveness survey at the completion of treatment that contained both a Likert rating scale and an opportunity for written comments. Subjects were 98 subjects (35 mothers, 31 fathers, and 32 adolescents). Only families that completed the treatment were included in the analysis. Dropouts from treatment were approximately 10%. **Results:** The average age of the participants was 14.5 years. Overall mean scores on the Likert scale for the various aspects of the treatment approach ranged 3.17–4.71. Sixty-six percent of the items (20/30) were ranked above 4. Overall effectiveness of treatment scores ranged from 3.97–4.40. The lowest mean scores were for encouraging sibling support (3.17–3.85) and addressing general adolescent issues (3.29–3.74). Significant differences were found on 9/30 items between adolescent and parental evaluations. In these instances, parents reported a more positive assessment of the treatment process than the adolescents. Qualitative comments suggest that a majority (30%) of family members reported no negative aspects of the treatment approach. A minority of subjects suggested that individual therapy, more family therapy, and focusing on issues outside of anorexia nervosa would improve treatment. **Conclusions:** These data suggest that a manual-driven family-based treatment for adolescents with anorexia nervosa is acceptable to adolescents and their parents. As hypothesized, parents found certain aspects of the treatment more helpful than the adolescents.

Abstract 257

THE RELATIONSHIP OF SOCIAL SUPPORT AND COPING TO EATING DISORDER SYMPTOMATOLOGY

Rebecca P. Cameron, G. Nicole Ohaco, Psychology, California State University, Sacramento, Sacramento, CA, Jennifer L. Sanftner, Michael Osborne, Psychology, Slippery Rock University, Slippery Rock, PA

Previous research has documented relations between eating disorder symptoms and interpersonal difficulties, including lower social support and social competence. Hobfoll et al. (1994) recognized that coping has a social dimension and includes behaviors that enhance or harm relationships. We tested the following hypotheses: undergraduates higher in eating disorder symptoms would report lower social support and active, prosocial coping as well as higher individualistic and avoidant coping. Participants included 42 male (24.3%) and 131 female (75.7%) undergraduate volunteers at 2 universities. Participants were 20.34 ($SD = 3.82$) years old and included 78% European Americans, 9% Asian American/Pacific Islanders, 5% Latinos, 3% African Americans, and 8% "other" ethnicity. Measures included the Strategic Approach to Coping Scale (Hobfoll et al., 1994), Social Support Questionnaire-6 (Sarason et al., 1987), and Eating Disorder Inventory-2 (EDI-2; Garner, 1991). Assertive Action (active, socially neutral coping), was negatively related to 10 of 11 EDI-2 subscales (e.g., Ineffectiveness, $r = -.37, p < .001$). Avoidance (passive, socially neutral), was related to 5 subscales (e.g., Bulimia, $r = .29, p < .001$). Prosocial coping was related to lower scores on 2–4 EDI-2 subscales (e.g., Seeking Social Support with Interpersonal Distrust, $r = -.44, p < .001$). Individualistic coping was weakly negatively related to EDI-2 subscales (e.g., Instinctive Action with Ineffectiveness, $r = -.16, p < .05$). Higher social support satisfaction was related to lower symptoms on 7 EDI-2 subscales (e.g., Poor Impulse Regulation, $r = -.36, p < .001$). Results suggest that social support and socially competent, active coping are associated with lower levels of eating disorder symptoms, although, contrary to

expectation, individualistic coping was also related to lower symptoms on a few EDI-2 subscales. Further work on the relationship between eating disorder symptoms and social coping is warranted.

Abstract 258

DIFFERENCES IN ANGER DISCOMFORT, SELF AND BODY DISSATISFACTION, IN AFRO-AMERICAN AND CAUCASIAN WOMEN

Alayne Yates, Psychiatry, University of Hawaii, Honolulu, HI, Mara S. Aruguete, Psychology, Stephens College, Columbia, MO

Objective: This study describes ethnic group differences in anger discomfort and risk for eating disorders (ED). **Method:** 101 Caucasians and 95 African-American female college students are assessed on the basis of Body Mass Index (BMI), Eating Disorder Inventory (EDI-2), SLSS (exercise-based measure of self-dissatisfaction); Figure Drawings, and Anger Discomfort Scale. **Results:** ED risk factor correlations are very significant for Caucasians but non-significant or less-significant for Afro-Americans. Afro-Americans are comfortable with a larger body but BMI scores are strongly associated with body/self dissatisfaction in both groups. In Caucasians intrapersonal (internal) anger correlates negatively with exercise and positively with BMI and self-dissatisfaction; interpersonal anger (concern about others' reaction) correlates with self/body dissatisfaction; and emotional anger (concern about emotional concomitants) correlates with self/body dissatisfaction and EDI sub-scales. Positive (healthy) anger correlates negatively with self/body dissatisfaction. Trait anger correlates with self-dissatisfaction and EDI sub-scales of body awareness and ineffectiveness. **Conclusion:** Anger discomfort and trait anger emerge as ED risk factors for Caucasian but not for Afro-American women. ED in Afro-Americans may be a different phenomenon that follows a distinct developmental trajectory.

