

## Anger expression and essential hypertension Behavioral response to confrontation

Kevin T. Larkin\*, Claudia Zayfert

*Department of Psychology, West Virginia University, PO Box 6040, Morgantown, WV 26506-6040, USA*  
*Department of Behavioral Medicine and Psychiatry, West Virginia University, Morgantown, WV 26506-6040, USA*

Received 10 May 2002; accepted 4 March 2003

### Abstract

**Objective:** The purpose of this study was to examine the range of anger-expressive behaviors and social competencies among essential hypertensive patients. **Methods:** Behavioral reactions to both neutral and anger-evoking role-play interactions were measured in 26 hypertensive and 15 normotensive patients. Social behaviors were assessed using self-report measures of anger expression, assertiveness, self- and other-ratings of social competence and behavioral measures of anger expression observed during role-play interactions. **Results:** Hypertensive patients

showed less eye contact, used fewer positive assertive statements and were rated as being less assertive during confrontational role-play scenarios than normotensive controls. Hypertensive patients also exhibited higher pulse pressure reactions to confrontation than normotensives, particularly hypertensive patients who expressed anger overtly. **Conclusion:** Essential hypertension is associated with specific social skill deficits that are only apparent during the assertive expression of anger.

© 2004 Elsevier Inc. All rights reserved.

*Keywords:* Anger; Anger expression; Assertiveness; Cardiovascular reactivity; Essential hypertension; Eye contact

### Introduction

Since Alexander [1] first postulated psychosomatic explanations for medical problems, the psychological construct of “suppressed hostility” has been associated with the condition of essential hypertension. Because measurement of intrapsychic phenomenon like suppressed hostility has proven difficult, most empirical work in this area has focused upon the behavioral expression of anger or assertiveness (see Refs. [2,3]). “Suppressed hostility” is typically inferred when individuals display submissive or less aggressive social behaviors in confrontational or anger-provoking situations. The direction of the relation between anger expression and essential hypertension, however, has not been clear. In some investigations, patients with essential hypertension have exhibited fewer aggressive and more submissive behaviors than nonhypertensive patients (e.g., Refs. [4,5]), and in other studies, hypertensives have displayed more aggressive

behaviors than normotensives (e.g., Refs. [6,7]). Mixed findings of this nature led Harburg et al. [8] to suggest that both “inappropriate submissiveness” and “inappropriate assertiveness” may play a role in hypertension, depending on situational (e.g., current stressors) and individual factors (e.g., age) (p. 199).

This curvilinear hypothesis has led several researchers to examine whether overly submissive hypertensive patients represented a different form of essential hypertension than overly aggressive hypertensive patients (e.g., Refs. [9,10]). In particular, it was hypothesized that these two behavioral patterns may be associated with distinct physiological profiles that contributed to elevations in blood pressure. For example, Esler et al. [9] found that high-renin hypertensives exhibited more submissive behaviors consistent with “suppressed hostility” compared to low-renin hypertensives and normotensive controls. Morrison et al. [10] suggested that hypertensive patients’ style of anger expression may be associated with distinct patterns of cardiovascular reactivity to stress. They found that hypertensives characterized by large pulse pressure reactions during confrontation (suggestive of greater myocardial responses) exhibited significantly more overt aggressive behaviors during a role-play interaction relative to normotensives and low pulse pressure

\* Corresponding author. Department of Psychology, West Virginia University, PO Box 6040 Morgantown, WV 26506-6040, USA. Tel.: +1-304-293-2001x31668; fax: +1-304-293-6606.

E-mail address: klarkin@mail.wvu.edu (K.T. Larkin).

reactive hypertensives. Hypertensive patients who showed low pulse pressure reactions to confrontation (suggesting a greater contribution of peripheral vascular resistance to their cardiovascular reactions) were rated as more submissive during role-play interactions than either high pulse pressure reactive hypertensives or normotensive controls. These findings supported the contention that essential hypertensive patients constitute a heterogeneous population consisting of subgroups of patients who differ in both their behavioral and psychophysiological responses during confrontation.

