

Abstracts From the XIV World Meeting— International Society for Research on Aggression

Conference Organizer: Manuela Martinez,
University of Valencia, Valencia, Spain

Program Co-Chairs: John Archer, University of
Central Lancashire; Paul F. Brain, University of
Wales Swansea; L. Rowell Huesmann, University
of Michigan; Michael Potegal, University of
Wisconsin; Andrea Sgoifo, University of Parma

Editor: Paul F. Brain, University of Wales Swansea

PLENARY LECTURE: FROM A CULTURE OF WAR AND VIOLENCE TO A CULTURE OF PEACE AND NON-VIOLENCE

David Adams

*International Year for the Culture of Peace, Bureau of Programming and Evaluation,
UNESCO, Paris, France*

The Seville Statement on Violence (signed in 1986) was born out of discussions that took place at ISRA in 1980. It stated a negative case—that it is scientifically incorrect to say that war is caused by inherited tendencies, genetic programs, brain mechanisms or “instincts.” The Statement did not attempt to make a positive case and identify the cultural factors that lead to war. It is therefore proposed that investigations concerning these cultural factors should be seen as a priority for the International

Society for Research on Aggression. Investigations could be carried out within the framework of United Nations resolutions concerning the need for a transition from a culture of war and violence to a culture of peace. These resolutions have identified a number of cultural areas for action where research needs to be carried out. They include education for a culture of peace; sustainable economic and social development; respect for all human rights; equality between women and men; democratic participation; understanding, tolerance, and solidarity; participatory communication and the free flow of information and knowledge; and international peace and security, including disarmament and economic conversion. Each of these areas is considered in turn. What is its importance for to a culture of war and violence and a culture of peace and non-violence? What kind of scientific studies have been done and could be envisaged for the future?

PRESIDENTIAL ADDRESS: AGGRESSION AND VIOLENCE IN ANIMALS: ROLE OF PERSONALITY FACTORS

Jaap M. Koolhaas

Department of Animal Physiology, University of Groningen, The Netherlands

While most animal studies of aggression concern its adaptive function, studies in humans generally label impulsive aggression and violence as maladaptive behaviors. Violence can be defined as a form of aggressive behavior that lacks its social communicative function. Little is known about the factors involved in the change from adaptive aggression into violence. A number of animal experiments are discussed that look at the interaction between individual predisposition and previous social experience in the development of violence. Ecological studies in feral populations of mice and birds show a functional bimodal distribution of high and low aggressive phenotypes. Subsequent field and laboratory studies indicate that these phenotypes differ more generally in their response to any environmental challenge. This has led to the view that high and low individual levels of aggressive behavior reflect proactive and reactive coping styles, respectively. The proactive coping style is characterised by a reduced dependence on environmental stimuli, i.e., such animals tend to develop routines. This capacity to develop routines seems to be the underlying factor in the development of violence. For example, an extensive sequential analysis of the pre-attack behavior of two interacting males shows that the aggressive behavior of the proactive animal becomes progressively independent of the opponent after repeated winning. Experienced, highly aggressive males no longer respond to social signals from the opponent and show a reduced behavioral plasticity, leading to a violent form of aggression. There are a number of neurobiological and neuroendocrine correlates of the violence-prone proactive coping style. The proactive animal is characterised by a high sympathetic reactivity, a strong negative relation between social experience and dependence of plasma testosterone, and low serotonergic transmission as a trait characteristic. It will be argued that understanding the behavioral and physiological mechanisms underlying the individual differentiation in behavioral plasticity contributes to a further understanding of the factors involved in the transition of aggression into violence and the capacity to cope with changes in the social environment.

INVITED SYMPOSIUM: THE PREVENTION OF AGGRESSION IN CHILDREN

Organizer: L. Rowell Huesmann

Research Center for Group Dynamics, Institute for Social Research, The University of Michigan, Ann Arbor, Michigan

Overview

The initial results from four North American research projects investigating how to prevent young children from developing into aggressive and antisocial adolescents and young adults were presented. Each study involved a randomized field trial of a theoretically based program intended to prevent the development of aggression and involved a rigorous longitudinal evaluation of the program's effectiveness. The four programs—the Fast Track program, the Montreal Longitudinal Study, the Carolina Children's Initiative, and the Chicago Metropolitan Area Child Study—all show some statistically significant positive effects. However, the results also suggest that there are limitations to the effectiveness of most prevention programs. These mixed findings also suggest that those planning to implement prevention programs should be highly skeptical about the claims of the many highly publicized prevention programs lacking experimentally valid evaluations.

Prevention of Conduct Problems: The Fast Track Project

J.E. Lochman and the Fast Track Research Group

Department of Psychology, The University of Alabama and the Conduct Problems Prevention Research Group

The conceptual and developmental model for the Fast Track project was reviewed, and initial findings presented. Nearly 900 high-risk conduct problem children were identified through kindergarten teacher and parent ratings in four areas of the United States. These children represent early starters on the developmental trajectory toward serious adolescent conduct problems. Schools in low-income, high-crime areas of these four communities were randomly assigned to intervention or control conditions. Intervention began in first grade and will continue through the tenth grade. In the early grades, interventions included classroom-based universal prevention, and social skills training, tutoring, parents groups, and home visits for the targeted high-risk children and their families. Assessments take place annually with the three cohorts of children. Initial analyses at the end of the first grade year indicate that the Fast Track program has had universal intervention effects by improving the classroom atmosphere and reducing the problem behaviors in the intervention classrooms. In comparison to high-risk children in the control condition, the Fast Track program has produced behavioral improvements according to teacher and parent ratings, has led to improved social acceptance and social cognitive skills, has produced improved reading skills, and has led to warmer and more appropriate parenting skills. The plan for further longitudinal assessments and the implications for prevention were discussed.

The Montreal Longitudinal and Experimental Study: Results from a Multi-Component Prevention Experiment with Low Socio-Economic Status Boys

R. Carbonneau, F. Vitaro, and R.E. Tremblay

Ecole Criminologie, University of Montreal, Montreal, Quebec, Canada

The Montreal Longitudinal and Experimental Study includes a multicomponent prevention program that targeted disruptive low socioeconomic status boys when they were

aged 7 through 9 years. Significant effects of the preventive intervention were observed on boys' disruptiveness and school problems at the end of the program, when they were 9 years old, and these effects remained significant until the end of elementary school. A more recent study has examined the impact of the prevention program on the growth of delinquency from 13 to 16 years of age and whether its impact operated through a chain of events compatible with many developmental models. A growth-curve analysis showed that the level of delinquency for the prevention group was lower at 13 years (i.e., the intercept) than in the control group. There was, however, no direct effect of the program on the growth (i.e., the slope) of delinquency from 13 through 16 years of age. Path analysis showed that reduction in disruptiveness and increase in parental supervision by age 11 years, as well as association with nondeviant peers by age 12 years, were part of a chain of events that mediated the effect of the program on the initial level of delinquency at age 13 years. The analysis also showed that the program had an indirect effect through these variables on the growth of delinquency from 13 to 16 years of age. The discussion focuses on the possibility of using prevention studies to validate developmental models.

The Effectiveness of an Early Intervention Program for Aggressive Behavior: The Carolina Children's Initiative

*M.W. Fraser, M.J. Galinsky, V.G. Hodges, P.R. Smokowski, S.H. Day, and M. Abell
School of Social Work, University of North Carolina at Chapel Hill and Portland
State University*

Because early aggressive behavior is correlated with later aggressive behavior, interventions that interrupt risk processes associated with the former hold promise for preventing youth violence. Among the factors affecting aggression, two social processes appear to have a major impact on conduct problems. One risk process is related to problematic parent-child interactions, and the other is related to cognitive processes that appear to develop in children as a result of exposure to verbal or physical attacks. This paper describes the design and effectiveness of a multicomponent intervention developed to disrupt these risk processes. The conceptual bases for two interventions—designed to be delivered conjointly or separately—and the results of pilot tests of these interventions will be presented. First, based on coercion theory, the Strong Families (SF) program is rooted in research showing that poor parental supervision and follow-through, when coupled with harsh punishment and failure to reward prosocial behaviors, create a risk chain that promotes aggressive behavior. Second, based on social information processing theory, the Making Choices (MC) program focuses on the way children encode social cues in the environment, interpret the intentions of others, and generate alternative strategies in social circumstances. Children exposed to violence and discrimination (whether in the family, the school, the neighborhood, or the society) often learn to interpret the intentions of others as hostile. The way these children interpret social information influences their use of aggression in social interaction. Using family-centered and group-work approaches, SF and MC are designed to interrupt both risk processes. Pilot data describing the effectiveness of MC alone and the combination of SF plus MC was presented. MC alone was pilot-tested in randomized trials with 164 third and 171 sixth grade children. The combination of MC plus SF was tested in mental health and community agencies where 67 families with aggressive children were randomized to experimental and routine-services conditions. Findings suggest that the programs improve parent-child interactions and enhance children's skills in processing social information. Findings also suggest that services increase prosocial and reduce antisocial behaviors in the classroom.

The Effectiveness of a Cognitive/Ecological Program to Prevent the Development of Aggression: Analysis of Preliminary Results from the MACS Chicago Project

L.R. Huesmann and the Metropolitan Area Child Study Group

Research Center for Group Dynamics, Institute for Social Research, The University of Michigan

The Metropolitan Area Child Study examines the impact of a multi-year, multi-context intervention provided during the early (grades 2–3) or late (grades 5–6) elementary school years in different school and community settings. Schools were randomly assigned to one of four intervention conditions: (a) no-treatment control; (b) general enhancement of classroom program; (c) general enhancement plus small-group peer-skills training; or (d) general enhancement plus small-group peer-skills training plus family intervention. The general enhancement classroom program was a universal intervention provided to all students, while the small-group and family interventions were provided to high-risk children only. Schools varied in terms of school and community economic resources, ranging from low resource inner-city schools to moderate resource urban schools. All of the intervention components emphasized reinforcing prosocial and playful behaviors, increasing opportunities for cooperative and prosocial engagement, changing the normative climate so aggression was seen as less appropriate, and learning proactive skills for navigating various social situations. Hierarchical linear modeling was used to analyze the effects of the intervention so schools could be treated as a random effect within which subjects were nested. The results reported in this paper are based on a high-risk subsample of over 1,500 children from 16 schools. Significant decreases in aggression were noted for younger children receiving the most intensive intervention in schools with moderate resources. Results also showed that the early general enhancement classroom program had a positive effect on academic achievement in both low and moderate resource schools. Iatrogenic effects on aggression were noted for younger children in low resource schools receiving the most intensive intervention as well as for older children receiving classroom plus small-group training regardless of school resource level. No significant differences by gender were found for any intervention outcomes. The results indicate that comprehensive interventions can be effective for young children in schools with adequate resources to support learning and development, but they may have unintended negative effects in schools with less adequate resources or when delivered too late developmentally.

INVITED WORKSHOP: STRATEGIC PLANNING TO END MEN'S VIOLENCE

Organizers: Michael Kaufman¹ and Luis Bonino²

¹*Co-Chair and International Director, White Ribbon Campaign, Toronto, Canada*

²*Director del Centro de Estudios de la Condición Masculina, Madrid, Spain*

Overview

There is growing recognition that the global pandemic of men's violence against women has not been accompanied by development of adequate strategies to end such violence.

Given the complexity of the problem, strategies by definition are multi-dimensional, ranging from legislative change and better police and judicial responses, to support services for women, to programs that work with men who use violence, to public education. Singularly absent from many approaches, however, has been the type of understanding of the nature of violence itself. Such an understanding will help develop effective strategies. This session focuses on the general parameters of such an analysis and its strategic implications. In particular, those aspects of the strategy associated with actually reaching men (both those colluding with the violence through their silence and those committing the violence in the first place) are examined.

Strategic Planning to End Men's Violence: The White Ribbon Campaign

M. Kaufman

Co-Chair and International Director, White Ribbon Campaign, Toronto, Canada

Men's violence against women and other men results, to a large measure, from a combination of two contradictory sets of factors. The first includes men's relative social power; their unconscious sense of entitlement to privilege, and their social acceptance of individual acts of violence. The second are what I have called men's contradictory experiences of power. In particular, they include feelings of isolation, weakness, and insecurity, combined with men's own experiences (particularly as boys, as witnesses or survivors of violence) plus the limiting definitions and practices of masculinity that forbid expressions of weakness and fear. In other words, such violence is an expression of both relative social power and enormous fear. This approach forms a basis for the White Ribbon Campaign (WRC), now the largest effort in the world of men working to end violence against women. Started in Canada in 1991, there are now WRC activities on every continent. The basic approach is to involve men and boys as allies with women in the struggle to end violence against women. The assumption is that even in countries where the majority of men do not commit such violence, through our collective silence we've allowed the violence to continue. White Ribbon carries out education programs in schools, public awareness campaigns, and interventions in public policy discussions in order to break this silence. One aspect of the awareness efforts in some countries is wearing or displaying a white ribbon each year for about a week commencing November 25 (the international day for the eradication of violence against women). Wearing a ribbon or displaying an image of it is a public pledge by a man never to commit, condone, or remain silent about violence against women. It is also a call on governments and public opinion makers to seriously address this problem.

Preventing Masculine Domestic Violence

L. Bonino

Director del Centro de Estudios de la Condición Masculina, Madrid, Spain

In the European Union (EU) the majority of victims of male violence are women and children. Here recommendations have been made by different governments over the last five years to reduce this problem in domestic, work place, and political contexts. The strategies for dealing with domestic violence suggested by the EU specifically center on the identification and protection of the women and children who are victims of the violence, and the accusation and the sentence of the aggressive men. Other important strategies include education for equality and peace. However, these measures are not the only actions that could or should be carried out. The consideration of domestic violence as a problem caused mainly by men, and as a Public Health issue, may allow the establishment

of interventions in order to prevent it. For example, public campaigns currently involve males in the struggle against masculine violence. A more difficult task is to sensitize Public Health personnel in the identification not only of women victims of domestic violence and the subsequent intervention but also of men that are at risk of being violent. In conclusion, the involvement of different professional sectors, such as the health, legal, and educational systems, is necessary in order to solve the problem that masculine violence represents in our present-day society.

SYMPOSIUM: GLUCOCORTICOIDS AND AGGRESSION

Organizers: Eberhard Fuchs¹ and Menno R. Kruk²

¹*Division of Neurobiology, German Primate Center, Göttingen, Germany*

²*Department of Medical Pharmacology, Leiden University, Leiden, The Netherlands*

Abstract

Data collected mainly in laboratory rodents (but also in humans) provides evidence that both the production and the release of adrenal glucocorticoid hormones are sufficiently fast to affect ongoing behavior. In addition to their role in preparing the body to deal adequately with stressful life events, it has become clear that acute glucocorticoid production—at least in the case of aggressive behavior—is linked to the achievement of the behavioral goal (winning). Since circulating glucocorticoids easily penetrate the blood-brain barrier they interfere within specific brain areas with other neurotransmitter systems such as the monoaminergic system. Moreover, patients with disturbed aggressive control have deviant HPA-axis responses depending on the nature of their social history. The symposium brings together basic researchers and clinicians to discuss (1) new findings on the potential role of glucocorticoids as biological trigger/marker of aggressive behavior and (2) the underlying central nervous processes.

Dynamics of Steroids and Territorial Aggressive Behavior

J. Haller,¹ J. van de Schraaf,² and M.R. Kruk²

¹*Institute of Experimental Medicine, Budapest, Hungary*

²*Leiden Centre for Drug Research, Leiden, The Netherlands*

The effects of the acute corticosterone surge were studied on aggressive behavior in male rats. Resident rats naive to dyadic encounters were adrenalectomized (ADX) and implanted with a low release corticosterone pellet or sham operated (sham C). After one week of recovery, all rats were faced in their home cage with a male intruder of smaller size. Half of the ADX rats received corticosterone IP (1 mg/kg) 10 min before the encounter (group ADX-C), while the others received only vehicle (ADX-V). Surprisingly, ADX-V rats showed significantly more aggression than both sham C and ADX-C rats. Detailed analysis of attacks revealed that ADX-V rats mainly attacked vulnerable parts (nose, throat, belly, paws) of the body while C and ADX-C rats mainly targeted less vulnerable parts (back, flank) of the opponent's body. In successive encounters (performed every second day), aggressiveness increased significantly in sham C and ADX-C rats, while no change

occurred in the aggressiveness of ADX-V rats. In contrast to sham C and ADX-C rats, attacks were persistently directed toward vulnerable parts of the opponent's body in the ADX-V group. It appears that the fight-induced acute elevation of plasma corticosterone maintains the "normal" patterns of aggressive behavior. This finding has a striking similarity with human data showing that low variation and low level of plasma corticosterone are associated with "deviant" forms of aggressive behavior.

A Dynamic Adrenocortical Stress System is Crucial for the Expression of Hypothalamic Aggression

M.R. Kruk,¹ J. Halasz,² and J. Haller²

¹*Leiden Center for Drug Research, Leiden, The Netherlands*

²*Institute of Experimental Medicine, Budapest, Hungary*

A crucial question in the control of aggressive behavior is how stressors precipitate violent behavior. In animals confronted with an adversary, plasma corticosteroids rise dramatically, even before aggression erupts. It now appears that the "aggressive area" in the hypothalamus activates the adrenocortical stress response during conflict. The increasing plasma corticosteroids rapidly cross the blood-brain barrier and, by a positive hormonal feedback on the hypothalamic attack release mechanism, facilitate aggressive responding. Electrical or pharmacological activation of a specific area in the intermediate hypothalamus, the hypothalamic attack area (HAA) area, evokes violent attacks in otherwise peaceful animals. Lesioning in that area abolishes or profoundly changes aggressive behavior. Surprisingly, minimal stimulation of HAA produces an immediate and dramatic increase in circulating corticosterone, even in the absence of an opponent, and therefore fighting. Mimicking this response by an intra-peritoneal injection of corticosterone in animals without adrenals facilitates hypothalamic attack within a few minutes. This facilitation closes a rapid positive feedback loop between an aggressive brain mechanism activated via the hypothalamus and the adrenocortical stress response. Such positive feedback control would explain why sudden stressors precipitate aggressive behavior and why such behavior is so difficult to stop once started, or why it so easily escalates. Long-term effects of steroid hormones are caused by changes in gene expression. The rapid effects reported here are rapid and short lasting and may be due to non-genomic effects. In animals with a low constant corticosteroid level, but with the adrenals removed before fighting experience, less than 30% of the electrodes implanted in the HAA evoke aggression, while 65% is the rate in intact animals. Moreover, in the 30% that do attack, a 40% stronger stimulation is required. The latter effect is reversed by acute injections of corticosterone, but the former is not changed. These results again suggest that a dynamic adrenocortical system is required for the behavioral expression of aggression.

Aggression, Stress, and Psychostimulants

P.F. Brain,¹ L.N. Marrow,² and P.G. Overton³

¹*School of Biological Sciences, University of Wales Swansea, UK*

²*Department of Psychology, University of Wales Swansea, UK*

³*Department of Psychology, University of Hertfordshire, UK*

Encounters between Lister Hooded rats and rats of the aggressive Tryon Maze Dull strain enhance the locomotor-activating effects of cocaine in the former. This enhancement seems to arise because aggressive encounters are stressful. Stressors (e.g., electric footshock and food restriction) augment cocaine-induced behaviors. The mechanism for this action is largely unknown, but corticosterone (released during stress) appears to play an impor-

tant role. It seems that corticosterone impedes the metabolism of cocaine by competing for cytochrome P-450 (CYP) 3As, involved in the oxidative metabolism of both compounds. This competitive inhibition would explain why the effects of stress on the behavioral actions of cocaine mimic exactly the effects of a higher drug dose. In support of this hypothesis, compounds which inhibit CYP 3As also enhance the locomotor-activating effects of cocaine, while compounds which induce CYP 3As (e.g., dexamethasone) diminish the drug's locomotor-activating effects. This possibility receives further support from the finding that metyrapone (which inhibits CYP 2D1) enhances both the locomotor-activating and stereotypy-inducing actions of d-amphetamine. Cytochrome P-450 2D1 is involved in the metabolism of this different psychostimulant. Although metyrapone is known to inhibit the synthesis of corticosterone, this action did not appear to play a role in our behavioral finding, since another corticosterone synthesis inhibitor (trilostane) was without effect. As stress appears to be an important precipitating factor in cocaine addiction, we may be one step closer to understanding the mechanism for this interaction. The fact that substances affecting CYPs can have an impact on the metabolic fate—and therefore the central actions—of psychoactive drugs is widely neglected in psychopharmacology. Since CYP 3As are involved in metabolism of hormones (e.g., testosterone) and a wide range of xenobiotics, it is crucial to assess whether manipulations which affect hormone levels also indirectly affect the responses to a given drug (and vice versa). This seems of relevance to attempts to elucidate the psychopharmacology of aggression.

Effects of Subordination Stress and Cortisol on Brain Monoamine Receptors

G. Flügge

German Primate Center, Göttingen, Germany

To investigate whether stress-induced behavioral changes are related to alterations in the central nervous monoamine receptor system, the effects of chronic subordination stress (an established chronic psychosocial stress model) on receptors in brains of male tree shrews was studied. The central nervous beta-adrenoceptor system reacts quickly to stress with a transient down-regulation of beta₂-adrenoceptors in the prefrontal cortex 2 days after the beginning of the stress period. This is followed after 4 weeks by down-regulation of beta₁-adrenoceptors in the parietal cortex and the hippocampus. Alpha₂-adrenoceptors are primarily down-regulated in regions that regulate autonomic functions revealing regional and stress-time dependent effects. In the locus coeruleus, down-regulation occurs already after 2 days, but in the solitary tract nucleus only after 3 weeks. Since alpha₂-adrenoceptors in the locus coeruleus neurons function as autoreceptors, reduced receptor numbers might be a reason for the hyperactivity of the noradrenergic system during periods of chronic stress. Reactions of the serotonergic system occur later than those of the noradrenergic system, with reduced 5HT_{1A}-receptor numbers after 10 days of subordination stress in the occipital cortex and after 4 weeks in the hippocampus. To investigate whether the stress effects are due to the hyperactivity of the HPA-axis, male tree shrews were treated with cortisol. Two experiments were performed: a short-term treatment (males were injected IV with 1.5 mg of cortisol and brains were dissected 2 hr later) and a long-term treatment (cortisol was applied via drinking water for 5 days; daily uptake was 3-7 mg). The short-term treatment was similar to the stress that down-regulated alpha₂-adrenoceptors. In contrast, the long-term oral treatment induced regional alpha₂-adrenoceptor up-regulation. However, cortisol effects on 5HT_{1A}-receptor binding were the same as those of chronic stress. These data suggest that (1) glucocorticoids regulate neural monoamine

receptors, (2) the duration and/or the route of cortisol application determines the results, and (3) chronic stress effects on monoamine receptors are not only due to the long-term glucocorticoid exposure but to other components of the stress response.

Alterations in the Hypothalamus Pituitary Adrenal Axis and Serotonergic System in Impulsive and Aggressive Female Borderline Personality Disorder Patients

T. Rinne

Psychiatric Hospital "De Geestgronden," Bennebroek, The Netherlands

Patients with borderline personality disorder (BPD) are characterized by symptoms of affect- and impulse-dysregulation, as well as aggressive and auto-aggressive behavior, features which are all associated with alterations of the serotonergic system (5-HT system). This group of patients has often experienced sustained traumatic stress in early life. Traumatic stress leads to disturbances of the complex neuroendocrine feed-back mechanisms resulting in changes of the hypothalamus pituitary adrenal axis (HPA-axis) and the monoamine systems. To investigate alterations in the serotonergic system and HPA-axis in relation to early traumatization, two neuroendocrine challenge studies were performed: one with the 5HT agonist m-chlorophenylpiperazine (m-CPP) in 12 female BPD patients and the second with a combined dexamethasone/corticotropin-releasing hormone test (DEX/CRH) in 41 female borderline patients. In both studies, the challenges were repeated after 8 and 12 weeks of treatment, respectively, with the selective serotonin reuptake inhibitor (SSRI) fluvoxamine to investigate whether such treatment restores the probable alterations of the 5-HT system and the HPA-axis and whether this restoration is correlated with clinical improvement. The cortisol and prolactin responses to the m-CPP challenge in BPD patients were significantly blunted. The prolactin blunting was highly inversely correlated with sustained childhood abuse. The SSRI treatment had no effect on the blunted cortisol and prolactin responses despite clinically significant improvements. This suggests that these responses are more trait than state dependent and that the prolactin blunting is independent of BPD diagnosis and more likely to indicate trauma. Preliminary data from 9 patients of the DEX/CRH study suggest that the traumatized BPD patients exhibit a significantly higher afternoon cortisol plasma level compared to the non-traumatized patients. All patients showed suppression in response to dexamethasone. After IV CRH injection, cortisol and ACTH were significantly enhanced except in patients with a posttraumatic stress disorder. After SSRI treatment, enhancement of plasma ACTH and cortisol levels were significantly reduced compared to the first test.

WORKSHOP: THE IMPACT OF COMMUNITY VIOLENCE ON THE DEVELOPMENT OF YOUNG CHILDREN: CURRENT RESEARCH AND METHODOLOGICAL ADVANCES

Organizer: L. Oriana Linares

New York University Child Study Center, New York, New York

Exposure to community violence is a serious public health issue in the US. Despite the decline of serious violent crime in major US cities, children and mothers in poor inner-city

neighborhoods across the nation are exposed to high levels of local violent episodes of chronic interpersonal violence, social disorder, and fear of crime. The purposes of this workshop were to (1) critically review current research findings on the impact of community violence on the young child (PTSD symptomatology, anxiety and depression, aggression) and on the social world view from the child's perspective; (2) review current assessment tools of trauma-related events and challenges for children during the preschool years; (3) present a new methodology of observing real life mother-child interactions of dyads exposed to high levels of community violence; and (4) discuss possible partnerships for cross-cultural research involving similar research goals and methodologies.

ORAL PRESENTATIONS: DEHUMANIZATION AMONG SOLDIERS AND THE EFFECT OF SOCIOPOLITICAL TRANSFORMATIONS ON AGGRESSION

Dehumanization of Soldiers on a Foreign Mission: Czech Soldiers in the Former Yugoslavia

D. Štrobl

Stress Research Center of Military University of Ground Forces, Prague, Czech Republic

A soldier has his own value system for critical situations, generally regarding himself as being of most importance (the instinct of self-preservation), then his friends (fellow-fighters), and compatriots, valuing the local inhabitants and the enemy least. So-called "peace missions" are a new sort of military operation seen from the beginning of the nineties. Such operations provide new experiences for and require new reactions by soldiers. Dehumanization is a kind of reaction that disparages the value of inhabitants or members of some ethnic group, nation, or religion. It often appears if a soldier is faced with different value systems and if the local people are of different a race. It is not simply racism. Dehumanization may explain the bestialities of the American soldiers in Vietnam as well as troops in similar situations. Dehumanization has been observed and examined by the military psychologists of almost all armies of NATO. Occurrence of dehumanization among the Czech soldiers participating in missions in former Yugoslavia was assessed using a questionnaire method by the personal department of the Ministry of Defense. Dehumanization tendencies appeared among almost one third of the Czech mission. It grows with repeated service in the mission. Dehumanization increases the risk of aggressive behavior and reduces empathy and compassion. Efficient training before a mission is necessary, including providing information about race, ethnic traditions, and culture within the mission area. In order to prevent aggressive reactions by soldiers to the local population, field psychologists must check for evidence of dehumanization.

Sociopolitical Transformations and Violence in Society: A Case Study of Poland

A.S. Fraczek

Department of Educational Psychology, Faculty of Education and Institute for Social Studies, University of Warsaw, Warsaw, Poland

This presentation aims to analyze if patterns of violence in society have changed in the period of peaceful systemic transformations ongoing in Poland since 1990. It also attempts

to discuss sociopsychological mechanisms (e.g., changes in a value system, appearance of the “aggressive culture” models in media, and a dysfunction in societal control) that explain connections between systemic changes on one hand and dynamic of violence in society on the other. It also considers the forms of societal control that can prevent development of violence in society under sociopolitical transformations. Analysis of available data concerning criminal justice convictions in Poland in 1990-1999 have shown a steady increase of different indicators of violence in this period. The most noticeable increase occurred in “aggressive offenses,” related both to impulsive (e.g., participation in a fight) as well as instrumental (e.g., robbery with direct assault against people) forms of aggression; a relatively high increase of aggressive offenses appeared in sub-samples of juvenile males in big cities; there was no direct relation between level of economical deprivation of a region where people lived and level of aggressive offenses. It can be concluded that the increase of violence in society is one of possible costs or side-effects of systemic changes toward democracy, an effective market-oriented economy and stable international security. Even if all above-mentioned goals are positively valued by a distinct majority of people, it does not automatically mean they approve of the disturbances in their interpersonal and social life in a period of systemic change. However, it seems plausible to assume that societal conditions and psychosocial processes underlying the described increase of violence in society are substantially different than the mechanisms of destructive violence involved in wars or deadly clashes between representatives of conflicting ideologies.

ORAL PRESENTATIONS: SEXUAL AGGRESSION

A Male’s Likelihood of Sexual Aggression: A Person-Situation Model of Acquaintance Rape

V.J. Willan

Department of Psychology, University of Central Lancashire, Preston, Lancashire, UK

Past research largely suggests that personality factors are the best predictors of the likelihood of sexual aggression in males. An experiment was conducted to examine whether a combination of personality and situational factors better predicts a male’s likelihood of forcing a female acquaintance to have non-consensual sexual intercourse following consenting sexual activity. Male students were presented with a scenario depicting a sexual interaction between the respondent and a newly acquainted female. As the hypothetical encounter progresses from one sexual activity to the next, respondents made two ratings: the female’s desire to engage in each progressive activity (FD) and the likelihood of the female letting the male engage in each of the said activities (FL). The scenario ends when the female refuses to consent to sexual intercourse and respondent’s affect ratings were measured. Also measured were Likelihood of Acquaintance Rape (LAR), Rape Myth Acceptance (RMA), and Hostility Toward Women (HTW). It was predicted that the combined effect of personality and situational factors on LAR would be greater than that accounted for individually. Regression analysis found that the combined effect ($R^2 = 66\%$) was greater than that accounted for individually, although situational factors ($R^2 = 48\%$) explain greater variance than the personality factors ($R^2 = 12\%$). The best predictors of LAR were the male’s perceptions of FL at the beginning of the interaction and perceptions of FD at the end of the interaction. Males reported disappointment and annoyance following refusal of consent, and HTW were also significant predictors of LAR. Path analysis

found similar results, with the best paths found to go via male RMA and perceptions of FD and FL at the beginning of the interaction. Therefore, it appears that the best indicator of LAR is the extent to which the male adheres to rape myths, and the extent to which males perceive FD and FL when first acquainted. In conclusion, future research needs to take into account the cumulative importance of situational factors and investigate further how the two factors combine to result in LAR.

Risk Markers of Sexual Victimization Among Women and Gay Men: Exploring Parallels in Female and Male Sexual Victimization

B. Krahe

Department of Psychology, University of Potsdam, Germany

Two studies are presented exploring similarities in risk markers of sexual victimization among female victims and gay male victims of sexual aggression. The first study examined risk markers among two samples of women ($n = 283$ and 173 , respectively) aged 17 to 20 years. The second study extended the analysis to a sample of 310 homosexual men aged 17 to 25 years. Both studies were conducted in Berlin, Germany. Variables from the following categories were examined as potential risk markers of sexual victimization: ambiguous communication of sexual intentions (token resistance and compliance); levels of sexual activity (age at first intercourse and number of sexual partners); and childhood experiences of abuse (sexual and physical abuse, emotional neglect). Modified German versions of the Sexual Experiences Survey (Koss & Oros, 1982) were developed to measure female and male sexual victimization. In terms of their victimization status, respondents were assigned to one of three groups, namely, no, moderate, and severe victimization. Logistic regression analyses and analyses of variance were conducted to link the risk markers to victimization status. In the two female samples, ambiguous communication of sexual intentions (both “token resistance” and “compliance”), higher numbers of sexual partners, childhood sexual and physical abuse, as well as emotional neglect were significantly related to sexual victimization. In the sample of gay men, the risk of sexual victimization increased as a function of physical abuse, sexual abuse, and emotional neglect; high number of partners; ambiguous communication of sexual intentions; and acceptance of money for sex. Altogether, the findings suggest that it is possible to identify biographical experiences, communication strategies, and patterns of sexual activity that are systematically linked to higher levels of sexual victimization. Highly similar patterns emerged for female and male victims of sexual aggression. The findings highlight the need to develop rape prevention programs targeting victims of childhood abuse as a particular risk group. Both men and women should be educated about patterns of sexual behavior and communication associated with higher risks of victimization.

Analysis of the Difficulties in Therapeutic Approach to Sexual Aggressors of Under 18 Years of Age

C. Tello, I. Samper, E. Longan, and A. Miranda

The Infant and Juvenile Mental Health Centre (CSMIJ), Lleida, Spain

A descriptive study of a group of 15 sexual aggressors all under 18 years of age attending the CSMIJ in Lleida, a center contracted by the Health Service of the Generalitat of Catalonia to determine which factors make the possibilities of therapeutic approach better or not. Data were collected from the specific program of the CSMIJ on the care of minors who have suffered ill treatment or sexual abuse. The variables studied included age, sex, *DSM-IV*, family characteristics, characteristics of the sexual aggression, and therapeutic strategies. The age range of this exclusively male group was 12 to 14 years (71.5%). The main *DSM-IV* is of a behavior

disorder. This is the case for both normal and abnormal families. In 78.5% of cases, the victims are known. The therapeutic approaches are more feasible in minors attending Residential Centres for Educational Attention of the General Department for Infant Care of the Council of Justice of the Generalitat of Catalonia. Despite the difficulties encountered in carrying out this type of therapeutic approach (difficulties in family collaboration and psychopathic alliance with the son/daughter), the developmental phase in which the minors of the sample are found raises the possibility of change and of learning other ways to express their sexuality. Co-ordination with all the agencies involved in the care of minors allows for coherence and universality in their care.

POSTERS

Preventing Physical Abuse: Long-Term Effect of a “Community Program for Psychological Attention to Mothers and their Children in the First Two Years of Life”

M.S. Alhambra, R. Trenado, and S. Simá

Aggression and Family Research Unit, Faculty of Psychology, University of Valencia, Spain

The “Community Program for Psychological Attention to Mothers and their Children in the First Two Years of Life” (Cerezo, 1989) has been promoted as a means of improving maternal and child health. It acts on erroneous parental beliefs about their children, so that the risk of conflicts and abusive episodes diminishes. The present longitudinal study was designed to analyse the program’s long-term effects on parental competence and beliefs about the child’s needs. The study sample was composed of 30 non-clinical families, which pertained to one of three groups. Group 1 (“Advised Mothers”) was formed by mothers who repeated their assistance to the program with their second child. Group 2 (“Inexperienced Mothers”) was formed by mothers which visited the program for the first time with their first child. Group 3 (“Experienced Mothers”) was formed by mothers who visited the program for the first time with their second child. The variable used for the analysis was the mother’s score in the “Child Abuse Potential Inventory” (Milner, 1980). The CAP Inventory evaluates the potential risk of parents to commit physical abuse in their children. It was administered as a pre-test (3 months) and post-test (2 years) to the three groups. Preliminary analyses indicate that advised mothers (Group 1) maintain a moderate to low potential of abuse in comparison with the control groups. They were more competent with their second child and showed a lower risk of child abuse than inexperienced mothers (Group 2) or mothers with not-systematized experience in child rearing (Group 3). It is concluded that primary prevention programs contribute to the development of parental attitudes and competences, with remaining effects that are mostly generalized by the participating mothers to their second child.

Moderating Effect of Aggressiveness, Anger, and Hostility on Concentrations of Testosterone and Cortisol in Saliva

J.M. Andreu,¹ M. García-Bonacho,² A. Esquifino,² and J.M. Ramírez³

¹Department of Clinical Psychology, ²Department of Biochemistry, and ³Department of Psychobiology, Complutense University of Madrid, Madrid, Spain

The relationships between hormones and different types of aggression, anger and hostility have not yet been sufficiently investigated. High levels of testosterone have been

associated with human aggression, but this relationship is lacking in the case of cortisol. In the present study, the impact of physical and verbal aggressiveness, anger, and hostility on both testosterone and cortisol salivary levels was analyzed in a sample of 34 undergraduate male university students. Physical and verbal aggression, anger, and hostility were measured using the Spanish version of the Aggression Questionnaire (Buss and Perry, 1992). This consists of 29 items concerning self-reported behavior and feelings and has a large cross-cultural validation. Sugar-free chewing gum was given to stimulate saliva production. Subjects were asked to chew it and to salivate into polypropylene tubes during four preestablished times during the day. Saliva samples were collected from each subject four times a day: between 8-9 hrs, between 13-14 hrs, between 18-19 hrs, and between 23-24 hrs, respectively. Next day, these samples of saliva were assayed in duplicate by the "Coat-A-Count" solid phase radioimmunoassay (RIA). The distributional properties of the hormone measurements were at conventionally accepted levels. Findings showed a significant relation between low and high levels of physical aggressiveness and testosterone (57 vs. 133, $U = 21$, $p < .05$), as well as between low and intermediate levels of anger and cortisol (108 vs. 217, $U = 17$, $p < .05$). These results are consistent with previous findings.

Study of School Playgrounds and Aggressive Behavior of Children

J.C. Angulo,¹ R. Ortega,¹ and C. Neto²

¹*Department of Developmental and Educational Psychology, Faculty of Psychology, University of Seville, Seville, Spain*

²*Department of Movement Sciences, Faculty of Human Movement Sciences, Technical University of Lisbon, Cruz Quebrada, Dafundo, Portugal*

The present study aimed to assess the importance of school playgrounds in bullying. The research attempted to find out where play and bullying occurred in school playgrounds, and how these varied with age, gender, and leadership. It aimed to analyse free as well as organized play activities and aggressive behavior episodes in playgrounds. The sample consisted of students from the 2nd, 3rd, 4th, 5th, and 6th grades in four Portuguese and four Spanish primary schools. The methodology used in this investigation takes into account variations in the schools from both countries. It focuses (from a cross-cultural perspective) on differences in the places in the school playgrounds where bullying takes place. An observational methodology was used to corroborate information already obtained from other instruments. These included the TMR Network Bullying Questionnaire for Students to evaluate the presence or absence of this problem at the schools studied. The School's Registration Form also provided information about population and space density, structure of physical space, material and equipment, state of apparatus, etc. Studies in both countries confirmed the importance of playgrounds. Data showed frequencies of "bullying" and "being bullied" (around 15-20% of children), different kinds of children's aggressive behavior, places where bullying takes place, and factors associated with the risk of "being a bully" or a "victim" in the school. They also examined specific interventions designed to prevent and respond to bullying in school and monitored changes in the aggressive behavior over time.

