Age Differences in Emotion-Regulation Strategies in Handling Everyday Problems

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We examined age differences in problem-focused and emotion-regulatory problem-solving strategy use for self-generated family problems. Young, middle-aged, and older participants generated family problem situations that were high and low in emotional salience. They were asked both how they solved the problem and how they managed emotions involved in the problem. We conducted analyses on three categories of problem-solving strategies: instrumental strategies, proactive emotion regulation, and passive emotion regulation. When regulating emotions, middle-aged adults used more proactive emotion-regulation strategies than older adults, and older adults used more passive emotion-regulation strategies than middle-aged adults. These effects were driven by the high emotional salience condition.

There is a growing literature suggesting that older adults are more motivated to regulate negative affect and are effective at doing so (Carstensen, 1992, 1995). Studies supporting this idea examine the outcomes of emotion regulation by asking older adults to report the nature of their emotional experiences in varying contexts. Effective emotion regulation is equated with positive outcomes, that is, fewer negative emotional experiences or greater positive emotional experiences. Accordingly, older adults report better regulation and greater control over their emotions (Gross et al., 1997; Lawton, Kleban, Rajagopal, & Dean, 1992), fewer and shorter durations of experiencing negative affect (Carstensen, Pasupathi, Mayr, & Nesselroade, 2000), and less anger and less intense aversive reaction in response to interpersonal problem situations (Birditt & Fingerman, 2003); in addition, in marital interactions, older couples report less negative affect in conflict situations (Levenson, Carstensen, Friesen, & Ekman, 1991).

Interest in emotion regulation in old adulthood has also led researchers to study it in the context of strategies used to regulate behavior and emotions, such as examining age differences in the strategies used to handle socioemotional problems (Blanchard-Fields, 1998; Blanchard-Fields, Chen, & Norris, 1997; Blanchard-Fields, Jahinke, & Camp, 1995; Strough, Berg, & Sansone, 1996; Folkman, Lazarus, Pimley, & Novacek, 1987; Prohaska, Leventhal, Leventhal, & Keller, 1985). If older adults emphasize emotion regulation in their everyday functioning, this should be reflected in age-related differences in self-regulating strategies. Indeed, findings suggest that, when people are coping with stressful situations or solving emotionally charged problems, emotion-focused strategies are preferred by older adults more so than by younger adults (Blanchard-Fields et al., 1995; Folkman & Lazarus, 1988).

Our past research has focused on everyday problem-solving strategies in emotionally laden interpersonal and less emotionally charged instrumental contexts (Blanchard-Fields et al., 1995, 1997). In low emotionally salient instrumental domains (e.g., consumer-oriented or home-management problems), we found relatively few age differences in problem-solving strategies. Problem-focused action (e.g., direct action taken to solve or “fix” the problem) was the predominant strategy across age groups from adolescence through older adulthood (Blanchard-Fields et al., 1995, 1997). However, age differences emerged when problems were more emotionally charged and interpersonal in nature (e.g., conflict with friends, family, or romantic others). In these situations, older adults consistently endorsed more passive emotion-focused strategies (e.g., not directly dealing with the issue) such as passive dependence and avoidance than either young or middle-aged adults (Blanchard-Fields et al., 1995). In contrast, adolescents and younger adults tended to approach emotionally salient problems with the idea to control the problem and fix it. Furthermore, we found that older adults do not unilaterally endorse passive emotion-focused strategies, but prefer a combination of problem-focused and passive emotion-focused strategies in comparison with young and middle-aged adults (Watson & Blanchard-Fields, 1998). Thus, older adults may draw on a larger repertoire of strategies when solving emotionally salient problems.

A common thread running through studies examining coping and everyday problem solving is that the emotion-focused strategies examined have been primarily passive in nature. In such studies, passive strategies involve deliberate withdrawal from conflict (Berg, Strough, Calderone, Sansone, & Weir, 1998; Blanchard-Fields et al., 1995, 1997; Cornelius & Caspi, 1987; Folkman et al., 1987). Although deliberate in nature, they are passive in that they do not involve direct confrontation with the problem or stressor. Instead, they involve the modification of one’s subjective psychological state or inhibition of emotion through reappraisal, pushing the problem out of mind, or relying on others to take over the problem. Passive strategies are also reflected in the idea of Heckhausen and colleagues (Heckhausen & Schulz, 1996; Wrosch & Heckhausen, 1999) of secondary control strategies. Given that opportunities for adaptive proaction greatly diminish in older adulthood, they argue that older adults profit from directing their strategies toward optimizing motivational resources and adjusting self-related perceptions (Heckhausen, 1999). This primarily takes the form of compensatory
selective secondary control, such as disengaging from one’s behavioral goals through reappraisal or downward comparisons.

Although passive strategies have often been viewed as less effective than active strategies, this may not be the case for older adults. Negative emotional arousal can tax resources. The goal of passive strategies is to inhibit negative arousal before it occurs. Thus, this may be adaptive for older adults because of their limited resources (Gross et al., 1997; Heckhausen & Schulz, 1995). Accordingly, it appears that older adults prefer these more passive emotion-focused strategies. However, this leaves open the question of whether there are age differences in more proactive emotion-focused strategies.