The purpose of the present investigation was to further explore the relation between anger expression and hypertensive status. In addition, this study addressed whether cardiovascular reactivity during confrontation among hypertensive patients corresponded to predictable patterns of behavioral expression of anger during confrontational role-play interactions. Behavioral responses of hypertensive patients were compared with normotensive control subjects during both neutral and confrontational interpersonal interactions; self- and other-reported measures of social competence were also measured. We hypothesized that hypertensive patients would exhibit less assertive behavior and social competence than their normotensive counterparts. We expected that these differences would be more apparent during the confrontational interpersonal interactions that encouraged the expression of anger than the neutral interpersonal interactions.

## Method

### *Subjects*

A total of 26 patients with essential or borderline essential hypertension and 15 normal blood pressure controls, ranging in age from 22 to 61 years ( $M=39.3 \pm 11.07$  years), volunteered and gave informed consent to participate in this investigation. There were 22 female participants, and the remaining 19 were males; all participants were Caucasian except for one African American participant in each group. There were no significant differences between hypertensive and normotensive samples with respect to age, gender distribution or ethnicity. Sample size was larger for hypertensive patients to permit subgroup analyses between “submissive” and “expressive” hypertensive patients as done in previous research [8,10]. Among hypertensive subjects, 15 had casual blood pressures in the sustained hypertension range (i.e., greater than 160/95), seven had elevated pressures in the borderline hypertensive range or high normal range (i.e., blood pressures between 140/85 and 160/95) and four had blood pressures in the normal range as a result of antihypertensive therapy but had reported sustained high arterial pressures prior to commencing treatment. Patients with known cardiovascular disease, diabetes mellitus or significant psychiatric impairment were excluded from the study. For the purposes of the present investigation, all normotensive and 15 of the hypertensive subjects were

unmedicated; the remaining 11 hypertensives were on a stable dose of an antihypertensive medication throughout the duration of the investigation. Each volunteer participated in three to four weekly casual blood pressure measurement sessions (to confirm diagnosis of essential hypertension) and a single laboratory assessment session, which typically occurred immediately following the final casual blood pressure measurement session.

### *Cardiovascular measures*

During casual blood pressure measurement sessions, auscultatory readings of systolic (SBP) and diastolic (DBP) blood pressure were obtained using a standard occluding cuff and stethoscope. Blood pressure determinations were made by a trained technician after 10, 15 and 20 min of quiet rest during each measurement session. During the laboratory assessment session, SBP and DBP were measured using an IBS (Industrial and Biomedical Sensors, Waltham, MA) automated blood pressure cuff attached to the subject's non-dominant arm. This apparatus employed a pressure sensor embedded in a self-inflating/self-deflating arm cuff, which detected Korotkoff sounds and transmitted the information to a microprocessor where values were digitally displayed. Measures of SBP and DBP were obtained every 2 min during rest and task periods. In addition, during the laboratory assessment session, heart rate (HR) was assessed via three surface electrodes attached to the subject's nondominant arm and contralateral leg. Electrocardiographic signals were transmitted to a Grass Model 7 polygraph (Quincy, MA) and charted for later analysis. Pulse pressure (PP) was calculated by subtracting IBS-derived indices of DBP from SBP. Four hypertensive patients taking antihypertensive medication that affected cardiovascular reactivity were excluded from analyses of cardiovascular reactivity and data on two normotensive patients were lost due to equipment malfunction.

### *Experimental tasks*

The laboratory session consisted of two task periods of approximately the same duration: (a) a neutral role-play interaction; and (b) a confrontational role-play interaction. Each role-play interaction consisted of a series of four vignettes presented in a fixed order in which the subject was instructed to “act as though this interaction was actually occurring.” The content of each scene was determined through extensive pilot research that focused on selecting scenes that were relevant, possible to role-play realistically in the laboratory, and were amenable to using standardized verbal prompts by a confederate. After being introduced to a same-sex confederate, a brief description of the scene was provided via audiotape and was followed by a standard prompt delivered by the confederate. The subject's response was then followed by a second and finally a third standard prompt stated by the confederate. Following the subject's response to the final prompt, the interaction was terminated,

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات