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PSYCHOSOMATIC
SOCIETY

Dedicated to the Integration of Biological, Psychological and Social Factors in Medicine

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Release from American Psychosomatic Meeting, Baltimore, Maryland

Contact: Andrea Con, Ph.D

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Embargoed until: March 13, 2008

Research from the British Columbia Cancer Agency/University of British Columbia suggests that advance care planning contributes to improved palliative and end-of-life care for all cultural groups

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Baltimore, Maryland – Advance care planning (ACP) is a process in which an individual creates instructions and guidelines about their medical care in the event that they are too seriously ill or injured to make decisions or communicate their wishes. Often, someone is named to be a substitute decision-maker during this time. When helping patients and families communicate their end-of-life wishes, ACP can be used to ensure that a person's preferences are respected and can ease distress for patients, families and health care providers.

We conducted a study to learn how diverse cultural groups in Canada might respond to ACP becoming a part of the health care system. Because we know cultural groups may have different viewpoints about participating in a conversation that concerns terminal illness, suffering, death, and dying, our aim was to increase understanding of the diverse perspectives to ensure ACP practices are effectively incorporated and utilized by these cultural groups.

One hundred and twenty-five key informant interviews and 4 focus groups were conducted. We found culturally specific themes around palliative and end of life care including how to break the news, importance of discussing ACP, how to discuss ACP and the advantages and disadvantages of ACP. For example, one of the barriers to conducting ACP was the unwillingness of people to discuss the topic of death. For many cultural groups, it was an unwelcome topic that some even considered taboo. Not only were patients and families not eager to talk about death, health care providers were also not forthcoming in bringing up the topic. The goals of Western biomedicine are to cure and treat, and patients are encouraged to fight and battle. However, these are not options when patients are at the end-of-life, and this sense of failure has been deemed one of the reasons why health care professionals choose not to talk about death. Other themes include public awareness around normalizing death and education, eligibility to palliative and end-of-life care as well as helping the family in conjunction with the patient.

Advance care planning can play an important role in end-of-life care for patients and families as well as for the health care providers and system in which they serve. It is our hope that every person can be offered the opportunity to engage in ACP.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

Contact: Lacy Mayes, M.A.

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Embargoed until: March 13, 2008

Research from the University of Maryland, Baltimore County suggests that cognitive coping appraisals during acute pain are important for understanding psychological and biological responses to pain.

Baltimore, Maryland - We asked our sample of 80 ethnically diverse, young, healthy adults to participate in an experimental pain task involving immersion of one hand in very cold water. We attempted to manipulate participant perceived control and threat by providing altered instructions about the pain task. We examined anticipatory cognitive appraisals (how participants were thinking about the upcoming pain experience prior to the task), *in vivo* cognitive appraisals (how participants were thinking about the pain during the actual painful experience), pain intensity rating, duration of time that the participant tolerated having their hand in the cold water (tolerance), and changes in cortisol (a key hormone in the stress response) during the pain task.

We found that our modified measure of cognitive appraisals was appropriate for measuring participants' thoughts during the experimental pain task. Greater stress was reported during *in vivo* appraisals compared with anticipatory appraisals. Cognitive appraisals were related to pain rating, tolerance and changes in cortisol. Anticipatory primary appraisals (perceptions of the upcoming pain experience) and *in vivo* secondary appraisals (ability to cope with the pain as it occurred) were predictive of the relevant pain outcomes. A person's appraisals of an upcoming situation are important to how they experience that situation. *In vivo* cognitive appraisals (thoughts during pain) concerning one's ability to cope with a situation, compared with anticipatory appraisals (thoughts before pain), may be particularly important in understanding individual differences in responses to acute pain, and may provide a key target for pain interventions. Specifically, professionals working with patients preparing to experience pain may need to direct their focus on the patients' thoughts during pain concerning their own abilities to cope in order to positively effect the psychological and biological reactions to pain.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

Contact: Emily Kuhl, Ph.D.
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Embargoed until: March 13, 2008

New Study: Depression may worsen cardiac stiffening in heart failure

Baltimore, Maryland – Researchers in the Behavioral Cardiology Program at the University of Maryland School of Medicine have found that high levels of depression are associated with significant stiffness of the heart, also known as fibrosis, in patients with heart failure.

Their study looked at whether people with depression had greater levels of blood-based fibrosis markers than people without depression. They also examined whether C-reactive protein, a marker for inflammation known to be elevated in people with heart failure and depression, played a role in the fibrotic process.

The study results, as presented at the American Psychosomatic Society Annual Meeting, are based on blood samples from 880 adults with and without heart failure who participated in the Cardiovascular Health Study.

The findings: people with depression had higher levels of fibrosis than those who were not depressed. This is the first study to demonstrate that the biology of heart failure may be different in people with depression, independent of patients' symptoms.

When depression and C-reactive protein levels were combined, the researchers found that inflammation played a role in the relationship between depression and fibrosis. Older age was a second important factor involved in the relationship between depression and fibrosis. These results shed light on the important interconnection between depression and the biological processes that increase the risk of heart failure. Level of depression helps predict a person's level of fibrosis, which can increase the threat of heart failure in people who are at risk of developing the disease.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: *March 13, 2008*

Research from Washington University in St. Louis finds that many cardiac patients expect to have more problems with heart disease in the future, even after successful coronary bypass surgery.

Baltimore, Maryland – Coronary bypass surgery often gives people a new lease on life, but it is not a permanent cure for heart disease. A new study from Washington University in St. Louis finds that even after successful bypass surgery, most patients believe that they are likely to have additional problems with heart disease in the future. It also shows that this belief is related to how depressed or anxious they feel after surgery.

The researchers interviewed 123 patients who had undergone coronary bypass surgery within the past year and who felt at least mildly depressed, as part of a study comparing different treatments for depression. Over 70% of them reported that they expected to have future heart problems. These patients were also asked to speculate about the factors that they thought were most likely to cause their future heart problems. The possible causes were grouped into three categories: biological (such as high cholesterol or diabetes), lifestyle (such as smoking or lack of exercise), and emotional (such as stress, depression, or anxiety). They were allowed to choose as many possible causes as they thought were relevant to their own health.

Patients who chose biological explanations such as high cholesterol were more anxious than those who did not, while those who chose emotional factors felt more depressed, anxious, and hopeless. Lifestyle explanations were not associated with negative moods.

