Experimental Aging Research: An International Journal Devoted to the Scientific Study of the Aging Process
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/uear20

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Kathi L. Heffner [a] , Paul G. Devereux [b] , H. Mei Ng [c] , Amy R. Borchardt [c] & Karen S. Quigley [d]

[a] The Rochester Center for Mind-Body Research, Department of Psychiatry , University of Rochester Medical Center , Rochester , New York , USA

[b] School of Community Health Sciences , University of Nevada, Reno , Reno , Nevada , USA

[c] Department of Psychology , Ohio University , Athens , Ohio , USA

[d] Department of Psychology , Northeastern University, and Edith Nourse Rogers Memorial Veterans Hospital , Bedford , Massachusetts , USA

Published online: 19 Feb 2013.

Experimental Aging Research, 39: 162–178, 2013

ISSN: 0361-073X print/1096-4657 online
DOI: 10.1080/0361073X.2013.761547

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Kathi L. Heffner

The Rochester Center for Mind-Body Research, Department of Psychiatry, University of Rochester Medical Center, Rochester, New York, USA

Paul G. Devereux

School of Community Health Sciences, University of Nevada, Reno, Reno, Nevada, USA

H. Mei Ng
Amy R. Borchardt

Department of Psychology, Ohio University, Athens, Ohio, USA

Received 23 April 2010; accepted 25 April 2012.

This study was partially supported by National Institute on Aging grants 1R03AG019908 and R24 AG031089-01, a VA Health Services Research & Development grant (IIR-02-296), and a grant from the University of Nevada, Reno, Junior Faculty Research Grant Fund. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of NIA, NIH, the Department of Veterans Affairs, or the University of Nevada, Reno. The authors wish to thank the research participants and directors of the senior residences who made this research possible. The authors also thank Brenda Gosser for her invaluable help with data collection and management.

Address correspondence to Kathi L. Heffner, The Rochester Center for Mind-Body Research, University of Rochester School of Medicine and Dentistry, 300 Crittenden Boulevard, Rochester, NY 14642, USA. E-mail: Kathi_Heffner@URMC.Rochester.edu

Karen S. Quigley

Department of Psychology, Northeastern University, and Edith Nourse Rogers Memorial Veterans Hospital, Bedford, Massachusetts, USA

Background/Study Context*: Vascular and myocardial activation can each increase blood pressure responses to stressors, but vascular responses are uniquely associated with negative affect, pernicious coping processes, and cardiovascular risk. These hemodynamic correlates of coping in response to acute stressors have not been well characterized in older adults.*

Methods*: Adults 65 to 97 years of age (*N = 74*) either engaged in written disclosure about a distressing event (acute stressor) or wrote objectively about a neutral topic (control). Blood pressure, impedance cardiography, and affect measures were assessed at baseline and in response to writing. Moderating effects of age on affect, blood pressure, and vascular and myocardial responses to the acute stressor were tested using multiple linear regression models.*

Results*: Follow-up tests of Age × Writing Group interactions indicated that the expected effects of written disclosure on systolic and diastolic blood pressure responses were diminished with increasing age. Regardless of age, compared with neutral writing, written disclosure increased negative affect and vascular responses, but not myocardial responses.*

Conclusion*: Blood pressure responses to an acute, emotionally evocative stressor were indistinguishable from blood pressure responses to a control condition among the eldest older adults in our sample. In contrast, characterizing the hemodynamic mechanisms of blood pressure responses revealed notable vascular effects of the acute, emotional stressor across a wide age range. Such characterization may be particularly useful for clarifying the psychophysiological pathways to older adults' cardiovascular health.*

Psychophysiological studies of cardiovascular reactivity can illuminate pathways through which stress and coping influence incidence and progression of cardiovascular (CV) disease. Research guided by biopsychosocial models of active and passive coping (Obrist, 1981) and challenge and threat (Blascovich, Mendes, Tomaka, Salomon, & Seery, 2003) suggests that both situational and individual differences in coping resources affect cardiovascular responding in distinct ways that may, in turn, differentially affect cardiovascular risk. Yet, there has been little attention paid to these psychophysiological pathways in older adults for whom the incidence of cardiovascular disease is substantial (Arnold et al., 2005; Driver, Djousse, Logroscino, Gaziano, & Kurth, 2008; Haan et al., 1996).