The Relationship Between Playing Violent Electronic Games and Aggression in Adolescents

P. Arriaga-Ferreira and J.L. Pais-Ribeiro

Departamento de Psicologia da Universidade Lusofona de Humanidades e Tecnologias, Lisboa, Portugal

The main purpose of this study was to test the association between the violence content of electronic games and the self-reported measures of aggression in adolescents. It also

assessed: the time spent playing video games; the starting age with video games; the perceptions of parental attitudes toward their video game habits; the opinions about the effects of violent video games in the aggressive behavior of children and youths; as well as personality dimensions. Six hundred sixty-six adolescents (239 boys and 327 girls), between the ages of 12 and 17 years ($M = 14.12$), from 8th to 10th grades, completed four questionnaires which assessed sociodemographic data; video game habits; individual components of aggression, measured by the Portuguese version of the Aggression Questionnaire; and personality, evaluated by the Portuguese version of the Junior Eysenck Personality Questionnaire. A fifth questionnaire was developed to evaluate the violence in the video games played by the adolescents, given only to external subjects of this study. Results confirmed that video game playing is a popular leisure activity among Portuguese adolescents. There was evidence that boys spent more time playing video games, started playing earlier, and held fewer negative opinions about the influence of these types of games than girls. Violence content in video games was predictive of total and physical aggression, but only in the female sub-sample. The frequency of boys playing video games in arcades was predictive of total, physical, and verbal aggression. Significant sex differences also revealed that boys scored higher on Psychoticism and on Physical and Verbal Aggression, whereas girls had higher scores on Neuroticism, Hostility, and Anger.

Is Conflict Resolution in Women Related to Trait Aggression and Menstrual Cycle Phase?

A. Bond, L. Hiraki, and J. Wingrove

Section of Clinical Psychopharmacology, Institute of Psychiatry, King's College, University of London, London, UK

Premenstrual changes, involving both physical and psychological symptoms, are well documented. However, subsets of women complain of severe premenstrual disturbance of mood that is categorized as premenstrual dysphoric disorder (PMDD) within *DSM-IV*. The diagnostic criteria for PMDD require that the symptoms are of sufficient severity to impair normal social or occupational functioning. Some of the common symptoms associated with PMDD are depressed mood, tension, anger, and irritability. In order to investigate if such mood changes are related to an increase in interpersonal conflict, including changes in aggression, the Conflict Tactics Scale (CTS) was administered on 3 occasions. The CTS was designed to measure the use of Reasoning, Verbal Aggression, and Violence within the family. It was administered in two versions, one asked about behavior over the past year and the other examined behavior during a follicular and a late luteal phase of the menstrual cycle. Although an aggressive act itself may be a state phenomenon, the tendency to act aggressively in response to some provocation may be a trait characteristic and so the Life History of Aggression (LHA) questionnaire was also administered. Two groups of women participated in the study, a group who met *DSM-IV* criteria for PMDD and an asymptomatic control group. Thirty-eight women completed the CTS and 29 were interviewed for the LHA. There were no significant differences between groups on the CTS completed for the past year. The PMDD group tended to report more conflicts than the controls during the luteal phase, but there was no difference in the methods used to deal with them. The controls used reasoning more during the follicular phase. When the results of the 2 phases were compared within group, there was no difference between phase in the controls, but the PMDD group had higher scores on the total and verbal aggression factors during the luteal compared with the follicular phase. There was a significant correlation between the LHA and the CTS 1 year version ($n = 29$, $r = 0.69$). Therefore, resolving familial conflicts

aggressively is associated with a general tendency to act aggressively. Women with PMDD are not generally more aggressive, but they do report more verbal aggression during the luteal than the follicular phase.

Probable Behavioral Domains for Learned Aggression in Male Mice

N.P. Bondar and N.N. Kudryavtseva

Institute of Cytology and Genetics, Novosibirsk State University, Siberian Department of Russian Academy of Sciences, Novosibirsk, Russia

The sensory contact technique increases aggressiveness in male mice and allows such behavior to be formed by repeated experience of victories in daily agonistic confrontations. Some behavioral domains confirm that learned aggression develops in animals. Analysis of aggressive behavior in male mice with consecutive experience of victories over 2, 10, or 20 days (the T2, T10, and T20 winners) revealed that its structure changes from test to test. Attacking behavior was prominent (81% of the total time) in the T2 winners. Attacks and digging (digging up and scattering litter on the partner's territory) prevailed in the behavior of the T10 winners (each approximately 40%). The T20 winners allocated half the test time to aggressive grooming and 25% to digging. The number of significant correlations (using correlational analysis) between the behavioral domains (attacking, digging, aggressive grooming, self-grooming, threats, rotations) and between different behavioral parameters (latency, number, total and average time) in individual behavioral domains increase from the 2nd to the 20th test. Relationships between the behavioral domains also change qualitatively. The following may be regarded as elements of learned aggression in male mice after twenty days of social victories: (1) Appearance of aggressive grooming (ritual aggression) instead of the intensive attacking behavior. Negative correlations between parameters of these behavioral domains may result in the replacement of one behavioral pattern by others and reflect learned behavior. (2) Involvement of digging behavior (indirect aggression?) in the hostile behavior together with the threats and attacking behavior. Positive correlations between these behavioral domains may reflect the formation of a common motivational background for the T20 winners' behavior. It is suggested that sensory contact technique in mice may facilitate our understanding of the neurobiology of learned aggression in humans.

The Development of Social Representations: Communicating About Aggression

C. Buchholz, E. Curtayne, H. Morio, and D. Richardson

Department of Psychology, Florida Atlantic University, Boca Raton, Florida

Nisbett and Cohen's (1996) seminal work "Culture of Honor" documents the development and persistence of regional differences in beliefs about aggression in the southern United States. The following laboratory study was concerned with regional differences in social representations, particularly how attitudes and beliefs about aggression develop. Several researchers propose that our attitudes and beliefs about abstract concepts, such as aggression, love, and hate, are developed through ongoing social interactions. Social interactions within different sociocultural contexts should lead to cultural and regional differences in beliefs. This study examined the ability of several mechanisms proposed by Dynamic Social Impact Theory (DSIT) to predict the formation of a social representation of aggression in small groups. According to DSIT, an individual's beliefs are influenced by the strength, immediacy, and number of persons in their social environment. Group discussion should lead to individual changes in attitudes; additionally,

attitudes should become more similar to their respective group. Participants were given identical pre- and post-discussion questionnaires that were designed to assess social representations of aggression and physical attractiveness. Each participant was assigned to one of two discussion conditions: aggression (experimental group) or physical attractiveness (control group). In groups of 2–4 people, students discussed four statements relating to their condition. The results revealed that participants who discussed aggression items changed their attitudes on aggression, while participants who discussed physical attractiveness did not change their attitudes on aggression. In the experimental condition (aggression), participants' agreement on their responses to the items tended to increase after the discussion (i.e., their attitude ratings increased on the "culture of honor" items). Although it was not expected, significant clustering was observed at the level of session. Session can be understood as the period of time when people in the same room, but different groups, discussed the same topics in random order. Contrary to the hypothesis, no evidence of clustering was found within groups. The results of this experiment found that the attitudes of individuals changed as a result of discussion, but participants' attitudes did not become more similar to their group.

Different Social Stress Situations, Splenic Norepinephrine, In Vitro Lymphoproliferative Response, and Serum Corticosterone Levels in Male Mice

R. Cacho, E. Fano, G. Beitia, O. Vegas, and A. Azpiroz

Department of Basic Psychological Processes and Development, University of the Basque Country, San Sebastian, Spain

Two different social stress paradigms (cohabitation in pairs or fixed dyadic interactions) were assessed for their effects on splenic contents of norepinephrine (NE), serum corticosterone levels, and in vitro splenocyte proliferative responses to Concanavalin-A in male OF1 strain mice. For each stress situation, two durations were used, namely, 5 or 15 behavioral tests in the case of the fixed dyadic interaction subjects and 5 or 15 days of cohabitation in the case of the cohabiting animals. After 2 weeks of individual housing, 24 animals were allocated to cohabiting or fixed dyadic interaction pairs for both durations. Spleen NE contents showed no significant differences. Serum corticosterone titers were higher in subordinates and in short stress situations, but there was no difference between cohabiting animals and those allocated to the fixed dyadic interactions paradigm. Interaction between social status and duration was also significant. Serum corticosterone levels in dominant animals did not change with time, whereas the corticosterone titers of subordinate subjects progressively decreased. In vitro splenocyte proliferative responses to 5 $\mu\text{g}/\text{ml}$ of Concanavalin-A antigenic stimulation were higher in subordinates and in cohabiting subjects (a 10- $\mu\text{g}/\text{ml}$ dose did not produce significant differences). Although a subordination-related immunosuppression might have been expected, results indicated just the opposite. Data are available suggesting that chronic stress situations lead to immunoenhancement. These results suggest a greater proliferative response in cohabiting animals. Data also exist, however, indicating an inverse relationship between glucocorticoid secretion by submissive subjects and splenocyte proliferative capacity. Generally, the subordination stress-related differences in splenic lymphoproliferative response, as well as those observed between social stress paradigms, cannot be directly related to observed changes in serum corticosterone levels. These data support the view that stress does not affect different immunological measures in a simple and consistent way.

Drumming Up Peace: Grassroots Responses to Aggression

M.A. Cejka

Center for Mission Research and Study, Maryknoll, New York

Local researchers in Northern Ireland, Rwanda, Sudan, Sri Lanka, Philippines, Guatemala, and the United States are gathering data on grassroots peacemaking attempts in situations of armed conflict taking place over an ethnic or religious divide. Sites were selected on the basis of geographical diversity, duration and intensity of conflict, and accessibility of respondents and data, as well as demographic and historical variables. The choice of ethnicity or religion as motivations for the conflicts to be studied are based upon data from Human Rights Watch and the Peace Research Institute at Oslo indicating that these motivations are more typical of current serious conflicts than class, territory, politics, or ideology. Researchers are focusing specifically on the following questions dealing with responses at the grassroots level: What is being done? Who is doing it? How is it being done? What motivates it? What were the problems and constraints? Finally, what were the effects? Qualitative methods used to explore these questions will include interviewing, focus groups, personal narratives, documentary analysis, historical techniques such as periodization, and anthropological techniques such as ethnography and participant observation. Preliminary data were presented on instances of noncollaboration, direct intervention, acts of solidarity, legal recourse, public ritual, educational efforts, and diplomacy—all as practiced by ordinary people—and on the efficacy of each type of intervention. In addition, two quantitative studies explored (1) gender differences in motivations and techniques in peacemaking and (2) the degree to which perceptions of the divine, perceptions of the opponent, and belief in a just world predict involvement, motivations for involvement, or types of involvement in peacemaking. CMRSM is committed to the facilitation of research on peace and justice issues in a collaborative manner by researchers in the Two-Thirds world. Results of the present study will be disseminated by means of pamphlets, local symposia, videotapes, and a volume to be published by Orbis books.

Behavioral Profile of U-50488, a Selective Kappa Opioid Agonist, in Social Encounters Between Male Mice

G. Dávila, J.F. Navarro, C. Pedraza, and E. Maldonado

Section of Psychobiology, Faculty of Psychology, University of Málaga, Málaga, Spain

Aggressive behavior is reportedly influenced by opiate drugs. Numerous studies have demonstrated that morphine and other mu receptor agonists decrease aggressive behavior induced by different experimental procedures, although this action has not been consistently described. By contrast, the role of kappa opioid receptor in aggression has been scarcely examined. The aim of this study was to assess the effects of U-50488, a selective kappa opioid agonist (2, 4, and 8 mg/kg IP) on isolation-induced aggression in male mice using an ethopharmacological approach. This procedure is useful for psychopharmacological research, enabling one to distinguish between specific and non-specific drug effects. Individually housed mice were exposed to anosmic “standard opponents” 30 min after drug administration. The encounters were videotaped and the accumulated time allocated by subjects to ten broad behavioural categories was estimated using an ethologically based analysis. The names of categories were as follows: (1) Body care; (2) Digging; (3) Non Social exploration; (4) Exploration from a distance; (5) Social investigation; (6) Threat; (7) Attack; (8) Avoidance/flee; (9) Defense/submission; and (10) Immobility. Compared with the control group, social investigation behaviors were clearly increased in mice treated

with U-50488 (4 and 8 mg/kg; $P < .001$). Likewise, threat and attack behaviors were significantly decreased after treatment with the drug (4 and 8 mg/kg; $P < .05$), without affecting immobility. In conclusion, U-50488 produced an ethopharmacological profile suggesting that the kappa opiate receptor is involved in the modulation of aggressive and social behavior in mice.

On the Link Between Childhood Physical Abuse and Adult Anger Expression: A Cognitive Behavioral View

J. Epps, S. Shaw, K. Russo, and D. Clay

Department of Psychology, University of South Florida, Tampa, Florida

In extant literature, a consistent, positive relationship has been found between the occurrence of childhood physical abuse (CPA) and adult violence/aggression. However, there is wide variance in adult aggressive behaviors among those with a history of CPA, prompting a search for moderating or mediating variables. Cognitive-behavioral views of aggression hold that one mechanism for this link is the development of skewed norms for anger expression secondary to repeated exposure to aggressive models. Those who view parental aggression as normative may describe themselves as having no subjective history of CPA, despite recalling events that would be seen by those in the field as abusive. Others with similar event memories may label themselves as having been abused. As such, differential norms should prompt greater adult anger expression for persons who meet criterion but do not label themselves as abused (Criterion Only or CO) than for those who have both the event memory and the self-label (Criterion + Label or C+L). A previous study found such differences, with the CO group showing greater outward anger expression than the C+L group. That study used a medical sample and did not test for mediators. The present study used a college student sample to replicate these findings and to test for perception of aggressive norms as a potential mediator. Participants ($n = 447$) were screened using the Emotional and Physical Abuse Questionnaire and were asked if they viewed themselves as having been physically abused. They were also given Buss & Perry's Aggression Questionnaire and Spielberger's State-Trait Anger Expression Inventory and modified versions of those questionnaires soliciting the participant's same-gender norms of aggression. The CO group reported themselves to be more physically aggressive and to have more suppressed anger than did a non-abused (NA) control group. The C+L group did not differ from the NA group. When participants' same-gender norms for physical aggression and suppressed anger were covaried out, the CO group did not differ from the NA group. Perceived norms for aggressive behavior mediated the relationship between abuse status and adult anger expression, supporting a cognitive behavioral view of aggression.

Studies on Predatory-Defensive Behaviors in Female Laboratory Mice

K.B.H. Kamal

Biology Department, Faculty of Science, King Abdul-Aziz University, Jeddah, Saudi Arabia

Anxiety may be considered a form of danger anticipation. It leads to precautions being taken and (if necessary) means of defense being employed to avoid or negate the danger. Many studies have been carried out on laboratory mice to assess their strategies for identifying and escaping from predators. The first line of defense against predation involves the ability of the potential prey to identify signals associated with the presence of danger. The present studies were carried out on mature female Swiss mice around 90 days of age. A test arena ($60 \times 60 \times 30$ cm) was connected with a mouse cage ($30 \times 20 \times$

20 cm) via an opaque tube, 10 cm long and 5 cm in diameter. The apparatus was designed in order to assess the responses of laboratory mice to the presence of cues from predators. Mice familiar with their environment show their need to explore, an activity that changes if they become anxious. Subjects were exposed to stimuli such as predator odor (e.g., the smell of cat faeces) or intermittent tape-recorded sounds (the cries of predatory birds, e.g., *Strix aluco* and *Falco tinniculus*) in order to examine their avoidance responses. The latency before they entered the arena and the total time they spent in there were respectively extended and decreased in comparison with control groups (not exposed to such cues). The number of times the head of the animal emerged from the tube into the arena increased, a measure that is generally interpreted as risk assessment. Mice also increased the number of times they stopped moving and increased their allogrooming in the presence of Tawny Owl (*S. aluco*) sounds. All these changes seem logical responses to increased predatory threat and may be useful in assessing the effects of anxiolytic and panicolytic drugs.

PLENARY LECTURE: BIOCHEMICAL AND MOLECULAR GENETIC FACTORS IN HABITUAL VIOLENCE AND ANTISOCIAL ALCOHOLISM: CONTROL AND PREVENTIVE INTERVENTIONS

Matti Virkkunen

Department of Psychiatry, Helsinki University Central Hospital, Helsinki, Finland

Serotonin has a central role influencing impulsive and habitual violent tendencies and personality disorders. Low brain serotonin turnover (CSF 5-HIAA) together with changes in glucose metabolism in the short term and low noradrenaline turnover in the longer term provide biological indicators one can use to predict further violence among prisoners with antisocial personality disorder (ASP). ASP offenders account for around 80% of all habitual violence. Preliminary molecular findings using sibpair linkage analysis link the serotonin 1B receptor gene in chromosome 6 or area near it to antisocial alcoholism (ASP and type 2 alcoholism connected with it). This serotonin receptor, alcohol, and aggression have also been linked in studies of laboratory animals. Treatments of violent tendencies with medicines and dietary means are at a very preliminary phase. There are, however, findings suggesting that the serotonin uptake inhibitor fluoxetine, lithium carbonate, beta adrenergic blockers, and the atypical neuroleptic clozapine can effectively treat violence. Because of the new molecular genetic findings, the most interesting class of medicines on the horizon are the serotonin 1B agonists. Changing nonesterified fatty acids in the diet and especially omega-3 fatty acid, docosahexaenoic acid may ameliorate impulsive habitually violent tendencies even in the case of ASP. This fatty acid correlates with CSF 5-HIAA in adult violent offenders and early-onset alcoholics. As maternal smoking during pregnancy is connected with conduct disorder problems of the child that may continue into full-blown ASP in adulthood, this also suggests important means of prevention (although the exact biological mechanism is unclear). In the future, treatment and prevention will involve better understanding of the normal progression to ASP. Why does the disorder often diminish in middle age and what are the brain transmitter and metabolic changes connected with it?

INVITED SYMPOSIUM: GENES AND AGGRESSION: FROM MICE TO HUMANS

Organizer: Stephen Maxson

Department of Psychology, The University of Connecticut, Storrs, Connecticut

Discussant: Caroline Blanchard

Pacific Biomedical Research Center and Department of Genetics and Molecular Biology, John A. Burns School of Medicine, University of Hawaii at Manoa, Honolulu, Hawaii

Overview

For more than 60 years, research on the genetics of mammalian aggression has focused on the mouse. It has been hoped that the findings with mice would be relevant to our understanding of the causes of aggression in humans. Since the mid-1990s, more than 15 genes have been identified with effects on offense type aggression in male mice. These genes have homologues in humans with similar effects on molecular and cellular biology. Pierre Roubertoux discussed his research program on the genetics of mouse aggression and related these studies to the genetics of human aggression. Pascale Guillot related research on the role of the Y chromosome in mouse aggression to a program of research on primate and human aggression. Caroline Blanchard expressed concern that one should not treat animal and human aggression separately.

Attack Behavior in Mice: Implication of the Steroid Sulfatase Gene Mapped on the Pairing Region of the X-Y Chromosomes

P.L. Roubertoux, S. Mortaud, L. Nicolas, I. Le Roy, and S. Tordjma

UPR CNRS 9074, Génétique, Neurogénétique, Comportement, Institut de Transgénèse, Orléans, France

The sexual dimorphism of aggression has led to a search for its Y-chromosomal correlates. The initiation of attack against a conspecific male has been confirmed to be Y-dependent in two strains of laboratory mice (NZB and C57BL/6J). Evidence was shown that the pairing region of the Y co-segregates with attack behavior in these strains. In addition, the genetic correlates of attack behavior are not expressed when borne on the homologous pairing region on the X chromosome but only when carried on the Y chromosome. Only one functional gene (coding for steroid sulfatase or STS) is thus far mapped on this region, suggesting that it could be a candidate for attack behavior. The genetic correlation between the concentration of STS protein in the liver and initiation of attack behavior as estimated. Mice were also employed in which gene "knock out" induced attack behavior. Pharmacological modulations of STS or of its metabolites modify the frequencies of attack in these male mice, confirming the implication of STS in aggression. Recent investigations have demonstrated the involvement of STS in neurosteroid biochemical pathways, and several lines of evidence indicate that neurosteroids interact with neurotransmitters. These conclusions and the present results support the view that sulfation of steroids may be the prime mover linking genes to aggression in mutagenesis.

Genetic Determinism of Aggressive Behavior

P.V. Guillot,¹ R.A. Kittles,¹ J.C. Long,¹ A.W. Bergen,¹ M. Virkkunen,² H. Naukarinnen,¹ M. Linnoila,¹ and D. Goldman¹

¹*Laboratory of Clinical Studies, National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health, Rockville, Maryland*

²*Department of Psychiatry, University of Helsinki, Helsinki, Finland*

In mice, aggression has a genetic component that acts in concert with environmental factors. Furthermore, inter-individual differences for the propensity to attack are partly attributable to allelic variants located on both the non-pseudoautosomal and recombinant regions of the mouse Y chromosome. However, no nucleotide change in a Y chromosome gene has yet been found to account for a behavior difference. Interspecies comparisons of aggressive behavior reveals some similarities between primates and mice, including both the existence of sexual dimorphism (males being more aggressive than females) and intermale differences. Measures of aggression in primates and rodents were compared. The data supporting Y chromosome-specific factors in murine aggression are principally from reciprocal crosses, in which the strain of origin of the male parent predicts behavior. The human data derive from a Y-haplotype association study conducted in a Finnish population. Type II alcoholism and antisocial personality disorder (ASPD) are commonly associated in men in Swedish and American populations. Whereas Y chromosome variations account for individual differences in alcohol dependence in Finnish population, results failed to show an association between a Y chromosome haplotype and ASPD. Relevance of murine attack behavior to human aggression is discussed. The hypothesis that Y chromosome gene variation is responsible for behavioral variation now requires direct testing at the gene sequence level. The genes located on the Y chromosome are TSPY, RPS4Y, TDF, ZFY, PRKY, AZF1, BPY, DBY, HY, and RNM, and it is these genes whose allelic variants could influence inter-individual behavioral variations. Of particular interest for primate behavioral variation may be RPS4Y because this ribosomal protein subunit gene does not have a Y chromosome counterpart in rodents. Both humans and rodents have an RPS4X gene, but the RPS4Y gene could be a primate-distinct origin of sexual dimorphism and intermale behavioral variation.

INVITED SYMPOSIUM: VICTIMS OF WAR: IMPACT ON MENTAL HEALTH

Organizer: B. Milan Stojakovic

Clinic of Psychiatry, Banjaluka, Republic of Srpska, Bosnia – Herzegovina

Overview

This symposium provided general information obtained by psychiatric emergency services about the impact of war on mental health. The participants informed the audience about their own experiences in the disasters caused by war in former Yugoslavia, in the Ossetia and Abkhazia regions of Georgia, and in Chechnia. Data were provided about Posttraumatic stress disorder (PTSD) caused by war in former Yugoslavia. The main psychological problems observed in Internally Displaced Persons (IDPs) in Georgia were de-

scribed and the psychotherapeutic assistance and psychosocial rehabilitation service provided for Chechen refugees detailed.

Consequences of War: Posttraumatic Stress Disorder

B.M. Stojakovic¹ and D.N. Nikolovski²

¹*Clinic of Psychiatry, Banjaluka, Bosnia-Herzegovina*

²*Institute of Public Health, Pancevo, Yugoslavia*

The appearance and evolution of PTSD caused by war was followed in 200 hospitalized patients between October 1992 and September 1994. A longitudinal study of these patients during the subsequent four years was also carried out. The study showed that the most frequently diagnosed category of reactive states to war was PTSD being observed in 38.8% cases of hospitalized patients. The depressive reaction was present in conjunction with PTSD in 56% of patients. The most frequent traumatic experiences which have caused PTSD were (1) the experience of closeness of death; (2) dealing with wounded and massacred people; (3) exposure to physical torture, and (4) the sight of massacres. No significant differences between military and civilian patients were found in terms of the nature of the symptoms of PTSD such as flashbacks and avoidance of situations associated with trauma. There were, however, significant differences in the occurrence and irreversibility of these mental disorders in military and civilian patients. Depression was more frequent in military patients, and anxiety was mainly diagnosed in civilian patients. The analysis of mental health during the period after PTSD revealed that changes occurred in different parameters of general and specific social behavior. The symptoms of acute PTSD (with duration less than six months) were found in 11%, while chronic PTSD (with duration between six months and two years) was diagnosed in 64% of patients. Irreversible (with duration more than two years) changes in personality were found in 8.5% of patients. Based on the present study, a program of interventions is proposed to prevent the appearance of PTSD and other consequences of war stress.

Traumatised Populations of Internally Displaced Persons and Refugees: Problem of Relationships with the Local Society

D. Javakhishvili

Foundation for the Development of Human Resources (FDHR), Tbilisi, Georgia

As a result of inter-ethnic conflicts (1992–93), two important regions (Ossetia and Abkhazia) of Georgia were cut off and a wave of 300,000 IDPs emerged. The main psychological problems of IDPs include Victimisation (a sense of being helpless, with decreased self-esteem and loss of responsibility for one's own life and current events) and an Enemy Image (a generalized and dehumanized image of the aggressor). When this aggressor is remote from IDPs, this enemy image can "float" around and fix itself on the first available object. The best targets among surrounding persons are those who are different. This is why latent tensions between IDPs and locals exist. This is why special attention must be directed to relationships between IDP/refugees and local populations. Interactions of locals and IDP/refugees are characterized by some universal (common) stages. They start with Euphoria as the IDPs/refugees are initially thankful for help and their reception and the local population is full of compassion and readiness to help them. This is followed by a clash of interests due to economical and social problems, with tension and the latent Confrontation of the parties starts to appear. The Enemy Image, peculiar for IDPs/refugees, has an important role in this Confrontation process. In the Confrontation phase, the parties start to blame each other for social, economical, and other existing difficulties. It can result in a variety of overt conflicts taking place. Finally, in the Alienation phase, the

parties maintain a distance and the confrontation is “frozen,” but danger of further conflict persists. IDPs/refugees became isolated from social life in the local society. The FDHR has developed strategies and tactics aimed to normalize relationships between IDPs/refugees and local populations and to overcome the former’s isolation from social life.

Chechen Refugees: Aggression-Victimization Cycle

N. Makhashvili

Foundation for Development of Human Resources (FDHR), Tbilisi, Georgia

The FDHR has been providing psychotherapeutic assistance and psychosocial rehabilitation service to Chechen refugees who have been residing in Georgia since the recent war actions in Chechnia (Fall, 1999). The project is financed by the Norwegian Refugee Council, the Red Cross, and the Red Crescent Federation. Detailed observations of the refugee population reveal a wide range of problems. They include feelings of estrangement and abandonment, with anger, anxiety, suspicion, and hostility being directed to the “outer” world. They show disorders of social functioning evident in an inclination for conflict and a tendency to show impulsive relief of aggression. Different severe symptoms of PTSD are seen in both adults and children. Members of the Chechen population share a “collective” memory of historical events of group victimization, which is transmitted to the new generations by storytelling, “legends,” “myths,” and folklore. To avoid victimization feelings, aggressive reactions became the most “effective” self-defensive strategy. This may result in the development of a revengeful attitude and increased aggression in children who are brought up by the “ideal models,” namely, heroic warriors and fighters. Special importance is consequently attached to overcoming the victim-aggressor style of interaction, reinforcement of constructive coping strategies for dealing with trauma, reducing PTSD symptoms, cognitive reframing, and helping the population to obtain a sense of new meaning to life. An integrated methodology has been developed by the FDHR team, used on both individuals and groups that is aimed to intervene at different “levels” of personality (identity, cognitive, emotional, and behavioral) and interpersonal relations. Work is carried out with adult groups (teachers, medical personal, and parents) as well as with children and their families.

SYMPOSIUM: SOCIAL REPRESENTATIONS AND BELIEFS ABOUT AGGRESSION

Organizer: John Archer

Department of Psychology, University of Central Lancashire, Preston, Lancashire, UK

Overview

Since Campbell & Muncer (1987) introduced the concept of social representations of aggression, there have been a number of studies documenting instrumental and expressive beliefs (or social representations) that people hold, principally about their own aggression. Women tend to hold more expressive and men more instrumental beliefs, although in the case of instrumental beliefs this finding only holds for same-sex physical aggression. The four papers in this symposium illustrate the different ways in which social representations and beliefs have been applied to more general issues concerning aggression in recent stud-

ies. They involve their relation to classic measures of attitudes and to normative beliefs. They consider whether instrumental beliefs apply to the supposed upsurge in masculine behavior by young women. They also investigate the dynamic nature of “social representations” of aggression as well as looking at the relation between beliefs about aggression and the extent of physical aggression to partners.

Which Attitudinal Measures Predict Self-Reported Aggression?

J. Archer

Department of Psychology, University of Central Lancashire, Preston, Lancashire, UK

A sample of 165 British students aged 18 to 52 years was used to study the association between instrumental (I) and expressive (E) beliefs about aggression as well as (1) attitudes to aggression (measured by semantic differentials) and (2) normative beliefs about aggression. I and E beliefs were only weakly associated with these attitudinal measures. The extent to which they predicted self-reported aggression was also assessed, showing that physical aggression was predicted mainly by instrumental beliefs about aggression. The strongest predictors of verbal aggression were higher instrumental and lower expressive beliefs. Anger was associated with instrumental beliefs. Hostility was predicted by holding both instrumental and expressive beliefs. Men and women showed some differences in the attitudinal predictors of self-reported aggression. Men also showed more instrumental and less expressive beliefs than women; they viewed aggression and fighting more positively and reported more physical aggression. All aggression measures showed a slight decline with age, and men, with age, viewed aggression as more negative, less potent, less instrumental, and more expressive.

“Ladettes” and Social Representations of Aggression

S. Muncer and A. Campbell

Department of Psychology, University of Durham, Durham, UK

In 1997, women committed only 17% of all violent crime in the United Kingdom. However, in the ten-year period between 1984 and 1994, arrests for violent crime (as a percentage of all female arrests of young women under 21) rose from 11.2% to 20.1%. The rise in youthful female violence gave rise to a flurry of media speculation that “laddism” (the adoption of antisocial male attitudes) was to blame. This kind of attribution is not new. Twenty years earlier in the United States, a similar outcry about the “masculinising” effects of women’s economic and social “liberation” was also prominent. Despite this, little research has empirically addressed this relationship. A scale was developed that was designed to measure endorsement of “laddish” behavior by women. It was predicted that laddism among females would be positively associated with higher self-reported aggression and the holding of a more instrumental representation of aggression. It was predicted in males that support for women’s masculine behavior would be negatively correlated with self-reported aggression (since previous literature suggests that “macho” attitudes supporting violence are associated with a traditional stance toward the female role) and negatively correlated with instrumental orientations to aggression.

Dynamic Social Impact Theory (DSIT) Predicts the Development of Social Representations of Aggression

D.S. Richardson and B. Latané

Department of Psychology, Florida Atlantic University, Boca Raton, Florida

This paper reviewed evidence for the existence of social representations of aggression and then focused on the group-level processes by which such representations are likely to

develop. The existence of social representations (SRs) of aggression suggests that an individual's concept of aggression develops through social influence processes and that ideas about aggression vary as a function of group membership. The notion that representations differ by group membership is supported by finding that instrumental social representations of aggression are stronger and more organized among males and disadvantaged young people with greater experience of aggression (either as aggressors or victims) than among college students. Dynamic Social Impact Theory (DSIT) predicts group-level consequences of ongoing communication among individuals whose propinquity affords reciprocal interactions. As a minority is exposed to contrary pressures and the distribution of opinions among neighbors in social space becomes less varied and more organised through *consolidation* and *clustering*. As a social system develops such organisation, people are more likely to perceive regularities and generate SRs that, in turn, promote higher levels of organisation. Walker (1999) examined the development of social representations of direct and indirect aggression. He argued that indirect aggression, because the concept is relatively "unorganized" among lay people, would be a fertile topic for examination of the development of social representations related to aggression. Consistent with the predictions of DSIT, exchanging messages in electronic space about indirect aggression resulted in clustering and consolidation of opinions about the aggressiveness of such behaviour, suggesting the development of social representations. Through interpersonal communication and the principles of dynamic social influence, indirect aggression is given meaning and is transmitted over time to people who share physical space. Extending the study of such processes to face-to-face communication, Richardson and colleagues (1999) also found evidence of regional clusters of attitudes about aggression among individuals who engaged in discussion about justifications for aggressive behavior.

The Association Between Beliefs about Aggression and Partner Physical Aggression

N. Graham-Kevan and J. Archer

Department of Psychology, University of Central Lancashire, Preston, Lancashire, UK

This study concerns the association between beliefs about aggression and measures of physical aggression and injuries sustained by partners. The sample consisted of students ($n = 113$), women from a domestic violence refuge ($n = 44$), and male prisoners ($n = 108$). Those reporting that they had used physical force at some time, completed an adapted version of the EXPAGG (Archer and Haigh, 1997), the Conflict Tactics Scale (CTS) (Straus, 1979) for themselves and their partner, and items regarding fear experienced by themselves during conflicts and injuries sustained by themselves and their partner. Over all these respondents, the instrumental scale was significantly positively correlated with self-reported use of physical aggression and six of the eight individual acts that compose the physical aggression scale of the CTS. Injuries to partners were positively correlated with instrumental beliefs. Correlations for the student ($n = 38$) and prisoner ($n = 46$) samples were similar to the whole sample, but there were differences for the refuge sample. Regression analysis showed that, overall, instrumental beliefs predicted participants hitting their partners and injuries sustained by partners. The expressive scale showed lower but significant positive correlations with only one item of physical aggression, that of beating one's partner. The male prisoner sample showed positive correlations between the expressive scale and self-reported physical aggression, both minor and severe, and the use of four of the eight individual acts. Regression analysis revealed that the holding of expressive beliefs about aggression predicted only beating one's partner in the aggregated sample.

SYMPOSIUM: SOCIAL AGGRESSION IN ANIMALS: ACUTE AND LONG-TERM EFFECTS ON BEHAVIOR AND PHYSIOLOGY

Organizers: Jaap M. Koolhaas¹ and Andrea Sgoifo²

¹*Department of Animal Physiology, University of Groningen, Haren, The Netherlands*

²*Dipartimento di Biologia Evolutiva e Funzionale, Università di Parma, Parma, Italy*

Overview

Most individuals in social species face a certain level of stress derived from aggressive interactions with conspecifics. Some, by achieving a sufficient degree of control over their social environment, may cope well, whereas others, incapable of adopting adequate coping strategies, may suffer and develop various symptoms of stress-related pathology. Today, there is considerable experimental work describing in detail the effects of social stressors on physiology and behavior. This symposium aimed to call together a number of scientists who, despite belonging to different scientific disciplines (neurobiology, psychoneuroendocrinology, psychiatry, cardiovascular physiology, and ethology), share an interest in the behavioral and physiological consequences of social aggression in animal models. The symposium illustrated the negative consequences social stimuli may have on neuroendocrine systems, cardiovascular function, circadian rhythms, as well as social and sexual behavior. It also provided some examples which could help to answer the question “What can experimental studies on social stress in animals tell us about stress-related disorders in humans and what implications do such studies have for clinical practice?”

Intermittent Social Conflict: Acute and Long-Term Autonomic Consequences in Rats

A. Sgoifo,¹ P. Meerlo,² C. Pozzato,¹ M. Manghi,¹ D. Stilli,¹ E. Musso,¹ and J.M. Koolhaas³

¹*Dipartimento di Biologia Evolutiva e Funzionale, Università di Parma, Parma, Italy*

²*Department of Neurobiology and Physiology, Northwestern University, Evanston, Illinois*

³*Department of Animal Physiology, University of Groningen, Haren, The Netherlands*

In rats, social conflicts produce acute autonomic and neuroendocrine effects as well as long-lasting changes of circadian rhythms of heart rate, body temperature, and physical activity. This paper describes the impact of dominant-subordinate as compared to dominant-dominant aggressive confrontations on (1) autonomic balance and susceptibility to cardiac arrhythmias during stress exposures and (2) daily rhythms of heart rate (HR), temperature (T), and physical activity (Act) following social conflicts. Wild-type males (6 months old, $n = 12$) were fitted with telemetry ECG/Temperature/Activity transmitters and confronted in their own territory for 10 consecutive times with a young male which they systematically attacked and defeated (dominant-subordinate interactions, DSIs). Six days after the last victory, each animal was introduced in the territory of another dominant male, resulting in fierce fighting (dominant-dominant interaction, DDI). ECGs were recorded in baseline, test, and recovery periods (15-min each) during 1st and 10th DSIs and in DDI. Rhythms of HR, T, and Act were monitored before and after each social challenge. Although all three stressors produced significant reductions of average RR interval, such dec-

rements were significantly larger in DDI than in the two DSIs. In addition, RR variability was significantly reduced in DDI, whereas it was unchanged in both DSIs. These data suggest that in dominant rats confronted with same-rank males, the sympathovagal balance is shifted toward a sympathetic dominance, whereas it is substantially maintained when they are confronted with a subordinate male. Consistent with this finding is the incidence of premature ventricular beats, which was significantly greater in DDI than in both DSIs. DSIs did not produce any effect on the daily rhythms of HR, T, and Act. In contrast, DDI significantly decreased the daily amplitude of rhythms, which lasted for two weeks. The individual changes in rhythm amplitude did not correlate with number of attacks received from the territory owner. On the contrary, they were negatively correlated with aggression exhibited by the experimental rats themselves (i.e., the number of counter-attacks). Therefore, the long-term consequences of a social conflict in the rat do not seem to depend on the physical intensity of the fight in terms of aggression received, but on the subject's coping strategy.

Behavioral and Physiological Consequences of Chronic Subordination Stress

D.C. Blanchard

Pacific Biomedical Research Center and Department of Genetics and Molecular Biology, John A. Burns School of Medicine, University of Hawaii at Manoa, Honolulu, Hawaii

Behavioral and endocrine consequences of chronic subordination stress have been demonstrated in a wide range of mammals and non-mammalian vertebrates. Behavioral components include enhanced defensiveness, reduced activity, exploration, appetitively motivated behavior, variations in sleep-waking cycles, and increased voluntary consumption of psychoactive drugs. Regional brain neurotransmitter system differences of subordinates compared to controls or dominants have been shown for a variety of monoamines; for amino acids; and for neuropeptides. Endocrine consequences of chronic social stress include marked changes in both central and peripheral regulation of adrenal and gonadal steroids. These differences for chronically socially stressed subordinates provide parallels to the behavioral and physiological changes associated with some stress-linked psychopathologies.