Most of the patients who were treated for depression felt better emotionally, even though they still believed that they could have more problems with heart disease in the future. A form of treatment known as cognitive behavior therapy (CBT) was particularly effective in helping patients overcome their depression and cope with their concerns about heart disease.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: March 13, 2008

Parasympathetic Withdrawal and Sympathetic Arousal during Anger Correlate with Elevated Endothelin-1 in Patients with Coronary Artery Disease

Baltimore, MD - It has been intuited through out history, by physicians and philosophers alike, that stress affects one's health. We elaborated upon these ideas by studying the effect of emotional stress on cardiovascular function. To do so, we asked 83 patients with coronary artery disease to describe an event that made them angry. We recorded an electrocardiogram (a measure of heart rhythm) throughout the procedure and drew blood immediately before and after descriptions of the anger events. From the blood we measured circulating levels of endothelin-1, epinephrine and norepinephrine. Endothelin-1 is a naturally generated molecule that promotes constriction of blood vessels, and may play a key role in the type of ischemia (low heart blood flow) caused by emotional stress. Epinephrine and norepinephrine are two stress hormones that can increase heart rate and blood pressure, and are released as part of the "fight or flight" response. From the electrocardiogram we derived a measure called hf-HRV, which reflects how the brain communicates with the body to modulate the "fight or flight" response. Measuring stress hormones and hf-HRV are two ways to look at how the brain interprets stressful situations and prepares the body for action.

As patients moved from a state of rest to describing an incidence of anger, stress hormone levels increased and hf-HRV decreased. Most importantly, we found that changes in hf-HRV and endothelin-1 were linked, demonstrating a pathway by which the brain may influence blood vessel function in a moment to moment basis. These results suggest that, during anger, the brain and the body undergo a coordinated response to promote stress pathways that may reduce blood flow to the heart and aggravate cardiovascular disease.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: *March 13, 2008*

Research from the Institute of Behavioral Sciences, Semmelweis University Budapest, Hungary, suggests that a short, structured stress management program produces a long term reduction in stress levels and stress related psychological and somatic symptoms in distressed persons.

Baltimore, MD - In the last decades in the transforming societies of Central and Eastern Europe (CEE) premature mortality increased dramatically, especially among men. Increasing disparities in socio-economic conditions, job insecurity and weakening of social cohesion are new sources of chronic stress that are difficult to cope with effectively.

We adapted to Hungarian culture an internationally used coping skills training program developed at Duke University, the Williams Life Skills Program, and we studied its effectiveness with psychological questionnaires completed before, after and 4-6 month after the intervention. The components of the 12-hour stress management training program are identification of stressors, awareness of related thoughts and emotions, and theory and practice of relaxation, reframing cognitive appraisal, problem solving, assertion, communication and interpersonal skills.

Altogether over 500 hundred persons from different backgrounds participated in the program in Hungary between 2005-2007. Data was collected from 16 groups, comprising a subsample of 134 voluntary participants, of whom 93 persons (87,1% females, 12,9% males; mean age 43,6). completed a set of follow up questionnaires We found for this subsample a significant decrease in perceived stress, overcommitment at work, subjective health complaints, anxiety and depressive symptoms. These benefits were maintained 4-6 month after the intervention. Although people with high initial distress showed greater improvement, stress level decreased also in those without manifest stress-related symptoms. Participants emphasized in their subjective evaluation the usefulness of the skills and techniques learned both at private life and at their workplace.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: March 13, 2008

Research from the Duke University School of Nursing suggests that recent stresses are related to fatigue in people living with HIV.

Baltimore, Maryland – There is much we do not know about fatigue in people with HIV infection, including what might predict fatigue. We examined the effects of early childhood trauma, recent stressful life events, and depression on two different aspects of fatigue – how intense it is, and how it keeps people from doing activities important to daily living. Our sample of 128 participants living with HIV completed questionnaires asking them about childhood and adult traumatic life events, stressful life events in the past 6 months, and depression. We then looked at the results on these questionnaires along with other findings from the study that were important, including monthly income, years since diagnosis with HIV, CD4 cell count (the component of the immune system most impacted by the virus), HIV viral load (the amount of the virus in the blood), and antiretroviral therapy (whether or not they were taking medications to treat their HIV infection).

Men and African Americans made up two-thirds of the participants. Most were middle-aged (median age 44) and had completed 12 years of education.

We found that patients with less income, more childhood trauma, more recent stressful life events, and more depressive symptoms had more intense fatigue. They also had more impairment of functioning. None of the disease-related variables (CD4 cell count, HIV viral load, antiretroviral use) predicted either fatigue measure.

Given that psychosocial factors were more predictive of fatigue than physiological factors, and that people with HIV infection have very high rates of depression and stress, it is important that clinicians inquire about mood and stress in their fatigued patients.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: March 13, 2008

**HIGHER LEVELS OF THYROID HORMONE ARE
ASSOCIATED WITH PANIC DISORDERS**

Baltimore, MD - People with a panic disorder are more likely to have higher levels of thyroid hormone (free thyroxine) in their blood, than people without a panic disorder. Although differences are small, they are statistically significant and this finding could contribute to a better understanding of the complex biological mechanisms that underlie a panic disorder. A clear cause-effect relation between higher levels of thyroid hormone and the development of a panic disorder has not been established yet and further research needs to be done to proof causality. Remarkably, symptoms of hyperthyroidism are partly overlapping with symptoms of a panic disorder: sweating, nausea, rise in heart beat and anxiety. We hypothesize that slightly higher levels of thyroid hormone could function as a trigger for people who already have a susceptibility for developing a panic disorder. This would make higher thyroid hormone levels one of the partial causes of a panic disorder. Furthermore, in our Dutch study on the causes and course of depressive and anxiety disorders (NESDA, www.nesda.nl), we compared thyroid hormone levels of people on antidepressive medication with thyroid hormone levels of people without medication. We concluded that people on antidepressive medication (SSRI's) had significantly lower levels of thyroid hormone. This probably has to do with the effect of antidepressive medication on thyroid hormone metabolism. Whether this lowering of thyroid hormone is clinically relevant and whether it explains certain side-effects of antidepressive medication still needs to be investigated.