Passive coping situations, in which people have little or no control over outcomes, typically result in acute increases in blood pressure as a result of constriction of peripheral blood vessels (Hartley, Ginsburg, & Heffner, 1999; Obrist, 1981; Sherwood, Dolan, & Light, 1990). Vascular constriction is also observed when an individual perceives greater threat relative to coping resources, regardless of whether or not control is afforded by the situation (Heffner, Ginsburg, & Hartley, 2002; Quigley, Barrett, & Weinstein, 2002; Tomaka, Blascovich, Kelsey, & Leitten, 1993). Moreover, vasoconstriction increases when people respond to stressors with increased negative affect (e.g., Sinha, Lovallo, & Parsons, 1992). In contrast, controllable, active coping situations (Hartley et al., 1999; Obrist, 1981; Sherwood, Dolan et al., 1990), and perceptions of "challenge"—that is, perceiving that one has coping resources sufficient to meet the demand—are associated with blood pressure increases due primarily to enhanced myocardial function (Heffner et al., 2002; Quigley et al., 2002; Tomaka et al., 1993). Heightened blood pressure reactivity to acute stressors itself predicts poor cardiovascular outcomes (Treiber et al., 2003), but evidence further suggests that heightened blood pressure due to vascular constriction has particularly negative cardiovascular health implications (Ottaviani, Shapiro, Goldstein, & Mills, 2007; Sherwood & Turner, 1995; Steptoe & Marmot, 2005).

The majority of findings characterizing these distinct psychophysiological processes are from studies of younger adults, and relatively few studies have evaluated vascular and myocardial mechanisms in older adults (e.g., Jennings et al., 1997; Pugh & Wei, 2001; Uchino, Uno, Holt-Lunstad, & Flinders, 1999). Given age-related changes in cardiovascular responses to acute stressors (see Uchino, Birmingham, & Berg, 2010, for review), as well as changes in cognitive capacity and emotion regulation across the life span (e.g., Labouvie-Vief, 2003), the generalizability of these psychophysiological processes to older adults is unclear. It is therefore worthwhile to examine psychophysiological mechanisms of blood pressure responses across a wide age range of older adults.

Using data from a study of older adults' coping and health, we examined the effects of an emotionally evocative stressor, written disclosure (Pennebaker, 2003), on blood pressure responses, and the vascular and myocardial mechanisms of those responses, in adults 65 years of age and older. Written disclosure heightens physiological arousal and negative affect (e.g., Epstein, Sloan, & Marx, 2005; Sloan

& Marx, 2004), but studies have been limited to younger adults, and the mechanisms of blood pressure response during writing are unknown. We hypothesized that among older adults, written disclosure, compared with writing about neutral topics, would lead to larger increases in blood pressure primarily due to vascular constriction, indexed by total peripheral resistance (TPR; Sherwood, Dolan et al., 1990). In light of age-related increases in blood pressure reactivity to acute stress (Uchino et al., 2010), we also examined whether age moderated the effects of written disclosure on blood pressure, TPR, and an index of myocardial activity, cardiac output (CO; Sherwood, Dolan et al., 1990) in older adults.

MATERIALS AND METHODS

Participants

Seventy-four adults 65 years of age or older and without evidence of dementia (evaluated by a clock drawing task (CLOX1 scores >10; Royall, Cordes, & Polk, 1998) were recruited from the community for a study of stress and coping in older adulthood.[1] The resulting sample was 65 to 97 years of age ($M = 75.89$ years, $SD = 7.91$), the majority was female (74.7%), 93.3% were White, and non-Hispanic, 2.7% were American Indian or Alaskan Native, 1.3% were Hispanic or Latino, and 1.3% were Black or African American. Participants were paid $20 for participation in 4 study sessions comprising the larger study. The current study uses data collected during the first study session. The research was approved by the Institutional Review Board of the University of Nevada, Reno, and all participants gave their informed consent prior to inclusion in the study.

Self-report Measures

Participants reported current health status, including presence of cardiovascular disease, history of cardiac events, hypertension, prescribed medication use, and other chronic diseases. Positive and negative affect were measured using The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) prior to and after writing.