Effect of Repeated Social Stress on C-Fos Expression in the Rat Brain

M. Martinez,¹ A. Calvo-Torrent,¹ A.A. Valverde-Navarro,² M.A. Picá-Alfonso,¹ J.L. Payá-Cano,¹ F. Martínez-Soriano,¹ and J. Herbert³

¹*Section of Psychobiology, Faculty of Psychology, University of Valencia, Spain*

²*Department of Morphological Sciences, Faculty of Medicine, University of Valencia, Spain*

³*Department of Anatomy, MRC Cambridge Centre for Brain Repair, University of Cambridge, UK*

Defeat in intraspecific encounters between male rats represents a biologically relevant form of social stress. In order to assess the changes induced in the neural activity in animals exposed to defeat, immediate early gene (e.g., *c-fos*) expression is used. The objective of this study was to determine the pattern of adaptation of the neural activity when animals are repeatedly exposed to defeat. Lister hooded male rats were exposed to the attack of a larger male for 1, 2, 5, 10, or 20 consecutive days in the latter's home cage. Control animals were exposed to an empty cage. *C-fos* expression in the forebrain and brainstem was quantified using image analysis sixty minutes after the last defeat. The results indicate that acute defeat increased neural activity in most of the brain areas studied in comparison with control animals. However, when

animals were exposed to repeated defeat for different periods, the pattern of adaptation was highly regionally specific. In some areas, such as the lateral septum, the central and cortical amygdala, the lateral hypothalamic area, and the lateral and medial divisions of the paraventricular nucleus of the hypothalamus, *c-fos* expression decreased with increasing exposure to defeat. However, in other areas, such as the prefrontal cortex, the raphe nuclei, and central grey, this decrease was not observed. Other areas such as the bed nucleus of the stria terminalis, the medial amygdala, the dorsal division of the paraventricular nucleus, and the locus ceruleus showed an initial decrease in the activity but later increased again. In conclusion, the present study shows that the brain adapts to repeated social defeat in a specific manner. Furthermore, studying animals over comparatively prolonged periods may yield a more complete picture of the dynamics of the neural response to chronic social stress. The implications of the changes in neural response to adaptation seen in other stress responses needs further research.

Effects of Aggressive Harassment on Male Copulatory Behavior in Japanese Macaques

A. Troisi¹ and M. Carosi²

¹Department of Psychiatry, University of Tor Vergata, Rome, Italy

²Laboratory of Comparative Ethology, NIHCD Animal Center, Poolesville, Maryland

Disruption of a rival's mating activity is a prominent strategy for intrasexual competition in many mammal species. The present study aimed to analyze the effects of aggressive harassment on different measures of male copulatory behavior in Japanese macaques (*Macaca fuscata*). The subjects were adult monkeys living in a stable social group of 82 individuals. Two hundred forty copulations were recorded involving 68 different heterosexual pairs formed by 16 males and 26 females in 238 hours of observation. The data collection method was a combination of "focal group" and "complete record" techniques. A total of 62 episodes of aggressive harassment of consort pairs were recorded. The intensity of harassment displayed by the aggressors ranged from stare threat to physical attack. The frequency of aggressive harassment did not vary with the dominance rank of the consort partners ($F = 0.41$, $df = 3,65$, NS). To assess the impact of aggressive harassment on male copulatory behavior, the frequency of aggressive harassment was correlated with a number of different measures reflecting the efficiency of male sexual performance. The number of episodes of aggressive harassment suffered by each male correlated not only with the number of copulations interrupted before ejaculation because of overt interference ($r = 0.61$, $p < .005$) but with the number of copulations interrupted before ejaculation without any apparent reason ($r = 0.81$, $p < .0001$). In contrast, the frequency of aggressive harassment did not correlate with total of ejaculations ($r = 0.30$), the number of different females with whom each male was observed to ejaculate ($r = 0.31$), and the mean ejaculation latency ($r = 0.22$). It was hypothesized that, in a multi-male group living in a large enclosure with several visual barriers, high-ranking males have great difficulty trying to reduce a rival's global mating success through aggression, even though aggressive harassment disrupts a consistent percentage of rival's mount series.

Single Social Defeats in Rats: Temporal Dynamics of the Stress Response

J.M. Koolhaas, B. Buwalda, M.A.W. Ruis, and S.F. de Boer

Department of Animal Physiology, University of Groningen, Haren, The Netherlands

A single social defeat in male rats has long-term physiological and behavioral consequences. Depending on the parameter, changes may last from several hours up to days and weeks. This makes the model highly suitable for study of the temporal processes underlying the develop-

ment of affective disorders. Reduction in 5-HT neurotransmission and changes in the HPA axis are highly characteristic of affective disorders in human beings. Pharmacological challenge tests using serotonergic agonists demonstrate a gradually developing reduction of the corticosterone and hypothermia responses. A hyperresponsiveness of ACTH and corticosterone to a CRH challenge is initially observed. Concomitantly, a gradual reduction of the corticosterone feedback develops, as reflected by an enhanced ACTH and corticosterone response in the dexamethasone CRH challenge test. This is accompanied by changes in MR and GR binding having a different time course in different brain areas. Hence, HPA axis regulation changes gradually at various levels of organization. Despite these changes in regulation, plasma levels of corticosterone remain relatively constant after the defeat. The dynamic changes in behavior and physiology depend on the social housing conditions after the defeat. It seems that the absence of social support after the social defeat is essential for the development of depression-like symptoms in male rats. The temporal dynamic of the various stress parameters implies that the state of the animal shortly after the stressor differs from that seen several days or weeks later, i.e., the syndrome depends on time of measurement after the stress experience. Therefore, it is often misleading to label these symptoms as signs of human psychopathology. In fact, the social defeat model allows a detailed analysis of the cascade of events triggered by a traumatic life event. Understanding this cascade in terms of causal and sequential processes and the conditions that might speed up or delay its progressive character is relevant in understanding the etiology of human affective disorders.

SYMPOSIUM: RESPONDING TO POLITICAL VIOLENCE: HELPING ITS VICTIMS AND PREVENTING ITS RETURN

*Organizer and Discussant: Karen Colvard
Harry Frank Guggenheim Foundation, New York, New York*

Overview

This session considered attempts by local and international organizations to respond to political violence and to prevent its recurrence. A South African political psychologist analysed what the Truth and Reconciliation Commission (TRC) could and could not do to help South Africans remember the violence of apartheid in a way helping construct a new, more peaceful society. An American contrasted the successes of the international human rights movement in curbing violence by marginal states with its comparative failure to affect the behavior of the US government. A physician-anthropologist team contrasted activities of local elites and disaster-response agencies in treating victims of war in Sri Lanka with local healing and violence-control practices.

Dealing with the Aftermath of Political Violence in South Africa: Evaluating the Impact of the Truth and Reconciliation Commission

*B. Hamber
Centre for the Study of Violence and Reconciliation, Johannesburg, South Africa*

During the apartheid era, numerous South Africans, particularly within black communities, were severely traumatised by ongoing violence, oppression, and political violence.

The psychological impact of the atrocities has been exacerbated over an extended period by factors such as socio-economic deprivation, continuous trauma, loss, and bereavement. In some areas, political violence has also been ongoing. The TRC was established in 1995 and aimed, through a number of mechanisms, to heal the wounds of the past. Over its life, the TRC's proponents have repeatedly argued that the discovery of the truth is central to psychological healing. However, the assessments of the Centre for the Study of Violence and Reconciliation in South Africa carried out over the last four years suggest that coming to terms with political violence is infinitely more complex. This presentation consequently explored the role of the TRC in facilitating an individual and collective healing process. The tensions inherent in balancing the individual needs of survivors, the needs of communities that have been destroyed by political violence, and the compromises intrinsic to political peace making were elucidated. The multifaceted interplay between truth, justice, and reparations during times of transition were explored from a victim-centered methodology. The ability of political processes such as truth commissions, commissions of enquiry, and tribunals to address the needs of survivors was critically reviewed. The social and political role of an individualised psychological approach and trauma counselling was also discussed and evaluated.

Are Human Rights the Same for Citizens of Weak and Strong Nations?

B. Slattery

Harry Frank Guggenheim Foundation, New York, New York

The human rights treaties signed and ratified by most countries have essentially a single aim: to protect people from repression and violence by the state. They are invoked when a state abuses its people, either by denying them basic rights or, worse, starving, driving out, torturing, and killing them because of political, ethnic, or religious differences. The treaties have become increasingly a part of international politics, and their implementation has led to the arrests of former heads of state, economic sanctions, and military interventions. Even their successes emphasize a fundamental problem with human rights law as it is currently practiced. While the treaties rely on some notion of international justice, it takes national strength to enforce those treaties. This means that human rights standards can be imposed by force on smaller, less powerful countries. Larger countries, however, who have the potential to do much greater damage in the world, can remain exempt from those standards, undermining human rights laws and the ability of those laws to control a state's aggression against its people.

The Treatment and Control of Violence and the Erosion of Context: Is Neuropsychology What Sri Lanka Needs?

N. Argenti

World Art Studies and Museology, University of East Anglia, Norwich, UK

The diffusion into the popular media of undigested information on state-of-the-art neurobiological research on aggression has been a major concern for many researchers on aggression. However, the introduction of neuropsychological views on aggression and trauma in developing countries via much more respected channels has largely been ignored. The paradigms underlying research on the neuropsychological bases of cycles of violence have been introduced in Sri Lanka by mainstream scientists through guest lectures and workshops financed by international humanitarian organizations (such as UNICEF and Oxfam). Sri Lankan intellectuals have readily committed themselves to this modernist

approach to violence. Such workshops and conferences provide a much-needed forum where otherwise taboo subjects such as widespread human rights abuses, atrocities, and an ongoing cycle of violence can be addressed. Elites in Colombo have acquired a paradigm whereby they can discuss violence without having to mention its context, including the caste, ethnic origin, or political affiliation of the people involved. While the neurobiology of violence has played a positive role in opening up such a debate close to the center of a repressive regime, its cultural impact among the wider population is potentially dangerous. Because of this recent cultural input, Sri Lankan professionals have implemented (and plan to implement) nationwide treatment programs for violence-prone individuals in rural areas and remote communities. Such programs play a role in the reestablishment of contact between the alienated political elite of a violent nation-state and survivors in rural no-go areas virtually beyond the reach of the Sri Lankan State. As will be discussed in Alex Pillen-Argenti's presentation, rural Sinhala Buddhist communities only manage to interrupt a cycle of violence by maintaining a strong tie between a violent event and its context. The imminent large-scale spread of a context-free understanding of violence and aggression to non-Western communities who rely on the preservation of contexts to contain violence should therefore be called into question.

Indigenous Forms of Violence Control in the Rural Slums of Southern Sri Lanka: The Preservation of Context

A. Pillen-Argenti

Department of Anthropology, University College, University of London, London, UK

In the late 1980s, people in the south of Sri Lanka participated in a gruesome civil war. Neighbors from opposing factions killed one another or denounced one another to death squads deployed by the Sri Lankan State and its Western allies. It is estimated that approximately thirty thousand people disappeared over a period of two years. Poverty-stricken communities in the rural south, coming to terms with the social and cultural destabilization this civil war has brought about, now provide soldiers for the war against the Tamil minority in the north and east of the country. Many soldiers desert, however, and come back to their villages, only to lead an itinerant life-style, permanently on the move to avoid the regular raids organized by the army. Extremely high levels of suicide (the highest suicide rate in the world for young men) form another aspect of this violent reality. A sociolinguistic analysis of the way in which Sinhala Buddhist villagers talk about violence revealed how they forge strong links between violent events and their contexts. Rather than participating in modernist discourses such as "the war against the Tamil separatists" or "communist insurgents," violence is discussed in relation to very localized feuds and struggles. This culture-specific discourse on violence brings about a social (re)organization of the community into multiple, small-scale bounded social units. It also contributes to the ability of both the families of victims and the families of perpetrators to be able to continue to live together in close-knit neighborhoods. The cycle of revenge did not include the family members of killers or those with the same political convictions as the killers. This containment of violence depends on a contextualization of past violent events brought about by linguistic techniques that restrict accounts of violent events within a bounded social context and prevent them from spilling over into the wider community. Modernist discourses on violence, such as on "aggressive" or "traumatized individuals" (independent of their social context) or on a general "Tamil enemy," threaten this indigenous discourse on violence that preserves contexts and plays a role in limiting the community-wide spread of violence.

SYMPOSIUM: INFERRING CONSENT/INFERRING DANGER: THE ROLE OF PERCEPTIONS IN SEXUAL ASSAULT

Organizers: Jeanette Norris¹ and Jacquelyn W. White²

¹Alcohol and Drug Abuse Institute, University of Washington, Seattle, Washington

²Department of Psychology, University of North Carolina at Greensboro, Greensboro, North Carolina

Discussant: Ileana Arias

National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, Atlanta, Georgia

Overview

Depending on circumstances, some men view sexual aggression as seduction. Despite the high risk of acquaintance sexual assault, women often fail to perceive social encounters as potentially dangerous. This symposium first examined women's perceptions of acquaintance sexual assault risk and its implications for engaging in high-risk behaviors. Jacquelyn White's longitudinal study of sexual assault risk formed the basis for examining factors influencing women's risk perceptions and how they influence high-risk behaviors. Kathleen Parks presented results of an experiment examining a drinking woman's perception of a man's sexual advances. The symposium then examined factors that influence men's interpretation of forced sex as being consensual. Antonia Abbey presented findings from a survey of more than 300 men, one-third of whom were self-reported sexual aggressors, who rated a broad range of sexually assaultive behaviors. Jeanette Norris focused on findings from an experiment that compared inebriated and sober men's perceptions of an eroticized rape. The discussant, Ileana Arias, examined the differing perspectives of men and women and how these may contribute to the commission of sexual assault.

A Longitudinal Perspective on Women's Risk Perception

J.W. White, P.H. Smith, and J.A. Humphrey

Department of Psychology, University of North Carolina at Greensboro, Greensboro, North Carolina

Data from a five-year longitudinal investigation of sexual assault experiences spanning adolescence through four years of college addressed four questions: How does risk perception for stranger and acquaintance assault change over time? How does prior victimization affect perceived risk across time? Does perceived risk affect likelihood of engaging in behaviors known to increase the likelihood of an assault, in particular number of sex partners and use of alcohol and drugs? Does perceived risk act as a risk or protective factor for further victimization? The results indicated that, although the perceived risk of sexual assault declined across the four years of college, perceived risk of assault by a stranger remained higher than perceived risk of assault by an acquaintance. Results also revealed that victims of adolescent victimization reported a greater risk perception than nonvictims across the four collegiate years. Furthermore, victimization in one year of college elevated risk perceptions in the subsequent years, even when controlling for prior victimization. Additionally, there was a relationship between

perceptions one year and engaging in high-risk behaviors in the subsequent year. However, this was true only for women without a sexual victimization in the preceding year. Among women without a prior victimization, perception of risk was associated with higher levels of alcohol and drug use, as well as the number of sex partners, in the following years. Apparently, the awareness of risk does not lead to a reduction in risky behaviors for women without a prior victimization. Finally, analyses indicated that, for women with a prior history of victimization, perceptions of risk were not related to future victimization. However, for women with no prior victimization perceptions were related to an increased risk of victimization in subsequent years. These results have implications for deterrence programs. Simply alerting women to the possibility of acquaintance assault (i.e., increasing their perceived risk) does not lead to a reduction in risky behaviors (i.e., alcohol/drug use and multiple sex partners) or to a reduction in the likelihood of assault. In fact, the opposite appears the case for women with no prior victimization histories.

Dangerous Body Language: Alcohol's Effect on Women's Perception of Men during Social Interactions in Bars

K.A. Parks

Research Institute on Addictions, Buffalo, New York

Previous findings suggest that women are at greater risk of experiencing aggression associated with drinking in a bar when they have more contact and interactions with men, experience more behavioral impairment after consuming alcohol, and have made "riskier" choices (e.g., leaving alone with a man or bringing him to her home). Women bar drinkers have described overtly sexual or suggestive male behavior that makes them uncomfortable during social interactions in bars. A study by Norris, Nurius, and Dimeff (1996) found that women indicated that alcohol made it difficult to recognize and successfully resist unwanted sexual advances. Using female participants and male confederates, the present study was designed to assess a woman's perception of a social interaction with a male stranger after she had consumed either a low (.02 g/100 ml Blood Alcohol Level; BAL) or high (.08 g/100 ml BAL) dose of alcohol. The male confederates were trained to engage in five overt, sexually suggestive "probe" behaviors during a 20-min interaction with the female participant, after a period of getting to know her and drinking with her in the bar laboratory. The probe behaviors included complimenting her appearance, moving closer, touching her arm, whispering in her ear, and touching her hair. It was hypothesized that women in the high dose alcohol condition would respond more positively and less negatively to the men. It was also hypothesized that women in the high dose condition would be less aware of these probe behaviors than counterparts in the low dose condition. This research is unique in the use of actual social interactions with female participants and trained male confederates, rather than written or videotaped vignettes of social scenarios, to assess alcohol's role in risk perception. Changes in the women's perceptions and non-verbal behavior during these social interactions was discussed in terms of previous findings on recognition and avoidance of situations that are potentially dangerous for sexual aggression.

Perceptions of Forced Sex: What Determines How Men Label It?

A. Abbey, P. McAuslan, T. Zawacki, P. Buck, and M. Clinton

Department of Community Medicine, Wayne State University, Detroit, Michigan

College women in the United States report being the victims of sexual assault at a much higher rate than college men report being perpetrators of sexual assault. For example, in a survey of 6,159 women and men, 54% of the women reported experiencing

some type of sexual assault since the age of 14. In contrast, 25% of the men reported perpetrating sexual assault since age 14 (Koss et al., 1987). Some of this difference may be explained by women being sexually assaulted by individuals who are not college men or by some college men sexually assaulting many women. A third explanation is that men and women perceive these events differently. Thus, a woman feels that she was sexually assaulted but the man does not realize it. From our perspective, if a woman reports that she was forced to have sex she should be believed. However, it is important to know if perpetrators do not always realize how their actions are perceived. This presentation explores men's perceptions of forced sexual experiences and what factors relate to whether they label the event as consensual sex or sexual assault. Self-report questionnaires were completed by 343 male college students from a large, urban university. Sexual assault perpetration was measured with a modified version of Koss et al.'s (1987) instrument. Twelve behaviorally specific questions asked about acts constituting sexual assault without using that label. Thirty-three percent of the men reported committing some type of sexual assault (15% sexual contact, 10% verbally coerced sexual intercourse, 3% attempted rape, and 5% rape). Multiple regression analyses were conducted with the dependent measure being participants' perceptions of the extent to which the physically or verbally forced sex that they acknowledged committing was consensual (rated on a 7-point scale). Surprisingly, the type of assault committed did not influence perceptions of how consensual the sex was. Significant predictors included the amount of physical force used, how well he knew the woman, if they had engaged in some type of consensual sexual activity (such as kissing), and his beliefs about alcohol as a disinhibitor of inappropriate behavior. The implications of these results for prevention programming were discussed.

Men's Perceptions of an Eroticized Rape: The Role of Rape Myth Attitudes and Contextual Factors

J. Norris, J. Martell, and W.H. George

Alcohol and Drug Abuse Institute, University of Washington, Seattle, Washington

Prior research has shown that judgments of what constitutes rape can vary as a function of both individual difference traits and contextual factors. Thus, it is possible that a man may commit a sexual assault because he believes that he is seducing a woman, even if she clearly resists his advances. The present study addresses two questions related to this proposition. First, under what circumstances do some men view sexual assault as sexually consensual behavior? Second, would any of these circumstances lead a man to indicate a willingness to commit sexual assault himself? In addition to a strong belief in rape myths, three contextual factors thought to influence this phenomenon include alcohol consumption, the victim's reaction to an assault, and the amount of violence inflicted. A 2 (alcohol: .08 mg% BAC/no alcohol) \times 2 (victim reaction: pleasure/ distress) \times 3 (violence: low/moderate/high) between-subjects factorial design was conducted. A community sample of one hundred thirty-two 21–45-year-old men was recruited through newspaper advertisements. Beverage administration was followed by reading one of six versions of a three-page story depicting the forcible rape of a female character by a male character. Multiple regressions were performed predicting the subject's perceptions of the male character's behavior, as well as their own willingness to behave like the assailant, from rape myth attitudes and the contextual factors. Several significant main effects and interactions were found. In general, both alcohol consumption and the victim reacting with pleasure resulted in the male character's behavior being perceived as seductive, justified, caring, and moral and that less violence was being employed. However, only alcohol consumption increased

a subject's reported willingness to behave like the assailant. Rape myth attitudes similarly affected subjects' perceptions and interacted with each of the contextual variables. Findings will be discussed in terms of alcohol's myopic effect, which results in overattention to permissive cues. In addition, these findings indicate the importance of addressing men's rape myth attitudes in rape prevention programs.

WORKSHOP: THEORY, ASSESSMENT, RESEARCH, AND THERAPY OF ATTITUDES TOWARD OFFENSE

Organizers: Mario Pereyra¹ and José Eduardo Moreno²

¹*Department of Psychology, River Plate Adventist University, Entre Ríos, Argentina*

²*Interdisciplinary Research Center of Experimental and Mathematical Psychology, National Research Council, Argentina*

Overview

Aggression, interpersonal violence, and prosocial behavior are very important issues in contemporary society. When a person is offended, the aggression damages relationships, bringing about multiple harmful repercussions at a personal and social level. There is a consequent need for research efforts to search for therapeutic strategies to reconstruct the interpersonal relations. This workshop presents (1) an Interpersonal Aggression Model (IAM); (2) the Attitude Scale Towards Offenders (ASTO) instrument to measure attitudes toward a person who is injured psychologically or physically in different situations; (3) results of psychometric validation, cross-cultural, and clinical research; and (4) a psychotherapeutic intervention model for resolving disputes oriented toward forgiveness and reconciliation.

Research and Therapy of Attitudes Toward Offenders

M. Pereyra

Department of Psychology, River Plate Adventist University, Entre Ríos, Argentina

Investigations were carried out in Argentina and foreign countries to evaluate the ASTO scale in different sociocultural contexts. Inside Argentina (n = 1200), the scale was administered in Buenos Aires, Entre Ríos, and other areas of the country. In particular, the variables of sex, age, systems of values, and religious practice were studied. It was found that there were significant differences in the ratings among the groups. The most significant result was the impact of religious practice on prosocial and passive behaviors. Outside Argentina, undergraduate students in different countries, namely, Ecuador (n = 100), Brazil (n = 450), Puerto Rico (n = 81), and USA (n = 97), were investigated. It was found that Portuguese and English versions of the ASTO exhibited similar psychometric properties to the original Spanish version. Each population's profiles were discussed considering cultural variables. Different clinical inpatient samples, with cancer (n = 50), heart (n = 50), chronic renal failure (n = 59), and psychiatric with attempted suicide (n = 50), were contrasted with their respective control groups (n = 209). Passive and aggressive behaviors showed significant differences in these pathologies. The psychotherapeutic intervention model for resolving disputes was applied to cases of ruptured relationships. It is orientated toward forgiveness and reconciliation and based on the evangelical parable of the "prodi-

gal son.” Different stages in the process of repairing the damaged bond with their own problems were identified. Some cases highlighting the strategies and specific techniques of intervention were presented.

Attitudes Toward Offenders: Theory and Scale Development

J.E. Moreno

*Interdisciplinary Research Center of Experimental and Mathematical Psychology,
National Research Council, Argentina*

A research review on aggressiveness, passive response, forgiveness, and reconciliation was presented. Then the IAM and prosocial behavior were considered. Benefit and harm in the psychology of interpersonal relations received theoretical attention, especially the need to forgive in place of vengeful behavior. The research review and the model are based on Fromm (1971), Fitzgibbons (1986), Enright (1994), and McCullough (1998). Aggression, interpersonal violence, and prosocial behavior are very important issues in contemporary society that demand research efforts. Consequently, the ASTO to measure attitudes toward offenders was presented, as evaluation of attitudes seems likely to extend knowledge and help develop techniques for reducing harmful aggression and improving prosocial behavior. This instrument is composed of seven scales: forgiveness, demand, hostile reaction, revenge, resentment, negotiation, and submission. The subjects must answer a series of items after reading ten brief vignettes describing different situations in which a person is injured or offended. The results of a factor analysis ($n = 1200$) revealed seven dimensions and confirmed the construct of ASTO (validity). Correlations with the SIV and MMPI scales showed a satisfactory level of convergence validity. Reliability tests for the ASTO scales were satisfactory (Cronbachs α mean = .75). It must be noted that each scale includes five different grievance situations.

ORAL PRESENTATIONS: AGGRESSION IN CHILDREN AND TEENAGERS IN THE SCHOOL CONTEXT

Social Cognition and Aggression in the Head Start Classroom: Implications for Prevention

J.W. Giles and G.D. Heyman

University of California at San Diego, La Jolla, California

The nature of children's thought processes has become an increasingly salient issue in the study of the development of aggressive behavior. Literature is reviewed suggesting social cognition mediates the relationship between early risk factors for aggression and subsequent social behavior. This study attempts to evaluate the relationship between social cognition and aggression among high-risk, low-income preschoolers, specifically investigating the relationship between trait inference, attribution, social problem-solving skills and social perspective-taking skills, and classroom aggression. Subjects in this study were 100 children enrolled in Head Start preschools in San Diego County (50 boys, 50 girls, mean age 4.6 years). Subjects were individually presented with several vignettes in which story characters committed ambiguous moral transgressions, either against the subject or against a peer. These transgressions varied, within-subjects, in their severity of outcome and in the degree to which they were intended. Subjects were asked to evaluate each act's severity, why they thought it had occurred, and the extent to which it indicated an underly-

ing trait of the actor. Children rated as highly aggressive by their teachers (as measured on the Daycare Provider Form of the Achenbach Child Behavior Checklist) consistently reported that acts were more severe and more indicative of the actor's hostile intent when ambiguous moral transgressions were committed against the subject. Furthermore, children rated as highly aggressive by their teachers were more likely than their peers to endorse aggressive behavior as an acceptable solution to transgressions. Teacher reports of aggressiveness also correlated with low child self-ratings of competence in social situations, an inability to generate nonviolent solutions to social problems, and an inability to take the perspective of another child. These results suggest that the prevention of classroom behavior problems and the development of prevention curricula may be augmented by a consideration of the role of social cognition in aggressive behavior in preschool children.

Changes in School Playground and Aggressive Behavior Reduction

A. Rebolo-Marques,¹ C. Neto,² and B. Oliveira Pereira³

¹*Faculdade da Motricidade Humana, Cruz Quebrada, Portugal*

²*Faculdade da Motricidade Humana, Universidade Técnica de Lisboa, Portugal*

³*Instituto de Estudos da Criança, Universidade do Minho, Portugal*

The high level of aggression between children in the school playground during recess time raises doubts about its importance as time of freedom, socialisation, and formation. To check up how playground variation influences aggressive behavior and victimisation level, four types of playgrounds were tested in a primary school over four consecutive weeks. The playgrounds were empty, supervised, with materials, and with supervisor and materials. At the end of each week (on Friday), children from 2nd, 3rd and 4th grades ($n = 112$) answered an anonymous inquiry about the conflicts they felt in the playground and their view of every type. After the experience, the children answered another anonymous inquiry about their favorite playground and their views of the different playgrounds. The data collected after the empty playground week show that many students participate in incidents during recess as aggressors, victims, or observers. Only about 50% of the victims tell teachers about problems, as they are afraid of retaliation. The data collected after every period in different spaces show that the introduction of the supervisor into the playground is important especially for children that usually stay alone during the recess. However, the victimisation levels were very similar to those seen in the empty playground week. Only playgrounds with materials (with or without a supervisor) show significantly lower aggression and victimisation levels than those found in the empty playground. The children's views of all playgrounds were very positive. It is important to note the weight given to "play with friends" (near 75%) and "play with different things" (41% to 53%). The highest values in these categories were found in playgrounds with supervision and materials that were the favorites of most students (61%). Students gathered around common goals, games, and plays, and their active supervision by adults is helpful in conflict, learning, and organizing situations.

Mindfulness Project to Develop Stress Management Skills in Third and Fourth Grade Students

M. Napoli

Arizona State University College of Public Programs, School of Social Work, Tempe, Arizona

This project was designed to evaluate the effectiveness of a 25-week program teaching students mindfulness techniques. Mindfulness is defined as the student's ability to keep his/her attention in the present moment—to focus on "what I am doing now?" The

ability to focus and notice what is currently happening, without judgment, can facilitate childrens' ability to respond rather than react to situations. Students will be taught the following mindfulness techniques: breathing exercises, creative visualization, body movement, stretches, storytelling, and art. Building skills through mindful activities allows teachers and students to utilize them in the classroom, a place where children spend the most active time of their day. Results obtained during the academic year 1996-7 with third and fifth grade students, respectively, indicated that 81% & 86% enjoyed participating in the classes; 67% & 67% enjoyed the yoga; 48% & 70% enjoyed the breathing exercises; 86% & 83% enjoyed the guided imagery; 62% & 63% felt more relaxed after the classes; 52% & 41% used some of the techniques at home; 90% & 86% would have liked more classes, and 86% & 86% would have liked the teacher to use some of the exercises during the school year. Results of the data received from September to December 1999 indicate that the children used the skills outside of the mindfulness classes. The students reported that 96% & 96% used the breathing techniques, 69% & 81% used the mindfulness skills, and 81% & 63% used the yoga. The number of times the third and fourth grade students used these skills during that time were sports, 44 & 50; emotional relaxation, 20 & 22; physical relaxation, 16 & 12; at home, 3 & 22; at school, 11 & 16; other mood stabilizer, 1 & 10; and anger management, 0 & 7. Due to the decreasing availability of nurturing adults, children have turned to activities such as computer games and television for companionship, which often model violence and aggression. It is the goal of this project to have children who are well equipped to deal with daily stressors at school and in the home. The proposed pilot project lays foundations for a viable, long-term research project.

Interventions to Redress Teenage Girls' Indirect Aggression: A Speculative Paper

L. Owens

School of Special Education and Disability Studies, Flinders University of South Australia, Adelaide, Australia

Because males are considered the more aggressive sex, interventions have been mainly concerned with male aggression. Over the past dozen years, however, a form of aggression more typical of girls has been identified and described. This aggression has been termed "indirect," and typical examples include spreading rumors about others and excluding from the peer group. Previous research has concluded that girls indulge in indirect aggression because of the nature of their friendship groups. Membership of the group and close personal relationships are vitally important to girls, so indirect or social forms of aggression are particularly effective in hurting or harming peers. Indirect aggression appears very painful to girl victims. There has been, however, very little research into how to prevent or intervene to reduce indirect aggression among girls. In an earlier study, the author found that teenage girls were skeptical about existing school-based interventions. Speculations about the types of interventions that may be successful draw upon a range of possible approaches from the existing literature on more overt forms of aggression, including bullying. These include whole school approaches, the "no blame" approach, the method of shared concern, peer counselling, peer mediation, and systems thinking. The last of these is a rejection of traditional individual approaches in psychology and education that seek to identify an aggressor or victim and to counter deficits in, for example, thinking patterns or social skills. Instead, the indirect aggression "problem" is seen to reside within relationships and interactions within the whole

school or community system and requires overarching systemic responses. Interventions need to take account of the explanations for indirect aggression and in particular the nature of teenage girls' friendship groups. Paradoxically, the group and friendship processes that are the context for girls' indirect aggression may also be valuable to girls in resolving their conflicts.

ORAL PRESENTATIONS: AGGRESSION IN THE WORKPLACE

Educating Management in Combating Low-Level Aggression in the Workplace

J. Jekielek,¹ P. Eng,¹ and M. Koczorowska²

¹*Organizational Consultant, Toronto, Ontario, Canada*

²*Psychiatrist, Toronto, Ontario, Canada*

Aggression in the workplace is on the rise, but low-level aggression is often not even recognized. Dealing with low-level aggression involves limiting both reciprocation and escalation to more harmful forms. An educated management can recognize and limit aggression, mainly through self-correction and worker education. It is important to deal quickly and effectively with low-level aggressive behavior stemming from several seemingly unrelated areas, such as performance feedback, employee fatigue, coercive features of organizational learning, diversity, and generational gaps. A multiplicity of articles has been written about human aggression in the workplace. This paper is based on numerous sources as well as recent experiences in helping organizations combat low-level aggression in the workplace. Dealing with organizational teaching and learning, i.e., educating management and workers, who are "battle fatigued" and over-trained from the current "corporate training frenzy," is a challenge per se. The proposed approaches center on educating management and involve time-compression, ad-hoc experimentation, and an ability to utilize chaos with quick judgments, re-assessments, and re-adjustments. The tone of any consultant intervention must lead to a collaborative effort directed toward each individual's personal learning potential. Effectively dealing with low-level aggression does not require a major effort or expenditure. When management gains sufficient insight and knowledge, it can effect both a self-improvement process and worker education. The benefits are enormous. By addressing this issue, every company will gain by increasing productivity and simultaneously creating a more enjoyable and safer workplace.

Dealing with Workplace-Induced Posttraumatic Stress Disorder (PTSD)

M. Koczorowska,¹ J. Jekielek,² and P. Eng²

¹*Psychiatrist, Toronto, Ontario, Canada*

²*Organizational Consultant, Toronto, Ontario, Canada*

According to the Canadian Mental Health Association, 42% of Canadians reported that stress has a negative effect on their job performance. Workplace stress is costing Canadian businesses \$5 billion dollars annually. Many workers report mental health problems related to their job, blaming a "hostile" workplace. Some seek psychotherapy,

displaying several symptoms characteristic of PTSD. Some seem to be victims of apparently invisible aggression, violence, or abuse. Workplace aggression, violence, or abuse may not be limited to explicit forms, such as harassment, which can be defined in legal terms. It can be invisible; the perpetrators may be following established rules and procedures, but the victims suffer as if they had actually been subjected to harassment or physical violence. This paper is based on working experience and a variety of psychiatric, psychological, medical, and business sources. There are numerous potential sources of workplace aggression. Examples of corporate coercive persuasion and a common workplace paradox, performance versus procedures, are described. Selected case vignettes illustrate dealing with workplace-induced PTSD. Recommendations for treatment follow, covering both "conventional" cases of prolonged abuse, as well as a proposed "cognitive/educational approach," designed for treatment in the early stages of abuse. Invisible workplace aggression, violence, or abuse stems from organizational tolerance of behaviors harmful both to the organization and to the people involved with it. Any larger organization needs to develop both awareness and a policy to prevent and deal with such cases. From a societal point of view, it should not be tolerated. From a business point of view, it is detrimental to both short- and long-term productivity.

POSTERS

A Computer-Based Data Log for Describing Samples of Maltreated Children

J.K. Knutson¹ and K. Sternberg²

¹*Department of Psychology, The University of Iowa*

²*National Institute of Child Health and Human Development Section on Social and Emotional Development, Bethesda, Maryland*

One of the major problems in making inferences from existing research on child maltreatment has been the inadequate description of samples and lack of a systematic approach to operationally defining child maltreatment. This failure of the research literature to develop a framework for describing samples and defining maltreatment led to one of the recommendations offered by the National Research Council Panel on Research on Child Abuse and Neglect (1993). That recommendation was a call for a more systematic approach to develop empirically based, operational definitions of maltreatment and a more comprehensive description of abused samples. Partly in response to this recommendation and partly to the needs expressed by scientific review panels of funding agencies, several U.S. child health and child welfare agencies that fund abuse-related research initiated an interagency task force to develop a framework for describing maltreated samples and defining that maltreatment. By bringing together several panels of experts in the areas of research on physical abuse, sexual abuse, neglect, and psychological abuse over a four year period, a set of preliminary guidelines were established that detailed the ideal set of data that should be obtained in studies of child maltreatment. After revising these preliminary guidelines, a computer-based data log system was developed to permit the recording of a common set of variables to permit comparisons among studies and the aggregation of data sets from different sites. This computer software, soon to be available from NICHD for a nominal cost, was described in this presentation.

Study of the Effects of Hypericum Perforatum on Pain-Induced Aggression

*B.J. Piper, D. Davis, R. Mapes, E. Hall, D. Hill, E. Bercaw, and J.W. Renfrew
Department of Psychology, Northern Michigan University, Marquette, Michigan*

Extracts of *Hypericum perforatum* (HYP), commonly known as Saint John's wort, are reported to improve mood among people suffering from depression, and this common medicinal herb has become increasingly popular for treatment of a number of psychological problems. In vitro studies of the neurotransmitters affected by HYP have yielded varied results, including suggestions of an inhibition of serotonin reuptake. It has been reported that antidepressants with a serotonergic mechanism inhibit aggressive behaviors and also that HYP attenuates social isolation aggression in mice. The present report considered the role of HYP on shock-induced fighting in rats. Results of a preliminary study suggested a reduction in the percentage of fights following shock. In a second, better-controlled replication effort, three pairs of Long-Evans rats received daily ip injections of a vehicle control solution for two weeks followed by three weeks of 6 mg/kg of HYP. Daily foot shock-induced fighting assessments revealed an increase in the percentage of fights following shock after HYP administration in three of four pairs. The frequency and duration of fights were also elevated. The study was expanded to a between-subject intra subject design in a third experiment to include three HYP and four control pairs. Results were inconsistent over time, and by the end of testing, any changes in fighting for the experimental subjects were comparable to those of the controls. Taken together, these observations provide little support for HYP as a consistent, long-term contributor to the control of aggression, possibly because of the particular changes in the neurotransmitter mechanisms associated with its use. Further work is in progress to identify the neurotransmitter systems influenced by HYP.

Domestically Violent Men: Cognitive Processing Patterns in Response to Social Interactions

*A. Porter, J. Epps, D. Anderson, and B. Granucci
Department of Psychology, University of South Florida, Tampa, Florida*

Much of the current research in the area of domestic violence against one's intimate partner (or battering) has its roots in the research base established for cognitive and behavioral processes and aggression. The Social Information-Processing theory is a commonly used model in this area which outlines a series of steps which precede a behavioral response. The steps are (1) encoding cues, (2) interpretation, (3) response consideration, (4) response decision, and (5) enactment. Biased or deficient processing in any of the steps will contribute to deviant or aggressive behavior. Skillful processing at each step will lead to socially competent performance within the situation. The current study examined the social skills of fifty-four domestically violent and nonviolent men. The participants read thirteen scenarios depicting problematic hypothetical situations involving either the participant or his wife, or the participant and a non-intimate female associate. Open-ended reports of behavioral response were rated for presence of skillful processing at various steps within the model. Differences were found between the violent and nonviolent groups at certain processing steps. Domestically violent men were less likely to attribute the cause of the negative interaction to nonhostile social cues than their nonviolent counterparts. They were less likely to attribute the cause of the problem to circumstances beyond the other person's control. Domestically violent men were also less likely to choose a prosocial

response option, such as proposing a problem-solving strategy or using open direct communication, than their nonviolent counterparts. They were more likely to choose a response that was inept, such as sulking or doing nothing. In addition, when asked to recall information about the social interaction, violent men had more difficulty remembering critical details of the interaction. These processing patterns were similar in both types of social relationships. In addition, the patterns were similar regardless of the level of negative emotional arousal. Based on the results of this study, it is suggested that treatment for domestically violent men include training in social cue reading and recall and behavioral role plays of prosocial interactions.