These findings will be presented by Berend Verhoeff, MD and PhD student of the VU University Medical Center in Amsterdam, the Netherlands, at the American Psychosomatic Society Annual Meeting in Baltimore.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: March 13, 2008

Researchers explore a new technique for assessing responses to stress in mothers and infants during mother-child interactions

Baltimore, MD – A growing body of research suggests a strong link between individuals' biological reactions to stress and their risk for a variety of physical and mental health problems. Moreover, individuals' abilities to manage stress appear to be established in early childhood, heavily shaped by the quality of parent-child interactions, suggesting that early experiences have long-term health implications. Until recently, studies in this area have been relatively limited due to difficulties in reliably and accurately assessing infants' biological responses to stress. A group of researchers, led by Michelle Bosquet, Ph.D., psychologist at Children's Hospital Boston, have recently demonstrated that ambulatory measurement of heart rate and breathing may be a feasible technique for studying the biology of mother-infant dynamics in response to stress.

As presented at the American Psychosomatic Society Annual Meeting on March 15, the study involved a pilot sample of 12 mothers and their 6-month-old infants. Mothers and infants were outfitted with vests embedded with sensors that measure heart rate and breathing activity to explore maternal and infant biological responses during a stressful challenge done in a laboratory setting. The ambulatory system had previously been validated in adult samples but was only recently adapted for use with infants. The findings showed that infants and mothers demonstrated pronounced changes between baseline, stressor, and recovery phases in their heart rate and breathing patterns.

Bosquet and colleagues are currently applying these techniques to better understand how mothers' biological stress responses impact the quality of caregiving they provide when their infants are distressed, as previous research suggests that heightened stress reactivity may compromise mothers' abilities to provide the sensitive caregiving their infants need to learn to self-regulate. The researchers are also exploring how individual differences in stress responses influence infants' later vulnerability to physical and mental health disorders, such as asthma and posttraumatic stress disorder. The researchers note that this methodology may eventually prove relevant for understanding how a variety of other physical and mental health disorders develop and for identifying mother and infant dyads at risk for poor outcomes so that interventions may be applied early.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: *March 13, 2008*

Positive Emotions Promote Good Health

Baltimore, Maryland – Positive emotions, not just the absence of negative emotions, are associated with biological responses conducive to good health, according to researchers at Duke University Medical Center.

The researchers explained that previous data has shown that negative emotional experiences have consequences for health. At the same time, positive emotion has often been viewed simply as the absence of negative emotion.

“This study continues to make the case for the health benefits of positive emotions, specifically as they relate to protection against the development of cardiovascular disease,” said Dr. Beverly H. Brummett, who presented the findings at the American Psychosomatic Society Annual Meeting. “Other data has shown that positive emotions have been linked to lower production of stress hormones, lower rates of hypertension, faster blood pressure recovery after stress and decreased likelihood of diabetes.”

In this study, 327 healthy people were asked to recall experiences that made them feel sad or angry in their recent past. During the description of the negative events, their blood pressure was monitored. Those people that had been previously identified as having a tendency to experience positive emotions were shown to have significantly less increase in blood pressure when asked to recall the negative experience.

“We also found that people with a more positive disposition were shown to have lower increases in cortisol, a stress hormone, upon waking. This suggests that the people with a tendency to experience positive thoughts may be protected against stress,” Brummett said.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: March 13, 2008

Research from the Samsung Medical Center, Sungkyunkwan University in South Korea suggests that thermal biofeedback-assisted autogenic training is effective for the treatment of female migraineurs.

Baltimore, Maryland - We examined the effectiveness of biofeedback-assisted autogenic training in female patient with migraine with or without aura. We also examined the correlative relationship between mood states, including depression and anxiety, and the treatment outcomes.

Consecutive thirty-eight patients were randomized into the treatment group and monitoring-only group. The patients in the treatment group received 8 sessions of biofeedback-autogenic training (2 sessions per week) during a period of 4 weeks, while those in the monitoring-only group received no active intervention except for simple biofeedback measurements (1th, 4th, 8th session) during the treatment-waiting period. Each biofeedback-assisted autogenic training session lasted about 45-50 minutes. The autogenic training procedures consisted of 6 standard exercises combining both relaxation and auto-suggestion (limb heaviness exercise, limb warmth exercise, cardiac exercise, respiration exercise, solar plexus warmth exercise, and forehead cooling exercise). Headache indexes were obtained using a daily headache diary over 7 consecutive days. Success was defined as a 50% reduction in the score. Scales for depression and anxiety level were also administered.

We found that biofeedback-assisted autogenic training was effective for the treatment of Korean female migraineurs, and also found that the improvements were related to the decrease in the depression and anxiety level. This suggests that psychophysiological treatment such as biofeedback-assisted autogenic training can be a useful treatment modality in migraine patients, and that mood states may play a key role in that treatment. It may be very important to include psychophysiological therapy in the treatment strategies for female patients with migraine, because migraine is highly prevalent in women of reproductive ages and pharmacotherapy in the population is limited due to possible side effects or drug dependency.

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**Release from American Psychosomatic Meeting, Baltimore,
Maryland**

*Contact: Catherine J. Mills
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Embargoed until: March 13, 2008*

Research conducted at North Carolina Central University to investigate Anger and Socioeconomic Status as Predictors of Cardiovascular Disease in African Americans.

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Baltimore, Maryland-Researchers from North Carolina Central University report some intriguing results from a study funded by the National Center on Minority Health and Health Disparity. The study, conducted by a multidisciplinary team of investigators from the JLC-Biomedical/Biotechnology Research Institute (Mildred A. Pointer, Ph.D.), School of Business (Marilyn McClelland, Ph.D.), and Psychology Department (Jonathan Livingston, Ph.D. and Dwayne T. Brandon, Ph.D.), involved a sampling of 181 participants who were 18 years old or older and free from pre-existing cardiovascular disease to complete an anger scale (the Spielberger Anger Expression Scale), provide demographic and socioeconomic information, and blood samples were obtained. All participants were informed of their rights to refuse any part of the study; any questions related to the study were answered before informed consent was obtained.

To determine whether there was an association of lipid profile to the psychosocial factors plasma cholesterol (lipid) levels were compared to scores on the anger scale as well as demographic and socioeconomic status. We found that anger as assessed from the scores on the anger scale did not predict cardiovascular disease risk for African Americans. A participant's age was positively related to cholesterol (HDL) and income was related to triglycerides. In addition, through multiple regression, analysis income and anger were found to be moderators that predicted cholesterol levels (specifically triglycerides) in African Americans. This information suggests that psychological and environmental factors other than genetics and dietary intake may be contributing to the disproportionate number of African Americans with cardiovascular disease.