[1]The CLOX1 was introduced after the initiation of the larger study; 30 participants in the current sample did not complete the CLOX1.

Cardiovascular Measures

Basal thoracic impedance (Z0), its first derivative (dZ/dt), and the electrocardiogram (ECG) were obtained using a BoMed NCCOM3-R7 impedance cardiograph (ICG; BoMed Medical Manufacturing, Irvine, CA) and an 8–disposable, pregelled, Ag/AgCl spot electrode arrangement in accordance with published guidelines (Sherwood, Allen et al., 1990). An internal processor in the BoMed derived and then output to disk heart rate (HR), stroke volume (SV), and CO (calculated as SV $\times$ HR) from the Z0, dZ/dt, and ECG analog signals recorded by the electrodes (see Hartley et al. [1999] for further details).

Systolic (SBP), diastolic (DBP) and mean arterial (MAP; used in the derivation of TPR, where TPR $=$ [MAP/CO] $\times$ 80) pressures were assessed every 2 min (Shapiro et al., 1996) with a Sentron automatic, oscillometric blood pressure (BP) monitor (Bard Biomedical Division, Lombardi, IL) with the occlusion cuff placed over the brachial artery on the upper arm of the nondominant hand.

Writing Task

The written disclosure paradigm used in this study was previously adapted for older adults (Klapow et al., 2001). Participants were asked to "write about your deepest thoughts and feelings about the most distressing experience in your life. The experience could be something that happened in the past or is happening right now." Participants in the neutral topic group were instructed to write objectively about their plans for the day (Greenberg & Stone, 1992). All participants were asked to write for 15 min, to not worry about grammar or punctuation, and to repeat what they had already written if they ran out of things about which to write. The piece of paper containing the instructions was left with the participant during the writing task.

Procedures

Study sessions were conducted either at a university laboratory (62.7%) or in a private setting at senior housing centers; procedures were identical. After informed consent, the electrodes and the BP cuff were attached. During a 20-min adaptation period, the participant completed questionnaires and then sat for a 5-min rest period while baseline cardiovascular measures were recorded. She or he was then randomly assigned to the written disclosure or neutral topic condition, received the respective writing instructions, and wrote for 15 min. Physiological measures were recorded throughout the rest period and writing task, during which time the experimenter remained behind a portable curtain, out of sight of the participant.

Data Analysis

SBP, DBP, TPR, and CO values were averaged across the 5-min baseline and across the 15-min writing task to evaluate average reactivity across the task. Baseline differences were tested via analysis of variance (ANOVA) for each cardiovascular measure. Reactivity scores were calculated (task value−baseline value) for each measure and served as dependent variables in the analyses.

Demographic and health status differences by writing group were tested using chi-square or independent *t* tests. Effects of writing on BP, TPR, and CO reactivity, and moderation by age, were examined using multiple regression analyses separately for each dependent measure. Predictors were mean-centered. Our regression models predicting each cardiovascular reactivity measure included the corresponding baseline measure, age, writing group (disclosure versus neutral topic), and the Age × Writing Group interaction term ($\alpha = .05$).

Two-way interactions were evaluated using two methods. First, we conducted simple slopes analyses (Aiken & West, 1991; Cohen, Cohen, West, & Aiken, 2003) examining the effects of writing groups at the mean age of the sample (75.72 years), and 1 *SD* above (83.56 years) and below (67.91 years). Next, to more precisely examine age ranges for which written disclosure may affect reactivity, we determined regions of significance (Potthoff, 1964; Preacher, Curran, & Bauer, 2006; Rogosa, 1981) using a Web-based software (http://quantpsy.org/interact/index.html). This technique specified the range of the moderator (i.e., age) for which the slope of the physiological variable regressed onto writing condition was significantly different from zero (i.e., where the treatment had an effect). Significant main or moderated effects of writing were also followed by paired *t* tests with Bonferroni adjustments to assess the difference between baseline and writing task levels of physiological measures within writing and/or age groups. Outcomes did not differ by data collection site; thus, data from both sites were combined.

RESULTS

There were no differences between the writing groups on any demographic or health indicators (Table 1).