Religion and Different Types of Aggression: The Cases of India and Israel

K. Österman,¹ K. Björkqvist,¹ S.F. Landau,² and T.K. Oommen³

¹*Åbo Akademi University, Vasa, Finland*

²*New Hebrew University, Jerusalem, Israel*

³*Jawaharlal Nehru University, New Delhi, India*

Use of physical, verbal, and indirect aggression in interpersonal conflict was investigated among 677 Indian and 630 Israeli adolescents of three age groups (8, 11, and 15 years) and of different religious background (Hindu [$n = 411$], Muslim [$n = 87$], and Sikh [$n = 179$] in Delhi, U.P., India, and secular [$n = 335$] and orthodox [$n = 295$] Jews in Jerusalem, Israel). Aggressive behavior was measured with the Direct & Indirect Aggression Scales (Björkqvist, Lagerspetz, & Österman, 1992), based on peer estimations. Findings varied to some extent from those obtained previously with the same methodology in Western countries. Indian boys displayed all three types of aggression significantly more than Indian girls did. Physical aggression diminished with age, while verbal and indirect aggression reached its peak at age 11. Sikhs were significantly more physically aggressive than Hindus or Muslims, but, in the cases of verbal and indirect aggression, there was no difference between the ethnic groups. There were no differences between the ethnic groups in the case of girls on any of the three kinds of aggression. There was no difference between the ethnic groups regarding verbal or indirect aggression with respect to boys, but Sikh boys were more physically aggressive than both Hindu and Muslim boys. Israeli boys were both physically and verbally more aggressive than girls. There was no sex difference in indirect aggression. At the age of 11, Israelis reached the highest scores on all three types of aggression. Secular Jews were significantly more indirectly aggressive than orthodox Jews. There was no difference between the two groups on physical or verbal aggression.

Featuring Domestic Stockholm Syndrome: A Cognitive Bond of Protection in Battered Women

A. Montero-Gomez

Sociedad Española de Psicología de la Violencia, Madrid, Spain

A new psychopathological category, the Domestic Stockholm syndrome (DSS), is proposed. DSS involves the application of a theoretical model for the classical Stockholm syndrome to the context of battered women in a domestic environment. DSS is an interpersonal bond of protection built between a woman victim and her aggressor, within a traumatic and stimulus-restricted environment. It can be viewed as a device facilitating recovery of the victim's physiological and behavioral balance and protecting her psychological in-

tegrity. The features of the syndrome involve a pattern of cognitive changes, and its end-point occurs after a psychological reactive process in the victims consisting of several phases. According to the theoretical model, these phases may be described as “trigger,” reorientation, coping, and adaptation. In the trigger phase, the first beatings break the affectionate bond previously based on trust and expectations. Beatings produce a general disorientation, loss of referents, an acute stress reaction, and even depression. In the reorientation phase, the woman searches for new future referents and tries a cognitive reordering based on the principle of attitudinal congruence. She tries to avoid dissonance between her behavior and her partner. During the phase of coping, the woman blames herself for the situation and tries to find ways to protect her self-esteem and to manage the traumatic situation. Finally, she enters the adaptation phase, where she assumes her husband’s mental model and projects the guilt outside the couple’s domestic milieu. At this stage, the full DSS emerges.

MDMA (“Ecstasy”) Administration Changes the Temporal and Sequential Structure of Agonistic Behavior in Male Mice

E. Maldonado, G. Dávila, and J.F. Navarro

Section of Psychobiology, Faculty of Psychology, University of Málaga, Málaga, Spain

D-amphetamine administration changes the structure of agonistic behavior of mice. The synthetic amphetamine derivative 3-4-methylenedioxy-methamphetamine (MDMA) also reduces aggression (threat and attack) without concomitantly increasing immobility. Treatment is accompanied by decreased social investigation but increased exploration from-a-distance, avoidance/flee, and defense/submission behaviors, especially at high doses (5–20 mg/kg). This study analyzed the effect of three acute doses (0.5, 1.25, and 2.5 mg/kg IP) of MDMA on the temporal structure of agonistic behavior of male mice using the isolation-induced aggression model. For this purpose, individually housed mice were exposed to anosmic “standard opponents” 30 min after drug administration. The encounters were videotaped and the accumulated times allocated by subjects to ten broad behavioral categories were estimated. The categories were as follows: (1) Body care; (2) Digging; (3) Non social exploration; (4) Exploration from-a-distance; (5) Social investigation; (6) Threat; (7) Attack; (8) Avoidance/flee; (9) Defense/submission, and (10) Immobility. The parameters were examined in terms of their frequency as well as total and mean durations. The latency of attack, inter-attack intervals and temporal distribution of attacks were also recorded. The frequencies, as well as total and mean durations, of aggressive behavior (threat and attack) were not significantly changed by MDMA. However, the temporal analysis of “Attack” revealed a redistribution of the attacks to later in the course of the social encounters, in concord with other studies using d-amphetamine. MDMA (0.5 and 1.25 mg/kg) decreased the number of very short (0.1–2.5 s) inter-attack intervals, compared with the control group. This result is in contrast with d-amphetamine.

Self vs. Other Reported Measures of Aggressiveness in Children

C. Masala, D. Petretto, B. Rotondo, and A. Preti

Department of Psychology, University of Cagliari, Cagliari, Italy

Measures of aggressiveness in children are thought to predict antisocial and deviant behavior in adulthood. This prediction is mostly based on evaluation by third persons, whereas the child’s view of its own aggressive potential is often neglected. Conversely, acknowledging one’s own problematic inclinations is of direct relevance to any interven-

tion aimed at improvement. A renewed Italian version of the Buss-Durkee Hostility Inventory (BDHI) was used in a sample of 392 (m = 210; f = 182) school-aged children (aged on average 11 yr, range 10–15 yr). The children's BDHI scores were compared with the teacher's ratings on a checklist, measuring maladjustment and aggressive behaviors of children and a dichotomous (aggressive/not aggressive) judgment. This version of the BDHI had good face validity. All children completed the inventory, with a good understanding of questions (Cronbach's alpha = 0.88). Males had higher BDHI scores than females ($P < .005$), particularly on the Aggression and Indirect Hostility subscales. There was, however, only a weak ($r = 0.15$ in both genders) relationship between children's BDHI scores and those of the teacher's checklist. Moreover, BDHI scores did not support the teacher's dichotomous judgment on aggressive behavior. The present results suggest a substantial divergence between one's own evaluation and that of third parties as far as aggressive behavior is concerned. Although self-reported measures have inherent limitations, it is felt that these results confirm the importance of taking into account the child's point of view when evaluating aggressive behavior and misconduct. Indeed, recent studies have stressed the links between aggressiveness and the risk of premature death. Self-reported measures of aggression predict suicide risk, even in adolescent samples.

Social Defeat in C57BL/6 Mice Induces Exaggerated Fear and Inhibits Territorial Marking in Response to an Aggressor's Urine

*L.A. Lumley, C. Robison, W.K. Chen, G.A. Saviolakis, and J.L. Meyerhoff
Department of Neuroendocrinology, Division of Neuroscience, Walter Reed Army
Institute of Research, Silver Spring, Maryland*

Social defeat (SD) has marked and prolonged behavioral effects, including avoidance of a non-aggressive intruder and inhibition of territorial urine marking in response to both male and female mice. An attempt was made to assess whether these SD-induced changes would generalize to exposure to an aggressor's urine. Mice were exposed within their home cages to bedding removed from aggressors' cages in a modified resident-intruder test. The bedding was placed on the opposite side of a perforated barrier, relative to the resident subject mouse. SD mice displayed more avoidance, flights, crouch-defense, and Straub tail in response to this urine than did Non Socially defeated (NOSD) mice. In addition, SD mice showed more risk assessment, including stretched-approach and stretched-attend posture than NOSD counterparts. NOSD mice displayed more digging, especially at the front of the cage. When the barrier was removed, SD mice continued to display increased flights, crouch-defense, Straub tail, and risk assessment. NOSD mice spent more time in proximity of the aggressor's bedding and sniffed the bedding more. SD mice displayed less marking both in response aggressor urine and within a novel empty cage than NOSD mice in a test of territorial urine marking did. NOSD mice displayed increased marking with repeated tests, but SD mice did not. In sum, the exaggerated fear responses and inhibition of territorial marking generalize to olfactory cues from aggressive mice.

Development of Locally Shared Attitudes Toward Aggression: Dynamic Social Impact Theory

*E. Curtayne, T. Hur, H. Morio, D. Richardson, and B. Latané
Department of Psychology, Florida Atlantic University, Boca Raton, Florida*

Recent research on the "culture of honor" explanation for the relatively high levels of violence in the Southern United States associate aggressive retaliation particularly in

social contexts with threats to personal honor. The process that might develop and maintain attitudes associating violence with honor in delineated regions was examined. Dynamic Social Impact Theory (DSIT) proposes that strength, immediacy, and the number of persons in the social environment determine the interpersonal influence on an individual's attitudes or beliefs. It suggests that they will act upon the individual(s) and lead to an emerging pattern of shared beliefs. It also suggests that exchange of information within a defined social space is influenced by persuasibility and the number of "neighbors," to produce local clusters of attitudes. The present research investigated the effects of interpersonal interaction on development of attitudes or beliefs about aggression (broadly, regionally shared cultures or values). Participants were randomly assigned to small groups (3–4), and a series of group-brainstorming tasks about four aggression-related topics was conducted. They then completed questionnaires including aggression-related items (designed to assess social representations of aggression and the culture of honor) and non-aggression items (specifically, judging moral appropriateness of various social behaviors). Clustering indices (d)—a ratio between differences of a participant's rating from their own group member's ratings and those of the outside-of-group other's ratings—were calculated separately on both the aggression and non-aggression items. The participant's ratings on aggression-related items, but not those on non-aggression items, were significantly clustered after group-brainstorming tasks about aggression-related topics. This finding confirmed that social interactions (even group brainstorming focusing on divergent thinking processes) result in locally shared attitudes (or beliefs). Furthermore, it suggests that Dynamic Social Impact is the underlying mechanism of development of regional cultures (or values).

Bullying at School: A Pilot Study Using Semi-Structured Interviews

H. Gutiérrez, A. Barrios, K. van der Meulen, O. Hoyos, and C. del Barrio
Department of Developmental Psychology and Education, Autonomic University of Madrid, Spain

Peer relationships are important experiences of individual development throughout life but especially in childhood and adolescence. In some cases, however, peer relationships may involve conflict, lose their positive influence, and induce fear. This is what happens with bullying at school, a type of aggressive behavior, which can take on a variety of forms. It is often assumed by adults to be a normal but infrequently occurring phenomenon. As a result, it is difficult to identify types of bullying and become aware of its damaging consequences. Research on bullying has generally involved questionnaires. In this pilot study, the method employed has been that of the semi-structured interview, based on the Piagetian clinical method. A sample of 36 participants was used, belonging to three age groups: children (9–11 yrs), adolescents (13–15 yrs), and adults (18+ yrs). Half were interviewed at schools in Madrid and the others at schools in Oviedo. An analysis was carried out extracting categories corresponding to the nature of bullying; the dynamics of the relationship (origin, maintenance, ending, and consequences); and the emotions attributed to aggressors, victims, and bystanders. The information gathered using the semi-structured interview revealed an age effect on the way many issues related to the phenomena of peer maltreatment are approached. The shift from primary to secondary school is confirmed as being the time during which bullying occurs more frequently. This study confirms that the semi-structured interview may generate a deeper knowledge of bullying.

Different Social Stress Situations, Splenic Norepinephrine, Interleukin-1 and Interleukin-2 Contents, and Serum Corticosterone Levels in Male Mice

E. Fano,¹ J.R. Sánchez,¹ A. Arregi,¹ B. Castro,² A. Alonso,² P.F. Brain,³ A. Azpíroz¹

¹*Department of Basic Psychological Processes and their Development, Basque Country University, San Sebastián, Spain*

²*Department of Cellular Biology and Morphological Sciences, Basque Country University, Leioa, Spain*

³*School of Biological Sciences, University of Wales Swansea, Swansea, UK*

Two different social stress situations (cohabitation in pairs or fixed dyadic interactions) were assessed for their effects on splenic contents of norepinephrine (NE), Interleukin-1 (IL-1), and Interleukin-2 (IL-2), and on serum levels of corticosterone in male OF1 strain mice. Two durations were used for each of the social stress paradigms, namely, 6 or 16 behavioral tests for fixed dyadic interaction animals and 6 or 16 days of cohabitation for cohabiting subjects. After 2 weeks of individual housing, 24 animals were allocated to cohabitating or fixed dyadic interaction pairs for both durations. Serum corticosterone titers were generally higher in interacting pairs and subordinates than in cohabiting animals and dominants. Dominants had higher levels of IL-1 than subordinates, and the dyadic encounter exposed animals showed higher levels than cohabiting counterparts. Spleen IL-2 did not respond in the same way as IL-1 to the treatments (social status, paradigm, and duration). IL-2 levels are higher in cohabiting animals, and the effect is strongest in the acute category. The stress of acute experiences (seen in both dominant and subordinate) may stimulate IL-2 levels, but this response declines with time. Spleen NE contents did not significantly differ. The differences in splenic interleukin contents could not be directly related to observed changes in serum corticosterone levels. This suggests that different mechanisms regulate changes in glucocorticoids and the measured cytokines. These physiological phenomena are not solely related to the animal's social status (dominant or submissive). The intensity and duration of the agonistic behavior displayed and the amount of interaction experience accumulated may account for the observed differences. On the whole, results in the present study support the idea that stress does not affect different immunological measures in a simple, consistent way and that the role of endogenous glucocorticoids in immunoregulation could be less clear-cut than studies with synthetic glucocorticoids have led us to believe.

Rewarding Properties of Testosterone in Male Mice Differing in Their Basal Levels of Aggressiveness

T. Arnedo, A. Salvador, S. Martínez-Sanchis, and O. Pellicer

Section of Psychobiology, Faculty of Psychology, University of Valencia, Valencia, Spain

Testosterone derivatives have been widely abused, and dependence has been reported for some individuals. A few studies suggest that basal levels of aggressiveness explain individual differences mediating a susceptibility to developing dependence. The rewarding properties of testosterone involve the dopaminergic system shown to differ in aggressive and non-aggressive male mice. The present study explored whether basal levels of aggressiveness could modulate the rewarding properties of testosterone (T) in intact male mice using conditioned place preference (CPP). After three weeks of isolation, experimental animals were pre-screened for aggressive behavior. Tests terminated when the experimental animals attacked for the first time or after 10 minutes without attacking. They were classified as the short attack latency group (SAL) if they attacked before the fifth minute of

the encounter or in long attack latency group (LAL) if they attacked afterwards. The CPP procedure started five days later, involving three phases: a preconditioning test (one session); conditioning (eight sessions); and a post-conditioning test (one session). SAL and LAL animals were allocated to three groups of treatment, resulting in six experimental groups: SAL + vehicle (n = 12); SAL + 1 mg/kg T (n = 12); SAL + 2 mg/kg T (n = 12); LAL + vehicle (n = 12); LAL + 1 mg/kg T (n = 12); LAL + 2 mg/kg T (n = 12). In the preconditioning test, subjects were allowed to explore the environment for 30 minutes under non-drug conditions in order to determine their initial preference for the floor textures, which were different in each compartment. In the conditioning phase, each mouse was injected with testosterone or vehicle in every session, and 30 minutes later it was confined in the apparatus for 30 minutes. CPP assessments followed the last conditioning session by 24 hours. CPP was observed after 1 and 2 mg/kg administration of T, although these doses had similar rewarding effects in SAL and LAL animals. Data were reanalysed, selecting animals above percentile 70 (n = 21) and below percentile 30 (n = 21) in the latency of attack, but no differences in CPP were found between these groups.

PLENARY LECTURE: PHYSICAL AGGRESSION IN THE FAMILY: PREVALENCE RATES, PRIMARY PREVENTION, AND IMPLICATIONS FOR REDUCING SOCIETAL VIOLENCE

Murray A. Straus

Family Research Laboratory, University of New Hampshire, Durham, New Hampshire

Part I describes how much physical aggression occurs between family members. It presents prevalence rates for intra-family physical assaults based on data from nationally representative samples of families in the USA and other countries. This includes separate rates for physical assault in the following types of family relationships: husband-to-wife, wife-to-husband, parent-to-child, child-to-parent, and between siblings. For each of these, there are rates for both minor and severe assaults. For example, the US National Family Violence Surveys have found 94% of parents of children age 4 reported hitting the child in the previous 12 months, and 12% of husbands and 12% of wives reported hitting their partner in the past 12 months. Part II is about the effects corporal punishment by parents on children's physical aggression and antisocial behavior. Corporal punishment is defined as the use of physical force with the intention of causing a child to experience pain, but not injury, for the purpose of correction or control of the child's behavior. The focus is on research to test the hypothesis that corporal punishment by parents increases the probability that a child will subsequently be physically aggressive. It is based on results from several recent prospective and retrospective longitudinal studies. These studies found that, after controlling for many other variables, corporal punishment explains a significant part of the variance in each of the types of family violence described in Part I, and variance in non-family assault. Part III argued that because corporal punishment is a risk factor for subsequent physical aggression, and because corporal punishment is among the earliest life experiences of children and is usually a child's first experience of violence (over a third experience it before age 1 in the US), it can be said that the family is the cradle of violence in the society. Consequently, primary prevention of disapproved forms of family violence such as wife-beating and physical abuse of children, and also primary prevention

of physical aggression outside the family, needs to involve ending the socially approved form of family violence in the form of corporal punishment.

INVITED SYMPOSIUM: PHARMACOLOGICAL CONTROL OF AGGRESSION: FROM ANIMAL STUDIES TO HUMANS

Organizer: Don R. Cherek

Department of Psychiatry and Behavioral Science, University of Texas Health Science Center, Houston, Texas

Overview

This symposium presented data supporting a major role for serotonin (and possibly GABA) in the regulation of aggressive behavior in animals and humans demonstrating consistency across these subjects. Studies with mice high or low in aggressive behavior indicate that the high aggressive mice show more sensitivity in the postsynaptic 5-HT system. In addition, systemic and localized administration of 5-HT_{1a} and GABA-A agonists inhibited aggressive behavior. Data were presented on rodents in which aggressive behavior induced by apomorphine was suppressed by 5-HT_{1a} agonists and GABA agonists. Human laboratory studies indicate that the 5-HT releasing agent d-fenfuramine and the GABA-B agonist baclofen selectively decrease aggressive behavior. Lastly, clinical and laboratory studies were reviewed supporting a role for 5-HT in regulation and control of human aggression. Clinical trials of potentially useful drugs to alter and control human aggression are lacking.

Trait vs. State Aggression in Rats and Mice: Differential Involvement of Serotonergic (5-HT) Neurotransmission

B.J. van der Vegt, J.M. Koolhaas, and S.F. de Boer

Department of Animal Physiology, University of Groningen, Haren, The Netherlands

Numerous experiments have shown an inverse relationship between brain 5-HT neurotransmission and aggression in humans and in animals. This has led to the so-called "5-HT deficiency hypothesis" of aggression. This hypothesis is based on aggression as a trait characteristic, but it is questionable whether it can be extrapolated to aggression as a state. In the studies presented here, a distinction is made between the individual propensity to express aggression (a trait characteristic) and the actual display of aggressive behavior (a state phenomenon). In mice, selectively bred for high or low levels of aggression, there is an upregulation of postsynaptic 5-HT_{1a} receptors in aggressive individuals, both in the number of receptors and in mRNA expression. Such a difference in number of receptors could not be shown in a randomly bred strain of rats with a large inter-individual variation in aggressiveness. However, in a functional challenge test (i.e., the hypothermic response after administration of a 5-HT_{1a} agonist) the response was strongest in aggressive rats and mice. These findings show that the postsynaptic part of the 5-HT system is more sensitive in aggressive individuals than in non-aggressive counterparts. This may be a compensatory upregulation due to a lower basal 5-HT neurotransmission in these aggressive individuals, in accord with the 5-HT deficiency hypothesis. The effects of systemic administration of 5-HT_{1a} or 1b agonists, or local administration of a 5-HT_{1a} or GABA-A

agonist in the dorsal raphe nucleus were studied on the aggressive behavior itself. Inhibition of 5-HT neurons by these means inhibits aggression. This suggests an activation of the 5-HT system when aggressive behavior is actually performed. These findings suggest that a trait characteristic of high aggressiveness is associated with low 5-HT neurotransmission, while aggressive behavior itself is correlated with an increase in 5-HT transmission.

Effect of Serotonin and Gabaergic Compounds on Apomorphine-Induced Aggressive Behavior in Male Rats

L. Allikmets, T. Skrebuhhova-Malmros, K. Pruus, and V. Matto

Department of Pharmacology, University of Tartu, 50090, Tartu, Estonia

Repeated treatment with low doses (0.5–1.0 mg/kg SC 1–2 weeks) of apomorphine (APO), an unselective dopamine agonist on pre- and postsynaptic receptors induces spontaneous aggressive behavior in male rats. This pathological behavior is said to be an equivalent to affective or psychotic aggressive behavior in humans. The APO-aggressiveness is effectively antagonized by D1 and D2 receptor blockers, neuroleptics, and opiates and intensified by adrenergic and dopaminergic agonists (direct and indirect). In experiments on male Wistar rats, the effect of 5-HT receptor agonists and antagonists and GABA agonists, as well as different antidepressants, were analyzed on APO-aggressiveness. Both serotonin- and GABA-ergic mechanisms are involved in different pathologies of affective behavior—anxiety, depression, dysthymia, impulsivity, panic and sleep disorders, etc. Aggressive behavior was measured in specially designed cages, into which pairs of animals were placed immediately after APO injection. The latency before attack and the intensity of aggressiveness were measured. The 5-HT_{1a}-agonist buspirone suppressed aggressiveness, but gepirone and 8-OH-DPAT did not have significant effects. The 5-HT_{2a} agonist DOI (1–3 mg/kg) reduced the latency and increased the intensity of aggressive attacks. Antagonists of 5-HT_{2a} receptors [ketanserin (2.5–5.0 mg/kg) and ritanserin (5 mg/kg)] moderately increased the latency but had no effect on the intensity of aggressiveness. Risperidone (0.1–0.3 mg/kg), an atypical neuroleptic drug with highly potent 5-HT₂ and D₂ blocking activities, suppressed aggressiveness completely. The 5-HT₂ antagonist quipazine significantly attenuated APO-aggressiveness. The 5-HT₃ antagonists MDL-72222 (4 mg/kg) and tropisetron (0.1–0.3 mg/kg) increased the latency of aggressiveness, but ondansetron was ineffective. The GABA_B receptor agonists phenibut (100 mg/kg) and baclofen (2–8 mg/kg) suppressed aggressiveness, as did benzodiazepines (indirect GABA agonists). The noradrenergic antidepressants desipramine and maprotiline facilitated the APO-aggressiveness, but the 5-HT antidepressants fluoxetine and citalopram suppressed only at high doses (40 mg/kg). The latter group of drug's antiaggressive effect was increased in combination with 5-HT potentiating drugs. The 5-HT antidepressant trazodone (5–20 mg/kg) antagonized APO-aggressiveness. These results indicate that 5-HT_{1a}, 5-HT_{2a}, and GABA receptors modulate APO-induced aggressive behavior. 5-HT_{1a}-agonists have some antiaggressive and 5-HT_{2a}-agonists a proaggressive effect.

Evaluation of the Effects of Serotonergic and GABA-ergic Drugs on Human Aggression and Impulsivity

D.R. Cherek and S.D. Lane

Department of Psychiatry and Behavioral Science, University of Texas Health Science Center, Houston, Texas

Laboratory procedures were used to determine the effects of different types of serotonergic agents and a GABA-ergic drug on human aggressive and impulsive responding.

The Point Subtraction Aggression Paradigm (PSAP) was used to measure human aggressive, escape, and monetary responding. The PSAP procedure involved subjects responding for monetary rewards and exposing subjects to provocations (subtractions of their earnings) and recording aggressive responses (money subtracted from another fictitious person) and escape responses (protecting their earnings from the other person). Impulsivity was measured using a delayed reward procedure with adjusting delay intervals, a procedure used initially with animals. Subjects chose immediate smaller rewards (impulsive option) and larger rewards after longer delays (non-impulsive option). Initial experiments with a serotonin releaser, d,l-fenfluramine found a dose-related decrease in aggressive and impulsive responding and no effects on escape and monetary responding among adult male antisocials. In an additional study, the effects of d-fenfluramine on male parolees with and without a history of childhood conduct disorder (CD) were determined. D-fenfluramine reduced aggressive responding significantly in CD subjects but not in controls; escape responding was reduced in both groups; impulsive responding was not significantly decreased, and there were no effects on monetary responding. These decreases in aggressive responding could not be attributed to sedative effects of fenfluramine since (1) no reductions in monetary responding were observed and (2) no changes in reaction times in the impulsivity were noted. Newer studies involve the chronic administration of paroxetine (Paxil), a serotonin reuptake inhibitor, on aggressive and impulsive responding. Concurrent placebo subjects are now participating in a study to clarify time-related changes observed during chronic paroxetine treatment. Initial studies with a GABA-B agonist, baclofen, indicate selective dose-related decreases in aggressive responding among CD subjects. The consistency of these results with animal studies presented in this symposium was discussed.

Evidence for a Modulating Role of 5-HT in Clinical Aggression

A. Bond

Section of Clinical Psychopharmacology, Institute of Psychiatry, King's College, University of London, London, UK

Many strands of evidence (including post-mortem studies, CSF examination, and neuroendocrine challenge studies) now support the existence of an inverse relationship between central serotonergic (5-HT) activity and impulsive aggressive behavior in humans. Most research has been correlational and has sought to demonstrate relationships between a history of aggressive behavior or trait measures of hostility and various markers of 5-HT function. Neuroendocrine challenge studies using drugs with different 5-HT actions have shown endocrine responses are reduced in aggressive individuals and inversely correlated to scores on different measures of aggression in the healthy population. Similar results for both a non-selective 5-HT releasing agent such as fenfluramine and for 5-HT_{1a} agonists such as buspirone and ipsapirone have been found. There is thus some preliminary evidence in humans (supporting animal work) indicating that impaired 5-HT_{1a} receptor function is associated with increased aggressiveness. However, it is difficult in correlational studies to disentangle the possible influences of other variables. Experimental methods are therefore an important complementary research strategy. The technique of tryptophan depletion or enhancement can be used to study acute alterations of 5-HT neurotransmission on aggressive feelings and behavior. A number of studies have now shown that tryptophan depletion increases the probability of affective aggression in predisposed individuals, while enhancement has the opposite effect. Tryptophan has also been added to other drug treatments in an attempt to control aggressive behavior in psychiatric patients. There are few controlled studies of the treatment of aggressive behavior with 5-HT drugs. This is partly

because the propensity for aggressive behavior runs across different diagnoses for which particular drugs are indicated. However, many of the currently used drugs do have effects on the 5-HT system, and this may contribute to their efficacy. Specific 5-HT compounds can be divided into agonists and uptake inhibitors. Case reports and small studies suggest that both buspirone and various 5-HT re-uptake inhibitors effectively treat symptoms of impulsivity and irritability as well as reducing aggressive or self-injurious behavior in patients with borderline personality disorder or learning disabilities.

SYMPOSIUM: ETHNICITY, SOCIAL PREJUDICE, AND AGGRESSION

Organizer: Seymour Feshbach

Department of Psychology, University of California, Los Angeles, California

Overview

The three presentations in this symposium considered the theoretical issues and social problems posed by ethnic (including racial) differences and stereotypes, social prejudice, and conflicts that are commonly associated with these differences. The first paper looked at the role of ethnic differences, and stereotypes related to these differences, in the perception and treatment of members of another ethnic group. The latter may be perceived as more hostile and aggressive than they actually are, thereby fostering aggressive responses to and from them. The second paper addressed the importance of school-based intervention programs designed to reduce aggression and social prejudice and discussed the problems encountered and issues raised in implementing such a program. The third paper focused on the particular role of ethnic differences in aggressive behavior and the need to incorporate ethnic differences and attitudes toward ethnic groups in our theories of aggression.

Racial Stereotypes and the Treatment of Ethnic Minority Adolescent Offenders

S. Graham

Department of Education, University of California, Los Angeles, California

The racial disparity in the American adult and juvenile justice systems is well documented. Ethnic minority offenders are more likely to be arrested, prosecuted, convicted, and incarcerated than are White offenders suspected of comparable crimes. Among minority group offenders, African American males in particular are disproportionately represented at all levels of the justice system. Some researchers have suggested that the stereotypes that justice system officials hold about ethnic minority offenders may partly account for treatment disparity. Little current systematic research on either the nature of such stereotypes or the process by which they might influence biased legal decision-making is available. A model of how racial stereotypes might guide decision making in the juvenile justice system was described. The case was made that a prevalent racial stereotype is that African American male adolescent offenders are dangerous, violent, adult-like, and not amenable to treatment. It was further argued that stereotyping in this context is largely an automatic process, i.e., it is involuntary, unintentional, effortless, and occurs outside of the perceiver's conscious awareness. Once evoked, stereotypes lead to inferences about the causes of ado-

lescent crime, with implications for how the offender is treated. Preliminary findings were reported from a field study of police officers' unconscious stereotypes about African American adolescent offenders.

Modifying Aggression and Social Prejudice: Findings and Challenges

N.D. Feshbach

Department of Education, University of California, Los Angeles, California

An extensive literature exists on the development of ethnic prejudice in children (ethnic bias is found in primary age and even younger children). However, there is a lack of longitudinal or other data suggesting an optimal age to intervene to reduce ethnic prejudice and promote positive interethnic social relations. The degree to which ethnic conflicts among children and adolescents are expressed in school violence may be one factor in selecting a target age group (at least initially) for intervention. The incidence of adolescent aggression and violence in schools has become an important matter of public concern and media interest. The problems of school violence and of ethnic conflict and prejudice among schoolchildren and adolescents are interwoven. This was one of the guiding factors in extending earlier rationale, research, and intervention efforts addressed to empathy and aggression in middle elementary school age children to empathy, aggression, and social prejudice in adolescents. An earlier intervention project found that training 9-11 year old aggressive and non-aggressive boys and girls in exercises designed to enhance empathy significantly influenced pro-social behaviors, modified aggressive behaviors, and promoted more positive self-concepts. A newer project involved making modifications to standard curriculum and to instruction in classrooms attended by 13-15 year olds. These modifications entailed the use of transformational principles derived from N. Feshbach's theoretical model of empathy. A systematic evaluation yielded significant changes in aggression, prosocial behavior, and empathy. Concomitantly, a variety of problems associated with trying to modify social prejudice (e.g., the special role of the teacher in facilitating or hindering intervention programs carried out within the contexts of classrooms and schools) also emerged from this study. These problems are of both theoretical and pragmatic interest and were delineated and discussed.

Ethnic Diversity and the Interaction of Social Prejudice and Aggression

S. Feshbach

Department of Psychology, University of California, Los Angeles, California

While the relations between different ethnic groups can be amicable, they may also be characterized by conflict and violence. Indeed, it can be argued that violence between ethnic groups constitutes the major social problem confronting contemporary society. For the purpose of this presentation, the situation in which ethnic differences are associated with territorial struggles is excluded, but focus is directed to ethnic differences within a nation-state where territorial autonomy and independence are not at issue. Problems associated with ethnic diversity are by no means peculiar to multi-ethnic nations such as the United States but with the movement of populations since World War II are common to most nations. The principal issues addressed here are the structure of social prejudice, the antecedents of social prejudice, and the relationship between aggression and the different facets of social prejudice. Correlational data from the curriculum transformation inter-

vention project reviewed in the previous presentation are pertinent to this last issue. Social prejudice is a complex construct. One distinction that needs to be made is between negative attitudes toward members of another ethnic group and preference for associations with members of one's own ethnic group. With regard to negative attitudes, stereotypes should be distinguished from support for discriminatory actions. One issue regarding the antecedents of these different components of social prejudice is the contribution of sociobiological, evolutionary factors. Sociobiological interpretations of social prejudice between ethnic groups are also germane to interpretations of aggressive conflicts between ethnic groups. The relative roles of biological and social experiential factors in prejudice and aggression between ethnic groups were discussed. One major complicating factor is the degree of identity with one's ethnic (including racial) group. Aggression and prejudice toward members of another ethnic group are mutually reinforcing. However, data indicate that prejudice and aggression are imperfectly correlated and are related to each other only under particular circumstances. The challenge for researchers is to elucidate these circumstances.

SYMPOSIUM: BULLYING BEHAVIOR AMONG PRISONERS: RECENT RESEARCH AND IMPLICATIONS FOR INTERVENTION

Organizer: Jane Ireland

HMYOI Lancaster Farms and Psychology Department, University of Central Lancashire, UK

Overview

The symposium outlined recent research that has been conducted, or is in the process of being conducted, into bullying among prisoners. The aim of the symposium was to describe the extent of research into this area and to highlight any recurrent themes. The papers were diverse in nature and addressed bullying behaviors among male, female, adult, and young offenders. A number of areas were explored, such as social problem solving (notably solving conflict situations involving bullying), attitudes toward victims/bullies, attitudes toward the self and the prison system, and adjustment to prison. A longitudinal study addressing bullying among young male offenders is also described. Implications for intervening in this specific form of aggressive behavior were discussed.

Descriptive Analysis of the Nature and Extent of Bullying Behavior in a Maximum-Security Prison

C.A. Ireland¹ and J.L. Ireland²

¹HMP Wymott and Psychology Department, University of Central Lancashire, UK

²HMYOI Lancaster Farms and Psychology Department, University of Central Lancashire, UK

The aim of this study was to investigate the nature and extent of bullying in a maximum-security prison and to assess prisoners' attitudes toward the victims of bullying. 194 adult male prisoners completed the Direct and Indirect Prisoner Behavior Checklist (DIPC)

(Ireland, 1998, 1999) and a modified version of the Rigby and Slee (1991) pro-victim scale. Four distinct groups of prisoners were described. They were prisoners reporting solely behaviors indicative of bullying others (“pure bullies”), solely behaviors indicative of being bullied (“pure victims”), behaviors indicative of being bullied and bullying others (“bully/victims”), and no such behaviors (“not-involved”). Over half of the prisoners sampled had been bullied in the previous week. Only a small number of prisoners could be classified as either a pure bully or a pure victim, with almost half classified as bully/victims. The most frequent types of bullying used were psychological/verbal and indirect. No significant differences were observed between pure bullies, bully/victims, pure victims, and the not involved groups’ attitudes toward the victims of bullying or the bullies themselves. The findings hold implications for the development of anti-bullying programs. Such programs should consider the prevalence of indirect forms of bullying and that a prisoner can be both a bully and a victim. The paper also referred to the development of “focus groups” as an intervention for bullying behavior.

The Role of Social Problem Solving in Bullying Behavior Among Male and Female Adult Prisoners

J.L. Ireland

HMYOI Lancaster Farms and Psychology Department, University of Central Lancashire, UK

The association between social problem solving and bullying among adult male and female prisoners was presented. 406 prisoners (210 males and 196 females) were categorized into four groups: pure bullies, pure victims, bully/victims, and not involved in bullying behavior using a self-report behavior checklist. Prisoners completed a questionnaire presenting them with five different bullying scenarios. The scenarios described indirect-physical, verbal, sexual, theft-related, and indirect incidents of bullying. Prisoners were asked to suggest a “best” and a “second-best” way of dealing with each scenario. Responses were classified as aggressive, non-aggressive, or ambiguous. It was predicted that those involved in bullying behavior would produce fewer solutions to the conflict stories than those not involved in bullying and that bullies and bully/victims would report more aggressive than non-aggressive solutions than the other groups. It was also predicted that bullies and bully/victims would be more likely to choose an aggressive response as their first choice than the other groups, who would opt for non-aggressive solutions. Gender differences were also predicted. The results showed that female bully/victims produced significantly more solutions in response to theft-related bullying than male bully/victims. There were no further significant group or gender differences observed in the number of solutions generated. The bully group favored aggressive responses for all scenarios. Males reported more aggressive responses than females. The results are discussed with reference to the environment in which the social problem solving takes place and the implications of the findings for bullying intervention programs.

A Review of Research Literature in Bullying Among Prisoners: Experiences and Lessons to Learn

M.H. Tahir

Psychology Department, Aristotle University of Thessaloniki, Greece

Bullying is an important issue in today’s society. Research has addressed its prevalence in schools, workplaces, the armed forces, and prisons. The majority of research has focused

on the school environment, with limited research into the bullying that occurs within prisons. The nature and prevalence of bullying in prison is of interest, with such environments acting to encourage this type of behavior. The research and literature on bullying among prisoners was recapitulated and abridged, unveiling the current status, highlighting areas that have been missing, and making a number of suggestions for future research. In the light of suggested directions for future research, a project currently being undertaken that investigates the problem of bullying among Pakistani prisoners was described. Four different provinces of Pakistan (to broaden the spectrum of prison bullying research) were addressed in the research. The study explored effects of being bullied or bullying others. A randomly selected sample of adult men and women prisoners (aged 21-45 yrs) was used. The sample included subjects who were married and unmarried, who came from different socioeconomic classes and with varied levels of religious practices. Those who were staying in prisons for more than six months and serving for a range of offence types were also included. Prisoners were asked to complete measures addressing custodial attitudes, namely, (1) attitude toward self, (2) attitude toward other prisoners, and (3) attitude toward institutions. The study was carried out in two parts: one pilot study consisting of approximately 60 prisoners and the main study consisting of approximately 500 prisoners. This study used a modified version of the Direct and Indirect Prison Behaviour Checklist (Ireland, 1998) and the Rehabilitation in Correctional Settings Scale (Rice, 1970).

A Longitudinal Study of Young Offender Conduct and Experiences in Prison

G. Beck and P.K. Smith

HMP Lancaster and Psychology Department, Goldsmiths College, University of London, London, UK

A longitudinal study into bullying among young male offenders was described. Bullying represents an abusive behavior based on a relationship that extends over a period. How individuals evolve during this relationship has not been investigated, although researchers have suggested that prisoners develop into bullies as their experience of prison life increases. To date, there have been no longitudinal studies into bullying within a prison environment. The present study attempts to address this by examining the self-reported bullying behavior of offenders from the day that they were first received into the prison up to the first eight months of their imprisonment. Prisoners were asked to complete behavioral checklists on a weekly basis. The hypotheses investigated included that (1) Bullying increases over time in prison, (2) Previous experience predicts "bullying others" and "being bullied," and (3) There is no clear distinction between the bully and the victim group. The study was not yet completed, but preliminary examination of the data showed a moderate relationship between reporting being a bully and reporting being victimized and between bullying and both previous prison experience and previous convictions. Those previously in care reported engaging in more bullying. The most frequently reported form of abuse was verbal abuse, which increased over the first 10 weeks of a prisoner's imprisonment (this was the case for "bullying others" and "being bullied"). Other forms of bullying were less common, and there was less evidence of their increasing over time. The initial results provided tentative support for the hypotheses: victimization (particularly verbal) does appear to increase over time, and bullying was moderately related to previous experience with prison. The modest relationship between bully and victim items suggested that there was no clear distinction between this group and that those who bully may be victims. The results were discussed with reference to implications for intervention.