It is of key importance for health care practitioners working with African Americans to include in their treatment plan strategies to help their patients cope with stressful life events. Successful resolution of stressful life events may result not only in psychological benefit but cardiovascular benefit.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

Contact: Cathy A. Bykowski

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Embargoed until: March 13, 2008

Research from the University of South Florida suggests that higher socio-economic status may be protective against inflammation among individuals who are of a normal weight, but not those who are obese.

Baltimore, Maryland – Long-term inflammation appears to play an important role in chronic and fatal medical conditions such as cardiovascular disease. Researchers at the University of South Florida were interested in identifying factors that influence levels of inflammation. They used information from 4998 adults who participated in the Center for Disease Control’s National Health and Nutrition Examination Survey. Participants reported their annual household income and the highest level of education attained (common measures of socio-economic status). Researchers measured participant’s body fat and c-reactive protein in their blood. C-reactive protein is a marker of inflammation that is associated with an increased chance of developing heart disease.

They presented their results at the American Psychosomatic Society Annual Meeting. They found that those who reported a higher annual income or higher levels of education had lower levels of inflammation. This suggests that higher socio-economic status may help protect people against chronic inflammation. The researchers also found that participants with more body fat had higher levels of inflammation, putting these individuals at risk for developing cardiovascular disease. Closer inspection of the data revealed an intriguing finding. As body fat increased, the relationship between socio-economic status and inflammation disappeared. The protection that might be provided by a higher socio-economic status was only found in people who were in the normal weight range. Those who were obese did not seem to benefit from the health-protective effects of higher income or education.

This study highlights the dangers of obesity. Not only does obesity appear to cause its own health problems, it also seems to counteract factors that may improve health. The results of this study suggest that decreasing body fat may reduce overall inflammation and also allow other factors to provide health benefits.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

Contact: Douglas Delahanty, Ph.D.

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Embargoed until: March 13, 2008

Research from Kent State University suggests that albuterol administered soon after a traumatic event may alleviate subsequent posttraumatic stress disorder symptoms

Baltimore, Maryland – We conducted an exploratory analysis of data from a 1-year study of motor vehicle accident (MVA) victims to examine whether albuterol, a β_2 -adrenergic receptor agonist, administered soon after an MVA buffered the development of subsequent posttraumatic stress disorder (PTSD) symptoms. We interviewed 406 MVA victims to assess their PTSD symptoms 6 weeks and 1 year after their accidents. Participants' medical charts indicated that 47 received albuterol while they were in hospital.

As presented at the American Psychosomatic Society Annual Meeting, we found that participants receiving albuterol in hospital experienced less severe PTSD symptoms 6 weeks and 1 year after their accidents. More specifically, albuterol was associated with fewer re-experiencing (e.g., dreams about trauma, unwanted memories of trauma, flashbacks) and hyper-arousal symptoms (e.g., irritability, trouble falling and staying asleep, being watchful).

These exploratory findings suggest a possible role for albuterol as a secondary pharmacologic intervention to reduce/prevent subsequent PTSD symptoms. Further larger scale randomized studies are necessary to confirm these exploratory findings and to explore underlying mechanisms of these effects.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: March 13, 2008

New study supports the link between the endorsement of mainstream cultural values and decreased physiological and psychological health.

Baltimore, MD – Individuals who reported high endorsement of mainstream cultural values, such as materialism and individualism, were shown to have greater increases in blood pressure as well as decreased psychological well being. These findings are from a new study reported for the first time at the American Psychosomatic Society Annual Meeting, held March 13-16 in Baltimore, Maryland.

Prior research has shown that persons who subscribe to mainstream values, particularly materialism, tend to have increased diastolic blood pressure and report more neurotic and hostile personalities. To date, much of this research has been done on college samples in university settings. The new study drew participants from the surrounding community and represents the first time that this measure of mainstream culture (The Mainstream Orientation Questionnaire) has been investigated outside of student samples.

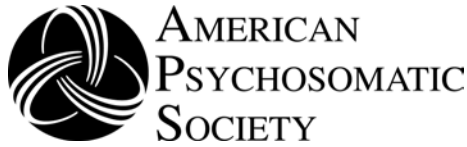
This study is part of the ongoing Minority Organ Tissue Transplant Education Program (MOTTEP) Stress and Psychoneuroimmunological Factors in Renal Health and Disease Study. A five year study, MOTTEP's aim is to identify and reduce the biological and psychosocial predictors of renal disease in the African-American community.

For this study, 214 African-American participants completed a battery of physiological, neurocognitive, and psychosocial assessments. Consistent with prior research, those who reported high endorsement of mainstream values were associated with higher levels of systolic and diastolic blood pressure. Psychologically, it was found that higher endorsement of mainstream culture is linked to increased levels of neuroticism and depression, and decreased levels of competence, values, trust and altruism. As in previous studies, those respondents with high endorsement of mainstream values were also shown to exhibit higher levels of hostility, which is known to be linked to coronary heart disease.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: March 13, 2008

The Biology of Poverty: Research Finds Low Income Impacts Key Health Indicators More Than Education or Unhealthy Behaviors

Yearly Incomes Less than \$20,000 Related to Systemic Inflammation Protein Levels in the Blood

BALTIMORE, MD – Among middle-aged and older Americans, annual incomes less than \$20,000 are related to biological markers of chronic disease, according to a new study presented at the American Psychosomatic Society Annual Meeting.

The research found that after taking health status and health behaviors into account, low annual income is related to high levels of three proteins – interleukin-6 (IL-6), C-reactive protein (CRP) and fibrinogen – in the blood. These proteins are markers for systemic inflammation and precursors to diseases such as cardiovascular disease, arthritis and Alzheimer’s disease.

The new study, which was supported by the National Institute on Aging, is the first to identify a number of specific links between socioeconomic status and health. The research found that low income had a more significant relationship with high levels of the proteins than low education. Previous studies have linked income and education to inflammation but have not compared their individual impacts.

In addition, the study found that IL-6 accounted for the association between income and both CRP and fibrinogen.

“These findings bring a sharper focus to the study of the relationship between poverty and health,” said study investigator Elliot Friedman, Ph.D., a psychologist and former Robert Wood Johnson Foundation Health & Society Scholar at the University of Wisconsin, Madison. “Poor health in low income populations is often attributed to unhealthy behaviors, like smoking or drinking, but these did not explain inflammation in this study. We may need to look in other directions, like stress.”

The research used data on 504 participants – averaging 56.9 years of age – from the national survey of Midlife in the United States (MIDUS) conducted between 2004 and 2006. Study participants filled out detailed questionnaires and underwent clinical tests at one of three regional study centers.