Abstract 259

BINGE ANTECEDENTS AND CONSEQUENCES IN BULIMIA NERVOSA: EXPLORING THE ROLE OF PERSONALITY TRAITS

Marla J. Engelberg, Psychology, McGill University, Montreal, Quebec, Canada, Howard Steiger, Eating Disorders Program, Douglas Hospital, Verdun, Quebec, Canada, Lise Gauvin, Social and Preventive Medicine, University of Montreal, Montreal, Quebec, Canada

Recent evidence has implicated dietary restraint and negative affect in the development of binge episodes in individuals with Bulimia Nervosa (BN). Some theorists postulate, however, that personality-trait variations may influence characteristic antecedents and consequences of binge episodes across individuals. This study applied an experience/event-sampling paradigm to measure dietary restraint and negative mood prior to and after binge episodes in bulimic women who were assessed on various personality dimensions. Thirty-two women with BN-spectrum disorders provided ongoing self-reports on cognitive dietary restraint, mood, and binge eating via handheld computers in response to randomly timed signals and before and after every eating episode over a two-week interval. Subjects also completed questionnaires in order to assess personality traits, such as affective instability and sensation seeking. Multilevel modeling analyses showed that dietary cognitive restraint was elevated prior to binge episodes and remained high after bingeing. Subjects also reported a decline in mood prior to binge episodes, and a further worsening in mood following bingeing. However, this decrease in mood following the binge was less pronounced in bulimic women reporting high

levels of dysregulation on personality measures. These findings are compatible with a dual-pathway model of binge eating, and suggest that individual personality variations may influence the extent to which binge episodes serve affect regulatory functions.

Abstract 260

SELF-SILENCING IN A CLINIC SAMPLE OF ADOLESCENTS WITH EATING DISORDERS

Annick Buchholz, Katherine A. Henderson, Cynthia York, Psychology, Children's Hospital of Eastern Ontario, Ottawa, Ontario, Canada

Current theories of female emotional development highlight the central role of relationships for girls and women. Gilligan (1982) and others have suggested that girls and women are socialized to perceive themselves in relation to others, often suppressing their own thoughts and feelings in order to maintain close relationships with others. The first objective of this study is to determine the validity of the use of a modified version of the Silencing the Self Scale (STSS) in an adolescent eating disorder sample. The second objective is to investigate whether there is a relationship between self-silencing and symptoms of disordered eating in a clinic sample of female adolescents. One hundred female adolescents who attended a comprehensive assessment for eating disorders in a children's hospital participated in this study. They completed the Eating Disorder Inventory-2 (Garner, 1991), the Silencing the Self Scale (Jack & Dill, 1992 as modified by Sippola & Bukowski, 1996), the Children's Depression Inventory (Kovac, 1992), the Multidimensional Anxiety Scale (March, 1997), and the Harter Self-Perception Profile for Adolescents (Harter, 1988). The results demonstrated that the modified STSS is a reliable and valid measure for use with adolescents with an eating disorder. Multiple regression analyses revealed that the silencing the self subscales were unique predictors of symptoms of disordered eating. The present study suggests that constructs of self-silencing may be important risk factors to be included in theoretical models of disordered eating.

Abstract 261

IDENTIFYING THE CHANGES THAT ADOLESCENTS WITH EATING DISORDERS ARE MOTIVATED TO MAKE

Rod Wachsmuth, Psychiatry, Faculty of Medicine, University of Toronto, Toronto, Canada, Margus Heinmaa, Psychology and Psychiatry, Hospital for Sick Children, Toronto, Canada