ORAL PRESENTATIONS: DIFFERENT TYPES OF AGGRESSION

Hitting, Hurting, and Having Fun: Why Violence Is Essential to Life and Different from Aggression

E. Boyanowsky

School of Criminology, Simon Fraser University, Burnaby, British Columbia, Canada

Calls for the end of violence permeate the media, textbooks, university courses, government policy, and conferences, for instance this one. Part of the problem is that the terms “violence” and “aggression” are used interchangeably. In fact, an examination (even of academic textbooks) reveals both indiscriminate usage and many tortuous attempts to integrate the two concepts. This is often with the erroneous designation of violence as a particularly nasty form of aggression. In common parlance and the media, however, no such niceties are attempted, and violence is railed against and bemoaned as ubiquitous to human society. Well, indeed it is, and for good reason: nothing would exist without it. An analysis of physical and social phenomena ranging from thunder storms and volcanoes to epileptic convulsions, sex, love making, giving birth, and rough and tumble play reveal that the differences between violence and aggression are more than semantic. To recognize them is an essential although neglected task for the serious researcher of human and animal behavior. The author, using data from various studies on the relationships among temperature, aggression, and sexual arousal, proposes a taxonomy of violence, aggression, and violent aggression. This approach uses the legal concept of *mens rea*, i.e., the mental formation of the intent to do harm or injury or cause death. It examines each act’s context and the agentic qualities of the actor or cause of the violent and/or aggressive act, placing them in a multidimensional model. It is suggested that such a classification will inform inquiries into the causes of violence and aggression, into the bases of their attraction, and perhaps even to their consequences for the viewer of such acts in the media.

A Social Psychological Perspective of Hate Crime as a Distinct Form of Aggression

K.M. Craig

Department of Psychology, Howard University, Washington, D.C.

Within the US, intergroup violence has a long history, but it has only been within the last 2 decades that the term “hate crime” has been invoked to explain a distinctive form of this aggression. The US has no monopoly on this crime, and rates of its occurrence have increased in Europe as well as Canada. A hate crime is an illegal act that involves intentional selection of a victim based on a perpetrator’s bias or prejudice against the actual or perceived status of the victim. Hate crime represents a unique form of intergroup aggression that not only includes the intent to harm but also communicates information about group identity. Hate crimes indicate the perpetrator’s bias and serve symbolic and instrumental functions. Hate crimes are regarded as serving a symbolic function to the extent that a message is communicated to a community, neighborhood, or group. Hate crime is instrumental in effectively curtailing the behaviors and movement of members of the victim’s group. They restrict the behaviors and choices of large groups of people. Little scholarly attention has focused on hate crime. Few attempts have been made to explain its causes and to describe its victims and perpetrators. Theories on hate crime are located at the intersec-

tion of widely accepted theories in aggression research (e.g., realistic group conflict, frustration-aggression theory) and recent social cognitive contributions to the study of intergroup relations. This presentation aimed to identify common factors across the different types of hate crimes in order to clarify existing claims about the nature of hate-motivated crimes, their prevalence, causes, and impact on victims. First, a review of the literature in this area, which distinguishes hate-motivated aggression and violence from similarly egregious aggression, was presented. Hate crimes differ from other offenses in multiple ways. Following this, a review of relevant theoretical formulations that explain hate crime occurrence was given, followed by a consideration of empirical research findings.

Aggression and Violence Among Drivers on the Road Today

E.J. Saiz-Vicente,¹ D. Pollock,¹ J. Garcia-Sevilla,² and A. Romero-Medina²

¹*University Institute of Traffic and Road Safety (INTRAS), University of Valencia*

²*Department of Basic Psychology, Faculty of Psychology, University of Murcia, Spain*

A new phenomenon within the area of traffic safety known as “road rage” has appeared as a social problem at the end of the 90s. It is an issue of ever increasing importance to drivers, the news media, and law enforcement agencies. Approximately one hundred thousand accidents with victims occur each year in Spain. The fraction of these crashes that are due to road rage is unknown. An extensive sample of drivers (both professional and from the general population) answered a questionnaire exploring their attitudes and behavior associated with aggressive practices while driving. The design was used in order to assess the present situation regarding this problem. The attitudes and behaviors dealt with included a wide range of aggressive and violent habits. The study indicated that drivers differ in terms of how they classify a list of behaviors that could be considered aggressive. Moreover, significant age differences were found in terms of the level of danger perceived in these aggressive tendencies and violent driving habits. Generally, the evaluation of these activities as “extremely dangerous” progressively increases with the driver’s age. Evaluating habits (e.g., tailgating, running red lights, and cutting in front of another vehicle as well as showing anger, insulting, threatening, or displaying obscene gestures to other drivers or pedestrians) showed that age and gender have important effects on aggressive conduct. These factors, in conjunction with high levels of frustration and emotionality as well as with the anonymity provided by the vehicle, can provoke situations that are highly dangerous on the roads.

Finding the Unexpected: Paradoxical Reactions of Property Crime Victims

M.S. Greenberg and S.R. Beach

Department of Psychology and Scott R. Beach, University Center for Social and Urban Research, University of Pittsburgh, Pennsylvania

This study employed a two-way panel design to investigate cognitive, affective, and behavioral responses to property crime victimization. Three hypotheses were tested. The first was that burglary victims will perceive themselves as having less control over what happens to them than counterparts who have not been victimized. The second was that victims believing “it could have been worse” will feel less “wronged” than those not holding this belief. The third was that victims who take security precautions such as installing special locks and security systems will feel safer and therefore less distressed than those who do not take such precautions. A random digit dialing procedure was used to identify 76 burglary victims, 218 theft victims, and 257 nonvictim controls. Participants were inter-

viewed on two occasions (about a year apart) by means of computer assisted telephone interviews. The results for all three hypotheses were opposite to what was hypothesized. First, burglary victims had higher expectations of control than nonvictims in the short but not the long term. Rather than shattering their assumptions of control, less traumatic victimizations like burglary may pose a challenge to such assumptions, bolstering their beliefs in control in the short term. Second, victims who believed it could have been worse reported feeling more wronged than those who did not hold this belief. The data suggest that holding this belief heightened perceptions of vulnerability, enhancing feelings of being wronged. Third, victims who took security precautions in response to the crime were more distressed, both acutely and chronically, than counterparts not taking such precautions. It is contended that such precautionary behavior activates victims' memories of the crime and reminds of the lurking dangers. A discussion of suggestions for future research was provided.

Computerized Interaction Simulation in the Assessment of Aggression-Related Response Style and Dispositions

E.V. Aidman

School of Behavioural and Social Sciences & Humanities, University of Ballarat, Victoria, Australia

Diagnosis of aggression-related response patterns and dispositions can be substantially enhanced using computer-simulated social interaction tasks. "Mimics" is an interactive software environment based on schematized cross-cultural "facial universals" (Ekman, 1992; 1999) to elicit and assess aggression responses in a "conflict/cooperation" choice paradigm. A computer game-like scenario requires "the player" to manipulate schematic facial expressions of an "Avatar" in order to negotiate through a number of "hosts" who display facial expressions from the same range as the Avatar's. The hosts' reactions to the Avatar depend on both their and Avatar's expressions and range from friendly and supportive to obstructing or even expressly aggressive. The Avatar has a choice of negotiating with, or attacking, the hosts. Comprehensive recording of player's moves and interactions has allowed a number of fine-grained behavioral indices of aggressive responses. These include the percentage of unprovoked attacks (aggression as an intrinsic choice), the percentage of retaliatory attacks (aggression mirroring), and frustration-driven attacks (aggressive over-reaction to frustration). Tendencies to passively respond to aggression [the choice of either a frowning expression (threatening) or a new route (evasion)] after suffering an attack were also assessed. General behavioral indices were also computed, such as *spontaneous activity*, *social flexibility*, and *determination* (sustaining the game after a critical loss of power). Construct validity of these measures was supported by a predictable pattern of their associations with Buss and Perry (1992) Aggression Questionnaire scores and Björkqvist et al. (1993) measures of indirect aggression. An important advantage of the method over self-report measures of aggression is in its capacity to reach beyond verbal declarations, thus reducing impression management and other self-presentation effects in the measurement of aggression.

Aggression Between Species

R. Baenninger

Department of Psychology, Temple University, Philadelphia, Pennsylvania

Interspecies aggression is a topic that has rarely been discussed at meetings of the International Society for Research on Aggression. ISRA members' research concentrates

on aggressive behavior that is interpersonal or that occurs between groups; in interspecies aggression members of one species attack members of another species. Sometimes the winner eats the loser, but the interactions are not always predatory. Aggression also occurs in competitive or parasitic interactions when, for example, hyenas chase a solitary lion away from prey that they killed. Violent, harmful, intentional attacks by humans on other species are actually quite common. Are attacks on other animals a different phenomenon from our attacks on each other? Self-defense (whether justified or not) is one major reason for our aggression toward each other. During human evolution, our ancestors defended themselves daily against bloodthirsty, powerful, and occasionally venomous animals that were ferocious predators and competitors. Our long-standing attempts to eliminate creatures like wolves and rattlesnakes, the fear they engender, and their appearance in our myths and nightmares may be grounded in human evolution. Our response to them is out of proportion to the danger they pose to us in the modern world. Indeed, our aggression toward other species endangers them to the point of extinction. We hunt and kill wild animals even when we do not eat them, and we use them in cruel and sometimes sadistic entertainment. We force domestic animals to work for us as slaves and “sacrifice” them in science, often without considering alternative means of gathering data. There is a large literature on the extent to which attacks on animals are precursors of violence toward other humans. Thus, understanding interspecies aggression may be important for our understanding of human interpersonal aggression, and evidence for this transfer phenomenon was discussed. The primary focus was to examine some theories and models of aggression within our species to see if they can account for the abuse of other animals and the attacks that we make on them.

On the Need to Kill Enemies: How Dehumanization and the Cultivation of Hatred Legitimizes Organized Violence

C.F. Shatan

New York University, New York, New York

The perception that people need enemies has played a major role in the history of human hatred and conflict. What renders people susceptible to this perception? The complex psychosocial process of basic combat training (BCT) in the military provides clues to the teaching of hate in society at large. BCT devalues recruits and brutalizes them. Since they are forbidden to oppose their Drill Instructors, recruits deflect the cruelty they experience into active aggression against others. Armies train recruits to have a “Free-Floating Enemy.” Their commander designates a specific embodiment of the enemy to be destroyed. Enemy Formation (“Enemization”)—through dehumanization of self and “others” and loss of compassion—is essential to prepare for war and killing. The core of enemization is splitting between good and evil, between the good self and the bad self. One’s own “bad-self” is attributed to the enemy who is relabeled as a faceless, subhuman “pseudo-species,” thus increasing the opportunities for projection. This reinforces the social permission given to our soldiers (“the good-self”) to destroy the designated enemy. Despite the end of the Cold War, combat and enemization have been normalized as “facts of life.” Meanwhile, veterans live on with internalized catastrophic reality and with an unceasing internal awareness of the “enemy.” Moreover, intolerance of the presence of the “other” within a majority of social contexts contributes to “enemization” and violence, leaving vast numbers of victims in its wake—genocide, code-named “ethnic cleansing.” These victims suffer from Post-traumatic Stress Disorders (PTSD) in which the author played a central delineating role.

Traumatologists have largely been “stretcher bearers of the social order,” providing palliation of war-related trauma. Can traumatologists collaborate with students of aggression to go beyond this role—to an analysis of the phenomenon of enemization? Such an approach could focus our combined expertise on possible ways of dismantling the army-and-enemy system, a manhunt that is a human invention. By undoing the social structures underlying enemy creation, we may be able to prevent PTSD lest it remain with us unchanged, a moral outgrowth of war and persecution under different names—from *DSM-III* to *DSM-X*. Besides studying BCT, soldier’s narratives (fiction, biographies, memoirs, etc) were accessed to elucidate individual and group perceptions and personifications of the enemy. A healing process, “de-enemization,” was described.

ORAL PRESENTATIONS: AGGRESSION DURING CHILDHOOD

Differentiating Childhood Character Models of Aggression: A Rationale for Treatment

T. Hughes

Duquesne University, Pittsburgh, Pennsylvania

There is general agreement that causal pathways of aggression comprise dynamic, interacting individual and contextual factors resulting in aggressive phenotypes. In children, identification of individual and contextual predictors of aggression is complicated by rapidly changing social, cognitive, and emotional developmental processes. Thus, a coherent classification system for organizing causes of aggressive behavior for children remains elusive, hindering efforts to prevent and treat aggression in a prescriptive, research-based manner. A review of the literature indicates a multiplicity of risk factors that differentially contribute to children’s aggressive acts. This raises questions about early identification and whether or not early intervention is appropriate. One exception is the United States Federal Special Education law (P.L. 105-17) mandate to conduct functional behavioral assessment in cases of disruptive and aggressive behavior. Miller, Tansy, and Hughes (1998) provide a comprehensive multimodal approach to functional behavioral assessment that shows promise for guiding the identification of the pathogenic cause of a particular child’s aggressive tendencies. However, the requirement is only stipulated for special education students. Children that evidence social maladjustment, or conduct disorder, are excluded from special education services, thus excluding many who act aggressively from mandated evaluation of the cause and treatment. The extension of multimodal functional behavioral assessment to all children that evidence aggressive tendencies is advocated. While system-wide interventions are laudable, they do not effectively address the complexities of aggressive behavior for the most severely disordered, violent children. Even after a child has acted aggressively, there is a tendency to avoid considering causal mechanism and to strategically link causal pathways to interventions. Multimodal functional behavioral assessment represents a solution to the problems of both identifying cause and prescribing treatments. In this approach, a child’s contexts are systematically examined for important and controllable distal, proximal, physiological, and intrapsychic causal factors

related to aggressive behavior. After the pathogenic process has been identified, interventions evidencing treatment validity for a specific cause are systematically examined and arranged for implementation. Finally, a review of the intervention plan and outcome evaluation concludes the assessment-treatment cycle.

Anger Priming in 14-Month-Old Children

M. Potegal, A. Anderson, K. Thomas, and E. Shapiro

Pediatric Neuropsychology Clinic, Department of Pediatrics, University of Minnesota

An attack priming effect in rodents has been demonstrated in which exposure to (and attack upon) a “priming” target systematically reduces the latency and increases the probability of attack on a second identical “probe” target. Such priming generalizes across different situations by inducing a transient, relatively specific, centrally mediated increase in “aggressive arousal.” It has been argued that attack priming may be involved in some phenomena related to aggressive behavior. These include escalating threat, the duration and intensity of agonistic encounters, redirection of aggression (priming can be viewed as a formal model of redirection), and the alteration of sensorimotor function and narrowing of attention during combat. The collectivity of such effects may account for animals’ “commitment to aggression,” i.e., their willingness to initiate and continue fighting despite distraction, substantial energy expenditure, injury, and risk of being preyed upon or defeated. We have speculated that humans may experience comparable priming of anger. When mothers of 14 month old children ($n = 88$) provoked them twice in the same laboratory frustration/restraint situation, the children’s response to the second trial provocation was intensified. Struggling increased by 8%, protest vocalization by 38%, and angry facial expressions by 40%. A MANOVA showed a significant overall increase in second trial anger responding. Because a common, anger-provoking intervention by a child’s mother is involved, these observations provide a simple, ecologically valid experimental model for anger escalation which exactly parallels the “attack priming” paradigm previously developed to investigate escalation in other species.

Preferences for Physical Discipline by Parents of Deaf Children

J.F. Knutson and C.R. Johnson

Department of Psychology, The University of Iowa, Iowa City, Iowa

There is growing evidence that children with disabilities are at increased risk for child maltreatment. It has been hypothesized that communication limitations play a role in increasing the use of physical discipline in response to child transgressions and that this increased use of physical discipline can escalate into physically abusive episodes. The behaviors of the child with disabilities might actually occasion the increased use of physical discipline. An attempt was made to determine whether parenting a deaf child increases parental tendencies to use physical discipline. Samples of mothers of profoundly deaf children seeking a cochlear implant ($n = 57$), of profoundly deaf children who were not seeking a cochlear implant ($n = 22$), and of normally hearing children ($n = 27$) participated in a standardized analog parenting task. In response to visual depictions of developmentally appropriate but irritating child behaviors as well as frankly deviant behaviors, mothers of deaf children endorsed significantly greater use of physical discipline. Additionally, mothers of deaf children were more likely to report a willingness to escalate their disciplinary behavior in response to depictions of the child’s repeated transgressions. There were no differences between the two groups of parents of deaf children, indicating that parents seeking and not seeking cochlear implants for their child do not differ with respect to

willingness to endorse physically coercive discipline. Consistent with previous research with this paradigm, depictions of dangerous and destructive behaviors were more likely to result in endorsements of physical discipline. Because a standardized testing paradigm was used for all parents, the findings suggest that rearing a deaf child results in a generalized pattern of increased use of physical discipline that is unspecific to the deaf child in the home. The findings have implications for abuse prevention efforts among parents of deaf children and, perhaps, other communicatively limited children.

Human Violence: A Treatable Epidemic

F. de Zulueta

Traumatic Stress Service at the Maudsley Hospital, Institute of Psychiatry, London, UK

Human violence is a preventable disease. Its causes are generally known to us, and, in many cases, it is treatable. So why do we have such a problem in dealing with it? This paper attempts to cover both these issues. The roots of violence lie in the secret violence of family life. Women and children are more likely to be abused, threatened, or even killed by members of their own family than by anybody else, and the traditional male head of the family is usually the agent of violence. It commonly leads to a form of posttraumatic stress disorder (PTSD) manifested as psychiatric illness in women and violent crime in men. It is proposed that a major underlying factor is damage to the attachment system in infancy and early childhood. Research findings in attachment and PTSD were presented showing the link between disorganized attachment in infancy and personality disorders that lead to domestic violence and social violence (such as borderline personality disorder, dissociative disorders, and other forms of psychopathology). These findings show important links between damage to our attachment system and human violence. While 2/3 of our population is brought up capable of forming secure loving relationships, another 1/4 have the potential to bully and hurt when given permission or encouragement to do so. However, nearly 1/5 of the population is already so damaged by abuse and terror that these men and women will often end up in hospitals if they are women, or in prison if they are men. Violence can be prevented by attending to humanity's needs for secure attachment both in the home and in the community. This means better health care before and after birth, education for parenting, high quality nursery education, diminished legitimate violence in the media and by the government. It, above all, necessitates reducing the gap between the rich and the poor, a form of structural violence that is the biggest predictor of violence in the world.

ORAL PRESENTATIONS: ROLE OF PARENTS IN THE AGGRESSION OF THEIR CHILDREN

Parenting Practices, Self-Control, and Adolescent Delinquency

E.A.W. den Exter Blokland, R.C.M.E. Engels, and C. Finkenauer

Department of Child and Adolescent Studies, Utrecht University, The Netherlands

Adolescence is a critical developmental period that predestines adult well-being and functioning. It is characterized by an upsurge in delinquent behavior. Implicitly blaming the parents, this increase in delinquency has been attributed to parenting practices characterized by low levels of support and control. The question arises, however, whether paren-

tal style directly affects adolescent delinquency. Young people who are not able to control their impulses and emotions are more likely to engage in delinquent and violent behavior. Furthermore, adolescent self-control may be affected by the way they are raised by their parents. In sum, the present study tested a model in which parenting practices affect adolescent delinquency indirectly through the mediating influence of adolescent self-control. Self-report questionnaires were administered to 326 13-17-year-old boys and girls, assessing (1) parenting practices, such as monitoring, affection expression, and use of disciplinary methods; (2) self-control; and (3) delinquency (e.g., petty crime, aggressive acts). High correlations between self-control and delinquency were found (r 's between .40 and .51, $p < .001$). Furthermore, parenting practices explained about 20% of the variance in adolescent self-control. Hierarchical regression analyses confirmed that self-control mediates the link between parenting practices and delinquency. Additionally, direct but small effects of some parenting practices on delinquency emerged. Moreover, mothers' parenting practices contributed more strongly to adolescent self-control and delinquency than fathers' parenting practices. These findings emphasize the crucial role of self-control in adolescent delinquency. Parents are to be blamed, but the question is for what? Implications for research and prevention were discussed.

Mediation of Parental Socializing Practices in the Relation Between Early Aggressive TV Viewing and Aggressive Behavior in Adulthood

D. Lubanska¹ and A.S. Fraczek²

¹*Graduate School for Social Research, Polish Academy of Sciences, Department of Education, Warsaw University, Warsaw, Poland*

²*Department of Education, Warsaw University; Institute of Psychiatry and Neurology, MHSW, Warsaw, Poland*

It has been hypothesized that aggressive TV viewing in early childhood may exert long-term effects on behavior of its viewers. The long-term effects of childhood exposure to television violence were investigated using follow-up data, collected in the early 1990s on a sample of 106 Polish youth in their early 20s. They had been previously tested and interviewed as children three times between 1979 and 1981. Applying multiple regression analyses and structural modeling techniques revealed [contrary to a US sample (Huesmann & Moise, 1998)] that frequent childhood exposure to television violence did not predict young adult aggressive behavior, independently of gender, socioeconomic status, or IQ. This lack of a relationship has only been noted by a few researchers. It has further been hypothesized that aggressive behavior and its mechanisms result primarily from deficiency in socialization processes, with important role played by inappropriate parental socializing practices. Such practices were seen not only as influencing social behavior but also as mediators of the relation between childhood exposure to TV violence and interpersonal aggression. Correlation and regression analyses showed differences between the groups distinguished in terms of the degree of influence: an influenced minority had been more often rejected or punished by parents reinforcing certain kinds of behaviors. A constellation of these practices predicted their interpersonal aggression in adulthood. The mediating effects of the practices in the relationship between early aggressive TV viewing and level of interpersonal aggression in adulthood were confirmed with structural modeling analyses. This is essentially an exploratory study on the Polish population. It shows that, in spite of a general lack of longitudinal effects of early viewing of aggression on aggressive interpersonal behavior in adulthood, in a few influenced individuals a constellation of parental socializing practices mediates such effects.

PLENARY LECTURE: WAR AS AN INSTITUTION: WORKING FOR PEACE

Robert A. Hinde

St John's College, University of Cambridge, UK

After World War II, there were hopes that wars would become much less frequent. Sadly, that was not to be. The wars currently in progress are mostly, however, of a very different kind, occurring within states and of a type for which the UN was not designed. The talk addressed two questions. First, what are the bases of these wars at the societal level? Do the causes lie in ethnicity, religion, environmental issues, poverty, greed, or what? Second, what are the incentives for those who fight? War is dangerous and destructive, so what induces individuals to take part? In attempting to answer that question, it is useful to think in terms of a continuum from conflicts in which individual aggressiveness predominates to those in which war is best thought of in institutional terms. The important driving forces for individuals vary according to the type of conflict. In aggression between individuals, individual aggressiveness is crucial. In conflicts between groups, group loyalty augments and exacerbates individual aggressiveness. Factors making for group coherence are ubiquitous in humans and often lead to the denigration of out-groups. The psychological processes involved are important in all types of war. In those cases in which the institutional aspects predominate, individuals see it as their duty to participate—and this includes not only the combatants but also munitions workers and so on. To reduce the incidence of that sort of conflict, it is necessary to undermine the institution. For that purpose, the forces that support it must be identified. They fall into three categories. They include everyday factors, such as the metaphors used in ordinary speech and the way history is taught in schools. Medium-term factors include religion, ethnicity, nationalism, and so on. Third, the military-industrial-scientific complex, itself consisting of a hierarchy of sub institutions is important. The role of education in reducing the incidence of war in the long term was emphasized.

PLENARY LECTURE: THE ROLE OF THE HUMAN RIGHTS COMMUNITY IN LIMITING VIOLENCE AND THE ABUSE OF HUMAN RIGHTS

Kenneth Roth

Human Rights Watch, Los Angeles, California

The human rights movement seeks to defend human rights and curtail violence abuse. In countries with mature legal systems and the rule of law, victims of human rights abuse can look to the courts for enforcement. However, in most countries where organizations like Human Rights Watch work, the courts are too weak or compromised to rein in official abuse. In such circumstances, the human rights movement employs a variety of techniques to exert pressure on authorities to respect human rights. These include public shaming, diplomatic appeals, withholding or conditioning certain forms of economic assistance, depriving abusive forces of arms, and threatening violent officials with the possibility of international prosecution. The collection of reliable and accurate information about human rights abuses is critical to the successful employment of these techniques. This information is then deployed to create a sense of outrage on the part of the relevant public and to spur powerful

governments and institutions to use their influence to curb abuses. Governmental conduct in the human rights realm is measured against legal standards that are codified in a series of binding treaties. But in the “pre-legal” environment in which the human rights movement often must work, the power of exposing abuses lies less in the revealed violation of legal standards than in a contrast with popular moral judgments. Reinforcing a sense of moral outrage in the face of human rights abuse is thus a major priority. The task is most difficult when governments claim to act in the name of religious or cultural tradition. Partnerships between local and international human rights organizations can be particularly effective in such circumstances. Other contemporary challenges face the human rights movement. They include promoting accountability for violent abuses without creating an incentive for tyrants to cling to power. They must also exert economic pressure on abusive governments at a time when government-to-government assistance often pales in comparison with private investment. They need to exert influence when abuses are committed by armed factions in failed states rather than formal governments. They must also convince the international community to deploy military force in extreme cases when it is the sole feasible option to stop genocide or comparable crimes against humanity.

INVITED SYMPOSIUM: HORMONES AND AGGRESSION

Organizer: Paul F. Brain

School of Biological Sciences, University of Wales Swansea, Swansea, UK

Overview

There has been much progress since the early “primitive view” that hormones (notably testosterone or T) “cause” aggression. The papers in this session illustrated some recently revealed complexities in linking physiology and behavior in infrahuman animals and our own species. Sanchez-Martin et al provided tentative evidence that salivary T levels in preschool (especially boys) may prove a “marker” of conflict behavior. O’Connor et al, in a study involving giving T to eugonadal males with partners, found no evidence to support the view that supraphysiological levels of the hormone augmented aggression (reported by the patient or the partner). Salvador et al opined that sports competitions are likely to provide socially acceptable situations for studying the links between hormones and behavior in our own species. They also found tentative positive correlations between some measures of offensive behavior in judo contests and T. Haller et al’s work with rats suggested that plasma corticosterone levels influence hostile responding in this (and other?) species. They suggested that ultradian variations in this hormone account for changes in expressed behavior.

Testosterone (T) Level May Be a “Marker” of Conflict Behavior in Male and Female Preschool Children

J.R. Sánchez-Martín,¹ E. Fano,¹ J. Cardas,¹ L. Ahedo,¹ P.F. Brain,² and A. Azpíroz¹

¹*Section of Psychobiology, Faculty of Psychology, University of the Basque Country, San Sebastian, Spain*

²*School of Biological Sciences, University of Wales Swansea, Swansea, UK*

A study was performed to assess relationships between a series of behavioral measures seen in the interactions of preschool children with their peers (particularly aggres-

sive behavior) and salivary T levels. The subjects were 28 boys and 20 girls of preschool age (4-5 years) videotaped in San Sebastian in free play interactions. Their behavior was subsequently ethologically evaluated, concentrating on levels of isolation, play, and social interactions (including giving and receiving aggression and affiliation). T levels were measured twice using radioimmunoassay, but the titers were highly correlated. Significant positive correlations with T on the pooled data (boys and girls) were found for "proximity without interaction," "parallel activity," and receiving aggression in "social interactions." A negative correlation was found between the hormone and "play." When analyzing the data for boys and girls separately, a significant direct correlation was found between T and incidences of aggressive behavior in "social interactions" in boys. This gender also showed inverse relationships between the hormone and "play" as well as "proximity without interaction." Although the levels of hormone in boys and girls did not differ at this age (most of their androgens are of adrenocortical origin), the girls showed no such relationships. It could be the case, however, that the sexes express their conflict behavior in different ways even at this early age. T can be a useful biological marker for aggression (and behavioral patterns reflecting different levels of sociability) in children (especially boys). Much more work is needed, however, to evaluate the complex relationships between early hormone titer and current and subsequent behavior.

Effects of Exogenous Testosterone (T) on Self-Reported and Partner-Reported Aggression in Men

D.B. O'Connor,¹ J. Archer,² W.M. Hair,³ and F.C.W. Wu¹

¹*Department of Endocrinology, Manchester Royal Infirmary, University of Manchester, Manchester, UK*

²*Department of Psychology, University of Central Lancashire, Preston, Lancashire, UK*

³*MRC Centre for Reproductive Biology, Edinburgh, UK*

In nonhuman primates, aggressive behavior correlates directly with T levels. In men, self-reported aggression does not reliably correlate with circulating T levels. This study investigated the behavioral effects of supraphysiological levels of testosterone on self-reported and partner-reported aggression. Thirty healthy eugonadal men with partners (mean age = 28.2 years; range 19-45 years) and 7 hypogonadal men (mean age = 31.43 years; range 23-40 years) participated in this single blind, placebo controlled study. Participants were randomly allocated to two treatment groups (n = 15). They received (1) 200 mg of testosterone (T) enanthate, IM, weekly for 8 weeks to raise T levels into the supraphysiological range [the active group] or (2) 200 mg of sodium chloride, IM, weekly for 8 weeks [the placebo group]. The hypogonadal group received 200 mg T enanthate, IM, biweekly for 8 weeks. All groups completed a battery of behavior measures. They included the Aggressive Provocation Questionnaire; Aggression Questionnaire (Buss & Perry, 1992); Aggression Questionnaire-Partner Version; Rathus Assertiveness Schedule (Rathus, 1973); State Self Esteem Questionnaire (Heatherton & Polivy, 1991); Irritability sub-scale (Buss & Durkee, 1957); and Barratt Impulsivity Scale-11 (Barratt & Patton, 1983). Blood samples were obtained at baseline, week 4, and week 8. Preliminary analysis found no significant increases in self- or partner-reported aggression levels in any group. There was, however, a trend toward increased frequency of aggressive responding to provoking scenarios at week 4 in the active group. No significant changes in assertiveness or self-esteem were found. Surprisingly, the hypogonadal group reported significantly greater hostility at all time points compared to the active and placebo groups. Plasma T levels were generally not significantly correlated with any of the behavior measures. Cognitive

and motor impulsivity emerged from stepwise multiple regression analysis as the most important predictors of self-reported aggression, explaining significant proportions of variance at different time points. These results generally do not support the hypothesis that supraphysiological levels of T increase self- and partner-reported aggression.

Testosterone (T) and Behavior in Judo Combat

A. Salvador,¹ A.F. Suay,¹ S. Martinez-Sanchis,¹ V.M. Simon,¹ and P.F. Brain²

¹*Section of Psychobiology, Faculty of Psychology, University of Valencia, Valencia, Spain*

²*School of Biological Sciences, University of Wales Swansea, Swansea, UK*

The role of T in competitive aggression is still open to debate in humans. An important problem is the difficulty of finding adequate behavioral measures. In fact, it has been repeatedly claimed that a main challenge for this topic of research is identifying social situations that permit the study of the role of T in overt behavior comparable to investigations carried out in other species. Sports competitions present several important opportunities to analyze behavior associated with high competitiveness. In particular, contact sports have an especial propensity to develop into aggressive behavior. Consequently, the relationships between T levels measured before and after a judo combat and the behavior displayed during the combat itself were examined. An observational scale was designed from activities usually shown by fighters in judo contests. This scale grouped a number of different elements to form seven behavioral categories that covered the entire period studied. These were threat, fighting, domination, attack/counterattack, defense, observation, and stop. Positive correlations were found between T and offensive behaviors displayed in this kind of competition that reflected initial display rather than competence. Furthermore, this relationship supports previous data indicating an association of T with involvement and anger displayed during judo contests as assessed by the coaches. Sports competitions appear to be socially accepted situations that may be used to obtain information about behavior/hormone relationships in our own species.

Pulsating Corticosterone Secretion in Male Rats: Fast Effects on Aggressiveness

J. Haller,¹ K. Fabich,¹ and M.R. Kruk²

¹*Institute of Experimental Medicine, Budapest, Hungary*

²*Medical University, Leiden, The Netherlands*

Ultradian fluctuations in plasma corticosterone have been demonstrated in monkeys and humans. Corticosterone secretion pulsates in female rats, and an attempt was made to assess whether levels also fluctuate in male rats. The amplitude of oscillations was similar to that reported for females, but the period was larger in males (a phenomenon perhaps related to the shorter corticosterone half-life in females). Male rats were studied in aggressive encounters lasting only 5 min to reduce interference from fight-induced stress reactions. Male rats were significantly more aggressive in the increasing phase of their corticosterone fluctuation when confronting a male intruder than counterparts in the decreasing phase of their corticosterone fluctuations facing such opponents. Corticosterone fluctuations were artificially mimicked by a combination of treatments with metyrapone (the corticosterone synthesis inhibitor) and corticosterone. Again, males with increasing plasma corticosterone levels were more aggressive than counterparts with a decreasing plasma corticosterone concentration. It appears that ultradian fluctuations in corticosterone affect the propensity of an animal to behave aggressively. This suggests that the be-

havioral responses to an aggressive challenge vary in the same animal across the day due to the pulsating nature of corticosterone secretion.

SYMPOSIUM: CROSS-CULTURAL APPROACHES TO AGGRESSION RESEARCH

Organizers: J. Martin Ramirez¹ and John Archer²

¹*University Complutense Madrid, Spain*

²*University of Central Lancashire, UK*

Overview

A brief report of the conclusions of the 15th International Colloquium on the Brain and Aggression that focused especially on different methods used in cross-cultural research on human aggression was presented. This symposium dealt with limitations in the measuring instruments and analysis of those most suited to particular contexts, based on serious studies of each culture. The session also looked at sex/gender differences in physical aggression as seen in (1) a meta-analysis of 82 studies in different cultures; (2) an ethological study of Mongolian children in European Russia; and (3) a sociopolitical approach to “femaleness” stereotypes in Southern Africa. Moral justification of aggression looking at (1) instrumental beliefs as a way of getting what one wants or deserves in the US and France and (2) aggressive acts of different quality and intensity in different social circumstances in Finland, Poland, Spain, US, Iran, Japan, and South Africa were examined. Finally, an anthropological prospective on different cultural mechanisms of preventing aggression was presented.

A Cross-Cultural Perspective on Sex Differences in Aggression between Heterosexual Partners

J. Archer

University of Central Lancashire, UK

A recent meta-analytic review of sex differences in physical aggression to heterosexual partners, and its physical consequences, is outlined and discussed in terms of the limitations of its database. The overall findings were that women were slightly more likely ($d = -.05$) than men to use one or more acts of physical aggression and to use such acts more frequently. Men were more likely ($d = .15$) to inflict an injury, and, overall, 62% of those injured by a partner were women. These findings partially support previous claims that different methods of measurement produce conflicting results, but there was also evidence that the sample was an important moderator of effect size. This finding is particularly noteworthy because 72 of the 82 studies on which the first conclusion was based were from the US, with another seven from the UK or Canada. The studies were also biased toward those involving high school or college dating couples ($n = 42$). Similarly, most of the 17 studies yielding injury data were from the US, and seven involved students in dating relationships. Thus, the conclusions are considerably limited by the available database, which is biased toward young dating samples in the US. Cross-cultural surveys of the incidence of marital violence tend to concentrate on the more serious forms of violent acts and tend to be restricted to female victimization. The very few studies of community samples (in Korea,

Nigeria, Japan, and India) all found effect sizes in the male direction for acts of physical aggression, which contrast with the more symmetrical pattern in US community samples. Cross-cultural variations were discussed in terms of two conflicting norms about physical aggression to partners that operate to different degrees in different cultures. The feasibility of collecting data from different cultures using standardized measures was discussed.

Aggression and Social Equilibrium in a Group of Kalmyk Primary School Children

M.L. Butovskaya and O.S. Vorotnokova

Laboratory of Evolutionary Anthropology, Division of Cultural Anthropology, Russian State University for the Humanities, Moscow, Russia

The nature of gender differences in aggression is one of the most debated problems in research on aggression. The difference between sexes increases with age, and by the age of 2-2.5 years, boys already differ from girls. Socialization and counter aggression in different cultures may result in different rates of violence. This study analyzed aggressive behavior in a group of 6-7-year-old primary school children from an urban national school in Kalmykia. Kalmyks are Mongolian people residing in the European part of Russia who were nomadic and Buddhists in the past. The group of 20 (11 boys and 9 girls) were observed daily in April-May, 1996. Data were collected by videotaping. Ethological method of focal child observations was used (12 samples of 5 min duration for each child). All data were collected during free play sessions without any kind of intervention by adults. Significant gender differences ($p < .05$) were found for contact aggression (in terms of being actors or recipients). Boys initiated most aggressive interactions and were more likely to be objects of aggressive attacks. Frequencies of being actors in non-contact aggression were comparable in the sexes, although girls were less frequent recipients of such behavior. Matrix permutation tests were applied to demonstrate the high level of positive correlation between levels of both initiated and received contact aggression and friendly contacts (Kendall's test 0.259 and 0.306, both $p < .001$, respectively). No gender differences were found in the level of post-conflict peacemaking. Tendencies to indulge in post-conflict reunion in this group were 70%, i.e., higher than in Russian or US children studied using the same method.

Direct and Indirect Aggression in Women: A Comparison Between South Africa and Spain

W.H. Theron,¹ D.D. Matthee,¹ and J.M. Ramirez²

¹*Department of Psychology, University of Stellenbosch, South Africa*

²*University Complutense of Madrid, Spain*

This comparative study examined direct and indirect aggression as expressed by female university students (148 South African and 174 Spanish). It was part of a collaborative project on attitudes and beliefs about aggression in Spanish and South African populations. It offered the prospect of an enhanced cross-cultural understanding of aggression, as well as the potentiality of a clearer delineation of aggression in the South African context. Following recent trends, this investigation involves only female respondents in order to avoid the construction of female aggression as a counterpart of male aggression and the construction of "femaleness" as a homogenous category. The results were discussed from a sociopolitical stance, with consideration of women's position in dominant social discourses of aggression. Women's choices of aggressive strategies have tradition-

ally been limited by social norms and their (dis) position as the so-called “weaker sex,” requiring them to resort to covert strategies, such as indirect aggression. Given the changes in sociopolitical structures, particularly in South Africa where the empowerment of women has become an issue, the question is whether this will expand the availability of overt (or direct) aggressive strategies to women. Consideration of gender stereotyping was made. Although the concept of indirect aggression has been employed in refuting the myth of the non-aggressive female, it runs the risk of reifying another myth, namely, that of the wily, manipulative female. In conclusion, this investigation attempted to clarify the role of culture in female aggression.

Social Representations and Aggressive Behavior: Cultural or Cross-Cultural Perspectives?