“A clearer picture of the biology of poverty will help us understand better how social position and health are linked,” said Friedman. “This in turn will help us to design more effective policies to improve the health of Americans.”

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Release from American Psychosomatic Society Meeting, Baltimore, Maryland

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Embargoed until: *March 13, 2008*

Stress, Anxiety, Depression, and Anger Linked to Greater Inflammation in HIV/AIDS

Baltimore, Maryland - Researchers at Duke University Medical Center and the University of Miami have linked stress, anxiety, depression, and anger with higher levels of inflammation in persons with HIV/AIDS. This finding may explain why chronic stress and negative emotions appear to hasten the progression of HIV. Their research was presented today at the American Psychosomatic Society Annual Meeting in Baltimore. “We know that greater psychological stress predicts faster HIV disease progression, as well as increased risk of cardiovascular illness,” says Jeff Greeson, PhD., a clinical health psychologist with Duke Integrative Medicine. “However, relatively little is known about the biological mechanisms that may explain how stress and negative emotions influence the development of these diseases. Our research suggests that higher inflammation levels may be one way in which upsetting thoughts and feelings ultimately speed up the progression of HIV and cardiovascular disease.”

In the study of 200 HIV-positive adults (66% were men), the researchers controlled for several factors already known to influence inflammation, including current disease severity, age, race, body mass index, medication regimen and substance use.

Dr. Greeson then noted that several measures of psychological distress, alone or in combination, were associated with greater blood levels of interleukin (IL)-6 and C-reactive protein (CRP), two inflammatory markers that predict faster HIV disease progression and a greater risk of future cardiovascular events, such as heart attack.

“The higher the levels of psychological stress, the higher the levels of IL-6, and that predicted higher levels of CRP,” explains Greeson.

“This study shows that inflammation is a viable mechanism linking stress and negative emotions with a greater risk of faster HIV progression and cardiovascular complications in people with HIV/AIDS,” he says. Therefore, findings support the notion that including stress management as a treatment approach for psychologically distressed patients with HIV could conceivably reduce inflammation, and hence slow disease progression.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

Contact: Melissa Schwarting
919-660-1303 or 646-295-3171
Embargoed until: *March 13, 2008*

Research Reveals Positive Expectations of Cardiac Patients Improve Survival Chances

Baltimore, Maryland – Cardiac patients who have pessimistic beliefs about their recovery are twice as likely to die early compared to those with more optimistic thoughts, according to researchers at Duke University Medical Center.

“This study is one of the first to examine how a patient’s attitude toward their disease impacts their health over the long term – and ultimately their survival,” said Dr. John C. Barefoot, who presented the data at the American Psychosomatic Society Annual Meeting. The new findings advance previous research, which concentrated on the impact of patient expectations on one’s ability to complete daily activities and comply with medical recommendations, by demonstrating that one’s outlook has an impact on physical health. To conduct the research, more than 2,800 patients with coronary disease were given a psychological questionnaire and asked to evaluate their expectations about the ability to recover from their illness and return to a regular routine. The study participants included those with at least one blocked artery.

In 2002, anywhere from six to ten years after the patients had enrolled in the study, 978 patients had died. Of those deaths, 66 percent were due to their coronary disease.

Barefoot explained that the higher risk of death remained consistent despite a range of factors, including the severity of the coronary disease, age, gender, income, depressive symptoms and the ability to complete routine tasks.

“These findings demonstrate the magnitude of the impact of patient expectations on the recovery process regardless of other psychological or social factors,” Barefoot said.

Further research will be needed to determine how positive expectations impact the disease survival. The researchers speculate that coping behaviors, such as following a doctor’s treatment plan, may contribute to an improved recovery. Another theory is that positive thoughts may lessen the damaging effects of stress on the body.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

Contact: Melissa Schwarting
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Embargoed until: *March 13, 2008*

African Americans and Heart Disease: The Role of Hostility and Blood Pressure Reactivity

Baltimore, Maryland – New research suggests that a cynical and suspicious personality contributes to greater fluctuations in blood pressure among African Americans but not Caucasians, a finding that could explain higher rates of heart disease in the African American community.

The Duke University Medical Center researchers said that previous studies have established both hostile personality traits and blood pressure variability as significant risk factors for the development of cardiovascular disease. This was the first study to look at them together.

“We wanted to learn how these two known risk factors are related, but we did not expect to see this racial difference,” said Dr. James D. Lane, who presented the data at the American Psychosomatic Society Annual Meeting. “In African Americans, higher levels of hostility were linked to larger fluctuations in blood pressure during normal daily activities, a relationship we did not see in Caucasians.”

The study included 152 healthy Caucasian and African American men and women between 18 and 55 years old. The study participants completed a questionnaire to determine hostility level and wore a monitor that measured blood pressure repeatedly throughout a typical day.

“This research supports the idea that how a person responds to stressful events in everyday life may contribute to their long-term risk for developing heart disease, especially for African Americans,” Lane said.

The Duke team said further research is needed to understand the mechanisms affecting the blood pressure variability and racial differences observed. Continued investigation could look into the effect of interventions, such as stress management techniques, to help reduce African Americans’ risk for developing heart disease.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

Contact: Laura Cousino Klein

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Embargoed until: March 13, 2008

Research from the Pennsylvania State University suggests that low levels of C-reactive protein, an immune marker of cardiovascular disease, may protect women, but not men, from stress-induced release of cortisol.

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Baltimore, Maryland - As presented at the annual meeting of the American Psychosomatic Society, we measured blood levels of C-reactive protein (CRP), an immune marker of cardiovascular disease, in 26 young, healthy men and women who had a biological parent being treated for high blood pressure to see how this immune marker influenced biological responses to stress. Participants (13 men, 13 women) completed a 3 and ½ hour laboratory session during which they rested and were asked to give a speech about a personal failure and perform mental arithmetic. Blood pressure and heart rate were measured throughout the laboratory session. Blood was drawn several times and tested for CRP and levels of the hormone cortisol, which is related to stress and health. The American Heart Association reports that CRP levels are associated with the risk of developing heart disease; low CRP levels (<1 mg/L) suggest low risk, average CRP levels (1-3 mg/L) suggest average risk, and high CRP levels (>3 mg/L) suggest a high risk. Our participants were young (18-24 years of age) and healthy. They were not allowed to participate if they had any health problems, including markers of heart disease such as elevated cholesterol and high blood pressure. Surprisingly, over half our participants were at risk for developing heart disease based on their CRP levels. These individuals also had elevated blood pressure levels during the study. CRP levels were associated with cortisol responses to stress for women, but not for men. Stress increased cortisol among women with average or high CRP levels. In contrast, women with low CRP levels displayed a dampened cortisol response to stress. These results suggest that low CRP levels may protect women, but not men, against the health damaging effects of stress-induced cortisol release, even when blood pressure increased in response to stress. These results tell us that we have more to learn about how the immune system, hormones, and blood pressure system work together to influence health and how these processes may be different for men and women.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: March 13, 2008

A new study suggests that positive feelings may contribute to greater longevity.

