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Systolic Blood Pressure And Effects On Threat Appraisal And Risk Behavior

Creative Inquiry
CLEMSON

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Introduction

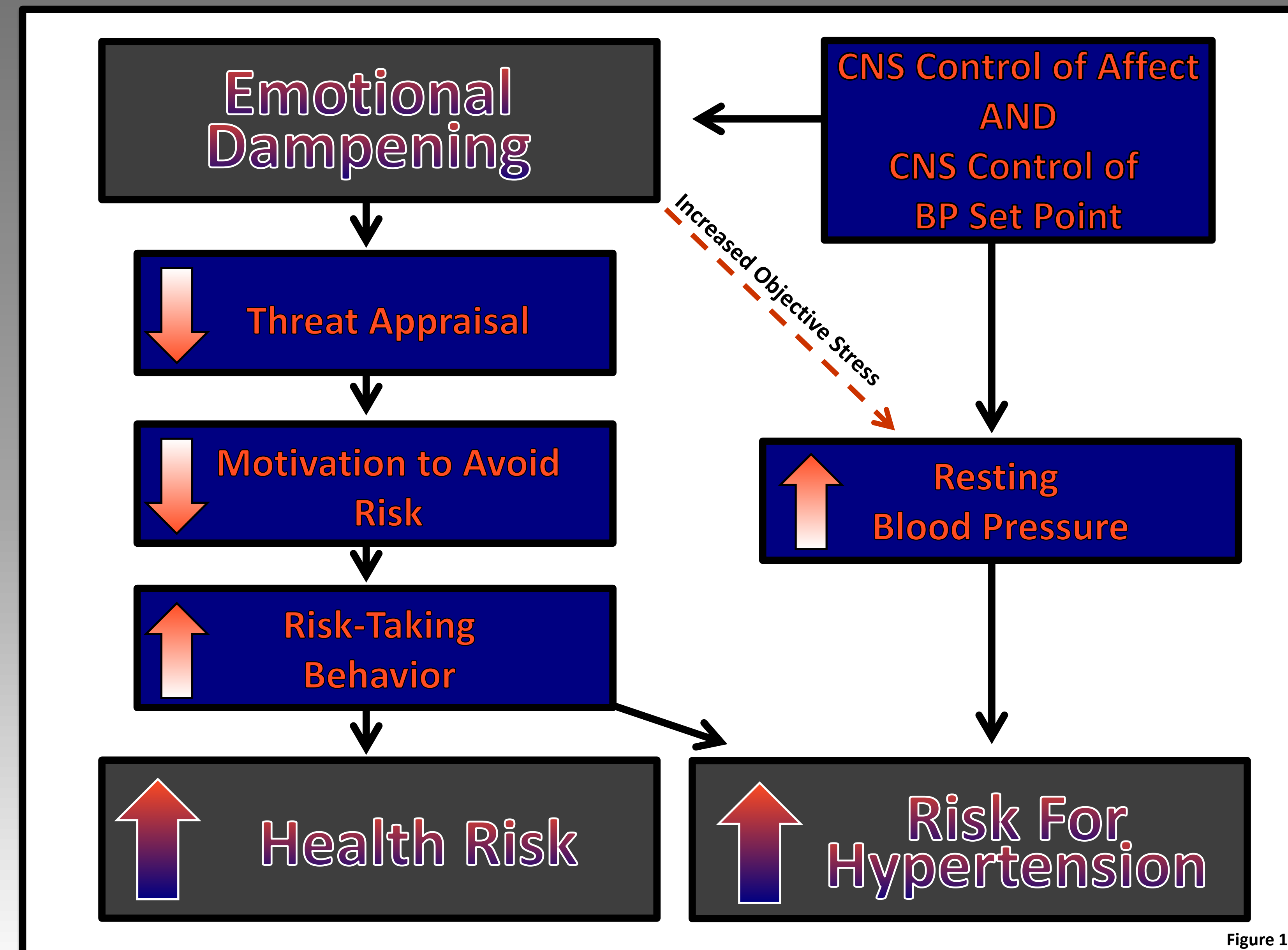
According to Lazarus' transactional model of stress (left side of Figure 1) individuals will appraise the threat and then select coping efforts based on the social and cultural resources accessible. Cardiovascular Emotional dampening is the correlation between hypertension (high blood pressure) and reduced emotion recognition skills believed to be caused by a central nervous system imbalance. We believe that this imbalance may affect other areas of appraisal including identifying and understanding risk behavior.

Methods

Resting systolic blood pressure (mmHG) and risk behavior score was taken in 88 healthy young adults. Blood pressure was recorded over two, eight minute resting periods, one at the beginning of the study, and one at the end using a GE Dinamap Pro 100v2. Risk behavior was assessed using a modified Youth Risk Behavior Survey that gauged activity in various risky categories. Questions appealing to those under 18 years old were eliminated based on the participant age range. Total risk was assessed on a scale of 0-1 where 1 represents the most risk-prone person and 0 represents the least risk prone person.

Results

The 42 men had significantly higher systolic blood pressure (118.8 +/- 2.02) than the 41 women (106.2 +/- 2.42; $p < .001$). Men also had marginally higher risk scores (.461 +/- .0255) than women (.400 +/- .01836; $p = .059$). Risk behavior was positively correlated with systolic blood pressure ($r(83) = .368$, $p < .001$). The correlation between systolic blood pressure and risk taking behaviors also approached significance in males but was not significant ($r(83) = -.203$, $p < .058$). Systolic blood pressure however did not show any significant interaction with gender for prediction of risk.



Modified Risk Behavior Survey Category Examples



Discussion

The results indicate that the young adults who may be at risk for hypertension later in life partake in more risky behavior as seen in figure 2. According to Lazarus's model as outlined on the left side of Figure 1, emotional dampening leads to decreased threat appraisal, which leads to a decreased motivation to avoid risk, which then leads to an increase in risk taking behavior. Furthermore, people with increased resting blood pressure early in life are at a greater risk for hypertension later in life.

If this increase in risk taking behavior is bidirectionally connected to a central nervous system imbalance that also effects the resting BP setpoint and general affect (as shown in Figure 1), a treatment for one of these issues may correct the root imbalance and proactively lower the risk for hypertension later in life. Considering hypertension is a significant risk factor for coronary heart disease, and that coronary heart disease is the number one killer of men and women in the United states, this proactive treatment could save lives.