W.H. Theron¹ and D.W. Painter²

¹*Department of Psychology, University of Stellenbosch, South Africa*

²*Department of Psychology, Rhodes University, South Africa*

The cross-cultural study of aggression can contribute to South Africa's struggle with violence, but the results can also confound this aim. The question should always be asked: Is culture sufficiently conceptualized in a given cross-cultural study of aggression? One could argue that the value of this theoretical model is curbed by psychology's methodological preoccupations. Restricting the operationalization of social representations to a standardized questionnaire (such as the EXPAGG) reduces the construct in two ways relevant to the eventual understanding of culture. First, it reduces social representations to individual beliefs about aggression. Second, these beliefs are predetermined by the questionnaire and not provided by the people studied. In this way, culture is effectively taken out of the equation: these restrictions make it impossible to address culture as a shared system of meanings (representations) negotiated between people in a given context. In addition, culture is also rendered transparent in another way, namely, by neglecting any reflection on the social representations of aggression held by psychology as a discipline and informing the construction of instruments. In light of this critique, it was argued that any attempt to compare across cultures should build upon a serious study of culture. It at least illustrates how aggression is represented as an object of psychology by both research subjects and their researchers. In a social representation mold, this would mean attending to the actual construction and use of ideas and theories about aggression in these contexts. The intended outcome of this critique was not to discredit cross-cultural work but to attempt to suggest ways that will yield even richer results when comparisons across cultures are made. It may also provide the groundwork for the construction of measuring instruments more suited to particular (specifically South African) contexts.

Social Representations of Aggression in the US and France

D.S. Richardson,¹ P. Huguet,² and D. Schwartz¹

¹*Department of Psychology, Florida Atlantic University, Boca Raton, Florida*

²*Université Blaise Pascal, France*

This study examined instrumental beliefs about and experiences with aggression among university students from the United States and France. An instrumental view of aggression is associated with considering harming others as a means of gaining control or power and of maintaining one's self-esteem and reputation (Campbell, 1993). Thus, the instrumental view suggests that aggression might be an acceptable way of getting what one wants or

deserves. We expected that the relatively violent social context in the United States would be related to more instrumental beliefs about aggression, more experience with aggression, and more organized beliefs about aggression among students from that country. University students from the United States ($n = 146$) and France ($n = 97$) indicated the extent to which they agreed with 20 instrumental statements derived from Campbell's EXPAGG scale. They also answered a series of questions about their direct and indirect experience with aggression (i.e., as aggressor, victim, or witness). As expected, students from the United States reported more experience as aggressors, victims, and witnesses of aggression, and they were more likely to indicate that they were answering the questions with reference to recent personal experience with aggression. They also had a more organized concept of instrumental aggression, as reflected in considerably higher internal consistency (alphas = .91 vs. .63) among their responses. However, students from the US and those from France did not show different overall scores on the scale of instrumental beliefs about aggression. Closer examination of the data showed that French students had more instrumental views on items that associated aggression with control of self and other, whereas US students had more instrumental views on items that dealt with public displays of aggression. That is, French students were more likely to consider aggression as a means of controlling other people, whereas US students were more likely to value public displays of aggressive behavior. In sum, the relatively violent social context in the US might be related to greater experience with aggression as well as residents having more organized ideas about this behavior. However, the extent to which individuals accept beliefs about aggression depends on the particular purpose that aggression might serve.

Differences and Similarities in Moral Approval of Aggressive Acts (A Cross-National Study)

J.M. Ramirez, K. Lagerspetz,¹ A. Fraçzek,² T. Fujihara,³ Z. Musazahdeh, and W.H. Theron⁴

University Complutense of Madrid, Spain

¹*University of Turku, Finland*

²*University of Warsaw, Poland*

³*Kwansei Gakuin University, Japan*

⁴*Universiteit van Stellenbosch, South Africa*

For the last two decades, studies on moral approval of aggressive acts have been conducted in several countries. In all completed studies, a nationally adapted version of the Lagerspetz and Westman questionnaire was applied to university students to collect data. The moral judgments of several aggressive acts of different quality and intensity were analyzed in the context of different social circumstances that may justify them. Although the completed studies are not fully comparable methodologically (e.g., different samples, different time of collecting data, different number of alternatives, etc.), comparison of patterns of moral approval of aggressive acts characteristic for national sample leads to interesting conclusions. More drastic forms of aggressive acts (e.g., killing, torture) are less acceptable than common and non-dangerous forms of such behavior (e.g., hindering, shouting) in all countries. Aggressive acts that are socially justified (e.g., in order to protect others, in self-defense) are clearly more acceptable than others with no such justification (e.g., as an expression of emotions, because of communication difficulties). There were, however, some striking differences between the studied countries. Irony in Poland, Spain, and the US is considered a relatively harmless behavior yet is treated as quite a serious offense in Finland, Japan, and Iran. Aggressive behavior as a means of punishment

is rarely acceptable in Finland, Poland, Spain, and the USA but often so in Japan and Iran. Thus, patterns of moral approval for various forms of aggressive acts are only to some extent common in the contemporary world, while differences between countries in such attitudes appear culturally determined. In addition, a study in Finland with people from several professional backgrounds other than university students (Lagerspetz et al., 1988) showed that different groups of people within the *same* country may have rather different attitudes toward aggression.

From Finns to Zapotecs: Aggression Prevention in a Cross-Cultural Perspective

D.P. Fry

Åbo Akademi University, Finland and University of Arizona, Tucson, Arizona

The prevention of aggression has received scant attention within anthropology. This paper draws on fieldwork conducted in Finland and among Mexican Zapotecs as well as on descriptions of conflict found in the worldwide ethnographic literature to discuss certain recurring preventive measures. It is noted that prevention has different levels: (1) prevention of aggression in the first place and (2) following aggression, the prevention of (a) escalation among the original actors and/or (b) the spread of aggression to other individuals. Additionally, the anthropological descriptions suggest that sometimes prevention of aggression largely reflects individual decisions and actions, although in other contexts prevention of aggression entails various group-level phenomena. In fact, prevention mechanisms might be viewed as running along a continuum from the individual to the group level. Cross-cultural sources illustrate cultural variations and recurring patterns. Specifically, aggression is prevented via diverse psychocultural mechanisms such as internalization of self-restraint toward expressing anger, self-restraint toward expressing aggression, socialized sensitivity toward the emotional state, and needs of other persons. Socially institutionalized systems of sharing and reciprocal cooperation may be helpful. The use of apology and the showing of remorse as well as the activities of third parties (such as “friendly peacemakers,” mediators, arbitrators, etc.) to separate combatants and/or to help them settle a dispute without (further) aggression are also useful. It is concluded that prevention activities are probably much more prevalent than might be indicated by the dearth of anthropological studies that focus on this topic. In closing, brief consideration is given to possible benefits of prevention activities for the individual(s) engaged in such actions.

ORAL PRESENTATIONS: PSYCHOPATHOLOGY AND HUMAN AGGRESSION

Is the General Public a Target of Violent Mentally Disordered Individuals? Findings from a Young Adult Birth Cohort

L. Arseneault, T.E. Moffitt, and A. Caspi

King's College London, Institute of Psychiatry, SGDP Research Centre, London, UK

A previous report showed that at the age when violent incidents are at their peak, individuals meeting diagnostic criteria for schizophrenia-spectrum disorder, alcohol dependence, or marijuana dependence account for a significant proportion of violence in the community. The present study examined victims of violence by young mentally disor-

dered offenders at an age when they contribute most heavily to the community's violence burden. This study aimed to determine the extent to which young adults with schizophrenia-spectrum disorder, alcohol dependence, or marijuana dependence had assaulted someone living with them, assaulted someone else, or perpetrated violent street crimes. In a total birth cohort ($n = 961$), the past-year prevalence of mental disorders was measured via standardized *DSM-III-R* interviews, regardless of contacts with the hospital system. Past-year violence was measured via self-reports of offending. Two items assessed simple and aggravated assaults against someone living at home (hit someone you lived with; attacked someone you lived with using a weapon or with the idea of seriously hurting or killing them). Two other items assessed simple and aggravated assaults against someone else (hit someone else; attacked someone else with a weapon or with the idea of seriously hurting or killing them). Two more items assessed serious violent acts, referred to as "street crimes" (used a weapon, force, or strong-arm methods to rob a person; were involved in a gang fight). Findings indicated that, compared to controls, young offenders with schizophrenia-spectrum disorder or substance dependence were more likely to assault someone they were living with and also to assault other people or to commit violent street crimes. Ratios of offenses directed against someone living at home versus someone else were obtained. They showed that among individuals with schizophrenia-spectrum disorder, more offenses were committed against victims they were living with. Among alcohol-dependent individuals, slightly more offenses were committed against victims they were not living with. Among marijuana-dependent individuals, the ratio was close to 1:1. These findings have implications for community violence prevention initiatives.

The Report Form for Aggressive Episodes (REFA) in the Treatment of Violent Psychotic Patients

S. Bjørkly

Faculty of Health Sciences, Molde College, Molde, Norway

Aggressive episodes significantly affect patients and their treatment milieu. Reliable instruments are needed to quantify the nature and frequency of aggressive behavior. Three aspects of the clinical implementation of the REFA were presented: (1) design and theoretical base, (2) inter-rater reliability, and (3) a ten-year prospective study of aggression. The REFA is a rating scale measuring aggressive behavior toward other persons. The interactional approach of the scale explicitly focuses on detailed situational analyses of aggression. The scale provides a list of 30 situations/interactions, grouped in seven main categories, to help determine the situations/interactions precipitating the aggressive episode. There are six vertical sections for the recording of characteristics of aggressive episodes: one for verbal threats, one for physical threats, and four for physical assaults. *Verbal threats* are operationalized as verbal communication conveying a clear intention to inflict physical injury or death upon another person. *Physical threats*: Non-verbal expression of threats, such as shaking one's fist at somebody or otherwise signaling bodily preparation for an assault. *Physical assaults*: The intended infliction of bodily injury upon another person or unsuccessful attempts to cause physical injury to another person. A study of single raters' assessment showed high levels of inter-rater agreement and reliability ($M = 83\%$ correct assessments, $k = .84$, $n = 48$). Results from a small study of group ratings were also promising. In both studies, nurses assessed clinical vignettes by means of the REFA. The main findings from a ten-year prospective study of inpatient aggression in a Norwegian special secure unit were (1) most aggressive acts were verbal or physical threats; (2) a small proportion of patients accounted for most aggressive episodes; and (3) most aggressive inci-

dents were precipitated by situations pertaining to limit-setting and problems of communication. Some benefits and disadvantages of using the REFA in clinical situations were outlined.

Sleep Pathology and Antisocial Behavior: A Need for Research

N. Michael

Castleton State College, Castleton, Vermont

After reviewing normative sleep, five distinct lines of research were described. These were depression and abnormal sleep architecture; REM sleep deprivation in rats; REM sleep and attachment behavior sleep and functioning of the prefrontal cortex; and atypical waking EEG patterns in chronically violent offender populations. Current research suggests that clinically depressed individuals have substantial sleep pattern anomalies primarily in the form of a higher percentage of time spent in REM sleep. Many of the core features of depression appear antithetic to those of chronic antisocial behavior. Experimental studies examining the behavioral effects of selective REM sleep deprivation in rats report augmentation of aggression and impulsivity—key elements of repetitive antisocial conduct in humans. A recently developed hypothesis asserts that the primary function of REM sleep in mammals is to facilitate attachment behavior. Concurrent research also suggests that insecure childhood attachment is a strong etiological risk factor for adolescent and adult antisocial tendencies. One of the most robust effects of sleep deprivation reported in humans is the deterioration of executive cognitive functioning capacities of the prefrontal cortex. Similar deficits in executive cognitive functioning evident in many delinquent and criminal populations have been implicated in the etiology of chronic antisocial behavior. Finally, numerous studies report abnormal waking EEG patterns in habitually violent offenders, which may result from irregular sleep patterns. Taken together, the results and implications emanating from these five disparate lines of research strongly suggest a potential link between abnormal sleep patterns and antisocial behavior in humans. Specific research questions that need to be addressed include (1) Does selective REM sleep deprivation in humans lead to an increase in aggression? (2) Do chronically antisocial populations have substantial sleep architecture anomalies in comparison to the general population? (3) If there is a relationship between sleep pathology and antisocial behavior, what is its specific nature and direction? (4) If a relationship exists, what are its primary neurobiological underpinnings?

Treatment of Borderline Personality Disorder: Reducing Violence to Self and Others

D.E. Hurdle

School of Social Work, Arizona State University, Tempe, Arizona

Persons with personality disorders (particularly those with borderline conditions) have high rates of violence both to themselves and to others. Such individuals are often chronically suicidal and employ parasuicidal methods of handling stress and relationship issues. They are also prone to become violent with others, particularly when they are disappointed in interpersonal relationships. Persons with borderline personality disorder are overly represented in clinical populations receiving mental health treatment and in in-patient psychiatric settings. Their psychological dynamics of poor impulse control, emotional dysregulation, and idealization-devaluation in interpersonal relationships create a situation in which violence is common. Until recently, there was no effective method of treating borderline per-

sonality disorders. Psychoanalytical and psychodynamic methods do not improve the condition. However, in recent years, “Dialectical Behavior Therapy” (DBT) has shown promise in treating these individuals. Research suggests that this treatment decreases violent behaviors as well as improving ability to live successfully in the community. This method consists of a combination of individual psychotherapy and group skill building sessions. The course of treatment is approximately one year. Adults were enrolled in a parasuicide clinic in a university setting. However, there were difficulties adapting this research model to community practice. In order to meet the needs of community-based practice, the DBT model was adapted at a large community mental health center in the US. This approach, “Group Treatment of Adults with Personality Disorders,” employed a predominantly group therapy format. It included three integrated treatment groups provided to clients over the period of a year with supplemental psychiatric care. The groups consisted of a process therapy group, a skill-building group, and a recreational/activity therapy group. While no formal program evaluation has been completed, clients have reduced their rate of in-patient hospitalization and improved their ability to live successfully in the community. Additionally, this approach provided for treatment of clients with a variety of mental health problems in a cost-effective manner that worked well in a managed care environment.

ORAL PRESENTATIONS: AGGRESSION IN HETEROSEXUAL RELATIONSHIPS

Invisible Touch: Aggression by British Wives 1200-2000 AD

M.J. George

Neuroscience, Faculty of Basic Medical Science, St Bartholomew's and Royal London Hospital Medical School, Queen Mary and Westfield College, London, UK

In contrast to intimate victimization of female partners by males, the reverse, aggression by females against their intimate males, is seemingly an “invisible touch.” It is evident in a wealth of gender-neutral Conflict Tactics Scale studies, but little commented upon by academics and hardly ever researched in its own right. This dichotomy in academia (as well as elsewhere) arises out of a “great taboo,” the uncomfortable notion of the “battered husband” with its inherent transgression and inversion of gender roles and norms. The existence of violence by wives against husbands can be traced back in European history to ancient Greece. It was manifest during the second millennium from Russia in the east to Greece in the south and the UK in the west. Charivari rituals in early modern times punished all manner of slights against social convention. Evidence, particularly from England, suggests that these rituals were at their most elaborate when men were beaten and subjugated by their wives. The use in England of “Skimmington,” as a distinct form of Charivari, to punish the beaten husband or even his neighbors, was documented in contemporary literature. Violence by wives existed in court records from, at least, the sixteenth century onwards. This evidence demonstrates that from the eighteenth century, concern in England for women victims grew, while these ancient social customs of public disapproval and humiliation of beaten men fell into disuse. However, it is suggested that the use of the “Skimmington” as a punishment of victimized men has not ceased. It appears to exist as an “invisible touch” within the social, political, legal, and academic consideration of the field of intimate violence.

Aggression and Controlling Behaviors in Heterosexual Relationships

N. Graham-Kevan

Department of Psychology, University of Central Lancashire, Preston, Lancashire, UK

This study investigated the proposition by Johnson (1995) that there may be distinct subgroups of violence within relationships. Johnson termed these “patriarchal terrorism” and “common couple violence.” Patriarchal terrorism was said to be male to female violence set within a framework of controlling behaviors. Common couple violence involved mutual violence by the partners when conflict occasionally gets out of hand. The sample comprised students ($n = 113$), women from a domestic violence refuge ($n = 44$), and male prisoners ($n = 108$). Each participant completed the Controlling Behaviours Scale (Graham-Kevan, 1999) and the Conflict Tactics Scale [CTS] (Straus, 1979) for themselves and their partner. They also provided additional information on personal fear experienced during conflicts and injuries sustained by both themselves and their partner. Relationships were classified as either involving physical aggression or not, based on the responses given to the CTS. Only those classed as physically aggressive were used in subsequent analysis. Reports ($n = 136$) of own and partner use of physical aggression, controlling behaviors, injuries sustained, and self-reported fear were entered into a Discriminant Function Analysis (DFA). The DFA produced two significant discriminant functions, together correctly classifying 76% of cases (88% of shelter, 39% of students, and 93% of prisoners). The first function accounted for 90% of variance and was composed of partners’ use of controlling behaviors, self-reported fear, partners’ use of minor physical aggression, injuries sustained by self, and partners’ use of severe physical aggression. The second function accounted for 10% of the variance and comprised of respondents own use of minor aggression, injuries to their partner, own use of severe physical aggression, and their own use of controlling behaviors. These results support the belief that there are subgroups within relationship violence. These subgroups appear to be reasonably distinct, a finding that has important implications for intervention programs, official statistics, and theoretical research.

Aggression in British Heterosexual Relationships: Further Inferences

S.K. Maw and M.J. George

MSRG and Neuroscience, Faculty of Basic Medical Science, St Bartholomew's and Royal London Hospital Medical School, Queen Mary and Westfield College, London, UK

In 1996, results of a nationally representative survey of aggression between British heterosexual partners ($n = 1865$) was published. The survey was based on use of an adapted Conflict Tactics Scale (Straus, 1979) containing five items of physical assault. Across all relationships, 18% of men and 13% of women reported sustaining at least one of these acts, while 10% of men and 11% of women reported inflicting such an act on a partner. In current relationships, 11% of men and 5% of women reported likewise. Five percent of currently married or cohabiting men, as opposed to 1% of currently married or cohabiting women, reported sustaining more than one act of physical assault from their current partner. This survey was undertaken within a broader survey of consumer attitudes giving a considerable amount of demographic data and other detail. This and the survey data itself have allowed a fuller statistical analysis, using Factor analysis, confirming inferences drawn from the previous descriptive review of data. Analysis of both the symbolic/verbal and

physical victimization/aggression results in relation to a number of factors, such as sex, age, relationship status, geographical location, household income, and the presence of children in a household, was undertaken. This analysis found a number of significant factors. The nature of conflict tactics experienced or used seemed dependent on sex differences and the nature of respondents. This full analysis allows comparison with data on intimate assaults provided by the 1996 British Crime Survey undertaken by the British Government Home Office.

Couples in Conflict: Constructive vs. Destructive Responses to Everyday Anger

J.P. Tangney

Department of Psychology, George Mason University, Fairfax, Virginia

Two hundred and sixteen romantically involved young adult couples were interviewed in-depth regarding recent episodes of anger. The couples described a broad range of anger-eliciting events, but one factor was of particular interest, namely, whether the offense caused the victim's partner to feel shame. Events were compared that caused the victim to feel shame and anger (shame) and those that caused only feelings of anger (no shame). There was a clear link between shame and maladaptive responses to anger. Victims of the shame-related anger events were significantly more angry than non-shamed partners. Shamed victims were more likely to report malevolent and fractious intentions. They were intent to get back at their partner and to let off steam, rather than trying to fix the situation. The shamed victims also behaved differently. Shamed boyfriends were inclined toward a range of direct and indirect forms of aggression (behaviors intended to cause harm to the perpetrating girlfriend) and they were prone to ruminative anger. Shamed girlfriends tended to show displaced aggression and self-directed hostility. Unsurprisingly, shamed victims didn't feel very good about the way they handled their anger. These apparently maladaptive expressions of anger did not result in any positive behavior on the part of the shame-inducing perpetrators (especially according to the victim's accounts). The perpetrator's responses to aggressive retaliation of shamed victims centered on anger, resentment, defiance, and denial, rather than, e.g., apologies and attempts to fix the situation (these were much more common in non-shamed couples). Last, couples rated the long-term consequences of episodes of anger and shame as more negative than anger without shame. These data provide a powerful empirical example of the shame-rage spiral described by Lewis (1971). In this, victim shame leads to feelings of rage and destructive retaliation which then sets into motion partner anger and resentment as well as expressions of blame and retaliation in kind. This is then likely to further shame the victim and so on.

Post-Separation Violence: The Male Perspective

A. McMurray

Faculty of Nursing and Health, Griffith University, PMB Gold Coast, Queensland, Australia

This study investigated the male's perspective on separation-related violence against women to identify modifiable elements of the personal, situational, and socio-legal environments that lead to violence against former female partners. Structured questions were developed for telephone interviews with separated and/or divorced males in Western Australia. Volunteers were recruited via a media campaign that posed the question: "Why do some men hit women: why don't all men hit women?" One hundred and forty-six interviews were analyzed using Pearson R and Spearman's chi square for quantitative data, and

thematic analysis of open-ended responses. Sixty-one reported having been violent, 14 at the time of separation only. The violence was witnessed by children in 23 cases. Factors influencing their violent behaviors were reported as finances, alcohol/drugs, fatigue/stress, and “the system.” No significant association was found between violence and having a source of support. Nearly half the men believed their violence was justified, either unequivocally or sometimes. Fairness in the legal system was the most frequent suggestion for redressing violence in society, followed by provision of counseling support and education appropriate to the needs of males. Study findings emphasize the importance of understanding and accepting the tensions of families as they are embedded in social relations. Prevention, intervention, and care-giving strategies for separating families must be contextualized to the personal, social, legal, and situational environments of both partners to separation and divorce.

ORAL PRESENTATIONS: AGGRESSION AND LAW

Managing the Threat of Victim Retaliation: Drug Robbers and Informal Sanction Threats

V. Topalli,¹ R. Wright,² and B. Jacobs²

¹Department of Criminal Justice, Georgia State University

²Department of Criminology and Criminal Justice, University of Missouri, St. Louis, Missouri

This study addressed a gap in the criminological research on active offenders. This is the notion that the risk of victim retaliation (arguably the ultimate informal sanction) influences criminal decision-making. At face value, retaliation is a serious consequence of many offenses; especially those perpetrated against victims themselves involved in crime. It would seem reasonable to assume that offenders engaging in these activities risk swift and potentially fatal consequences at the hands of their victims. Paradoxically, a major benefit of preying on fellow criminals is that they cannot go to the police. Why should offenders elect to reduce their chances of being arrested at the cost of increasing their odds of being killed? What is it that allows them to accept this putatively greater risk? Despite ample speculation on their part, criminologists lack any systematic empirical data on whether (and, if so, how) the threat of victim retaliation influences criminal behavior before, during, and after offenses. This represents a crucial gap in our understanding of both deterrence and of the contagion-like processes through which violence is contracted and contained. Data were drawn from in-depth, systematic interviews with 25 currently active drug robbers recruited from the streets of St. Louis, Missouri. To be considered active, an offender theoretically had to have (1) robbed at least one drug dealer in the last three months and (2) committed at least three such robberies in the previous year. The drug robbers were located through the efforts of two street-based field recruiters, both of whom were members of the criminal underworld. These interviews showed drug robbers use a set of strategically oriented behaviors referred to as Retaliation Threat Management Techniques (including intimidation, anonymity maintenance, and vigilance) to facilitate enacting their violent crimes and to control the victim’s ability to gain post-offense retribution.

Victims and Vendettas: Law as an Instrument of Revenge in Early English Common Law

J. Greenberg

Department of History, University of Pittsburgh, Pittsburgh, Pennsylvania

Our modern litigious society is accustomed to the practice of using law in order to harass our enemies and seek vengeance against those who have harmed us. We are, however, less aware of the historical roots of this phenomenon. The medieval and early Modern English common law tradition that underlies the practice is explored. Medieval law was particularly well suited for this, since the appeal of felony (in essence a private suit for a criminal wrong) permitted victims and their kin to vent anger and aggression by carrying out a legal vendetta against the alleged harm-doer. Prominent among those who waged these vendettas were parents of murdered children, widows of murdered husbands, and peasants who wanted to cheat their lords out of manorial dues. Evidence suggests that in most of these cases, anger played an important role in motivating plaintiffs who brought appeals of felony. The related themes of the emerging distinction between crime and tort and the state's attempt to monopolize the prosecution of serious offenses are also considered, since they led to the decline of such appeals. While victims and their kin eventually lost the right to seek vengeance, they ultimately gained the valuable advantage of being represented by the might and power of the state.

An Experimental Investigation of the Perceptual Characteristics of Dispositionally Aggressive Individuals: Street Robbers' Judgments of Point Light Displays

V. Topalli

Department of Criminology and Criminal Justice, Georgia State University and The National Consortium on Violence Research

Empirical research on aggression and hostility has been carried out in the psychology laboratory using college student populations. In criminology, the study of aggression has been limited to its role in crime. The present study represents an attempt to integrate the experimental methodology of social and perceptual psychology with qualitative methods of criminology to explore the perceptual characteristics of dispositionally aggressive individuals—street robbers. Active street robbers (recruited off the streets of St. Louis) were given standardized psychological measures of aggressive attitudes. These included the Aggression Questionnaire (Buss & Perry, 1994) and the Vengeance Scale (Stuckless and Goranson, 1992, which had been previously validated on non-criminal subject populations). They were then asked to describe specialized videotaped visual models depicting simple human social interactions, called Point Light Displays (PLDs). Previous research on PLDs indicates they can elicit judgments of hostility and aggression from individuals based on physical and affective stimulus features. Responses from the street robber group were compared with those from two control groups. These were demographically matched control subjects (individuals who lived in the same neighborhoods but were not offenders) and a second (more traditional) control group comprised of individuals recruited from undergraduate criminology and psychology classes at the University of Missouri. Street robbers scored significantly higher on aggression measures than either control group. There was also a significant relationship between these measures and PLD content judgments. Street robbers were more likely than both control groups to describe the PLDs as containing firearms and weapons, and depicting street

violence and victimization. It was contended that these results are consistent with a motivation-based selective perception model of cognitive functioning, in which an individual's environment and environment-specific behavioral repertoire determine the ambiguity of social interactions.

ORAL PRESENTATIONS: ALCOHOL, MEDICINAL PLANTS, AND AGGRESSION

Youth Violence and Alcohol Availability in Predominantly Mexican American Communities in the United States

M.L. Alaniz

Prevention Research Center, Berkeley, Jose State University, San Jose, California

Previous studies have shown a relationship between alcohol availability and youth violence. In most urban communities in the US, alcohol outlets are concentrated in areas with a high concentration of economically disadvantaged and racial/ethnic minority populations. The Mexican American Youth Violence and Alcohol Study investigated the relationship between alcohol availability (density of alcohol outlets) and Mexican American youth violence in three cities in California. The study was funded by the National Institutes on Health, National Institute on Alcohol and Alcoholism and the California Wellness Foundation (1993-1998). Quantitative and qualitative techniques were used to examine links between availability and violence using US census and police crime data, State of California alcohol outlet listing, observation, document analysis, and interviews. The results were consistent with previous studies showing a high concentration of Mexican Americans in poor, segregated communities with a high concentration of alcohol outlets. In one of the cities studied, there were two census block groups (the smallest census unit of analysis/closely approximated to a neighborhood) where there was an overlap of Whites, poverty, and alcohol outlet density. In the same city, 29 census block groups had an overlap of Mexican Americans, poverty, and alcohol outlet density. Multiple regression was used to measure the relationship between alcohol availability and youth violence. There was a statistically significant relationship between alcohol outlet density and youth violence by Mexican Americans in all three cities and in an aggregate model. There were five times more alcohol advertisements in Mexican American neighborhoods, and in one city, children were exposed to 10-61 advertisements on a walk from home to school. The high density of alcohol outlets in Mexican American communities appears to be a significant contributor to high rates of violent crime. The proliferation of alcohol advertisements may contribute to a permissive environment where alcohol consumption is encouraged and reinforced.

Inhibition of Alcohol-Heightened Aggression by Action at Post-Synaptic 5-HT_{1b} Receptors in Male Mice

R.M.M. de Almeida, S. Faccidomo, E. Fish, and K.A. Miczek

Tufts University, Medford, Massachusetts

The 5-HT_{1b} receptor subtype appears critical in the serotonergic inhibition of aggressive behavior, as indicated by studies using knockout mice and selective pharmaco-

logical agents. The present study aimed to extend the observation of anti-aggressive effects with the 5-HT_{1b} agonist CP-94,253, to the clinically used 5-HT_{1b/d} agonist zolmitriptan. In addition, the effects of this agonist on aggression that had been heightened as a result of treatment were investigated. Male CFW mice (n = 20) were given zolmitriptan (1-17 mg/kg) or its vehicle IP 15 minutes prior to a 5-min confrontation in their home cage with a male intruder. Subsequently, the animals were co-treated with an antagonist of the 5-HT_{1b/d} receptor (GR 127935; 10 mg/kg IP). In a second experiment, animals (n = 37) were injected with alcohol (1 g/kg, PO) and with zolmitriptan (1-17 mg/kg, IP) 15 minutes before confrontation with an intruder. Measures of aggressive behavior included frequencies of pursuit, sideways threat, bite, and tail rattle. Motor behaviors comprised walking, contact, grooming, and rearing. Like CP-94,253, zolmitriptan (5.6, 10.0, and 17.0 mg/kg) decreased aggressive behavior in male mice without sedation. The effect of zolmitriptan on aggression was blocked when it was given with GR127935. Zolmitriptan (5.6–17 mg/kg) decreased aggression in individuals showing high levels of aggressive behavior after consumption of alcohol. The current results indicate that the 5-HT_{1b/d} receptor is critically involved in the modulation of aggression in a behaviorally specific manner.

Effects of Applications of Some Medicinal Plant Extracts Used in Jordan on Social Aggression and Gonadal Function in Male Mice

M.H. Homady,¹ H.H. Hussain,² K.A. Tarawneh,¹ J.M. Shakhanbeh,¹ I.A. Al Raheil,³ and P.F. Brain⁴

¹Departments of Biology, ²Chemistry, and ³Physics, College of Science, Mutah University, Al-Karak, Jordan

⁴School of Biological Sciences, University of Wales Swansea, UK

The effects of ingesting aqueous solutions of freshly prepared ethanolic extracts of four plants much used in folkloric medicine in Jordan were investigated on social aggression in intact male mice. Their effects were also studied on the histology of the testes and preputial gland. The plants studied were *Eruca sativa* (claimed to treat sterility and to improve male sexual desire); *Cinnamomum camphora* (said to calm excessive sexual activity); *Nigella sativa* (used in respiratory infections); and *Salvia fruticosa* (used to treat male sterility). The extracts were given daily for 30 days by intra-gastric application and compared with physiological saline-treated controls. *C. camphora* extract significantly suppressed attack on subjects by aggressive residents. This treatment in these mice also reduced preputial activity and resulted in testicular aspermatozoia. In contrast, the administration of *E. sativa* or *N. sativa* extracts dramatically increased the attack to which the mice were subjected. They also enhanced the maturation and differentiation of testicular spermatozoa and augmented the activity of the preputials. The later histological effects were most evident with *E. sativa* extracts. *S. fruticosa* treatment also increased attack to which mice were subjected but did not have consistent effects on the gonadal system. The broad effects of these herbal remedies on mice were consistent with their postulated effects in humans, suggesting that the test can be a rapid screen for interesting complex plant-derived material. Some of these preparations seem worthy of further investigation.

ORAL PRESENTATIONS: NEUROCHEMICALS, GENETICS, AND AGGRESSION

Effects of Microinjection of 5-HT_{2a} Receptor Agonist in the Dorsal Periaqueductal Gray and Medial Septal Areas on Maternal Aggressive Behavior in Female Wistar Rats

R.M.M. de Almeida, M. Giovenardi, C. Baretta, A. Senger

Curso de Psicologia, Nucleo de Neurociencias da Universidade do Vale do Rio dos Sinos (UNISINOS), Brazil

5-HT modulates different forms of aggression in rodents. The many types of 5-HT receptors, with their different functions and neural localizations in areas having a variety of modulatory effects on aggression and defense, make the interpretation of effects rather complex. The present study analyzed the role of the 5-HT_{2a} receptor-agonist on maternal aggressive behavior. It used female Wistar rats (90 days old and 230-270 g). On day 4 post-partum, guide cannulae were implanted using stereotaxic surgery. On day 7 post-partum, animals were microinjected with the 5-HT_{2a} receptor agonist 5-methyl-alfa-hydroxytryptamine at different doses (0.2, 0.5, 1.0 g/0.2 µl) into the medial septal area (n = 42) or the dorsal periaqueductal gray (n = 42). On day 7 post-partum, the responses of lactating female rats with pups to a conspecific male intruder were recorded 10 min after the microinjection. The behaviors recorded were sniffing the intruder, locomotion, lateral threat, lateral attack, frontal attack, bites, and pup care. This agonist in the dorsal periaqueductal gray decreased the number of bites, frontal attacks, and lateral attacks on the intruder at all doses studied. However, in the medial septal area the 0.2 g/0.2 µl dose acting on postsynaptic receptors increased the number of bites on the intruder. Doses of 0.5 and 1.0 g/0.2 µl did not differ from controls. In conclusion, the effects of this agonist depend on the area analyzed and the dose utilized. In the dorsal periaqueductal gray and the medial septal area, this agonist decreased and tended to increase aggressiveness in female rats, respectively.

Effects of Chromium Compounds on Incidence of Social Aggression and Fertility in Prepubertal Male Mice

M.H. Homady,¹ H.H. Hussain,² and K.A. Tarawneh¹

¹Department of Biological Sciences, Mu'tah University, Al-Karak, Jordan

²Department of Chemistry, Ottawa University, Ottawa, Ontario, Canada

The effects of ingesting trivalent (chromium chloride) and hexavalent (potassium dichromate) chromium compounds were investigated on social aggression and fertility in male mice. Prepubertal male mice were exposed to these salts in drinking water at concentrations of 1,000 and 5,000 PPM for 90 days. The exposure of male mice to chromium chloride at 1,000 or 5,000 PPM significantly augmented social aggression. Fertility was significantly reduced in males exposed to the hexavalent chromium compound. The number of implantation sites and the number of viable fetuses in females impregnated by males exposed to this compound were significantly reduced. The exposure of male mice to the trivalent chromium compound had, however, no effect on fertility. Body, testes, preputial gland, and seminal vesicle weights were significantly suppressed in males exposed to the hexavalent compound, but no such effects were evident in mice given the trivalent chromium compound. The effects of ingestion of trivalent and hexavalent chromium com-

pounds by male mice in prepubertal life were very different effects in terms of social aggression and fertility. Only potassium dichromate produced a pattern of responses clearly indicative of suppressed gonadal function.

Effects of Genetic Selection for Lack of Aggression Toward Humans on the Silver Fox's Reproductive Physiology

L.V. Osadchuk

Institute of Cytology and Genetics, Siberian Department of the Russian Academy of Sciences, Novosibirsk, Russia

Artificial selection for the absence of aggressive responses to humans and docility play key roles in the domestication process. To help understand the genetic and physiological mechanisms involved in the evolution of domestic animals, a model of silver fox domestication was developed by long-term selection for lack of aggression and fear toward humans (domestic behavior). An attempt was made to look for possible changes in the reproductive physiology of selected foxes. Circulating levels and *in vitro* gonadal productions of reproductive hormones (testosterone, estradiol, and progesterone), were measured in selected and control foxes. Additionally, sperm production, potential fertility, embryonic mortality, and reproductive behavior were assessed. There were significant differences between selected and control animals throughout the reproductive cycle, pregnancy, and prenatal life and in the responses of the reproductive system to different environmental conditions. The study showed that increased progesterone output in domesticated vixens during estrous and preimplantation period of pregnancy might partially account for the increased potential fertility attained by selection. A timing shift of the annual rhythm of ovarian activity and a depressed relationship between photoperiod and endogenous hormonal cycles occurred in selected fox vixens. Domesticated vixens were more resistant to the detrimental effects of artificial photoperiods on hormonal secretion and fertility. A shorter period of testicular activity, lower sperm production, and lower sexual activity were found in selected males. Selection against aggression toward humans also reduced sexual and increased agonistic behavior in males during bisexual encounters. Study of fetal development indicated a heterochrony in the pituitary-testicular axis in selected animals. In conclusion, selection of silver foxes for the absence of aggression toward humans changes reproductive function and its hormonal control. This leads to a new genetically determined level of gonadal activity being established. The data obtained suggest that this selection can quickly bring about a considerable destabilization in the pituitary-gonadal axis. Presently, various wild species bred in captivity can be unconsciously selected for their confidence to humans. This selection may also result in changed reproduction.

POSTERS

Domestically Violent Men: Cognitive Processing Patterns in Response to Social Interactions

A. Porter, J. Epps, D. Anderson, and B. Granucci

Department of Psychology, University of South Florida, Tampa, Florida

Much current research on domestic violence against one's intimate partner (or "battering") has its roots in the research base established for cognitive and behavioral processes

and aggression. The Social Information-Processing theory is a commonly used model in this area that outlines a series of steps that precede a behavioral response. The steps are (1) encoding cues, (2) interpretation, (3) response consideration, (4) response decision, and (5) enactment. Biased or deficient processing at any step will contribute to deviant or aggressive behavior. Skillful processing at each step will lead to socially competent performance within the situation. The current study examined the social skills of fifty-four domestically violent and nonviolent men. The participants read thirteen scenarios depicting problematic hypothetical situations involving either the participant or his wife or the participant and a non-intimate female associate. Open-ended reports of behavioral response were rated for the skillful processing employed at various steps within the model. Differences were found between the violent and nonviolent groups in certain processing steps. Domestically violent men were less likely to attribute the cause of the negative interaction to non-hostile social cues than their nonviolent counterparts. They were less likely to attribute the cause of the problem to circumstances beyond the other person's control. Domestically violent men were also less likely to choose a prosocial response option (such as proposing a problem-solving strategy or using open direct communication) than their nonviolent counterparts. They were more likely to choose a response that was inept (such as sulking or doing nothing). In addition, when asked to recall information about the social interaction, violent men had more difficulty remembering critical details of the interaction. These processing patterns were similar in both types of social relationships. In addition, the patterns were similar irrespective of the level of negative emotional arousal. The results of this study suggest that treatment for domestically violent men should include training in social cue reading and recall as well as behavioral role-plays of prosocial interactions.

A Review of the Principal Theoretical Models Used to Explain Aggressive Behavior Today and Road Safety Applications

E.J. Saiz-Vicente and D. Pollock

University Institute of Traffic and Road Safety (INTRAS), University of Valencia, Spain

Few topics are currently as popular as human violence and aggression. High aggression characterizes many social environments, and violent behavior is frequently used to gain one's objectives, sometimes with serious consequences. Psychologists have developed theories predicting and (to a degree) explaining violent behavior. Within the behavioral sciences, few topics have produced such fierce debate over the last decades as the study of human aggression. The enormous quantity of publications produced (and during the last few years that continue to be published) is proof of the level of interest in this topic. Our roads are not exempt from the expression of violent behavior. Drivers are commonly encountered who are hostile at the wheel and whose conduct can contribute to traffic conflicts and accidents. This investigation considered activity on the topic of aggression and violence particularly in terms of its utility to the field of Road Safety. A review of the literature published over the past 30 years referenced in the computerized "Psyclit" database was made. The bibliographic analysis provided information on the (1) major authors within this field, (2) principal proponents of each psychological theory, and (3) major journals in this field. In addition, the publications were classified into two major categories, depending on whether they emphasized an individual's innate character traits or the social environment surrounding the subject as the origin of the aggression. The theories and models proposed to explain aggression and violence on the road were described.