Baltimore, MD - Research presented at the American Psychosomatic Society Annual Meeting found scientific evidence that thinking and feeling positively may have physical health benefits, an idea that has often been considered unscientific or simply wishful thinking.

Investigators evaluated the relationship between emotional vitality and longevity in a prospective study of civilian, noninstitutionalized people. Emotional vitality was defined as a sense of positive energy, feeling engaged in life, and being able to manage emotions and behavior effectively. At the start of the study 6,879 adult men and women completed a questionnaire-based measure of emotional vitality, and deaths were then tracked over the next 20 years.

Individuals with the highest levels of emotional vitality had a 22% reduced risk of premature death relative to those with the lowest levels. These findings persisted even after considering various health-related characteristics such as age and gender, as well as levels of anxiety and depression. Finally, findings were unchanged after excluding anyone who died in the first 3 years of the study to rule out concerns that illness might cause both lower emotional vitality and early death.

This research indicates the potential gains of focusing more scientific attention on the biology of positive feelings. Moreover, it may be important for health promotion efforts to focus not only on preventing stress or depression but also on fostering a positive and flexible orientation toward life.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: *March 13, 2008*

***NEONATAL DEXAMETHASONE BUT NOT HYDROCORTISONE
TREATMENT OF PREMATURELY BORN CHILDREN CHANGES BEHAVIOR,
CYTOKINE BALANCE AND HPA-AXIS & CARDIO-VASCULAR STRESS
REACTIVITY AT SCHOOL AGE***

Baltimore, Maryland – In the intensive care unit each year a considerable number of prematurely born babies are treated with dexamethasone to prevent the child from developing chronic lung disease. In the Western world more than a million children have received dexamethasone so far. Studies now have shown that in the long term dexamethasone has negative effects on behavior and various bodily functions such as responses of the cardiovascular system to stress. These effects could be prevented when neonatologists used the glucocorticoid hydrocortisone instead of dexamethasone.

That is the finding of an extensive study by the University Medical Center Utrecht in the Netherlands. Researchers examined prematurely born children at the age of 7-10 years treated with dexamethasone or hydrocortisone and an untreated control group. They discovered that neonatal dexamethasone treatment influenced the immune system. Moreover, hormonal and cardio-vascular reaction to stressful situations of dexamethasone-treated children differed from the responses of the other two groups. Children treated with dexamethasone had more social problems and concentration deficits, were more often depressed and showed more rule breaking behavior.

Interestingly, none of the long term negative effects were observed in the hydrocortisone-treated children and in the untreated control group. The researchers therefore state that hydrocortisone may be a safe alternative for dexamethasone and advice against the use of dexamethasone for the treatment of chronic lung disease of prematurely born babies.

Currently the Department of Neonatology and the Laboratory of Psychoneuroimmunology of the University Medical Center Utrecht are preparing a follow up study to find out whether physical and mental deviations in dexamethasone-treated children worsen during puberty and if so, to examine the possibilities to prevent the development of disease that could become more manifest during adulthood.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: March 13, 2008

Research from the University of Pittsburgh suggests that meditation may help reduce pain

Baltimore, MD - Chronic pain is common among older adults. Unfortunately, many medicines used to treat pain cannot be taken by older adults due to side effects. Mind-body approaches like mindfulness meditation offer potential help for pain, without the use of medicine. In this study, we asked participants who had chronic low back pain to fill out a daily diary as they participated in an 8-week mindfulness meditation program. We then analyzed 27 diaries to identify common themes.

We identified several themes in the diaries. The first theme was decreasing pain through meditation. This was done by various methods, including distraction, increased body awareness leading to behavior change, emotion management, and direct pain reduction through meditation. As one participant stated, "I have known for years that distraction made me forget my pain to a great extent...with mindfulness I can concentrate on prayer, music, exercise, and probably many other things that distract me from the pain. This is something I did not realize on my own." The second theme was improved sleep after learning to meditate. One representative statement was, "Slept great after meditation" and "It has helped me to get back to sleep more readily when I awake at night." The third theme was achieving a sense of well-being through meditation. As one participant said, "When I finished the meditation I felt like a new person" and another stated, "This program has really changed my life. Because of the meditation, I not only have less back pain, I am more aware of my life and am learning to live it to the fullest."

These findings suggest that mindfulness meditation has promising potential as a non-pharmacologic treatment of chronic pain for older adults. As presented at the American Psychosomatic Society Annual Meeting.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

Contact: Nina Stoeckel

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Embargoed until: March 13, 2008

Research from Syracuse University suggests that violent and disordered neighborhoods contribute to hypertension in youth.

Baltimore, MD – Research has shown that health is related to socioeconomic status but the causes are poorly understood. Our research asked if youths exposed to neighborhood disorder and violence develop elevated blood pressure levels that increase risk of hypertension. One hundred and seventy four students in a multi-ethnic urban public high school (81 girls, 93 boys) in grades nine and ten completed a questionnaire asking how often they see or hear about events in their neighborhood related to social disorder (e.g., drug dealing, robberies) or violence (e.g., harm to family or friends). Later, they wore an ambulatory blood pressure monitor for two days to record pressure levels when awake or asleep. Students used an electronic diary to record their activities—including social interactions--when blood pressure was measured.

Results showed that adolescents who lived in more disordered and violent neighborhoods had higher blood pressure levels than their peers. Exposure to neighborhood stress thus may be one factor connecting socioeconomic status with health. The association differed slightly by gender. In girls, blood pressure levels were highest when interacting with others. In boys, levels were highest when not interacting. Perhaps gender differences in adolescents' social relationships affect how neighborhood environments affect cardiovascular health. The findings suggest the importance of reducing youths' exposure to stressful living environments.