Lack of motivation makes treatment of eating disorders (EDs) among adolescents particularly difficult. However, recent developments in the literature on motivation offer hope that focusing on what a patient is willing to work on will increase treatment participation and effectiveness. This study seeks to identify which issues adolescents with EDs are willing to address. A self-report measure, the Anorexia Nervosa Stages of Change Questionnaire, modified for use with adolescents with AN, BN, and EDNOS, was used. Eight questions tapping motivation to change in general adolescent domains of functioning (friends, family, school, spare time activity, self-esteem, emotional problems, managing emotions, and approach to life in general) were also included. All 25 questions asked patients to select 1 of 5 motivational statements that best described their current readiness to change. Eighty adolescents being treated in the Eating Disorders Program at the Hospital for Sick Children in Toronto served as subjects. Hierarchical cluster analyses were run separately for the ED-specific and general adolescent domains and supported the selection of 2 distinct 3-cluster solutions. Post hoc univariate analyses confirmed that significant between-group (or cluster) differences exist for both the ED-specific questions and for the general adolescent functioning questions. The clusters correspond to (1) No/Low readiness to change, (2) Moderate,

and (3) High readiness to change. However, patient self-ratings of ED-specific readiness to change lacked agreement with their ratings of readiness to change in the area of general adolescent issues. These results suggest that adolescents with EDs may be accessible to therapeutic interventions for other areas of concern they identify. This raises the question of whether or not effective intervention for such other issues may improve an adolescent's readiness for change in the realm of the ED itself.

Abstract 262

ATTENTIONAL BIASES IN EATING DISORDERS: THE METHODOLOGICAL COMPLEXITIES OF DEVELOPING AN ENHANCED METHOD OF ASSESSMENT

Michelle J. Lee, Roz Shafran, Christopher G. Fairburn, Psychiatry, University of Oxford, Oxford, UK

It has been suggested that biased patterns of information processing contribute to the persistence of eating disorders. Existing measures of information processing such as the Stroop task and the dot probe task can be criticised as lacking in clinical relevance. The aim of this study was to develop an enhanced version of the dot probe task using pictures rather than words in order to increase its clinical relevance. Eighteen clinicians and researchers in the field of eating disorders rated an original pool of 92 pictures relevant to eating, shape or weight and categorised each picture as (a) eating, (b) shape, (c) weight or (d) none of these. Raters indicated the valence of each picture from -10 (extremely negative) to +10 (extremely positive). The following issues arose: (1) Raters could not distinguish between shape and weight for 22% of the relevant pictures (2) None of the weight pictures were rated positively or negatively; all were rated as neutral (3) There was a restricted range of ratings; 45% of the pictures were rated between -5 and +5. In response to these methodological problems, a further 30 images were selected and re-rated by 10 clinicians/researchers. Finally, 42 pictures were selected for the dot probe task. It was not possible to obtain images of weight that clinicians/researchers judged to be positive or negative. Forty-two comparison images of animals were selected according to the same procedure. The methodological difficulties inherent in the development of an enhanced dot probe task illustrate the complexity of developing an information processing paradigm that is clinically relevant. These difficulties also indicate the need for patient ratings of the relevance and valence of the pictures to be used. Failure to overcome these methodological complexities will continue to limit the utility of information processing methods to the understanding of eating disorder psychopathology.

Abstract 263

THE INFLUENCE OF DIAGNOSIS, WEIGHT STATUS, AND RELIGIOSITY ON HOPE AND EATING DISORDER SYMPTOMATOLOGY IN WOMEN

Jennier A. Boisvert, Psychology, University of Regina, Regina, Saskatchewan, Canada

Previous research has shown that level of hope is significantly and negatively associated with severity of eating disorder symptomatology (Boisvert, 2001), but has yet to consider the mediating role of hope for other factors. The present study examined in a path analysis the direct and indirect influence of hope, eating disorder diagnosis, BMI, religiosity, and ideal-actual weight discrepancy on eating disorder symptomatology. Participants were non-clinical women ($n = 31$) and women clinically diagnosed with anorexia or bulimia ($n = 31$) who, in addition to providing information on religious affiliation,

BMI and ideal-actual weight discrepancy, completed the Herth Hope Scale (HHS: Herth, 1991), the Ways of Coping Questionnaire (WCQ: Folkman & Lazarus, 1988), and Eating Disorder Inventory-2 (EDI-2: Garner, 1991). Two indices of the EDI-2 were examined: clinical eating disorder presentation and weight preoccupation. In a path analysis, using two-stage multiple regression, Hope, low ideal-actual weight discrepancy and non-clinical status directly predicted low symptomatology on both EDI indices ($R^2 = .34, .40$). Religiosity, non-clinical status and low BMI scores predicted scores on the Herth Hope Scale. Results suggest that Hope has a significant direct and mediating influence (for religiosity and BMI) on severity of eating disorder symptomatology specific to eating disorder diagnosis. Implications for future research and practice concerning the clinical relevance of hope for women with disordered eating and eating disorders will be discussed.

