Journal of the American Psychiatric Nurses Association

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Journal of the American Psychiatric Nurses Association 2002 8: 44
DOI: 10.1067/mpn.2002.124412

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Age Differences in Anger Frequency, Intensity, and Expression

Sandra P. Thomas, RN, PhD, FAAN

BACKGROUND: ***Although research consistently indicates harmful effects of mismanaged anger, little attention has been given to age differences in the experience and expression of this emotion. It is plausible that, with age and experience, people have less intense anger or learn to manage it more constructively.***

OBJECTIVE: ***The purpose of this project was to examine age differences in anger frequency, intensity, and expression in a nonclinical sample of students, faculty, and staff who participated in a health fair at a large southeastern university.***

STUDY DESIGN: ***This descriptive study involved a predominantly white sample, ranging in age from 18 to 76 years. There were 206 men and 199 women. Anger variables were measured by an instrument to assess anger at home and at work or school.***

RESULTS: ***No significant age differences were found in anger experienced at home. Women in their 40s scored significantly higher on anger at work than did women of other ages; moreover, their scores were almost twice as high as the scores of men in their 40s. Significant age and gender differences were found in the propensity to overtly express anger, with younger women (those in their 20s and 30s) having the highest mean scores on Total Expressed Anger.***

CONCLUSIONS: ***Findings of this study suggest the need for continued exploration of anger in samples of diverse ages so that anger management interventions can be appropriately tailored for clients. (J Am Psychiatr Nurses Assoc [2002]. 8, 44-50.)***

Anger can be useful in directing attention to violations of one's values, beliefs, or rights (Thomas, 1995). However, a growing body of empirical evidence demonstrates harmful effects of mismanaged anger. Anger becomes problematic when it is too frequent, too intense, or too prolonged and/or expressed in ways that are damaging to the self or to other people. For example, anger that is chronically suppressed is associated with higher blood pressure (Thomas, 1997a). Investigators have found that mismanaged anger is associated with a consumptive lifestyle (greater consumption of food, alcohol, cigarettes, and drugs) and diseases such as hypertension, coronary heart disease, cancer, and depression (Knox et al., 1998; Scherwitz & Rugulies, 1992; Thomas, 1997a; Thomas et al., 2000). Conversely, constructive anger behavior is associated with lower blood pressure and better health (Davidson, MacGregor, Stuhr, Dixon, & MacLean, 2000; Thomas, 1997b). In view of the deleterious consequences of mismanaged anger, a number of interventions have been developed by mental health professionals. However, many of the extant anger management interventions were developed to help adolescents and college students modulate intense anger, hostile cognitions, and aggressive behavior (Feindler, 1995; Hazaleus & Deffenbacher, 1986). If there are age-related changes in angry emotion, clinicians working with older adults may need to modify their interventions.

Researchers have paid surprisingly little attention to age differences in the experience and expression of anger. In most anger studies, young adults, predominantly college students, have been sampled, limiting generalizability of the findings to older populations. It is plausible that with age and experience, people have

Sandra P. Thomas, RN, PhD, FAAN, is a professor and director of the PhD program at the College of Nursing, University of Tennessee, Knoxville.

Reprint requests: Sandra P. Thomas, RN, PhD, FAAN, College of Nursing, University of Tennessee, Knoxville, 1200 Volunteer Blvd., Knoxville, TN 37996-4180.

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1078-3903/2002/$35.00 + 0 ***66/1/124412***

doi:10.1067/mpn.2002.124412

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less intense anger or learn to manage it more constructively. Contemporary theorists propose that emotional development continues throughout adult life (DeRivera, 1984). According to the National Advisory Mental Health Council (1995), "research across the life span is needed to determine the continuities across, and distinctions among, the phenomena of emotion (both negative and positive)" (p. 844). Therefore, the purpose of this project was to examine age differences in anger frequency, intensity, and expression.

BACKGROUND

Theoretical Framework

Developmental theory was the guiding framework for the study. Although emotional development is considered an important aspect of personality development and maturation, Erikson (1950) is one of the few developmental theorists to specifically address emotions. Each emotion has an inherently adaptive function, but growing children must learn to regulate and modify their emotion expressions so that they do not become maladaptive (Izard, 1993). The unique adaptive function of anger is mobilization of energy to take action. Strong physiological arousal propels people to speak out or strike out in response to a perceived transgression. Because of anger's potential for destructive consequences, all societies use psychological and physical punishments to limit overt anger expression. As children grow, they learn the cultural rules for display or suppression of feelings such as anger and sadness. They are profoundly influenced by the emotional climate in their family of origin, gender role socialization, and interactions with siblings and playmates. Their social-cognitive development parallels their understanding of emotion in themselves and others (Cox, Stabb, & Bruckner, 1999).