Table 1. Sample characteristics and baseline measures by writing group

Variable	Written disclosure ($n = 41$)	Neutral topic ($n = 33$)	p
Age, mean (*SD*)	75.7 (7.6)	75.7 (8.3)	.29
Female, *n* (%)	31 (75.6)	24 (72.7)	.80
Venue			
University laboratory, *n* (%)	24 (58.5)	23 (69.7)	.34
Antihypertensive medication use, *n* (%)	16 (39.0)	9 (27.3)	.33
Adrenergic antagonist (beta or alpha)	5 (12.2%)	6 (18.2%)	.53
Known cardiovascular disease, *n* (%)	2 (4.9)	3 (9.1)	.65
Other chronic condition, *n* (%)[a]	23 (56.1)	18 (43.9)	.92
Smoker, *n* (%)[b]	4 (10.3)	5 (15.6)	.72
Body mass index (kg/m^2), mean (*SD*)	26.7 (5.37)	25.7 (4.4)	.39
Baseline cardiovascular measure, mean (*SD*)			
SBP (mm Hg)	140.2 (18.1)	137.2 (20.1)	.50
DBP (mm Hg)	74.2 (10.6)	73.2 (12.34)	.74
CO (L/min)	4.4 (1.1)	4.2 (0.9)	.53
TPR (dyne-s $\cdot$ cm^{-5})	1865.6 (683.7)	1826.7 (683.7)	.80
Positive affect, mean (*SD*)[c]	33.5 (7.2)	32.1 (6.9)	.39
Negative affect, mean (*SD*)[d]	12.2 (4.1)	13.1 (4.0)	.36

Note. SBP = systolic blood pressure; DBP = diastolic blood pressure; CO = cardiac output; TPR = total peripheral resistance.

[a]Other chronic conditions included any endocrinological (e.g., diabetes), immunological (e.g., asthma, arthritis), or other chronic (e.g., age-related macular degeneration) condition self-identified by the participant that was not a disease of the cardiovascular system.

[b]Data on smoking were missing from 1 neutral topic and 2 written disclosure participants.

[c]Baseline positive affect scores ranged from 15 to 49.

[d]Baseline negative affect scores ranged from 10 to 33.

Blood Pressure Reactivity to Writing

In the regression models predicting SBP and DBP reactivity, after controlling for baseline blood pressure, the Age $\times$ Writing Group interaction term was significant for DBP reactivity and approached significance for SBP reactivity (Table 2).

Simple slope analyses indicated that at the selected value of 1 *SD* below the mean age of the sample, i.e., 67.9 years, writing about distressing events result in higher DBP ($B = 6.01$; $p = .01$) and SBP reactivity ($B = 7.39$; $p = .05$) compared with writing about neutral topics. At the mean sample age (75.7 years) and 1 *SD* above it (83.6 years), the simple slope of writing group regressed onto DBP and SBP reactivity was not significant (all ps $> .12$). The region of significance analysis for DBP resulted in 95% region of significance with a lower bound of 74.6 years and an upper bound beyond the

Table 2. Multiple regression analyses for SBP, DBP, CO, and TPR reactivity to writing

	SBP reactivity[a]			DBP reactivity[b]			CO reactivity[c]			TPR reactivity[d]		
Variable	*B* (*SE*)	*β*	*p*	*B* (*SE*)	*β*	*p*	*B* (*SE*)	*β*	*p*	*B* (*SE*)	*β*	*p*
Baseline	−.18 (.07)	−.27	.02	−.16 (.07)	−.26	.02				−.21 (.05)	−.42	.00
Age	.76 (.24)	.48	.00	.40 (.14)	.44	.01	.02 (.01)	.28	.09	6.70 (6.07)	.17	.27
Writing group	2.15 (2.67)	.09	.42	2.42 (1.52)	.17	.12	−.24 (.13)	−.21	.07	148.88 (66.25)	.24	.03
Age x writing group	−.67 (.35)	−.30	.06	−.46 (.20)	−.36	.02	−.01 (.02)	−.12	.47	−10.18 (8.52)	−.18	.24

Note. SBP = systolic blood pressure; DBP = diastolic blood pressure; CO = cardiac output; TPR = total peripheral resistance.

[a]Full model: $F(4, 73) = 4.32$, $p = .004$, $R^2 = .20$.

[b]Full model: $F(4, 73) = 4.83$, $p = .09$, $R^2 = .09$.