Abstract 264

PATHWAYS INTO DISORDERED EATING; A COMPARISON OF ENVIRONMENTAL, PERSONAL, AND DIETING RISK FACTORS FOR THE DEVELOPMENT OF BULIMIA NERVOSA AND BINGE EATING DISORDER

Keri A. Sullivan, Educational Psychology, University of Calgary, Calgary, Alberta, Canada

Objective: To compare the risk factors of bulimia nervosa (BN) with the related syndrome of binge eating disorder (BED) in order to address the questions: (1) Which women in particular develop binge eating? and (2) Why does one woman follow the path to BN while a second individual to BED? **Method:** Participants consisted of 30 bulimics, 35 BED individuals, and 30 controls recruited directly from the community. Diagnosis was established using the Eating Disorder Examination (EDE) interview. Risk factor exposure was measured using a self-report version of Fairburn and colleagues Risk Factor Interview (Fairburn et al., 1997). Only those questions thought to be related to the development of eating disorders, as indicated by extant research, were included. **Results:** Both BN and BED were associated with a broad range of personal, environmental, and dieting risk factors. As the level of exposure within a particular sub-domain increased, so did the risk of developing BN or BED. Both the bulimic group and the BED group were distinguishable from controls in exposure to most of the risk factor items, including general negative self-evaluation, self-consciousness about appearance, lack of conflict resolution within the family, childhood obesity, early dieting, abuse, and early onset menarche. When comparing the two eating disordered groups, childhood obesity and a sedentary lifestyle especially characterized those in whom BED subsequently developed. Drug abuse was substantially more common among those with BN. **Conclusion:** The results suggest the existence of important differences and similarities in risk factor exposure between bulimics and BED individuals. Findings are discussed in terms of the complex relationship between personal, environmental, and dieting factors in the etiology of BN and BED. Finally, risk factors are differentiated from maintaining factors and treatment implications are considered.

Abstract 265

VALIDATION OF THE MINNESOTA EATING DISORDER INVENTORY: A BRIEF MEASURE OF DISORDERED EATING

Stephanie E. Cassin, Kristin M. von Ranson, Tara Bramfield, Amy E. Baxter, Psychology, University of Calgary, Calgary, Alberta, Canada

The Minnesota Eating Disorder Inventory (M-EDI) (Klump, McGue, & Iacono, 2000), a substantial modification of the Eating Disorder Inventory (EDI) (Garner, Olmstead, & Polivy,

1983), was developed for use with children as young as 10 as well as adults. This self-report inventory consists of 30 true/false items comprising four subscales: Weight Preoccupation, Body Dissatisfaction, Binge Eating, and Compensatory Behaviours. The M-EDI measures eating attitudes and behaviours rather than personality traits. The present study examined the psychometric properties of the M-EDI in a university sample. Female undergraduates ($N = 423$) were administered the M-EDI and 2 other measures of disordered eating, the EDI and the Eating Disorder Diagnostic Scale (EDDS) (Stice, Telch, & Rizvi, 2000). We found high internal consistency for the total score ($\alpha = 0.89$) and 3 of 4 subscales ($\alpha = 0.78\text{--}0.83$). As predicted, internal consistency was lower ($\alpha = 0.56$) for the Compensatory Behaviours subscale as it assesses more heterogeneous behaviours. Convergent validity was demonstrated via moderate to high correlations between the M-EDI and EDDS and EDI subscales measuring disordered eating ($r = 0.66\text{--}0.88$). Discriminant validity was evident in the weaker correlations with EDI subscales measuring personality traits ($r = 0.19\text{--}0.46$). The M-EDI has good internal consistency reliability and convergent and discriminant validity among university females. The M-EDI has promise as a time-efficient screening measure for eating disturbance in clinical as well as research applications.

Abstract 266

EFFECTS OF THE IMPLEMENTATION OF MOTIVATIONAL ENHANCEMENT PRINCIPLES ON PATIENT SATISFACTION WITH A DAY TREATMENT PROGRAM FOR ADOLESCENTS

Preena S. Sandhu, Pierre P. Leichner, Psychiatry, University Of British Columbia, Vancouver, BC, Canada