Frequent experiences of a particular emotion, such as anger, tend to organize particular types of cognition and action, and recurring patterns of emotion-cognition-action sequences lead to a characteristic way of responding—a personality trait (Izard, 1993). Anger investigators have pointed out the necessity of distinguishing between anger as a stable personality *trait* (e.g., one's general proneness to respond angrily to injustices and affronts) and a more transitory *state* of psychobiological arousal at the time of a specific provocation (Spielberger, Reheiser, & Sydeman, 1995). According to Spielberger et al., people who have an enduring high level of anger proneness (termed trait anger or hostility) tend to become angry more frequently and in a wider range of situations. There is evidence that trait anger is strongly predictive of higher levels of state anger by early adolescence (Yarcheski, Mahon, & Yarcheski, 1999).

Developmental theorists once viewed adulthood as a vast, unremarkable plateau between adolescence and senescence. However, Peplau (1952/1991) emphasized continual "forward movement of the personality" (p. 12), and contemporary emotion theorists (e.g., DeRivera, 1984) recognized that new emotions continue to be acquired in adulthood as people face life challenges. It is now believed that the personality becomes less rigid with maturity. With aging, a repressed style of reacting may change to a suppressed style; an unconscious process may become a conscious process (Vaillant, 1990). For example, a woman who has stifled her anger because of societal admonitions to be "feminine" may begin to own her anger in midlife and channel it into assertive requests for greater relationship reciprocity (Thomas, Smucker, & Droppleman, 1998). Vaillant (1977) claimed that coping becomes more effective and realistic with age; older persons are less prone to acting out or projecting blame and more prone to being altruistic. A man who acted out anger with his fists when provoked as an adolescent may have greater capacity to understand the feelings and needs of the other person by the time he is in his 30s (Thomas, McCoy, & Martin, 2000). Thus, developmental theory would seem to support the notion of increased emotional competence with aging.

Although relatively sparse, there is some research supporting increased emotional competence with increased age.

Review of Literature

Although relatively sparse, there is some research supporting increased emotional competence with increased age. Because the potential for emotional competence is severely compromised in persons who have been abused and neglected, the following review of literature is confined to studies of nonclinical populations. The review is further delimited to studies that focus on anger management. An early 1980s study showed that children's anger became more constructive with age (Rotenberg, 1983). The research surveyed children from first, third, fifth, and seventh grades. Older children were less likely to retaliate aggressively and more likely to say that the purpose of their anger was to make someone else see their viewpoint. Longitudinal studies have revealed progress toward emotional maturity across the adolescent years. In a project assessing boys and girls at ages 12, 15, and 18 years, (Torestad, 1990a, 1990b) found that in most anger-provoking situations, the subject himself or herself was wronged (egocentric anger). However, with increasing age, adolescents developed the capacity to be angry in situations in which other people were badly treated, rather than themselves (unselfish or altruistic anger).

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Another study of high school students, measured at two points in time (first when they were 13 to 16 years of age and then 2 years later), showed an increasing ability to understand and empathize with the people with whom they were angry (Freeman, Csikszentmihalyi, & Larson, 1986).

Several studies found that older adults can better integraate emotion into cognitive processing (e.g., Labouvie-Vief, Hakim-Larson, DeVoe, & Schoeberlein, 1989) and better control over their emotions, including less lability and surgency (Lawton, Kleban, Rajagopal, & Dean, 1992). Older married couples participating in videotaped discussions of conflict expressed lower levels of anger, disgust, belligerence, and whining than did middle-aged couples (Carstensen, Gottman, & Levenson, 1995). In a diverse sample of Catholic nuns, Norwegians, African Americans, Chinese Americans, and European Americans, older adults reported fewer negative emotions (Gross et al., 1997). Another study, involving participants from age 18 to 95 years, confirmed the decline in *frequency* of negative emotions with aging, but negative emotions did not decline in *intensity* (Carstensen, Pasupathi, & Mayr, cited in Carstensen, Isaacowitz, & Charles, 1999).

Tangney et al. (1996) examined constructive versus destructive responses to anger across the lifespan with samples of 307 children, 434 adolescents, 214 college students, and 195 adults. The researchers assessed anger arousal, intentions, cognitive and behavioral responses, and long-term consequences. Across the lifespan, there was a clear increase in constructive intentions and adaptive behaviors (such as taking corrective action) and a decrease in malevolent intentions and aggressive behaviors. In a large study of women's anger ($N = 535$), significant age differences were found on seven of nine anger dimensions; as age increased, scores decreased on measures of anger ventilation (Anger-out) and irrational, obsessive angry thoughts (Cognitive Anger) (Thomas, 1995). Younger women reported more frequent and overt anger, whereas women ages 55 and older reported that they held their anger inside. Lacking longitudinal data, the researcher could not discern whether older women's anger suppression was attributable to that cohort's traditional socialization to femininity or to their gradual mellowing with age.