This research was conducted as part of the Project Heart studies in Syracuse and Baltimore under the direction of Craig Ewart, Ph.D. (Principal Investigator), supported by a grant from the National Heart, Lung, and Blood Institute, of the National Institutes of Health.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: *March 13, 2008*

Who “hurts” the most in times of recession? Daily financial worries and chronic financial strain found to impact daily pain among female chronic pain sufferers.

Baltimore, Maryland - Financial difficulty can be a major form of stress for people with chronic pain conditions, particularly when pain affects one’s ability to earn a living, and when the cost of needed medical treatment is expensive. Women in particular are also more likely to have chronic musculoskeletal pain conditions, and may be more likely to experience financial difficulties. We interviewed 250 women with chronic pain conditions of fibromyalgia, osteoarthritis, or both, and asked them about their overall level of financial strain by asking whether they had difficulty in affording basic necessities such as food, clothing and shelter. We then asked them to fill out daily diaries every night for the next 30 days using laptop computers. To complete the diaries, they recorded their experiences during the day, including their level of pain, and whether different stressful events occurred, including how much they worried about their finances that day.

We found that chronic pain sufferers with higher levels financial strain reported higher levels of daily pain over the 30 days. On a day-to-day basis, women who were not working for different reasons (e.g., retired, pain disability) experienced more daily pain on days when they experienced more worries about finances.

The results of the study suggest that understanding the impact of economic factors on pain is important. Particularly for those who are not employed, these factors may be as important to acknowledge and address as biological and psychological factors affecting their pain. It also has implications for public policies directed toward creating work opportunities for those with chronic pain, and for developing effective treatments for pain that are affordable to all those who need them.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: *March 13, 2008*

Research from the University of British Columbia suggests that the presence of routines in the homes of youth with asthma may improve the disease outcomes of these youth.

Baltimore, Maryland – We assessed the relationship between the level of family routines, socioeconomic status and asthma-related immune measures among 73 youth between the ages of 9 and 18 years. All our participants had physician-diagnosed asthma and visited our lab together with a parent. We asked their parents about their yearly income to determine their socioeconomic status and asked them to fill out two questionnaires assessing the level of routines present in their family’s daily life (for example, whether all family members usually eat together or whether the parents set aside specific periods of time to spend with their children.)

Our participants came into the lab four times over 18 months. We obtained blood as well as saliva samples from all youth as part of each visit and measured the levels of cytokines (proteins that are involved in inflammation, form a part of our immune system and are typically found at higher levels in the respiratory tracts of individuals with asthma) and cortisol (a hormone thought to be released when an individual experiences stress) in these respective samples.

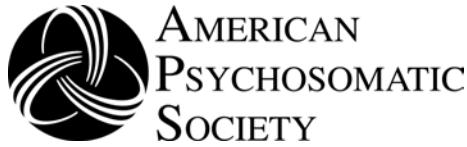
Overall, greater levels of chaos in the family, i.e. the presence of fewer routines, were related to worse immune and cortisol outcomes. As for the impact of socioeconomic status, we found that among youth coming from a high socioeconomic status background, the amount of routines in the family did not differentially impact youths’ asthma. However, among youth coming from a low socioeconomic status background the presence of routines in the family appeared to act as a buffer, resulting in these youth having immune profiles indicative of less severe asthma than their counterparts coming from families with relatively fewer routines.

This points to the importance of taking into account the social environment of youth with asthma when managing their illness. Focusing also on the family environment in the homes of youth with asthma may prove to be a useful addition to the standard treatment regimen for asthma.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: March 13, 2008

Researchers from Switzerland and from Atlanta GA, USA, found that intimacy in couples' everyday life is associated with reduced stress hormone levels

Baltimore, MD - We were interested if intimate physical interactions in couples' everyday life might be related with reduced hormone stress levels.

For this study, 51 couples reported time spent on intimacy, during several measures a day over the course of six days. In addition, all participants provided information on their mood during different times of the day and on chronic work stress. We also assessed levels of the stress hormone cortisol in saliva in all participants during six times of the day on all six days.

Our data suggest that intimacy was significantly associated with reduced daily stress hormone levels. Above this, intimacy seems to buffer (reduce) the negative effects of work stress on cortisol levels in the couples. This effect was mediated by positive mood in our subjects.

In combination with recent laboratory research from our group, these data let us to conclude that intimate couple interactions in everyday life might reduce hormonal stress levels and thus might have a beneficial effect on health. However, the fact that the effect was mediated by our subjects' positive mood suggests that not intimacy per se but rather positive and affectionate couple interactions might be associated with reduced stress hormone levels.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

Contact: Nadine Bekkouche
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Embargoed until: March 13, 2008

Research from the Montreal Heart Institute suggests that post-menopausal women are more likely to report chest pain than pre-menopausal women, for the same amount of heart disease.

Baltimore, Maryland – As presented at the American Psychosomatic Society Annual Meeting, we asked a sample of 269 women who were presenting to the Nuclear Medicine Department of the Montreal Heart Institute for an exercise stress test to provide information about menopausal status, hysterectomy, and hormone therapy use. Their standard exercise test provided information about the presence of myocardial ischemia (a lack of blood flow to the heart that is associated with a high risk of having a heart attack) and chest pain of probable cardiac origin.

We analyzed the data using the three hormonal markers and looked at their respective effects on ischemia and chest pain. What we found was that for the same amount of ischemia, post-menopausal women were nearly 7 times as likely to report pain as pre-menopausal women. Also, interestingly, women who had undergone hysterectomy seemed to be a little less likely to have ischemia, though there was not here any relationship to pain. Another interesting suggestion of this research has to do with the effects of hormone therapy. We did not find a direct relationship between hormone therapy and either pain or ischemia.

These results suggest that the relationship between menopausal status and pain indicates that pre-menopausal women should not rely on pain symptoms to reflect their CVD risk. These women and their physicians should be attentive to other symptoms that could indicate that they might be at risk of heart disease.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

Contact: Dr. Petra H. Wirtz
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Embargoed until: March 13, 2008

Research from the University of Zurich suggests that mental stress increases coagulation activity in the elderly which might increase vulnerability for subsequent diseases like coronary heart disease.

Baltimore, MD – Older individuals have an increased coagulation and it is known that mental stress increases coagulation. We wanted to investigate whether mental stress further increases coagulation with increasing age.

63 medication-free non-smoking men aged between 20 to 65 years of age (with at least one person per each 2 age years) underwent an acute mental stress test. The stress task consisted of a 5-min mock job interview and a 5-min mental arithmetic in front of a panel of one man and one women. We collected blood samples immediately before and after, and 20 min after the stress test to measure the coagulation parameters clotting-factor-VII, fibrinogen, and D-dimer.