The Capella Program at BC Children's Hospital provides intensive treatment for patients with severe eating disorders. Majority of the care is group-based and includes structured meal support with family and individual therapy as strong components. The Capella Satisfaction Survey assessed satisfaction with services, pinpointed areas for improvement, and suggested viable alternatives for reaching therapy goals. Patients voluntarily and anonymously rated 25 aspects of the program and provided comments. As the philosophy evolved towards a more patient-centered approach, motivational enhancement therapy principles were incorporated into the program and a responsibility level system was added. Satisfaction was then compared between groups of patients discharged before and after the changes. A total of 45 female patients, admitted into the program from September 30, 1999 to July 4, 2002, completed the survey. Anorexia Nervosa was prevalent in 38 patients while 7 girls suffered from Bulimia Nervosa. Average age of the subjects was 15 years old. Patients were divided into 2 groups based on when the level system and motivational therapy were introduced; pre-change ($n = 13$) and post-change ($n = 32$). Following program changes, there were global increases in patient satisfaction in the Availability/Approachability of Staff (38% pre-change versus 59% post-change) and Atmosphere of the Program (31% versus 62%). Specifically, patient satisfaction increased in Individual Psychotherapy (23% pre-change versus 46% post-change), Medical Assessment (31% versus 47%), and Leisure/Outing Group (15% versus 66%). Patients remarked on benefits of the teen lounge but were intimidated by the weekly contract meetings. Based on this subjective data, one can conclude that giving increased responsibility to patients according to motivational enhancement theory has improved satisfaction with the program. Survey results are guiding changes in the program according to its continuous quality improvement philosophy.

Abstract 267**AUTONOMIC DYSFUNCTION OF THE HEART IN ANOREXIA NERVOSA**

Carl L. Birmingham, Medicine, University of British Columbia, Vancouver, British Columbia, Canada

Arrhythmia is thought to be the most common cause of death in anorexia nervosa, after suicide. There is evidence that the myocardium atrophies, that mitral valve prolapse occurs or worsens, that vitamin and mineral deficiencies and some medications contribute to arrhythmias, and that atherosclerosis occurs slightly more quickly. However, recent evidence suggest that autonomic dysfunction, originating in the central nervous system, may be the cause of altered electrical activity in the heart—and thus of dysrhythmias. The evidence for this, the use of Spectral analysis to measure it, and our experience with metoprolol as a treatment will be discussed.

Abstract 268**USE OF THE GLUCAGON TEST TO MONITOR HYPOGLYCAEMIA IN ANOREXIA NERVOSA**

Carl L. Birmingham, Medicine, University of British Columbia, Vancouver, British Columbia, Canada

Severe protein calorie malnutrition causes depletion of the body's energy stores. When malnourished patients with anorexia nervosa (AN) are admitted for feeding they are liable to become hypoglycaemic because the body cannot protect itself against the post-prandial hypoglycaemia that develops due to increased insulin secretion. Normally, glucagon released from the pancreas would restore blood glucose to normal. However, the liver glycogen (sugar) that glucagon acts on to release sugar into the blood is reduced or absent. We use the glucagon test to determine whether intravenous glucose should be administered and when discharge from hospital is safe.

Abstract 269**A TALE OF TWO STANDARDS: HOW THE MEDIA MAKES MESSIAHS OF MERE MORTALS**

Barbara McLintock, Victoria, BC, Canada

In the scientific world, research on eating disorders (EDs) is subject to intense systematic scrutiny. It must follow acceptable methodologies, and the findings are subjected to peer review. Researchers are often reluctant to discuss their preliminary findings publicly. This seemingly tentative and incremental approach has protected the public from ineffective therapies and missteps by reputable practitioners. Nevertheless, for challenging diseases such as HIV and eating disorders, some of the victims and their families have been publicly critical of those practices, with the media often sharing this perspective. For the past decade, EDs have been a favorite topic in the popular media. Along with recovering anorexics' "true" stories, celebrities experiencing EDs and, occasionally, new scientific research, the media also has published reports of the single successful "cures", ones that would, if true, eliminate the suffering faced by victims and their families. The presentation will include the story of one woman who claimed to have discovered such a cure, along with an assessment of the rigor with which the media assessed her claims. The story is that of Peggy Claude-Pierre and her Montreux Counselling Centre in Victoria, Canada. The presentation will how, beginning with her self-reported treatment of her daughters, she rose ever higher on the media talk-show circuit until she was being described as "an angel" by such media stars as Barbara Walters and Oprah Winfrey. The

presentation will contrast the standards applied by the popular media to Ms. Claude-Pierre's credentials and treatment methodologies with those of mainstream science. It will review the shortcomings of the media's "critical review" of her claims, including: what diagnostic criteria and what definition of "cured" she used; how she claimed potential success rates of 100% without ever having conducted an outcome evaluation; and what exactly "unconditional love" truly entailed at Montreux.