[c]Full model: $F(3, 73) = 2.24$, $p = .004$, $R^2 = .20$.

[d]Full model: $F(4, 73) = 5.73$, $p = .000$, $R^2 = .25$.

range of the sample (121.1 years), implying that the effect of written disclosure on DBP reactivity was statistically significant at ages up to 74.6 years. For SBP, the 95% region of significance had a lower bound outside the lowest age in the sample (−28.4) and an upper bound of 68 years of age, suggesting that SBP effects of written disclosure were also greatest among the older adults in the lower age range of the sample.

Figure 1A and B depict the interaction of age and writing condition on SBP and DBP reactivity; for illustration, 75 years of age was used as the cutoff to distinguish age groups based on findings from the region of significance analysis for DBP. Paired *t* tests indicated that three of the four groups (i.e., groups categorized as 75 years of age or older versus those younger than 75 years of age by writing group) had a significant increase in DBP from baseline to writing after adjustment for multiple comparisons; the change in DBP from baseline to writing was on average nonsignificant among older adults below 75 years of age who wrote about neutral topics. All groups showed significant SBP increases from baseline, although the neutral topic writers below 75 years of age had, on average, the smallest increase.

Descriptive statistics for the blood pressure measures at baseline and during writing, within age (below 75 years of age or 75 years and older) and writing groups, are presented in Table 3, along with potential confounders (i.e., gender, antihypertensive use, body mass

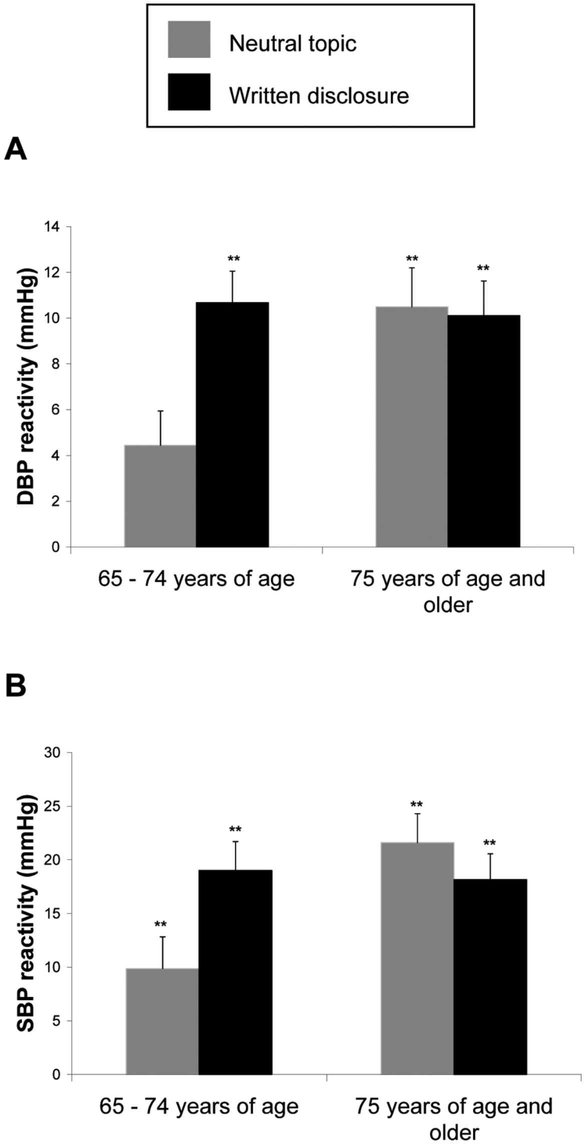

Figure 1. Baseline and age-adjusted diastolic blood pressure (*A*) and systolic blood pressure (*B*) reactivity by writing group and age category. $^{**}p < .01$ and $^{*}p < .05$ indicate significant change from baseline within group based on paired *t* tests with Bonferroni adjustment comparing the baseline with the writing task.