In contrast to the studies that suggest a linear decrement in negative emotionality, some longitudinal studies show that anger and hostility are generally stable over time. Reporting on the Mills College women who were first studied in 1958 and 1960, Adams (1994) concluded that hostility scores at ages 21, 27, 43, and 52 years showed significant stability over time. In other words, women who were hostile as college seniors were similarly hostile in midlife. These findings support Spielberger and colleagues' depiction (1995) of a lifelong tendency to perceive interpersonal situations cynically and to experience more intense elevations in anger when such situations are encountered.

To summarize, the findings on age differences in angry emotionality have been mixed. It is unclear whether management of anger and hostility is likely to become more health-promoting or health-damaging with advancing age. Therefore, this descriptive study was designed to examine anger frequency, intensity, and expression in a large nonclinical sample of adults. From the perspective of developmental theory, it was hypothesized that anger frequency and intensity would be less evident in older adults than in younger ones.

From the perspective of developmental theory, it was hypothesized that anger frequency and intensity would be less evident in older adults than in younger ones.

METHODS

Sample

The sample consisted of 405 health fair participants at a large southeastern university. Half were staff or faculty and half were students. Ages of participants ranged from 18 to 76 years. Of the 389 persons who reported their race, 84% ($n = 327$) were white. There were equivalent numbers of men ($n = 206$) and women ($n = 199$). More participants ($n = 220$) were unmarried (47% never married; 8% separated, divorced, or widowed) than were married (45%, $n = 180$).

Attendees at the health fair first signed a consent form for participation in the health screenings offered by the College of Nursing faculty. A separate consent form was signed for participation in this research. The anger instrument was embedded in an Operation Health Check questionnaire that was completed by all persons attending the health fair. The questionnaire assessed demographic characteristics, health behaviors, level of stress, self-efficacy, and other variables that were not included in the present investigation. When leaving the fair site, people dropped their completed instrument packets into one box if choosing to participate in the present study or into another box if declining. Subsequently, the researcher was given the data from fair attendees who had consented. It is estimated that approximately three fourths of attendees consented.

Measures

Anger variables. An instrument developed by Goldstein, Edelberg, Meier, and Davis (1988) was used to measure anger frequency, intensity, and expression. According to Spielberger et al. (1995), it is critical to

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Table 1. Mean Scores on Anger Variables for Women (W) and Men (M)

Age Group	Anger Frequency Work/ school	Anger Intensity Work/ school	Total Work Anger	Anger Frequency Home	Anger Intensity Home	Total Home Anger	Total Experienced Anger	Total Expressed Anger
Adolescents (n = 29)								
W (n = 17)	3.6	2.9	12.4	2.5	2.9	8.4	20.8	9.9
M (n = 12)	4.0	3.3	13.8	2.6	2.8	7.3	21.1	7.8
Twenties (n = 163)								
W (n = 81)	3.6	3.6	14.3	3.3*	3.3	13.1	27.4	10.2*
M (n = 82)	3.5	3.4	13.6	2.5	3.0	10.2	23.8	8.4
Thirties (n = 75)								
W (n = 37)	3.2	3.4	13.9	3.3	3.2	11.7	25.6	10.2
M (n = 38)	3.2	3.3	13.4	2.7	2.9	9.7	23.1	9.7
Forties (n = 59)								
W (n = 35)	3.7	3.8	18.4*	3.3	3.4	13.6	32.0*	8.4
M (n = 24)	3.0	3.0	9.8	3.3	3.4	11.5	21.1	8.9
Older (≥50 y) (n = 77)								
W (n = 28)	3.3	3.3	13.2	3.3*	3.3	12.8	25.9	7.7
M (n = 49)	3.1	3.1	11.4	2.3	2.8	8.8	20.2	8.0

Note. *Significant difference between women and men within age cohort, $p < .05$.

differentiate between angry feelings and how the anger is customarily expressed. The Goldstein et al. tool makes that differentiation. It also assesses anger experience and expression in the two environmental contexts, work and home, where most people spend the majority of their time. A person's anger behavior may significantly differ from the home to the workplace. *Frequency* of anger at work (for students, school) was ascertained by the question, "At work, how often do you feel angry?" Responses on the analogue scale could range from *never* (scored 0) to *always* (scored 10). *Intensity* of anger at work (or school) was assessed by the question, "How strong are these feelings at work?" Responses on a similar analogue scale could range from *no feeling like that* to *extremely strong*. With use of the Goldstein et al. scoring protocol, a score for work anger experience (Worktotal) was calculated from the product of the frequency of anger multiplied by its intensity.