We found that with increasing age our participants showed greater increases in fibrinogen, clotting-factor-VII, and D-dimer from rest to 20 min after stress. Older individuals had higher fibrinogen and clotting-factor-VII levels before and after stress with comparable stress increases. In terms of D-dimer, mental stress additionally induced greater increases in older individuals.

This suggests that acute stress might increase vulnerability in the elderly for hypercoagulability and subsequent diseases like coronary heart disease.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Embargoed until: March 13, 2008

Circulating Levels of Pro- and Anti-Inflammatory Cytokines in School Teachers with Burnout Symptoms

Baltimore, MD - The burnout syndrome as a consequence of chronic job strain has gained considerable attention in the working community. School teachers are known to run a high risk of burnout, which in turn, could contribute to the increased risk of cardiovascular diseases and heart attacks. We assessed symptoms of burnout, namely subjectively experienced emotional exhaustion, feelings of cynicism towards students, and low accomplishments at work in 167 school teachers from Germany and Luxembourg. The average age of teachers was 48 years and two thirds were women. All teachers completed a widely used questionnaire, i.e. the Maslach Burnout Inventory, to rate their level of burnout. In addition, we obtained blood to measure markers of inflammation in the plasma of these teachers applying standard laboratory procedures. It is important to note that elevated inflammatory activity is now a recognized cornerstone mechanism in the processes damaging blood vessels, thereby ultimately leading to a heart attack. As hypothesized, we found that teachers with relatively higher levels of burnout symptoms had relatively greater inflammatory activity in their blood. This relationship was independent of a series of demographic factors, life style variables, and medical conditions, all of which could also affect inflammation. Our data suggest that individuals with a burnout syndrome might endorse heightened inflammation activity in relation to chronic stress imposed by the working environment. This psychobiological link is intriguing as it might partially explain why the risk of experiencing a heart attack is increased in individuals with a burnout syndrome.

Propranolol and Aspirin Attenuate the Stress-Induced Increase in the Plasma Von Willebrand Factor Concentration: A Randomized Double-Blind Placebo-Controlled Experimental Study

Baltimore, MD - Acute mental stress imposed by traumatic events like earthquakes, missile attacks and the death of a loved one is now a well recognized trigger of a heart attack. The psychobiological mechanisms leading from intense stress to a heart attack are fairly well understood. One important mechanism is rapid thickening of the blood and clotting of coronary arteries under acute stress. The von Willebrand factor is a protein that is rapidly released from cells into the blood stream when an individual experiences acute mental stress. Because the von Willebrand factor is so important in mediating platelet stickiness to lesions of the coronary vessel wall during a heart attack, the absolute stress-induced increase in plasma levels of the von Willebrand factor is thought to contribute to the seriousness of a heart attack. We investigated whether 5-day treatment with two cardiovascular drugs – aspirin (100 mg per day) and a beta blocker (inderal 80 mg per day) – might attenuate the stress response of the von Willebrand Factor in 57 apparently healthy subjects. The stress paradigm applied a standardized speech task followed by a mental arithmetic of totally 15 minutes. We found that both drugs significantly attenuated the increase in the plasma von Willebrand factor concentration from immediately before stress to 45 minutes after stress termination compared to placebo medication. These results lead us to conclude that aspirin and beta adrenergic blockade might exert some protection from the development of stress-triggered blood clotting and related heart attacks.

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Release from American Psychosomatic Meeting, Baltimore, Maryland

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Research from the University of Pittsburgh and the University of Southern Maine suggests that pharmacologic enhancement of serotonin may reduce blood pressure and heart rate among hostile adults.

Baltimore, Maryland – Hostility is associated with hypertension and coronary heart disease risk. Deficits in serotonin may serve as a physiological pathway linking hostility to disease outcome. The purpose of the current study was to examine the effects of the selective serotonin reuptake inhibitor, Citalopram, on resting blood pressure and heart rate in a sample of adults selected for high scores on two hostility assessments.

160 healthy adults (50% women; 30-50 yrs old) were recruited to participate in the Stress Treatment and Health Response Study at the University of Pittsburgh. Participants were evaluated as free from any chronic medical or psychiatric condition at the beginning of the study. Resting blood pressure and heart rate assessments took place prior to and following 2 months of drug exposure and consisted of 5 6-minute periods averaged for each participant. Following the initial assessment of resting heart rate and blood pressure, participants were randomly assigned to drug treatment groups of Citalopram (40 mg, fixed flexible dose, 81 participants) or placebo (79 participants).

139 participants (87% of randomized sample) completed both pre and post assessments of blood pressure and heart rate, with 72 participants in the Citalopram group and 67 participants in the placebo group. Results revealed that Citalopram treatment was linked to significant reductions in diastolic blood pressure (approximately 2 mmHg) and heart rate (approximately 6 bpm) relative to the placebo group, who displayed non-significant changes on these measures.

These findings suggest that enhancement of serotonin activity by Citalopram treatment may reduce resting cardiovascular activity, results with potential preventative implications for hostile populations.

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Research from Yeshiva University and Holy Name Hospital suggests that mental health in people with MS may be higher as they age.

Baltimore, Maryland - While researchers investigating factors associated with mental health in individuals with multiple sclerosis (MS) have obtained different results, many report that those with MS for a longer time have better mental health than those with MS for a shorter time, regardless of illness severity. One explanation for this is that people with MS adapt over time. While most research focuses on younger individuals, our study examined older individuals. Seventy-nine adults with MS completed a telephone interview about their mental health and physical functioning. We divided them into three categories reflecting developmental stages: (1) midlife transition (ages 35-49), (2) midlife through late adult transition (ages 50 – 64), and (3) late adulthood (ages 65 and above). We found that the young group generally had MS for a shorter time (though duration differed in the groups because people can be diagnosed at any age) and had less physical impairment than the other groups. After taking into account the duration of MS and physical disability, the older group had higher mental health scores than the middle group, but not the young group. That is, regardless of the duration of MS and the degree of physical impairment, older people had better mental health than middle aged individuals. These results suggest that mental health in older individuals may not reflect adaptation to MS. Rather, aging itself may enhance perceptions of mental health. We suggest, based on results of an earlier study, that as individuals with MS age, they benefit from comparing themselves to same-age peers who are experiencing symptoms of age-related illnesses. As a result, the older individual with MS is again “on-par” with peers.

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