Table 3. Descriptive statistics for cardiovascular measures and potential confounds by age and writing groups

	Below 75 years of age		75 years of age or older	
Characteristics	Written disclosure ($n = 18$)	Neutral topic ($n = 15$)	Written disclosure ($n = 23$)	Neutral topic ($n = 18$)
Female, *n* (%)	11 (61.1)	12 (80.0)	12 (66.7)	20 (87.0)
Antihypertensive use, *n* (%)	6 (33.3)	4 (26.7)	10 (43.5)	5 (27.8)
Adrenergic antagonist, *n* (%)	4 (22.2)	4 (26.7)	1 (4.3)	2 (11.1)
BMI (kg/m^2), mean (*SD*)	28.6 (5.6)	26.2 (3.8)	25.2 (4.8)	25.2 (4.8)
SBP (mm Hg), mean (*SD*)				
Baseline	135.1 (16.1)	138.6 (15.5)	144.2 (19.0)	136.1 (23.7)
Writing	154.8 (19.8)	148.5 (14.7)	161.5 (17.6)	158.2 (23.9)
DBP (mm Hg), mean (*SD*)				
Baseline	74.3 (11.5)	76.2 (9.7)	74.0 (10.1)	70.8 (14.0)
Writing	85.1 (13.4)	80.5 (7.3)	83.9 (11.1)	81.6 (12.8)
CO (L/min), mean (*SD*)				
Baseline	4.4 (1.0)	4.5 (1.0)	4.4 (1.3)	3.9 (0.6)
Writing	4.3 (0.9)	4.4 (1.1)	4.4 (1.4)	4.2 (0.8)
TPR ($dyn\text{-}s \cdot cm^{-5}$), mean (*SD*)				
Baseline	1825.9 (659.3)	1798.1 (610.0)	1896.7 (715.3)	1882.0 (593.0)
Writing	2115 (576.3)	1867.7 (448.6)	2087.0 (728.7)	2071.2 (540.3)

Note. BMI = body mass index; SBP = systolic blood pressure; DBP = diastolic blood pressure; CO = cardiac output; TPR = total peripheral resistance. Adrenergic antagonists include both beta and alpha blockers.

index [BMI]), none of which differed either between or within writing groups for either age group (all $ps > .20$). It should be noted that although the effect of written disclosure on BP was on average diminished among adults in the older age ranges in our sample, there was overlap of the distribution of BP reactivity scores for the age categories used for illustration, as well as greater dispersion within the older age category (e.g., neutral topic writing, DBP change: <75 years of age, $M = 4.3$ mm Hg, $SD = 5.6$; ≥ 75 years of age, $M = 10.9$ mm Hg, $SD = 9.1$). This suggests variability in the extent to which written disclosure effects diminished among adults at or above 75 years of age.

Myocardial and Vascular Influences on Blood Pressure Reactivity

In subsequent regression models, we evaluated the effects of writing group and age on CO and TPR reactivity (Table 2). Written disclosure was a significant predictor of TPR reactivity during writing, and approached significance as a predictor of CO reactivity; the Age × Writing Group interaction was not significant for CO or TPR reactivity. Specifically, older adults writing about distressing events had greater increases in TPR and minimal changes in CO compared with older adults writing about neutral topics. Figure 2A and B illustrate the effect of writing group on TPR and CO reactivity.

Although the age by writing group interaction was not significant for TPR and CO, given the findings from the simple slopes analyses, we explored whether potential trends in TPR and CO responses within the age and writing groups could help explain age-moderated effects of written disclosure on blood pressure reactivity (descriptive data presented in Table 3). Before adjustment for multiple comparisons, paired t tests indicated that CO increased significantly for adults at or above 75 years of age writing about neutral topics ($M = .47$ L/min, $SD = .70$; $t(17) = -2.86$, $p = .01$), although after Bonferroni adjustment, the difference was no longer significant. CO reactivity was minimal for all other groups (Figure 2C). As shown in Figure 2D, TPR reactivity was statistically significant for both age groups writing about distressing events, both before and after Bonferroni adjustment, but not for either age group writing about neutral topics.