Anger at home was assessed by similar questions about frequency and intensity. Frequency was multiplied by intensity to yield the score for home anger experience (Hometotal). A Total Experienced Anger score also was computed (work frequency × intensity + home frequency × intensity). Goldstein et al. (1988) used only this aggregate score in their study, but scores for each setting were used in the present analyses as well as the aggregate score (See Table 1).

Respondents were also queried about *anger expression* at work, "When you are feeling angry at work, are the people you work with aware of your feelings?" and at home, "When you are feeling angry, does your spouse (if not living with a spouse, does your best friend) know it?" Again, response options ranged from 0 (*never*) to 10 (*always*). Scores were computed for each site and then summed to create the variable Total Expressed Anger, which is the sum of anger expressed to other people at work and at home.

Validity of the Goldstein et al. (1988) tool is supported by the careful wording of its items to conform to conceptual definitions in the clinical literature and by the similarity of the anger frequency and intensity items to those in measures developed by other researchers (e.g., Spielberger et al., 1995). Internal consistency reliability, using Cronbach's alpha, was .75 in a previous study of health fair participants (Thomas, 1997b). The average inter-item correlation was .33.

RESULTS

The sample was divided into age cohorts: adolescents (ages 19 years or younger), persons in their 20s, 30s, and 40s, and older adults (ages 50 or older). Table 1 depicts mean scores on all anger variables by age cohort and gender. Using analysis of variance (ANOVA), no significant age differences were found in anger experienced at home (Hometotal; all p values $>.05$). Within each age cohort, women reported feeling more frequent anger at home than men, but this difference did not reach statistical significance in any age groups but the 20s (t [161] = 2.77, p = .0063) and the 50-or-greater cohort (t [75] = 2.52, p = .01). In every age cohort except the adolescents, women also had higher mean scores than men on Total Experienced

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Anger, but only in the 40s age group was the difference in these scores statistically significant (t [55] = 2.09, p = .04).

Within each age cohort, women reported feeling more frequent anger at home than men. . . .

There were no significant age differences in anger frequency or intensity at work. However, on Worktotal, women in their 40s scored significantly higher (t [47] = 2.56, p = .01) than women of other ages; moreover, their mean scores were almost twice as high (M = 18.4, SD = 18.23) as the scores of their male counterparts (M = 9.8, SD = 6.96). However, the women in this age group were not more likely to *express* the anger that they felt.

Significant differences between groups were found in Total Expressed Anger, the propensity to overtly express anger to other people at work and at home. Both age and gender differences were noted, with younger women scoring highest on this variable (F [5, 399] = 3.14, p = .0085). As shown in Table 1, the mean scores on Total Expressed Anger were highest for women in their 20s and 30s and lowest for women age 50 years or older.

DISCUSSION

Generally speaking, there were few age differences in anger frequency, intensity, and expression in this nonclinical sample of health fair participants. These results do not support the hypothesis suggested by developmental theory, nor are they consistent with the trend toward more constructive anger behavior found by Tangney et al. (1996). Furthermore, except for the general tendency for women to feel more anger in the home setting than men and one age cohort to have more frequent and intense anger at work, there were few gender differences. Thus, the findings of the present study were discrepant from several well-known studies, such as the Framingham Heart Study (Haynes, Levine, Scotch, Feinleib, & Kannel, 1978), in which researchers found gender differences in anger experience and/or expression style. The study raises a number of questions for future research. Why do younger women score highest on propensity to express anger, even higher than younger men? Why is the amount of workplace anger experienced by women in their 40s almost twice as high as that of men in their 40s?

The first question, regarding the high propensity of younger women to express anger, deserves careful investigation. Does this finding, together with previous findings by Thomas (1995), indicate a weakening of traditional gender role socialization regarding anger expression? Some recent studies show that girls today are more prone than previous cohorts of girls to engage in aggressive behavior and violence. For example, increased percentages of girls are engaging in physical fights (Center for Women Policy Studies, 1996; Hausman, Spivak, & Prothrow-Stith, 1994). A variety of explanations have been proposed for gender-atypical behavior (e.g., response to harassment and victimization; emulation of aggressive female models on television), although the phenomenon is still poorly understood (Smith & Thomas, 2000). Qualitative studies of girls' perceptions of their anger experiences would be useful.