Effects of N6-Cyclohexyl-Adenosine (CHA) on Isolation-Induced Aggression in Male Mice

J.F. Navarro, C. Romero, E. Maldonado, C. Pedraza and G. Dávila

Area de Psicobiología, Facultad de Psicología, Universidad de Málaga, Málaga, Spain

Adenosine exerts numerous physiological actions in the central nervous system, its effects being mediated through four receptor subtypes (A1, A2a, A2b, and A3). Several studies have suggested that adenosine receptors are involved in the modulation of aggressive behavior. However, the influence of adenosine agonists on aggression has been scarcely studied. The effects of a selective adenosine A1 receptor agonist N6-cyclohexyl-adenosine (CHA; 0.025–0.4 mg/kg, IP), were examined on agonistic behavior elicited by isolation in male mice. Individually housed mice were exposed to anosmic “standard opponents” 60 min after drug administration and the encounters were videotaped and evaluated using an ethologically based method. At an intermediate dose (0.1 mg/kg), CHA had an ethopharmacological profile characterized by selectively decreased offensive behaviors (threat and attack) without impaired motor activity. In contrast, the antiaggressive action of the highest doses used (0.2 and 0.4 mg/kg) was accompanied by a marked immobility. Inhibition of aggression in isolated male mice could be a direct effect on the neuron via altered levels of cAMP or a result of alterations in intracellular Ca⁺⁺ levels. The behavioral effects observed in this study could also be related to a modulatory action of adenosine on other neurotransmitter systems. It is known that adenosine agonists may inhibit the release of dopamine and increase the release of serotonin, two neurotransmitters that have been classically implicated in aggression. In fact, it has been widely documented that dopaminergic antagonists and serotonergic agonists reduce aggressive behavior in numerous animal models. Further studies are required to evaluate the potential effects of interactions between adenosine A1 agonists and dopaminergic/serotonergic compounds on aggression.

Spatial Learning in Isolated and Socially Reared Mice with Short and Long Attack Latencies: Effects of Nicotine

I. Moragrega,¹ M.C. Oterino,¹ P. Vicens,² R. Redolat,¹ and M.C. Carrasco¹

¹*Section of Psychobiology, Faculty of Psychology, University of Valencia, Spain*

²*Department of Basic Psychology, Clinical and Psychobiology, Faculty of Psychology, University Jaume I. Castellán, Spain*

Aggressive mice perform better in some learning tasks than non-aggressive counterparts. In addition, male mice of different social status and with diverse aggressive characteristics display variations in their reactions to novelty. The present study aimed to investigate whether there were differences in the acquisition and retention of the Morris water maze between NMRI mice with “short attack latency” (SAL) and “long attack latency” (LAL). This strain was used since isolation rearing can induce high levels of aggressive behavior in some animals and they show a good spatial learning. Two hundred male NMRI mice were randomly assigned to two experimental housing conditions (grouped or isolated for 5 weeks). After this period, an aggression test took place in order to classify the animals into SAL (latency to the first attack shorter than 150 sec) and LAL mice (latency to the first attack longer than 240 sec). Three groups were obtained: isolated-SAL (ISO-SAL), isolated-LAL (ISO-LAL), and grouped-LAL (GR-LAL). The effects of a daily SC injection of nicotine (0.175 mg/kg) or saline administered 15 min before performances in the water maze were compared for each group. In the acquisition of this spatial task, animals must reach a platform submerged in the water. In the retention study, mice are evaluated in a

probe trial (a test in which the platform is removed). There were no significant differences between groups in the acquisition of this spatial task. However, when the retention of the task was evaluated, both saline-treated ISO-SAL and ISO-LAL had a better performance than saline-treated GR-LAL. No significant differences were observed in the nicotine-treated groups. In conclusion, the data suggest that isolated mice show a better retention of the platform location than grouped mice do, although differences in attack latencies in NMRI mice were not correlated with spatial learning ability.

Direct and Indirect Aggression: A Comparison Between Iranian and Spanish Students

Z. Musazadeh, J.M. Andreu, D. Sánchez, and J.M. Ramirez
University Complutense of Madrid, Spain

Different forms of aggression have been classified as *direct* (such as physical attack, hitting, and verbal abuse) and a more subtle *indirect* (such as intimidation of one's opponent, social isolation, or refusal of face-to-face contact) aggression. It was thought of interest to determine if there were sexual differences between these two kinds of aggression. Björkqvist's scale of direct and indirect aggression (DIAS) was applied to 1,050 students (457 boys and 595 girls) at various educational levels (college and university) in Iran and Spain. The average age was 18 years. Factor analysis confirmed the factorial structure of the questionnaire in both populations. Direct and indirect aggression correlated positively with the subject's level of aggressiveness. There were sexual differences. In both countries, the level of direct aggression was higher in males, whereas indirect aggression was elevated in females. Another important factor was age. In both populations, the younger college students showed greater levels of both direct and indirect aggression than the older university students did. Finally, Spanish students (both boys and girls) showed higher levels of aggression than Iranian students of both sexes did. In essence, age, sex, and culture influence the level and kind of aggression.

Vocal Communication in Tree Shrews: Do Changes in Vocal Patterns Correlate with Agonistic Behavior?

J. Kirchhof, K. Hammerschmidt, and E. Fuchs
Department of Neurobiology, German Primate Center, Göttingen, Germany

Tree shrews (*Tupaia belangeri*) are solitary and defend territories against conspecifics of the same sex. Under laboratory conditions, housing two males in a cage results in a stable dominance hierarchy. The agonistic encounters between the two males are accompanied by reciprocal vocalizations that vary with the behavior displayed. This study analyzed the behavioral repertoire of tree shrews during dyadic agonistic interactions and examined the communicative function of the related calls. Agonistic behavior was induced according to a standard protocol. An adult male was introduced into the cage ("territory") of a socially experienced conspecific (the "dominant"). Video and digital audio tape (DAT) recordings were made during and after the encounters. The following parameters were quantified: the amount of agonistic behavior, percentage of behavior categories, and the number of approaches. Call parameters were measured to describe selected sound structures. Agonistic interactions consisted of chasing, threatening, and fighting. The amount of agonistic behavior and the percentage of chasing were significantly increased in interactions with a more aggressive dominant. During encounters, both animals uttered a characteristic call type, the "squeak." Dominants' and subordinates' "squeaks" significantly differed on several parameters. However, these differences were influenced by individual

characteristics and the rival confronting the animal. Changes in the subordinates' "squeaks" correlated significantly with the number of aggressive approaches by the dominants. Physical causes of call parameters were excluded, since there was no correlation with body mass. Behavioral and vocal patterns in male tree shrews depend on the dominance status but also on individual characteristics and the aggressive motivation toward a rival. Changes in call parameters correspond to motivation structural code, e.g., increasing pitch indicates increasing fear, while decreasing pitch indicates increasing aggression. It is concluded that structural changes of threat calls in tree shrews correspond to specific motivational states.

Anger, Hostility, and Aggression Among Japanese, Iranian, and Spanish Students: A Cross-Cultural Comparison

T. Fujihara,¹ J.M. Andreu,² Z. Musazadeh,³ and J.M. Ramírez²

¹*Kwansei Gakuin University, Nishinomiya, Japan*

²*University Complutense, Madrid, Spain*

³*University Complutense, Madrid, Spain/Tehran, Iran*

A cross-cultural investigation was made into the nature of different styles of aggression and the emotions related to aggressive behavior. It is important to differentiate between objective behavior (aggression) and subjective emotions and cognitions (anger and hostility). A cross-cultural approach can estimate the relationships between these components. A representative sample of undergraduate students in Japan, Iran, and Spain completed the Aggression Questionnaire (Buss & Perry, 1992). Factor analysis confirmed the factorial structure of the questionnaire in these countries. ANOVA of the physical aggression score showed significant main effects between countries and sexes as well as an interaction between both these factors. The ANOVA of the hostility score only produced a significant main effect of sex. The ANOVA of anger and verbal aggression scores showed a significant main effect of country. A new factor labeled "hostile aggression" was found, and ANOVA of this resulted in significant main effects of country and sex as well as a country \times sex interaction. These results confirmed that aggression, anger, and hostility are modulated in a complex fashion by both sex and culture.

The Impact of a Prior Relationship on Anger-Related Cognitions

J. Epps, B. Quiñones, and P. Hill-Epps

Department of Psychology, University of South Florida, Tampa, Florida

"Hostile attributional bias" refers to a tendency among aggressive persons to interpret the behaviors of others as hostile. It was first demonstrated by Dodge and Newman (1981) among children and in situations where social cues for intent were ambiguous but the construct has been extended. Epps & Kendall (1995) demonstrated hostile attributional bias in young adults in situations portraying intent as ambiguous, more clearly hostile, as well as benign. Pre-rated scenarios were used to investigate hostile attributional bias as a function of (1) presence vs. absence of previous social relationship and (2) degree of objectively pre-rated hostile intent of a provocateur. Participants ($n = 172$) completed Spielberger's State-Trait Anger Expression Inventory, with the highest and lowest 30 males and females on the Trait Anger subscale being labeled the high and low Trait-Anger groups, respectively. They then responded to scenarios depicting negative social outcomes resulting from another's actions. The scenarios were pre-rated as reflecting hostile, ambiguous, or benign intent and with known or unknown protagonists. Participants indicated how angry they would be in that situation, the degree of hostility they attributed to the protagonist's intent, and how they would respond. Across all conditions, high Trait-Anger

participants attributed more hostility and reported more anger and aggressive responding than low Trait counterparts. When social cues were clearly hostile, both high and low Trait angry persons attributed more hostility to strangers than to acquaintances. They rated their anger and aggressiveness of response as greater for strangers than acquaintances. High anger persons responded to acquaintances in much the same fashion as low anger participants responded to strangers. Conversely, when social cues were ambiguous or benign, both high and low Trait Angry persons attributed more hostility toward acquaintances than strangers, and rated their anger and aggressive responses accordingly. High anger persons' responses to strangers were the equal of low anger participants' responses to acquaintances. These findings indicate that hostile attributional bias predicts situational anger and aggression across varying patterns of situational variables. They underscore the need to control for relationship issues when studying anger and aggression.

Sexual Harassment on Campus: A Preliminary Study in the University of the Balearic Islands

E. Bosch-Fiol and V.A. Ferrer-Pérez

Faculty of Psychology, University of Balearic Islands, Palma de Mallorca Balears, Spain

The Spanish penal code was changed in May 1996. Sexual harassment became an offence both in the work place and on academic sites. This investigation investigated which behaviors were considered as sexual harassment in academic settings. A 38-item questionnaire about different personal interaction events (between students and teachers) was designed, with a continuum from normal to sexual harassment situations. Subjects had to allocate items to one of the following: (1) sexual harassment, (2) other offences, (3) rude behavior, and (4) normal interactive behavior. This questionnaire was given to 897 students and 53 teachers in the University. Gender and professional differences were noted throughout. Defining sexual harassment was not easy for all groups. Gender played a definitive role in defining sexual harassment. The women had a greater tendency to consider many of the items as sexual harassment than men who assessed more items as rude behaviors but not offences. Teachers defined behaviors that constituted sexual harassment in a wider (but more accurate) way than students. Looking at gender and status together, female teachers were most strict in their assessment and male students least severe.

Proneness to Anger and Aggression in Japanese and Spanish Students Measured by the Anger Situation Questionnaire

J.M. Ramirez,¹ T. Fujihara,² S. van Goozen,³ and J.V. Merino¹

¹*University Complutense, Madrid, Spain*

²*Kwuansai Gakuin, Nihsinomiya, Japan*

³*Academisch Ziekenhuis, Utrecht, The Netherlands*

This study investigated the eventual relationship between subjective disposition to anger and objective aggressive expressions. More specifically, it looked at whether anger proneness predicts anger arousal and aggression. Four hundred and twenty-five university students of both sexes and cultures (48 males and 147 females in Japan and 56 males and 174 females in Spain) completed a vignette measure of anger proneness (the Anger Situation Questionnaire). Subjects were asked to imagine being in each of the situations described and to indicate the emotion they would experience, its intensity, and what they would feel inclined to do. The differences were viewed as reflecting tendencies to react

angrily to various types of events. Differences were noted in the tendency to appraise emotional situations in angry terms and in thresholds for angry and aggressive responding. Some cultural differences in anger and aggressive tendencies might be expected when comparing Japanese and Spanish populations. The data confirmed that aggression resulted from an individual's disposition to react aggressively to such events. No significant sex differences were found in any of the samples for either anger or aggression proneness. Anger proneness was not significantly different in either sample but aggression proneness was significantly higher in Japanese students than in Spanish counterparts. Proneness toward feelings of anger and angry responding are generally universal, even if minor peculiarities are evident in different sexes and cultures.

Behavioral Adaptation in Male Rats Exposed to Social Stress in the Resident/Intruder Paradigm

A. Calvo-Torrent, M.A. Picá-Alfonso, and M. Martínez

Section of Psychobiology, Faculty of Psychology, University of Valencia, Spain

Defeat resulting from intraspecific encounters between male rats represents a biologically relevant form of social stress, inducing profound changes in behavior, endocrinology, neurochemistry, and immunology. The resident/intruder paradigm is one of the most used animal models to induce such stress in rats. The study investigated the behavioral adaptation of male rats exposed to repeated defeat experience. Consequently, Lister hooded male rats were exposed to the attack by a larger male for 1, 2, 5, 10, or 20 consecutive days in the latter's home cage. The aggressive encounter had a total duration of 20 min and had two phases. These were a pre-defeat phase (10 min) when animals remained separated by a perforated transparent partition and a defeat phase (10 min) when animals were allowed to interact. Durations, latencies, and frequencies of behaviors of the defeated animals during the pre-defeat (locomotion, rear, sniffing the resident, close to the partition, freezing, and body care) and defeat phases (upright defensive posture, on the back, escape, and freezing) were recorded. During the pre-defeat phase, defeated rats increased their time spent in body care and freezing and the frequency of freezing across days. The time spent close to the partition and in locomotion, the frequency of sniffing the resident, and the latency to freeze were decreased. During the defeat phase, the time spent in an upright defensive posture was increased after 5 days of defeat, and a decrease in the latency to freeze occurred after 20 days. In summary, the progressive adaptation of the behavior of defeated animals was characterized by an increase in passive coping strategies (i.e., a decrease in social and non-social exploratory behaviors and an increase in freezing and submissive behaviors). Furthermore, the pre-defeat phase seems more appropriate than the defeat phase for determining the behavioral adaptation to repeated social stress as it indicates a learned fear response.

Effect of Exposure of Male Rats to a Dominant Male on Behavior and Neural c-fos Expression

M.I. Garcia-Linares, A. Calvo-Torrent, and M. Martínez

Section of Psychobiology, Faculty of Psychology, University of Valencia, Spain

The dominance/subordination relationship involves attack by the dominant male but also the fear induced by his presence in the subordinate. This study aimed to determine the effect of the mere presence of the dominant male on brain activity and behavior of the subordinate rat. Consequently, Lister hooded male rats were exposed to an aggressive wild-type male rat for 20 min in the home cage of the latter and defeated by him. The following

day, defeated males were exposed to the dominant in the same cage for 20 minutes but separated from him by a perforated transparent partition. Two control groups were used. One consisted of animals exposed on day 1 to the home cage of an aggressive male from which that animal had been removed and on day 2 to this unknown male behind the partition. The second were animals exposed to a clean empty cage on day 1 and to the same cage with the partition in it on day 2. The behaviors of the animals during day 2 and the expression of *c-fos* in brain areas related to stress were analyzed. Animals exposed to the dominant male spent less time in approaching the partition, showed freezing more frequently and had a longer latency to body care than the controls exposed to an empty cage. Similar differences were observed in the latency to body care and frequency of freezing between animals exposed to the dominant and the other control animals. On the other hand, exposure to the dominant rat increased the expression of *c-fos* in the central grey, locus ceruleus, and dorsal raphe areas in comparison to the other groups. However, the two groups exposed to another male on day 2 showed more *c-fos* expression in the lateral septum and the lateral hypothalamic area than the other control group. In conclusion, exposure to the dominant male has effects on both behavior and brain activity. Some of these effects are induced by the mere presence of another conspecific male.

INVITED SYMPOSIUM: THE PREVENTION AND CONTROL OF AGGRESSION: CULTURAL PERSPECTIVES

Organizer: Douglas P. Fry

Developmental Psychology Program, Åbo Akademi, Finland

Overview

The papers in this symposium illustrate some of the diverse approaches to studying the influence of cultural factors on the prevention and control of aggressive behavior. The levels of analysis range from a focus on interpersonal aggression to a consideration of warfare. One approach represented in this symposium, usually called "cross-cultural research" within anthropology, uses the Human Relations Area Files as a source of cross-cultural data for hypothesis testing. Another method involves documenting aggression preventing and/or control mechanisms that operate within a particular cultural context. A third approach utilizes case studies or selected cultural comparisons to explore patterns and variations in the control and/or prevention of aggression. Many of the papers included discussions of policy implications and/or practical applications related to preventing and controlling aggression, including warfare.

Father-Absence and Male Aggression: A Re-examination of the Comparative Evidence

C.R. Ember and M. Ember

Human Relations Area Files at Yale University, New Haven, Connecticut

In 1965, Beatrice B. Whiting published an article on sex identity conflict and its association with physical violence. Subsequent worldwide cross-cultural research has been equivocal about the "sex-identity conflict" hypothesis. It is suggested that this is because

researchers have failed to pay attention to Whiting's contingent conditions. These are the amount of power men have compared with women and the degree to which aggression is considered a component of the male adult role. Data from a worldwide cross-cultural sample and multiple regression analysis were used to examine how homicide/assault rates are affected by how far away fathers sleep from children, the degree to which aggression is explicitly encouraged, and the degree of corporal punishment. Unexpectedly, the degree of corporal punishment appeared to have no effect on rates of violence. New analyses now suggest opposite effects of the degree to which the father and the mother administer corporal punishment. The implications of these results for the prevention and control of aggression were discussed.

Empathy Mitigates Aggression but Social Intelligence without Empathy Increases Indirect, Verbal, and Physical Aggression

K. Björkqvist,¹ K. Österman,¹ and A. Kaukiainen²

¹*Developmental Psychology Program, Åbo Akademi University, Finland*

²*Psychology Department, Turku University, Finland*

Empathy training reduces aggressive behavior. Social intelligence is likely to be a necessary component for successful (prosocial as well as antisocial) conflict behavior. While empathy and social intelligence are strongly correlated, it is important to treat them as different concepts. The relationships between peer-estimated conflict behavior, social intelligence, and empathy were studied in 203 adolescents (110 females and 93 males; mean age 12, SD = 0.8). The Direct & Indirect Aggression Scales; Peer-Estimated Empathy, and Peer-Estimated Social Intelligence instruments were used. As hypothesized, it was found that social intelligence was required for all types of conflict behavior but empathy mitigated aggression. When empathy was partialled out, correlations between social intelligence and all types of aggression increased. At the same time correlations between social intelligence and peaceful conflict resolution decreased. Social intelligence was related differently to various forms of aggressive behavior. It was more strongly linked to indirect than to verbal aggression and most weakly to physical aggression (in accord with the developmental theory of aggressive style). More sophisticated forms of aggression require more social intelligence.

Culture, Identity, and International Cooperation

R.A. Rubinstein

Program on the Analysis and Resolution of Conflicts, and Departments of Anthropology and International Relations, Syracuse University, Syracuse, New York

Conflicts involving "collapsed" systems of governance, human rights abuses, forced population transfers, "ethnic cleansing," and medical and famine emergencies are increasingly characteristic of the final years of the 20th century. Past multilateral actions depended upon peacekeeping, largely controlled by states and their militaries. The international community's response to "complex emergencies" has changed the nature and scope of such interventions. Now they additionally involve international agencies, non-governmental organizations (NGOs) and direct action by people from outside the conflict area. Many such organizations seek to provide humanitarian aid, and such efforts have become the subject of intense political manipulation and violence. Red Cross workers have been killed in Chechnya, food convoys hijacked and used to support combatants, and medical personnel in Somalia forced to engage local militias for protection. Drawing upon ethnographic interviews and fieldwork, this paper ex-

plored how multiple layers of identity manipulated by those involved in conflict resolution efforts are reshaping the landscape of humanitarian intervention.

The Giving of Hostages: Resurrecting a Widely Practiced and Time-Tested Deterrent to Aggression

J.K. Smail

Anthropology and Sociology Department, Kenyon College, Gambler, Ohio

In contrast to recent political, scholarly, and public misuse of the term, this paper articulates a more accurate definition of the “hostage” concept. This definition is not only consistent with a broad range of etymological sources, but is also in agreement with numerous examples from the historical and anthropological record. A possible application of the hostage idea to mid/late-twentieth-century superpower relationships, utilizing a very different approach to the concept of deterrence, was also described. Attention was drawn to the fact that the giving of hostages as confidence-building “emissaries of trust” incorporates several attributes of potential interest to contemporary evolutionary theorists. A closer examination of the biological and behavioral underpinnings, historical and anthropological precedents, and political and psychological efficacy of this ancient idea might prove a fruitful area for future empirical and theoretical research.

War and Violence: Policy Implications of Cross-Cultural Research

M. Ember and C.R. Ember

Human Relations Area Files at Yale University, New Haven, Connecticut

Worldwide cross-research suggests a society’s involvement in war may lead parents to socialize boys for aggression. Such socialization is a major predictor of homicide and assault. If the aim is to reduce violence of all kinds and the necessity to train for it, reducing war may be necessary. Is the reduction or elimination of war a realistic possibility, given the anthropological record? The non-utopian answer is believed to be “yes.” This is because the results of cross-cultural studies of war and peace suggest that practical policies could reduce or eliminate the likelihood of war. It is assumed that most people would choose to solve their problems peacefully, if they could. The policies discussed, if adopted by this and other powerful countries, could make it more likely that people would go to peace rather than war to solve their problems. The suggested policies are not a dream. In some respects, they are extensions of things already being done. The suggested policies were discussed after reviewing the cross-cultural results on predictors of war and the link between war and rates of homicide and assault.

Developing Alternatives to War: Insights from Anthropological Research

Douglas P. Fry

Developmental Psychology Program, Åbo Akademi University & Bureau of Applied Research in Anthropology, University of Arizona, Tucson, Arizona

Anthropological studies on war, peace, conflict, and conflict management suggest a variety of insights for building and preserving peace. This paper explored some of the anthropological research that may have relevance for developing alternatives to war. Two general insights stem from anthropology, namely, that (1) war is not an inevitable aspect of human nature and (2) human societies and social organizations are flexible, giving an immense human potential for social change. These points are briefly illustrated. For example,

cross-cultural comparisons show that warfare (while common) is not universal (and therefore inevitable). Cultures with extremely low levels of aggression (“peaceful cultures”) do exist, and examples of cultures shifting from war to peace (sometimes very rapidly) also confirm the non-inevitability of war. Several more *specific* anthropological insights impacting on developing alternatives to war were considered. These included (1) realization of between-group interdependence; (2) the influences of attitudes, values, and belief systems; (3) the role of super-ordinate authority structures; (4) the existence of alternative conflict management mechanisms; and (5) the reduction of resource and social inequities.

SYMPOSIUM: AGGRESSION IN BARS: PREDICTION AND DESCRIPTION OF VIOLENT BEHAVIOR IN PUBLIC DRINKING SETTINGS

Organizer: R. Lorraine Collins

Research Institute on Addictions, University at Buffalo–State University of New York, Buffalo, New York

Discussant: John Archer

Department of Psychology, Lancashire Polytechnic, Preston, Lancashire, UK

Overview

Alcohol’s link to aggression is related to a variety of factors, including the setting in which drinking takes place. The physical environments of bars (e.g., noise, crowding, poor ventilation) provide settings for aggressive behavior. Individual differences, including demographic characteristics (e.g., gender, age), psychological factors (e.g., personality), and values, may contribute to aggression in bars. This symposium examined predictors of bar violence and described contributors to specific incidents. The presentations by Drs Parks and Collins focused on individual differences as predictors of bar violence in community samples of adults. The presentations by Ms. Wells and Dr. Graham examined specific incidents of aggressive behavior in bars. Each presenter integrated the conference theme of prevention and control of aggression into the discussion of results.

Associations Among Riskier Lifestyle, Aggression, and Public Drinking: Findings from a General Population of Adults in the USA

K.A. Parks and B.M. Quigley

Research Institute on Addictions, University at Buffalo–State University of New York, Buffalo, New York

Information about alcohol consumption and the public drinking context of bars or taverns among the general population is limited. Fisher (1982) assessed tavern use among men and women during the late 1970s using the General Social Survey (GSS). The GSS consisted of interviews from a general population sample of individuals over the age of 18 in the USA from 1972 through 1998. Going to a tavern more frequently was predicted by being younger, male, unmarried, less religious, and a drinker. This paper focused on 5,828 men and women who completed the alcohol consumption and public drinking questions of the GSS between 1983 and 1998. Additional variables to those predictive of tavern use were

examined to find factors that might indicate a less normative or more risky lifestyle. These additional factors included smoking, number of sexual partners in the past year, and having been hit or threatened with a gun since the age of 18 years. The majority of the participants were female (57.1%) with an average age 45 years. A majority of participants (85.6%) were European American, 11.5% African American, and the remaining 2.9% another ethnicity. More than half (56.6%) of the participants were married; 25.3% were divorced, separated, or widowed; and 18.1% had never married. These participants had an average of 12.6 years of education. Frequency of going to bars was categorized as never, yearly, monthly, or weekly. Most participants (48%) frequented bars: 21.7% yearly, 16.8% monthly, and 9.6% weekly. Being younger, male, European-American, never married, educated, a drinker, a smoker, having more sexual partners, and having been hit after the age of 18 accounted for 35% (Adj. R²) of the variance in frequency of going to bars. A greater percentage of individuals who had been hit or threatened with a weapon since age 18 reported weekly rather than yearly and monthly frequency of attending a bar. Taverns and bars appear to be settings that attract individuals with greater experience with aggression and riskier lifestyles.

Prediction of Bar Violence Among Young Adults

R.L. Collins, B.M. Quigley, and K.E. Leonard

Research Institute on Addictions, University at Buffalo–State University of New York, Buffalo, New York

Aggression in bars is a significant problem, particularly among young adults. The self-reported occurrence of bar violence among a sample of 263 young adults (mean age = 21.67 years) was assessed. Participants (140 men, 123 women) completed questionnaires to assess psychological characteristics (e.g., personality, anger), substance use (e.g., alcohol/drug use, alcohol problems), and experience of bar violence (using a modified Conflict Tactics Scale). More than half ($n = 149$; 57%) of the participants reported experiencing bar violence during the past year. Most participants (60%) reported one or two such incidents, 21% reported three to five incidents, and the remainder reported 6 or more incidents during the past year. Among subjects reporting that their most severe violent incident occurred in a bar, 60 participants (40 men, 20 women) had been slapped, punched, and kicked; 48 participants (27 men, 21 women) had been pushed, grabbed, or shoved; and 8 men reported bar violence involving a weapon. The roles of different contributors to the number of incidents of bar violence experienced during the past year were examined. Demographic characteristics, psychological characteristics, and substance use served as predictors in a hierarchical multiple regression. The results showed that men experienced more bar violence than women did. Extraversion and the expectancy that alcohol would increase aggression and power were significant psychological predictors. Alcohol use and alcohol problems were significant substance-related predictors. These results are consistent with previous research on bar violence and expand understanding of the role of psychological characteristics. Programs to lessen heavy drinking and related negative consequences (particularly among young men) could reduce bar violence.

Characteristics of Aggression Among Young Adults in Bars

S. Wells and K. Graham

Centre for Addiction and Mental Health, London, Ontario, Canada

The present study aimed to increase understanding of naturally occurring aggression among young adults drinking in bars. Naturalistic observation and semi-structured inter-

views were used to document the characteristics of aggressive incidents in bars. They included the number and gender of participants, level of aggression, and the role of third party patrons and security staff. Of the 117 observed and 52 interview incidents included in the analysis, most involved only males (74.0%) and at least moderate physical aggression (i.e., pushing, shoving, slapping, 68.0%). Incidents tended to cluster in high traffic areas of the bar, and many started or continued outside (31.3%). In some incidents, the reason for aggression could be identified (about 50% of observed incidents and 86% of interview incidents). These included conflict with staff (17.3%), bar activities such as “moshing” or slam dancing (17.3%), trouble making/offensive behavior (42.3%), and interpersonal or relationship issues (23.1%). Incidents with more than two participants were common, with 35.5% involving five or more patrons. A significant correlation was found between the number of participants and the severity of aggression. Almost half of the incidents included third party involvement by other patrons, including non-aggressive third parties (i.e., people trying to break up the fight) and aggressive third parties (i.e., people “jumping in” to join an ongoing fight). Over 60% of incidents involved security staff whose behavior varied considerably, ranging from preventing aggression through reducing provocative behavior to being physically violent themselves. These findings suggest avenues for prevention and control of aggression. They include changes in bar layout and training staff in intervening early and preventing incidents from escalating due to third party involvement. More effective prevention inside the bar may lessen the large proportion of incidents that started or continued outside.

“Somebody’s Gonna Get Their Head Kicked in Tonight!” Aggression Among Young Males in Bars—A Question of Values?

K. Graham and S. Wells

Centre for Addiction and Mental Health, London, Ontario, Canada

“Durham police arrested a 22-year-old man yesterday in connection with a bar fight that may have led to the death of an Ajax man. The fight began inside the bar between two groups of friends, but then moved outside to the parking lot. One of the men hit Lebar in the head. Lebar then collapsed and hit his head on the pavement (Toronto Star, December 15, 1996).”

Young men are particularly at risk for aggression in barroom settings. The present study used qualitative analysis of 21 incidents of barroom aggression described by men aged 20-24 in telephone interviews. Common themes emerged from these descriptions. They included the finding of a contributing role of alcohol in making one or more participants less aware of risks, more courageous or willing to take risks, more stimulated, more emotional, or just generally more aggressive. A role of the environment was evident as many incidents were directly related to crowding or lack of effective intervention by bar staff and often occurred in bars in which aggression was considered a common event. A role of the male experience was important as barroom fighting is generally rewarded (by feelings of righteousness and group solidarity), while punishments for aggression are rare. Descriptions of incidents were examined to assess support for four general explanations of aggression: male honor and face-saving, addressing a grievance, emotional arousal, and fighting for fun. Although some support was found for all four explanations, most incidents were fighting for fun or issues related to male honor. Although alcohol intoxication was seen as contributing to aggression, values and attitudes defining barroom aggression as positive and appropriate behavior seemed the primary reason for most incidents. Environmental approaches to prevention were called for. These included reducing environmen-

tal risks that elicit or provoke aggression, training staff to be more effective in dealing with aggressive behavior, and developing policies that encourage bar owners to apply sanctions (e.g., banning) to individuals repeatedly involved in fights.

SYMPOSIUM: THE NATURE OF SCHOOL BULLYING AND METHODS OF INTERVENTION

Organizers: Cristina del Barrio¹ and Rosario Ortega²

¹*Autonomic University of Madrid, Spain*

²*University of Seville, Spain*

Overview

Aggression is sad when it affects children and adolescents. It is perhaps even sadder when the author of this aggression is another child. Peer bullying is a particular type of aggression, consisting of a harmful and long lasting relationship of victimization, based on a power difference between the participants. As this is a kind of relationship often hidden from adult eyes, the first studies on peer bullying attempted to identify the characteristics of this asymmetric relationship and its epidemiology in different populations. New approaches to the phenomenon use a variety of methodologies to explore new areas. At this symposium, issues related to school bullying within the general framework of an EC-funded Project were approached. Some presentations focused (using various methods, e.g., autobiographical narratives or interpretations of pictorial material containing a bullying story) on bullying as viewed by people of different ages. Others looked at intervention, e.g., how to solve conflicts by means of mediation.

Children's and Adolescents' Representations of Peer Bullying Through SCAN-Bullying

A. Almeida,¹ C. del Barrio,² and E. Menesini³

¹*Instituto de Estudos da Criança, Universidade do Minho, Braga, Portugal*

²*Department of Developmental and Educational Psychology, Autonomic University of Madrid, Madrid, Spain*

³*Department of Psychology, University of Firenze, Firenze, Italy*

Research in the area of peer bullying has primarily used questionnaire surveys. Despite the relevance of this method for assessing the existence and severity of bullying in different settings, other methods are currently being developed to obtain a wider understanding of the subject's representations of bullying relationships. Consequently, a psychological instrument called *SCAN-Bullying* (Scripted CARToon Narratives on bullying) is proposed. This instrument consists of a series of 15 cartoons, illustrating a prototypical story of peer bullying, aiming to capture the phenomenon's varied aspects in a school setting. In addition, an interview was developed to assess whether children think the story relates to bullying. It also assessed the type of causes attributed to bullying and the kind of emotional experience attributed to the characters of the story. The interview also assessed whether and in what way the respondent relates to or sympathizes with the character's emotional states. The type of strategies they would employ to cope with the distressing situations typically involved in a bullying relationship was examined. The validation study of *SCAN-Bullying*

was carried out in Braga (Portugal), Madrid (Spain), and Florence (Italy). One hundred and eighty children were interviewed, with equal numbers of children in the subgroups corresponding to age (9, 11, and 13 years), country, and gender. Beyond the advantages of *SCAN-Bullying* as a methodology to explore cognition in bullying relationships, the instrument improved narrative ability across the age groups. A target-effect in emotions was attributed to aggressors and victims. There was a differentiation between these emotions and the interviewee's own experiences, especially in the eldest subjects. Age and target effects were also apparent in the causal explanation of bullying. Interactions between causation by aggressor, victim, and social context were especially evident in 13 year olds.

School Bullying and Workplace Bullying: Are There Any Links?

M. Singer,¹ P.K. Smith,¹ C.L. Cooper,² and H. Hoel²

¹*Goldsmiths College, University of London, London, UK*

²*Manchester School of Management, UMIST, Manchester, UK*

An attempt was made to assess whether reported roles in school bullying and victimization in the workplace are connected to the victim's coping strategies. A questionnaire was given to 5,288 adults in various workplace venues. Analysis of two questions on school experiences (participant role and coping strategies if bullied) and questions on workplace bullying (experiences of being bullied) were reported. Women were at higher risk of being bullied at work. A significant relationship (the first to be reported) was evident between reported roles in school bullying and experience of workplace victimization. The highest risk of workplace victimization occurred in those who were both bullies and victims at school (bully/victims), followed by those who were only victims. Reported coping strategies at school (for victims and bully/victims) were most frequently trying to avoid the bullying (52%), ignoring (40%), and fighting back (34%). Getting help from a teacher was only reported by 6%. An analysis of relative risk of workplace bullying (given being a victim at school plus using various coping strategies) revealed that the strategies "tried to make fun of it," "did not really cope," and "fighting back" increased risk. The especial risk for "bully/victims" supports other indications that this particular category of school pupils should be a focus of concern. School pupils consistently failing to cope with bullying, fighting back, or trying to make fun of it are at greater risk for later problems in the workplace.

The Origins of Bullying and Victimization in the Peer Group: Role Diversity and Stability

C. Monks,¹ P.K. Smith,¹ and J. Swettenham²

¹*Goldsmiths College, University of London, London, UK*

²*University College, University of London, London, UK*

The use, reliability, and stability of participant roles in bullying in young children were examined. The roles taken in bullying were studied using interviews with children in reception/year 1 classes (19 aged 4–5 yr, then 104 aged 4–6 yr). The interviews involved using a cartoon test depicting six participant roles, subsequently refined for use with the larger sample to include four roles (Bully, Victim, Defender, Bystander). Reliability for nominations was derived from within-class agreement on roles, and stability was examined by test-retest agreement over 1 week and 2 months. Children as young as 4–6 yrs can reliably nominate Bully and Victim roles, but none of the other 4 Participant Roles identified by 12–13 (Salmivalli et al., 1996) or 7–10 (Sutton et al., 1999) yr olds. The role of the Bully was already rather stable but, at this age, the term Bullying may be used in an over-

inclusive way (covering general aggression). At this age, victim status was not stable over 2 months. This accords with Kochenderfer and Ladd (1996), who studied 4 to 7 yr old children, although Boulton and Smith (1994) suggest it is stable for many by middle childhood. Aggressive children may try out a variety of targets when entering a new peer group (e.g., starting school) and then limit their aggression to fewer children based on their reactions. Crick et al. (1999), in contrast, report remarkable stability of victimization in kindergartners (3–5 yrs old). It is suggested these findings reflect the different methodologies employed by these studies. A developmental model for bully/victim relationships in school peer groups was proposed.

From Aggression to Mediation: A School Based Intervention

I. Fernández and E. Villaoslada

Department of Developmental and Educational Psychology, Autonomic University of Madrid, Madrid, Spain

School life has become a public concern for the scientific and the educational communities. Violence (in its various forms) and a wide range of conflicts are present in schools, and new approaches are needed to help solve them. When teachers were asked about the main problems they found in their daily work, a vast majority considered disruption the most common. The second concern was teacher-student confrontation. Bullying came way behind in the teachers' interest. However, when students were asked the same questions, their main concern was bullying, followed by student-teacher confrontation. A large number of conflicts at school arise from the disruption that takes place during classes. Conversely, it is known that bullying takes place in hidden arenas of school life and is closely related to daily interaction among students. Knowing that interpersonal relationships are at the heart of most conflicts both for disruption and for bullying incidents, the intervention aimed to create proper relationships between students and teachers and between students. The mediation at school intervention applies the formal process of conflict resolution to interpersonal conflicts in the school organization. The CAM intervention program is currently used in seventeen Secondary schools in the community of Madrid. It offers an alternative approach to traditional disciplinary measures to solve conflicts at schools. All schools have received training on conflict resolution strategies, active listening, and the mediation process. School mediators (who can be teachers, students, parents, or administrative staff) become a resource for any member of the community willing to receive help over an interpersonal conflict. The mediation strategies allow participation, a voice, taking responsibility, and non-violent solutions for members of the community and especially for students. Concomitantly, it encourages the valuing of solidarity and tolerance by the entire school. It necessitates structural changes in the school organization, favoring conflict resolution philosophy over more competitive, alienating, and punitive approaches.