Positive and Negative Affect Following Writing

Regressing age, writing group, and the Age × Writing Group interaction onto negative affect change (postwriting negative affect minus

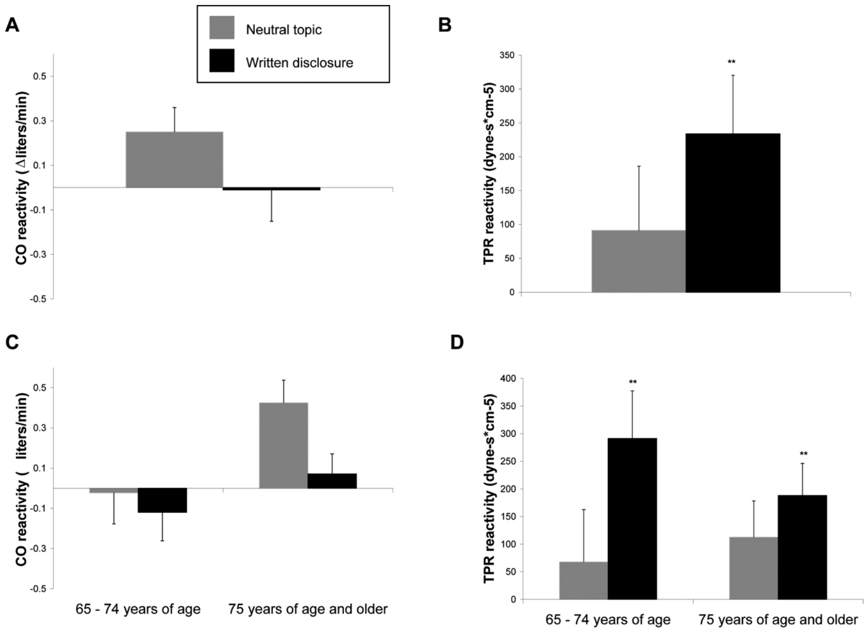

Figure 2. Baseline and age-adjusted cardiac output (*A*), and total peripheral resistance (*B*) reactivity by writing group, and for exploratory purposes, cardiac output (*C*) and total peripheral resistance (*D*) reactivity by writing group and age category. $^{**}p < .01$ and $^{*}p < .05$ indicates significant change from baseline within group based on paired *t* tests with Bonferroni adjustment comparing the baseline with the writing task.

prewriting negative affect) indicated a significant effect of condition ($B = 5.61$; $p = .000$; full model: $F(3, 72) = 5.81$, $p = .001$, $R^2 = .20$); older adults who wrote about distressing events had a greater increase in negative affect than those writing about neutral topics (Figure 3A). Paired *t* tests also indicated that mean negative affect was lower postwriting compared with prewriting in the neutral writing group (Figure 3A). This effect was relatively minimal, however, and negative affect did not differ at baseline across the two writing conditions. The Age × Condition interaction term was not significant ($B = -.12$; $p = .48$), suggesting no moderating effects of age. Not age ($B = .20$; $p = .18$), condition ($B = -2.04$; $p = .21$), or their interaction ($B = -.22$; $p = .29$) was related to positive affect change pre- to postwriting (full model: $F(3, 73) = 1.21$, $p = .31$, $R^2 = .05$; Figure 3B).

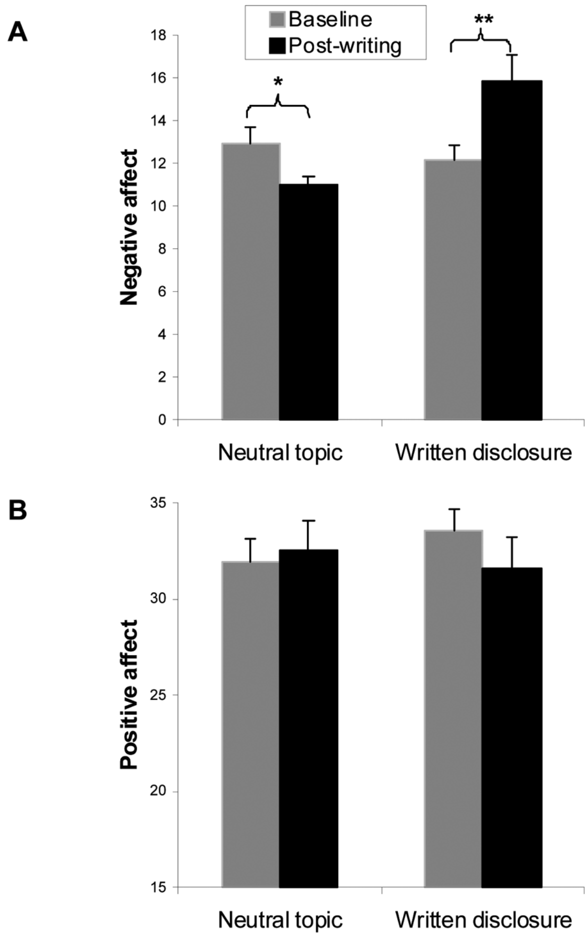

Figure 3. Mean negative (*A*) and positive (*B*) affect at baseline and post-writing; $^{*}p < .05$, $^{**}p < .01$.