In future studies, researchers should pay particular attention to women in their 40s to ascertain the etiology and correlates of their work-related anger. The present data set cannot reveal whether this cohort of women has a life-long tendency to be more reactive to provocations or whether developmental and contextual factors have brought about a uniquely high level of anger in midlife. To search for explanatory clues, a secondary analysis of previously conducted interviews about women's anger was undertaken (Thomas et al., 1998). Of the 29 women in the interview study by Thomas et al., 11 were in their 40s. Probing the responses of these 11 women proved to be illuminating. Although the interviewers had asked no questions about age, the study participants frequently made age-related references such as the following: "I'm 40 years old, and I'm just now kind of getting it figured," or "I'm about tired. I guess it took 40 years to get tired." Consistent with the quantitative data of the present study of health fair participants, many of the women studied by Thomas et al. described their workplace anger as frequent and intense. For example, one participant stated, "I was very short-tempered with the students. I didn't want to take any crap off anybody." Other illustrative excerpts from the interview data (Thomas et al.) included the following:

> Constant undertone of anger because I don't like the job I'm having to do right now, and I feel trapped in it. . . . We need the money, we need to pay off the mortgage. . . . It's more of an undercurrent because I don't tend to express it and get it out of my system."
>
> "This past year, I'm not sure if it's because I turned 40, has been the climax of my anger. I've been very ugly. . .as if all the hostility that has been pent up inside of me came out. . . . I realized I needed to make a change and get out of nursing for a while."
>
> "I feel like a volcano. . . . I have been madder the

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last year and a half than I've been in my whole life."

The qualitative data from Thomas et al. (1998) are consistent with the formulations of developmental theorists about a period of turbulence in middle age, often peaking during the 40s (Gould, 1972; Levinson, 1996). Stevenson (1977) wrote of "mid-40s inferno," when ". . .stability comes crashing down, and many people in their middle forties find themselves in a terrific struggle with themselves, their significant others, and the world at large" (p. 159). However, applying a mid-life crisis interpretation to the quantitative data of the present study of health fair participants, while plausible, is speculative. The anger of women in their 40s should be investigated in subsequent studies designed specifically for that purpose. Exploration of anger in diverse occupations and work settings would be useful. Because the women in this study were all employed by a university, their workplace anger is undoubtedly different in many respects from that of women who work in other environmental contexts.

There is a definite need for continued exploration of both changes and continuity in emotions such as anger in people of diverse ages.

Phenomenological investigations that examine both focal and contextual aspects of anger phenomena would contribute to an understanding of the deeper meanings of angry emotionality across the life span. Another fruitful approach is the study of emotional development in individual lives, as exemplified by an analysis by Magai and Hunziger (1993) of Tolstoy's life. There is a definite need for continued exploration of both changes and continuity in emotions such as anger in people of diverse ages. Recruitment of samples with greater ethnic and racial diversity is recommended as well.

IMPLICATIONS FOR ANGER MANAGEMENT INTERVENTIONS

As noted by Goleman in his 1995 book on emotional intelligence, helping people to better manage emotions such as anger is a form of disease prevention. There is empirical evidence that cognitive-behavioral techniques are effective in controlling anger frequency and/or intensity (Reeder, 1991) in such diverse samples as New York City traffic agents (Brondolo, Hough, & Rabinowitz, 2000), combat veterans with posttraumatic stress disorder (Gerlock, 1994), high-anger drivers (Deffenbacher, Huff, Lynch, Oetting, & Salvatore, 2000), and incarcerated women (Smith, Smith, & Beckner, 1994). Mental health nurses are becoming involved in conducting anger management classes and workshops in both inpatient and community settings (Thomas, 2001).

Although many of these anger management interventions are delivered to persons who have been grouped according to diagnosis or demographic characteristics, there is insufficient research about the appropriateness of such groupings. Results of the present study suggest that women in some age cohorts may be grappling with issues specific to their stage of personality development. Classes that present "one-size-fits-all" content may fail to address such issues. To date, there are few published articles about tailoring anger management class content and/or teaching strategies for specific groups. Nurses need an expanded knowledge base for designing and delivering these beneficial psychoeducational programs. Both clinicians and researchers are encouraged to contribute reports of the outcomes of their anger management interventions to the mental health nursing literature.

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An Apology from the Publisher to *JAPNA* Subscribers

The January/February issue of *JAPN*A should mail to you in February. Unfortunately, this year's issue did not mail until April. Our production schedule was delayed because we are moving to another printer to reduce costs. We regret this inconvenience.

Patricia Nornhold, MSN, RN
Vice President
Nursing Journals

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