Bullying in Spanish Secondary Schools

C. del Barrio, E. Martín, L. Fernández, L. Montero, and H. Gutiérrez

Department of Developmental and Educational Psychology, Autonomic University of Madrid, Madrid, Spain

The alarm in contemporary society relating to violence by peers in schools is evident in the request by the Spanish Parliament to the Spanish Ombudsman to report on the subject. The Spanish Commission of UNICEF was consulted, which asked the Universidad Autónoma de Madrid research group working in the European Bullying Project to participate. Data on

an empirical study on the prevalence and features of bullying and social exclusion gained from a national survey of 300 secondary schools representing all the Spanish administrative communities were presented. Three thousand scholars (half girls) were given an ad hoc questionnaire and 300 academic counselors were given a different one. It was intended to identify the incidence of the phenomenon, differentiating the many types of aggressive behaviors from the subjects' point of view in their roles as victim, aggressor, or observer. It was also intended to establish the gender and age profile of the aggressor and the scenarios in which abuses take place. There was a need to know the reactions of victims and observers as well as the role of teachers in detecting and solving conflict. The possible influences of variables, e.g., grade, gender, type of habitat and school, and autonomous community, were examined. Diverse bullying acts were evident in every secondary school, and these took place in a variety of contexts depending on the type of behavior. The level of bullying (especially of the most severe type) was lower than in other European countries. However, insulting and social exclusion were particularly mentioned by Spanish scholars. The gender differences evident in other studies were confirmed here. Boys were generally the main protagonists, except in the case of indirect verbal maltreatment, where girls were the main victims and aggressors. Social exclusion was seen equally in girls and boys.

ORAL PRESENTATIONS: BRAIN FUNCTION, PSYCHOPATHOLOGY, AND HUMAN AGGRESSION

Neuroimaging in Human Aggression: Conceptual and Methodological Issues

M. Wong

Acute Adult Psychiatry Service, Outer East Mental Health Network; Academic and Clinical Research Unit, Maroonadah Campus, Department of Psychological Medicine, Monash University, Ringwood East; Mental Health Research Institute of Victoria, Parkville, Victoria, Australia

Various hypotheses of morbid neuroanatomy and pathophysiology are said to account for human aggression in the presence or absence of mental illness or personality disorder. Some conceptual issues make neuroimaging in human aggression a controversial and difficult area of study. These include using different definitions and parameters as well as the diversity of aggressive behaviors. The complex interplay of social factors, personality variables, cognitive and behavioral patterns and psychopathology, neuroanatomy, neurochemistry, and neurophysiology also makes life difficult. The problem of gaining cooperation from violent subjects poses never-ending challenges in terms of minimizing selection bias, optimizing sample size, and ensuring adequate control as well as performing repeated measures and activation studies. Major neuroimaging (MRI, PET) studies in this field have highlighted the complexity evident in investigating the neural correlates of violent behavior. Methodological issues include the validity and reliability of using rating scales in delineating different groups of violent subjects. Correlating conventional brain investigation findings with violence ratings may be difficult. Applying new neuroimaging techniques to clarify the structural and metabolic nature of the changes noted in the conventional brain investigations is of interest. The use of new analytical techniques to quantify these structural and metabolic changes and to interpret discordance in multi-modal neuroimaging findings is also an issue. A PET protocol for imaging transient

cognitive events and an MRI protocol for volumetric measurement of amygdala provide potential neuroimaging tools that address some of the conceptual and methodological issues evident in the study of human aggression.

Hallmarks of “Violence-Prone” Hallucinations and Delusions: A Literature Review of Some Preliminary Findings

S. Bjørkly

Faculty of Health Sciences, Molde College, Molde, Norway

This paper focused, using a literature review, on the role of hallucinations and delusions in violence by psychiatric patients. A substantial number of studies have disclosed an association between hallucinations and delusions and increased risk of violence across a variety of contexts. Since hallucinations and delusions also are common in non-violent psychiatric patients, there is need to direct attention to specific hallmarks of hallucinations and delusions that indicate increased risk of violence. Some promising but preliminary findings were presented. These included the concept of “threat and control override.” The content and theme of hallucinations and delusions were considered, and the three areas of phenomenology changing the likelihood of a persecutory delusion being acted upon were described. The extent to which hallucinations induce violent actions was examined as well as the role of delusional distress and the combined effect of fear-inducing persecutory delusions and violent command hallucinations. Despite the apparent effectiveness of neuroleptics, up to 50% of psychotic patients were reported to continue to experience persistent delusions and hallucinations and up to 30% to 40% of schizophrenic patients will relapse on medication. It was argued that major therapeutic gains would be achieved by a more extensive clinical application of the growing knowledge of risk factors pertaining to specific hallmarks of delusions and hallucinations in violent patients. A brief review of major findings from the application of cognitive-behavioral techniques to systematic attempts to modify patients’ delusions and hallucinations was presented.

Reducing Violence on Psychiatric Inpatient Units: A Controlled Evaluation of Two Interventions

F. Bell

Maudsley Hospital, London, UK

Research at the Maudsley Hospital explores the issue of violence on acute psychiatric wards accepted to be increasing at local, national, and international levels. The study focus is the use of “control and restraint” (C&R) techniques. The study aimed to monitor the introduction of C&R within four acute wards and to assess their effectiveness by measuring the pre- and post-intervention levels of violence in the clinical area using the modified overt aggression scale. It also attempted to assess the extent to which C&R techniques, combined with advanced techniques in conflict resolution, impact upon client care (from a staff and service-user perspective). It used calibrated Likert scales to measure the staff and service-user perceptions of both safety and therapeutic aspects of the ward atmosphere on a weekly basis. The modified overt aggression scale observations were used to compile an accurate picture of the levels of violent incidents on each ward. Early findings suggested a dichotomy between staff and service-user perceptions of what constitutes a safe and therapeutic environment. This finding has implications for delivering quality clinical care using C&R. The study also employed organizational actuarial measures such as the levels of nursing agency staff, the level of emergency team call-outs, and the daily nursing reports. The second phase

of this study involves a specialist teaching package, building on the basic concepts of de-escalation and interpersonal conflict resolution that form the cornerstone of the C&R course. The tentative hypothesis was that staff trained in C&R techniques will gain confidence (and therefore become more effective) in a crisis. Similarly, staff undergoing both the C&R and the advanced course in psychosocial management strategies may become even more effective, a fact reflected in a more pronounced decrease in violent incidents.

Persistence and Desistence over Time: Ecological Correlates of Conduct Disorder

J.A. Tyson,¹ R. Roeser,¹ J.S. Eccles,² and A.J. Samaroff²

¹*School of Education, Stanford University, Stanford, California*

²*University of Michigan*

Each person's growth is directly affected by the immediate systems with which he/she has contact and indirectly affected by more distal and/or broader systems. Such systems form a nested array. Dishion (1992) adapted an ecological model to organize a literature review of antisocial behavior into "four spheres of causative influence." These were intrapersonal factors, relationship processes, behavior settings, and community contexts. The use of an ecological framework provides a means of simultaneously mapping complex development processes and identifying targets for intervention. Dishion's adaptation was utilized to examine the influence relationship processes and behavior settings on the development of conduct disorder (as defined by *DSM-IV*). The data and participants came from the original Maryland Adolescent Development in Context Study, a large longitudinal study that was part of the MacArthur Network on Successful Adolescent Development in High Risk Settings. The original study included 1,480 primarily African-American and White families with an adolescent beginning seventh grade in middle school during the first wave of the study in 1991. The data were examined at seventh and ninth grade to identify variables and ecological correlates associated with persistence and/or disappearance of conduct disorder. Using variables describing qualitative attributes of behavior settings and relationship processes, analysis yielded classification rates of 83.2%. The data were supplemented by idiographic data from case reports compiled at the Stanford Counseling Institute.

Psychiatric Chrono-Epidemiology: Its Relevance for the Study of Aggression

A. Preti,^{1,2} P. Miotto,¹ M. de Coppi,¹ F. Caon,¹ D. Petretto,² and C. Masala²

¹*Genneruxi Medical Center*

²*Department of Psychology, University of Cagliari, Cagliari, Italy*

Chrono-epidemiology relates the distribution of health events to time. The time intervals taken into account have cyclic patterns and include circadian, weekly, seasonal, and circannual rhythms. In behavioral fields, chrono-epidemiology has been applied to studies on causes of death (suicide and homicide) and clinical events such as admissions, contacts with mental healthcare, and seasonal distribution of births in specific patient groups. It is often reported that there is a clear circadian and seasonal rhythm of suicide (more evident for violent suicides), and psychotic patients show a prevalence of births in the cooler months. Admissions for recurrence of affective disorders show a circannual rhythm with spring peaks. The intrinsic circadian and seasonal rhythms of some neuronal systems (particularly those of serotonin) are thought to favor the emergence of some behavioral rhythms. Socioenvironmental (related to the timing of supportive networks) and organic (e.g., ob-

stetric complications and exposure to viruses) factors may also contribute. Mental disorders show important links with aggressive and violent behavior. Although the majority of mental patients are no more aggressive than the general population, some psychopathologies are associated with a greater risk of violent acts. Patients with delusions of thought control or persecution may behave aggressively when untreated. The prevalence of mental disorders among perpetrators is very high in some types of murder (matricide, infanticide, murder-suicide, and “spree-killing”). Co-morbidity of psychosis and substance abuse often increases risk of legal infractions, both for violent and non-violent crimes. Also in non-psychotic disorders (such as bulimia, borderline personality disorder, and some types of alcoholism), impulsive inclinations may lead to aggressive outbursts, against self (self-harm) and others. Studying the non-casual recurrence of behaviors (and exploring the sociobiological bases of the rhythms beneath these recurrences) may offer clues important for understanding the etiology of aggressive behavior.

ORAL PRESENTATIONS: CULTURAL FACTORS AND AGGRESSION

The Social Representation of Aggression Among Student Groups in UP Diliman: An Exploratory Study

J.H. Puyat

Department of Psychology, University of the Philippines, Diliman, Quezon City, Philippines

Most psychological studies on aggression focus on the neurobiological and situational determinants of behavior. Basic cognitive processes may also predict aggressive behavior. In most studies, however, cognitive processes were treated as an individual phenomenon that was virtually immune to the influences of group membership. This study operated from the basis that cognitive processes are frequently subject to the influences of knowledge structures shared by groups. Groups based on gender and membership in fraternities/sororities were used for comparison. Respondents were asked to write down everything that came to their mind when they heard or saw the word “aggression.” The data collected from this word association task were subjected to correspondence analysis to determine how the elements were structured. The respondent’s thoughts were organized on individual-intergroup and abstract-concrete dimensions. Other aspects of the representation, such as the instrumentality dimension, centrality of intentions, and anchoring in past experiences, and value priorities were investigated using survey questionnaires. Analyses indicated that the instrumental representation of aggression was more characteristic of the male sample. The male sample also reported committing the most aggressive acts. Furthermore, instrumental representation appeared to be most nurtured in fraternity groups. Regarding the centrality of intentions, the respondents in the sample did not consider “intentions to cause harm” as an important defining element of aggression. North American social psychology, in contrast, links the idea of aggression to one’s intention to hurt another person. The nature of the harm effected (physical or emotional) seemed to be central to the respondent’s idea of what constitutes an aggressive action. This finding was interpreted in light of the local culture’s propensity to pay less attention to internal dispositions. Lastly, the instrumental representation of aggression was positively correlated with value priorities (such

as power, hedonism, and achievement) and negatively correlated with value priorities (such as benevolence, universalism, tradition, and conformity).

The Role of Third-Parties in Conflicts Among Colombian Preadolescents

E. Chaux

Department of Human Development and Psychology, Harvard Graduate School of Education, Cambridge, Massachusetts

Colombia has currently one of the highest rates of violence in the world. Much of this violence involves interpersonal conflicts so many scholars and policy makers have suggested that violence in Colombia could be reduced if children learned ways to de-escalate interpersonal conflicts and to deal with those conflicts peacefully. Because the majority of conflicts among school-age children occur in the presence of other peers and adults, third parties could facilitate learning processes. This study investigated roles of third parties in conflicts between fifth-graders from public schools in Bogotá, Colombia. Twenty-four preadolescents (10–12 yr olds) living in poor and violent neighborhoods were interviewed. The participants had not received any conflict resolution training. Fifty-eight stories of recent conflicts with similar-age friends, acquaintances, and strangers were collected and analyzed. Third parties played roles in the majority (81%) of peer conflicts. Peer third parties played a role in two-thirds of the conflicts and most commonly cheered, instigated, or got involved in support of one of the parties. Teachers and school administrators played a role in one third of the conflicts, most commonly by punishing, scolding, or threatening to punish both sides. Parents were third parties in a quarter of the conflicts and usually got involved supporting their own children. Third parties did not play the role of mediators in any of the conflicts. In fewer than 10% of conflicts, third parties promoted reconciliation between participants. On several occasions, third party interventions transformed interpersonal conflicts into intergroup conflicts, escalating the level of aggression. This study shows that third parties do not currently promote peaceful ways of dealing with conflicts. Violence prevention programs in Colombia and elsewhere need to help children and adults learn to play constructive roles as third parties in children's conflicts.

The Effects of Value Systems and Cultural Background on Aggressive Behavior of Boys and Girls: Some Israeli Findings

S.F. Landau,¹ K. Björkqvist,² K.M.J. Lagerspetz,³ K. Österman,² and L. Gideon¹

¹*Institute of Criminology, The Hebrew University, Jerusalem, Israel*

²*Department of Social Sciences, Abo Academi University, Vasa, Finland*

³*Department of Psychology, University of Turku, Turku, Finland*

Israel is a multi cultural society, characterized by internal conflicts between various social groups. Two of the most important conflicts within the Jewish population of Israel are the normative value systems (religious vs. secular Jews) and the ethnic division between Jews [of Eastern (Asian and North African) or Western (European and North American)] origin. The study assessed the effects of these two social divisions on aggressive behavior and victimization to aggression among Israeli children. Three types of aggressive behavior (physical, verbal, and indirect) were investigated using peer estimation. The sample (n = 630) was composed of three age groups (8, 11, and 15 yrs). The effects of both religiosity and ethnic origin were stronger on girls' than on boys' aggression and victimization: Secular respondents scored higher than their religious counterparts, and respondents of Eastern

origin scored higher than those of Israeli or Western origin. In accord with previous studies, for both girls and boys, the 11- and the 15-yr-olds scored highest and lowest, respectively, for all types of aggression and victimization. Among boys, physical and verbal aggression and victimization were significantly related only to age, whereas indirect aggression and victimization were related also to religiosity. Among girls, in contrast, all three types of aggression and victimization were related to age and to either religiosity and/or ethnic origin. Various interactions between the variables were reported. The results were discussed within the wider context of the role of religiosity and ethnic origin in Israeli society and the differential effects of these variables on the socialization of girls and boys.

Violent Political Language in the Egyptian Partisan Press: A Sociolinguistic Analysis

M. Aboelenein

Department of Sociology, Faculty of Arts, Tanta University, Tanta, Egypt

Language is an important factor in any political communication. Political language is determined by the social context of a society as well as by political institutions and interests. Violent language can distort political communication, and this may inhibit free discussion of public issues. This study aimed to demonstrate the impact of violent political language on political participation, democracy, and overall political process in Egypt, where partisan press inflames controversies over strategic issues related to domestic and foreign policies. It was based on content analysis of political writings and debates as published in six Egyptian partisan newspapers. These were Mayo (National Democratic Party), Al-Ahali (National Progressive Unionist Grouping Party), Al-Shaab (Socialist Labor Party), Al-Wafd (Neo-Wafd Party), Al-Ahrar (Socialist Liberal Party), and Al-Arabi (Nasserist Party). Content analysis revealed wide use of violent language in the Egyptian partisan press. Violent vocabulary ranges from labeling and cynicism to defamation, threat, and accusation of corruption, betrayal, conspiracy, or even atheism. The study found a correlation between increase in violent political language and distortion in political communication.

The True Nature of Aggression in Warfare

G. Kemp

Lentz Foundation, Lancaster, UK

The difficulties involved in attempting to prevent or end the institution of war suggest we have failed to understand its true nature as an institution of aggression and violence. It is assumed that the killing and the death inflicted make war so terrible. Casualties can be regarded as a measure of the awfulness of wars. This century's increased literacy has allowed fuller accounts of nature of war and the impact on their lives from those involved. These accounts reveal a new interpretation of the nature of war-violence, namely, that the de-humanization process involved in killing is worse than the killing itself. What the institution of war demands from participating societies and their inhabitants is worse than people dying in war. The victims of war are not only the dead ("only the dead see the end of the war" as Plato wrote). They include the survivors, and that involves recognition that combatants are major victims. The war-dead are remembered but rarely the other victims. We should come to see war less as a glorified form of human physical aggression that we may see between individuals and more as a form of structural violence (which, if not understood, is capable of self-perpetuation). This re-interpretation of the nature of aggression in war may result in establishing successful peace processes. Peace processes should

go beyond a treaty that stops the killing and resolves the conflict and embed a process of re-humanization to remove the true violence of war.

The Program of Peace as a Hope

M.T. Herrero

Faculty of Medicine, University of Murcia, Murcia, Spain

The concept of peace is relatively easy to grasp. That of international security at all levels is, however, more complex and controversial. The current global situation proves that violence does not solve political, economic, and social problems. In fact, war is a failure of genuine humanism. The Culture of Peace is an ethical decision that is the only rational alternative to the culture of violence. The program should involve moral, political, and educational efforts. The notion advocates at the social level what sustainable development promotes at the ecological level. UNESCO called for a Culture of Peace partly to stress the importance of human dignity taking identity as a bridge. There are six basic precepts: respecting all life, rejecting violence, sharing with others, listening to understand, preserving the planet, and rediscovering solidarity. The Culture of Peace could not be supported into the next century without human development and a new equilibrium based on gender equality. The concept urges strengthening of the female aspect in all conflict-resolution efforts. Peace is utopian but it is an essential dynamic for development and democracy and *vice versa*. Peace will not be possible without justice, equality, and sustainable human development. Efforts to move toward a Culture of Peace must be rooted in education. As culture is a way of thinking and organizing our lives, the Culture of Peace must change attitudes and mind-sets at all levels on which peace depends.

PLENARY LECTURE: IDENTIFICATION AND INTERVENTION WITH WOMEN VICTIMS OF ABUSE IN THE HEALTH CARE SYSTEM

Jacquelyn C. Campbell

Johns Hopkins University School of Nursing, Baltimore, Maryland

Women experiencing sexual and/or physical violence have significantly compromised physical and mental health. Controlled research (from the US and other countries) shows that both childhood and adult physical or sexual assault (particularly family violence, e.g., child or wife abuse) increase the risk for injury, chronic pain, gynecological problems, chronic irritable bowel syndrome, and a compromised immune system. Abused women are also more likely to suffer from depression and posttraumatic stress disorder. Reproductive health problems related to intimate partner violence include increased unintended pregnancy, adolescent pregnancy, abuse during pregnancy, sexually transmitted diseases, urinary tract infection, and lowered birth weight in infants. Because of the high rates of trauma history and significant health effects, US health care systems are beginning to routinely screen for intimate partner violence and sexual assault in health care systems and provide interventions for abused women. The majority of women in US emergency departments and managed care health settings approve of such screening. Screening can be achieved with a brief four-question Abuse Assessment Screen tested in many health care settings. Questions regarding the woman's health need to include issues around intimate partner violence, sexual abuse, and address lethality assessment issues. The Danger Assessment is

one tool used to assess the dangerousness of the woman's situation. Documentation of the injuries should include photographs, a body map for injury history, and other written documentation that can be used for court proceedings. When abuse is identified, appropriate interventions are needed. These include principles of empowerment (referrals to shelters or other domestic violence resources and safety planning) and long-term follow up by the health care giver. A brief health care intervention increases the women's use of safety behaviors and decreases their experience of both physical and emotional violence from a partner. Other health care policy suggestions include addressing violence in prenatal and post-partum care, mental health care settings, and HIV prevention programs.

POSTERS

Do Changes in Testosterone (T) Levels Affect Human Aggression?

D.M. Falkenbach, J. Epps, and P. Hill-Epps

Department of Psychology, University of South Florida, Tampa, Florida

The belief that human males are more aggressive than females is supported by previous research. Newer versions of the biological theories speculate about the influences of hormones on aggression. Van Goozen et al. (1995) found that androgen-deprived males showed a marked decrease in anger and aggressiveness. Social learning theorists propose that aggressive behaviors are learned vicariously and that such learning is further supported by direct experience of consequences when a previously modeled behavior is enacted. The present study on hormones and aggression used cross-sectional designs with persons of differing hormonal levels. The population consisted of 30 transsexual males undergoing therapy to reduce T and increase estrogen levels and a comparison group of transsexual males awaiting hormone therapy. Support for the biological perspective would be inferred if a participant's self-reported rating of aggression was lower as a function of the lower T. Specifically, participants with normal T levels should rate themselves as more aggressive on the Aggression Questionnaire, the State Trait Personality Inventory and Anger Expression Scale, and the Personality Assessment Inventory (PAI) aggression scale (AGG) than counterparts with lower T levels. Support for the social learning perspective would be inferred if the participant's self-reported levels of aggression did not change as a function of hormone levels. Cross-sectional results suggest support for social learning theories of aggression for this population. Specifically, the AGG scale scores on the PAI were not different in those taking hormones and those with normal hormone levels.

Approval of Aggressive Acts: A Comparison Between Iranian and Spanish Students

Z. Musazahdeh,¹ D. Sánchez,² J.M. Andreu,² and J.M. Ramirez²

¹*University Complutense Madrid, Spain-Iran, Teheran, Iran*

²*University Complutense, Madrid, Spain*

The degree of moral acceptance of aggressive acts of different quality and intensity was analyzed with respect to different social circumstances that may justify them. A questionnaire of moral attitudes on aggression was applied in Iran and Spain to 1,052 College and University students (457 males and 595 females), with an average age of 18 yr. Each of the eight categories of aggressive acts was accompanied by a list of six different situa-

tions that may justify them. The most significant differences found between the populations were that Spanish students showed a higher aggressivity in all the components analyzed. In terms of the approval of aggressive acts, Rage was the most acceptable in Iran and Irony in Spain. The most justifiable situations for aggression in Spain were considered Defense or Protection of others, while in Iran, Punishment was the most acceptable reason. The most acceptable interactions between acts and situations were hindering in Defense of property in Spain and Rage as a Punishment in Iran. These data showed some interesting cultural differences in the norms and beliefs concerning the approval of aggression.

Domestic Violence: Influence of Duration and Frequency of Maltreatment on the Emotional State of Victims

E. Soler-Herreros, M.J. Hernández-Jiménez, and F. Donate-Redondo

Centro Mujer 24 Horas, Dirección General de la Mujer, Consellería de Bienestar Social, Valencia, Spain

Physical and/or mental maltreatment has a strong impact on the emotional health of women. The nature of the abuse, its duration, and frequency determine the gravity of psychological consequences. This study attempted to assess the influence of several combinations of physical and mental maltreatment and mental maltreatment alone as well as the duration and the frequency of abuse on the psychological well-being of women sufferers. The sample consisted of women exposed to physical and psychological maltreatment ($n = 198$) or psychological maltreatment ($n = 141$) who were visited during 1999 by the 24 hour General Management of the Woman program. This specialized in attending to women victims of gender violence. The evaluation instruments used were developed by the program. They included the social value protocol that gathered information related to the kind of maltreatment (being insulted, menaced, hit, pushed, etc.), its frequency (first time, habitual, or sporadic), and its duration (chronic violence). The protocol of psychological evaluation evaluated the intensity of woman's emotional unease (it is made up of 64 items related to conduct, knowledge, and psychophysiological components). The frequency of physical and/or mental maltreatment has greater psychological repercussions than its duration. Habitual physical and/or mental maltreatment had significantly (all $P < .05$) stronger effects than sporadic exposure (on listlessness $t = 2.00$; fear $t = 2.37$; sensation of catastrophe $t = 2.94$; anxiety $t = 2.17$; lack of reaction to problems $t = 2.59$; diminution of social activities $t = 2.08$; uselessness $t = 2.30$; nervousness $t = 2.36$; and insomnia $t = 2.77$).

Tolerance for Unruliness vs. Aggressive and Other Problem Behaviors in Adolescence and Early Adulthood (A Follow-Up Study)

E. Stepień and A. Batko

Institute of Psychiatry and Neurology, Clinical Psychology Department, Warszawa, Poland

The present study examined relationships between approval/disapproval of unruly behaviors (e.g., lying, aggression, petty theft, and insubordination) and intensity of problem behaviors (e.g., interpersonal aggression, vandalism, cigarette smoking, alcohol drinking) self-reported in adolescence and in early adulthood. The data were obtained in a follow-up study from a sample of more than 200 men and women aged 22–29 who participated in an earlier study 8 years previously. As adolescents, all subjects were students of high or technical schools and had agreed to take part in a follow-up study (i.e., they completed a questionnaire with their personal details). The “You and Health” questionnaire was used in adolescent and young adults versions. Disapproval for unruly behaviors in-

creased (at least at a verbal level) with the subject's age in both girls and boys. Antisocial behaviors had a total index of frequency that was higher in adolescence than in early adulthood in boys but not in girls, while the intensity of alcohol drinking significantly increased in both subsamples. The predictors of disapproval for unruliness (using stepwise multiple regression analyses) in young adults are different for men and women. In young adult males, tolerance for unruly behaviors was related to their alcohol drinking, frequency of vandalism, and insubordinate behaviors shown at the same stage of life, i.e., in early adulthood. In the young female group, completely different variables were important. These were only variables of adolescence including frequency of lying, risky behaviors, and intensity of tobacco smoking (explaining 52% of variance of disapproval of unruly behaviors). The results were discussed in terms whether (and to what extent) different types of adolescent problem behaviors influence their attitudes toward unruly behavior in adolescence as well as in early adulthood.

“Burnout” Syndrome in Gender’s Violence Professionals

E. García-Cuenca and J. Sepúlveda-Sanchis

Centro Mujer 24 Horas, Dirección General de la Mujer, Conselleria de Bienestar Social, Valencia, Spain

The so-called “burnout syndrome,” a specific type of occupational stress developing in jobs with a close and constant relationship with clients, is described. It is said to be a response to the chronic work stress typically found in professionals working in care service organizations. The burnout syndrome is a process integrating cognitive/attitudinal (low personal accomplishment), emotional exhaustion, and attitudinal (depersonalization) components. The low personal accomplishment refers to the tendency of these professionals to negative self-evaluation. This especially affects their ability to do their work and their relationship with the clients. Feelings of emotional exhaustion are due to daily and sustained contact with clients. Depersonalization refers to the development of negative feelings and of cynical attitudes toward their clients. The burnout syndrome was estimated by a Spanish version of the Maslach Burnout Inventory in a sample of 40 professionals working in three centers concerned with victims of physical or psychological maltreatment, sexual aggression, and sexual harassment. These professionals had a mean age of 30.95 yr (SD: 5.24), and 40.0% were psychologists, 35.0% social workers, 10% lawyers, and 15% telephonists. They had been working for a mean of 6.53 yr in their profession. Several demographic variables were also analyzed. The degree of burnout in these professionals was low and the time they had spent in their organization was unrelated to this. There were no significant differences between levels of burnout that depended on the type of contact with the clients (direct or on the telephone) or the professional specialism.

Lobeline Has a Specific Antiaggressive Effect After Repeated Administration

M.C. Oterino,¹ I. Moragrega,¹ P. Vicens,² M.C. Carrasco,¹ R. Redolat,¹ and P.F. Brain³

¹*Section of Psychobiology, Faculty of Psychology, University of Valencia, Valencia, Spain*

²*Department of Basic Psychology, Clinical and Psychobiology, Faculty of Psychology, University Jaume I. Castellán, Spain*

³*School of Biological Sciences; University of Wales Swansea, UK*

The roles of different neurotransmitter systems in aggressive and defensive behaviors have been considered in many studies, but the part played by nicotinic receptors has been hardly investigated. The effects of repeated administration of two nicotinic ligands, (-)-

nicotine and (-)-lobeline were examined using a model of isolation-induced aggression in mice. Lobeline is a unique ligand that selectively interacts with high-affinity acetylcholine receptors (nAChRs), whereas nicotine activates both high and low affinity nAChRs. Individually housed male mice received daily SC injections of nicotine (0.93, 1.86, and 3.72 mmol/kg), lobeline (9.3, 18.6, and 37.2 mmol/kg), or physiological saline for 10 days. Agonistic encounters took place between the experimental animals and anosmic “standard opponents” in a neutral arena. Encounters were videotaped and evaluated using an ethologically based analysis that allocated time to eleven broad behavioral categories. Nicotine did not significantly decrease threat or attack or increase immobility. The highest dose of lobeline significantly diminished time allocated to attack without significant decreasing time allocated to other behaviors with motor components. The intermediate and lowest dose of lobeline did not have significant effects on any behavioral category. These results support previous studies showing antiaggressive effects of high doses of lobeline after acute treatment, although the actions of this drug on attack behavior after repeated treatment seem to be more specific. The behavioral differences between nicotine and lobeline may reflect the multiplicity of central nicotinic receptors and the different binding specificity of the drugs.

Validation of the Spanish Version of the Symptom Checklist 90-R

J.I. Robles and J.M. Andreu

Department of Personality, Assessment and Clinical Psychology, Complutense University of Madrid, Spain

The Symptom Checklist 90-R (SCL-90-R) is a 90-item self-report inventory developed for clinical psychometric research. It was designed to reflect the psychological symptom patterns of psychiatric and medical patients. The SCL-90-R includes nine subscales, namely, somatization (12 items), obsessive-compulsive (10 items), interpersonal sensitivity (9 items), depression (13 items), anxiety (10 items), hostility (6 items), phobic anxiety (7 items), paranoid ideation (6 items), and Psychoticism (10 items). Three global indices of distress are associated with the SCL-90-R. These are the Global Severity Index, the Positive Symptom Distress Index, and the Positive Symptom Total. The function of each of these is to communicate in a single score the level or depth of the individual's psychopathology. Four hundred sixty males (with an age range from 17 to 31 yr) who engaged in a psychological assessment program at the “Gámez Ulla” Hospital of Madrid were given a Spanish version of the SCL-90-R. Participation was on a voluntary basis, and subjects were assured that the information obtained by the questionnaire would be confidential. Both reliability and validity of the Spanish version of the SCL-90-R were satisfactory, and factor analysis of the clinical scales yielded one factor interpreted as *psychopathological vulnerability*.

An Experimental Program for the Complete Assessment of Childhood Maltreatment: A Descriptive Analysis of Family Interactions

R. Trenado,^{1,2} A. D'Ocon,^{1,2} and E. Más²

¹*Aggression and Family Research Unit, Department of Basic Psychology, University of Valencia, Spain*

²*APREMI (Asociación Valenciana para la Promoción de los Derechos del Niño y Prevención del Maltrato Infantil)*

The progressive increased social recognition of child abuse has produced some advances in the child protection area. In the 90s, several researchers have focused their stud-

ies on intervention, both on families at risk of child abuse and on children already in an abusive situation. These studies have shown the necessity of working with the children along with their parents to generate or improve parental skills and to reduce stress within family situations. Several studies developed at APREMI have illustrated some shortcomings in family intervention and the need for specialized professionals in this area. An experimental program for the complete assessment of childhood maltreatment has been proposed based on the model on psychological family treatment developed by Cerezo (1992) and Cerezo and Pons (1997). A descriptive analysis of the families involved in this program between 1998 and 1999 was presented. Assessment of families consisted of baseline therapist interview information and direct observation of family interactions in the home setting, using the Standardized Observational Code (SOC III). The study aimed to perform a microsocial analysis of family interaction that included all family members (target child, mother, father, brothers, and sisters). The participants were 30 families from Valencia recognized by Community Social Services as child maltreatment cases (these included physical and emotional abuse and neglect). The children ranged in age from 3 to 13 yrs. Dysfunctional parent-child interactions were evident in inconsistent parental responses to the behavior of the children and a high incidence of negative and instructional behavior by the parents.

Asynchronous Mother-Child Interactions in Early Childhood: The Impact of Maternal Insensitivity on the Child's Socioemotional Development

S. Simá, R. Trenado, and M.S. Alhambra

Aggression and Family Research Unit, Department of Psychology, University of Valencia, Spain

Ainsworth's sensitivity construct describes interactional behavior between a mother and her baby. This was used along with ideas about attachment's effects on socioemotional development to analyze the impact of interactional styles by mothers on the development of attachment strategies by children. The effects of maternal behavior on the development of attachment were analyzed by taking into account the quality of maternal interaction behavior itself and the timing or synchrony of such behaviors. The sample consisted of 30 non-clinical mother-child dyads observed at 3, 6, 9, and 12 months in a non-structured play situation in a novel context. The interactional dynamic was codified using the "Codificación de la Interacción Temprana Materno-Infantil" (CITMI). The CITMI allows a detailed analysis of mother-child interactions taking into account its sequential characteristics as well as considering the contributions by the mother and the infant. The maternal contribution was operationalized as "maternal social attention, mothers controlling response, maternal instructions, unresponsive behavior." The child's categories are "child's social approach, child's compliance behavior, playing, crying, and passive behavior." Attachment quality was assessed at 15 months of age and classified according to Ainsworth's Assessment of Attachment (Ainsworth, 1978). Preliminary analysis confirms a significant relationship between the early interaction experience of the child and the later quality of attachment. Children developing an insecure inhibited strategy frequently experienced consistent unresponsive mothers or covertly hostile mothers in early interaction. Children developing an insecure ambivalent attachment quality are supposed to have experienced inconsistent patterns of maternal control or hostility, showing mostly a mixture with sensitive behaviors or with unresponsive behaviors. These results also confirm the need to be more precise in defining maternal insensitivity before further treating the dyads.

The Relationship Between the Child's Attachment Quality to his Mother at 15 Months and Mother-Child Synchrony in Daily Routines

S. Simá, G. Pons-Salvador, M.A. Cerezo, L. Dolz, and M.S. Alhambra

Aggression and Family Research Unit, Department of Psychology, University of Valencia, Spain

Attachment theory can be used to hypothesize that daily routines offer the mother-child dyad opportunities to establish interactional dynamics and develop mutual expectations. Maternal sensitivity determines not only a secure attachment quality of the child but its predisposition to interact with her. This study analyzed the relationship between the child's early attachment quality to the mother and the problems these children presented in daily routines (e.g., feeding, sleeping, and interacting with others). The sample was obtained from a community program giving psychological attention to mothers and fathers of children during the first two years of life. It was composed of 30 non-clinical mother-child dyads. The mother was interviewed when the child was 3, 6, 9, 12, and 15 months using a structured schedule. She was questioned about the daily routine situations with her baby of feeding and sleeping as they can lead to conflict. Other questions concerned perceived irritability and behavioral problems in the child as well as other situations with the child that preoccupied the mother. Furthermore, the mother was asked about the level of conflict in each situation, the kind of emotional reaction she shows, the appropriateness of her response, and her belief that she will solve the problem. Attachment quality was assessed at 15 months of age using the Assessment of Attachment (Ainsworth, 1978). Preliminary analysis confirmed a significant relationship between the detection of conflicts in daily routines and the attachment quality. Children with an insecure attachment quality showed irritability more frequently than secure counterparts. Children developing secure attachment complied more often with the wishes of the mother, reducing conflict. Mothers of insecure children tended to report problems in feeding and/or sleeping situations. These results suggest that the development of an insecure attachment strategy in early childhood can contribute to later behavioral problems (e.g., aggressive behaviors in the child or cycles of child abuse).

Preliminary Studies of the International Affective Photo System (IAPS) With a French Population Under Frustrating Conditions

F. Pahlavan¹ and T. Lubart²

¹Laboratoire de Psychologie Sociale and ²Laboratoire de Cognition et Développement, associé au C.N.R.S., Université René Descartes, Paris V, Boulogne, France

Ten photos from three different categories (pleasant, neutral, and unpleasant) were selected from IAPS sets. The categories were defined based on valence ratings obtained from a previous group validation study using American subjects. Each photo was then evaluated for valence, arousal, and dominance dimensions using a digitized version of the Self-Assessment Manikin under two levels of frustration. The presentation of photos, giving of evaluation scales, and data collection (ratings and rating times) were carried out using a 486 IBM compatible computer. Two different kinds of frustration were used. The first involved the effects of a direct insult. The second involved the participants succeeding or failing in the execution of a pointing movement task. For each, participants were university-level psychology students (18 of each sex) between 18 and 29 yrs (mean 22.44 yrs) recruited by posters in the University building. Preliminary analysis of the first frustration indicated influences of the type of scale, type of the photos, category of photos, and sex of

the subjects. There were interactions involving sex of the subjects and stimulus characteristics. The results using the second frustration, in addition to the same main and interaction effects, showed an effect of frustration condition on the subject's evaluative judgments. The response times for making evaluative judgments of the photos on the different scales produced interaction effects involving the type of the scale and frustration conditions using the first frustration. The second frustration showed interaction effects involving the type of the photos and frustration conditions. These results suggest a relationship between emotional events and cognitive processes. Modifications of cognitive processes produced by negative emotional events seem dependent on their nature.

Aggression in the School Context: Perceptions and Associated Attitudes

J. Mondragón-Lasagabaster

Departamento de Sociología II, Psicología, Comunicación y Didáctica, University of Alicante, Spain

A preliminary synthesis on the perceptions of a group of secondary school students of school conflict and their views of the rules and values governing such behavior was attempted. A questionnaire was used to determine the motives youngsters ascribed to violence. It was also used to assess other aspects viewed as important by the respondents who had day-to-day experience of these activities. The intention was to facilitate communication about the problem and to assess how it influenced the dynamics of each classroom group. This group of students had a realistic perception of the aggressive situations happening in their environment and they confirmed that situations of grave violence were rare. Pupils were unaware of physical aggression or bullying. The most frequently seen examples of aggression were gibes and insults. Most such activities occurred in the school playground, at break time, or at the beginning/end of lessons. At these times, the control by adults is minimal (certainly, it is less efficient than in the classroom context). The students thought older pupils showed more conflict.

Prevention of Aggressive Behavior: Training in Relaxation Procedures as a Low Cost/High Benefit System for Use by Teachers and Students

J.M. Poveda,¹ E. Iciarte,¹ E. Toro-Lira,¹ R. Rodríguez,¹ J. Poveda,¹ and J.M. Ramirez²

¹*Department of Psychiatry, Universidad Autonoma Madrid, Spain*

²*Department of Psychiatry, Universidad Complutense Madrid, Spain*

Personal aggressive responses are not spontaneous. The emotional baseline can enhance or inhibit the triggering of impulsive responses. Relaxation procedures can be learned at schools and universities to improve interpersonal relations during and after school/academic studies. The students themselves can promote relaxation procedures. A total of 200 students in the Faculty of Medicine (Universidad Autonoma) was trained in relaxation procedures as part of the regular program of Medical Psychology. It consisted of a one-hour explanatory class given to all students before the procedure and 2 hours of practical application. The procedure was applied by a team of students trained in three previous 2-hour meetings to groups of 8–12 participants. The teachers who had trained the students/coaches, played no active part but observed during the relaxation practices applied to the groups. In 100 students, breathing and pulse rate per minute were measured before and after the application of the relaxation procedures. The two parameters were easy to record

by non specialized teachers. Both measures showed significant changes after the application of relaxation procedures. Three hours of training produced beneficial results after a meeting, but additional practice was needed in the following weeks to make the procedure chronically effective. Relaxation procedures can reduce the probability of frustration-aggression responses, reduce stress, and facilitate teamwork. Public and private agencies (outside classroom settings) can also enhance their interpersonal relations by offering these procedures to staff and clients.