DISCUSSION

Writing about distressing events was associated with a significant increase in TPR and negative affect across a wide age range of older individuals. On the contrary, the effect of written disclosure on DBP and SBP measures diminished with increasing age, with older adults at higher age ranges showing on average comparable increases in blood pressure during writing regardless of writing topic. Together, these findings suggest that the mechanisms underlying blood pressure responses during writing (e.g., increases in vasoconstriction versus myocardial activation) vary depending on the content of writing and the accompanying emotional response. In the absence of impedance cardiography-derived measures of TPR, the blood pressure findings for the oldest adults in the sample would be difficult to interpret. These data, in keeping with prior data (Kline et al., 2002), show that examining the hemodynamic mechanisms underlying BP reactivity is important in fully characterizing acute psychophysiological responses to stress. Limiting assessment to changes in physiological end points, without considering the mechanisms underlying such changes, can obscure our interpretations of individuals' cognitive and affective states (Berntson, Cacioppo, & Quigley, 1993). Thus, the findings here underscore the need to use more fine-grained assessment and analysis of cardiovascular function in order to elucidate psychophysiological pathways to older adults' cardiovascular health outcomes.

These findings also support the use of written disclosure about distressing events (e.g., Pennebaker, 2003) as an emotionally evocative psychological stressor for older adults. Our data suggest that the affective quality of the task did not differ across this wide age range despite the age-moderated effects on blood pressure reactivity to written disclosure. Further, the significantly larger increase in vasoconstriction and enhanced negative affect elicited by writing about distressing events as compared with neutral topics suggests the possibility of greater psychological threat (Heffner et al., 2002; Quigley et al., 2002; Tomaka et al., 1993) and/or passive coping (Hartley et al., 1999; Heffner et al., 2002; Sherwood, Dolan et al., 1990) during a single session of written disclosure. In light of age-related changes in emotion regulation (Carstensen, Fung, & Charles, 2003; Labouvie-Vief, 2003), tasks like written disclosure that explicitly engage and strongly activate cognitive-emotional processes may provide especially rich information about the psychophysiological correlates of stress and coping across the life span relative to other experimental stimuli that may not be as emotionally meaningful for older adults (Uchino et al., 2010).

The increase in blood pressure during neutral writing among adults 75 and older is noteworthy and may have been due to the observed increases in CO (although nonsignificant after Bonferroni correction) coupled with a small and nonsignificant increase in TPR. We examined whether the number of words written could potentially explain the CO increase, but there were no main or interactive effects of age and writing group on word count (data not shown). We also did not find an association between age and CO reactivity in our sample, in accord with prior studies (Pugh & Wei, 2001; Uchino et al., 2010). TPR responses to written disclosure (or to writing in general) also did not change as a function of age across the range of ages tested here. The current study includes a sample of adults 65 to 97 years of age, with a mean sample age slightly over 75 years, with 56% of participants over 75 years of age. Although arguably a strength of the study, this age distribution renders comparisons with prior studies difficult, where most have compared young adults with older adults, and the upper age range of older adults is typically limited to 75 years of age. Also, the relatively homogeneous sample of predominantly Caucasian females limits the generalizability of these findings.

The population of adults 65 years of age and older is rapidly expanding and, as noted, cardiovascular disease incidence over 65 is sizeable (Arnold et al., 2005; Driver et al., 2008; Haan et al., 1996). Thus, there is a growing need for methodologies and measures that can be used to characterize the myocardial and vascular concomitants of psychological and emotional coping with life stressors in older adults. Attention to the myocardial and vascular mechanisms of blood pressure responses to acute emotional stressors, using tasks such as written emotional disclosure, likely will lead to a better understanding of the potential health effects of stressor exposures in older adulthood.

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