The Present Study

The present study expands on past research in four different ways. First, our assessment of passive emotion-regulation strategies follows suit with the everyday problem-solving and coping definitions and, to some degree, compensatory secondary control. However, in previous literature, little emphasis has been placed on forms of emotion regulation that involve proactive strategies such as directly confronting one’s emotion. In the present study we further differentiate explicit emotion-regulation strategies to include both passive and proactive approaches.

Distinguishing between passive and proactive differences within emotion-focused and problem-focused strategies has been the focus of theories of self-regulation (Carver, Scheier, & Weintraub, 1989; Endler & Parker, 1990; Heppner, Cook, Wright, & Johnson, 1995). For example, when one is dealing with stress, some emotion-focused strategies can be more proactive in nature (e.g., seeking out social support) whereas others are more passive (e.g., denial). Carver and colleagues argue that an approach–avoidance distinction has to be taken into consideration when any form of self-regulation is examined. Similarly, they argue that these factors are meaningfully different from each other and they may have quite different implications for successful coping and well-being (Carver et al., 1989). This distinction is typically blurred in coping and everyday problem-solving inventories (Heppner et al., 1995). We address these issues in this study in our conceptualization and measurement of emotion-regulation strategies.

By distinguishing between passive and proactive emotion-regulation strategies, we can document that older adults will not only prefer passive strategies but also will not endorse the use of proactive strategies in comparison with other age groups. If older adults are particularly motivated to reduce negative experiences (Carstensen, Isaacowitz, & Charles, 1999), passive emotion-regulation strategies may be optimal for older adults in that they reduce negative affect through intentionally avoiding the negative experience. In contrast, proactive strategies involve confronting the negative emotions in order to manage them. We would then expect that young and middle-aged adults who do not show strong motivation to avoid negative experience (e.g., they may view it as a means to acquire important information; see Carstensen, 1995) would prefer proactive strategies in handling their emotions.

Second, past studies have focused on which strategies individuals use to solve the problem or stressful situation. Age differences emerged primarily in the use of emotion-focused strategies in solving the problem (Blanchard-Fields et al., 1995, 1997). We wanted to obtain a more complete picture of age differences in how individuals handle their emotions in addition to how they solved the problem. In the present study, we examined age-group differences in problem-focused and emotion-regulation strategy use for two self-generated family problem situations, one high and one low in emotional salience. Similar to previous research, we asked participants how they solved each problem. Expanding on earlier research, we also asked participants how they managed the emotions that were evoked in the problem situation.

Third, an important feature of this study is that we used an expanded coding scheme to include a more representative sampling of problem-solving strategies, particularly in the emotion-regulation domain. The advantage of our expanded coding scheme was that, in addition to the typical problem-focused strategies (planful problem solving, cognitive analysis, and regulation of others), we included both passive and proactive emotion-regulation strategies. Although the passive strategies were typical of previous studies (e.g., passive dependence, avoidance), we added a further passive category, suppressing one’s emotions, to more fully capture strategies aimed at avoiding and inhibiting negative experience. The proactive strategies reflected more confrontational emotion-regulation styles (e.g., directly confronting emotions, directly reflecting on emotional experience, and seeking emotional support). In this way we were better able to examine the hypothesis that older adults’ reliance on emotion-regulation strategies emphasizes more passively oriented strategies as opposed to proactive ones. In addition, we could examine the degree to which young and middle-aged adults are more proactive or passive in their emotion-regulation strategies.

Finally, our previous methods of assessing strategy use included paper-and-pencil methods of eliciting open-ended responses or an everyday problem-solving inventory (the ESPI; see Cornelius & Caspi, 1987). In this study we used a think-aloud interview to increase the richness of the information elicited from our participants.

Hypotheses

On the basis of previous research, we expected age differences to emerge when the focus was on emotion regulation. Thus, when examining how participants would solve the problem, we expected minimal age differences in strategy use, given that the primary strategies used for solving the problem are problem focused rather than emotion focused. However, when we focus on how participants manage emotions evoked from the problem situation, we expected age differences in strategy use. In this case, we predicted that older adults would adopt more passive emotion-regulation strategies than young or middle-aged adults and that this effect should be most evident in high emotionally salient problem situations. In addition, we expected that both middle-aged and young adults should be more instrumental in their approach to emotion regulation in comparison with older adults, given that older adults may be more averse to experiencing negative affect (e.g., Birditt & Fingerman, 2003; Carstensen et al., 1999). Thus, we expected that young and middle-aged adults would adopt more proactive emotion-regulation strategies in high emotionally salient situations.

METHODS

Participants

We recruited participants on a volunteer basis from the metropolitan Atlanta area, and they consisted of the following
age groups: 35 young adults (17 men, 18 women), ages 18–39 ($M = \text{27.40}, SD = \text{6.45}$); 31 middle-aged adults (16 men, 15 women), ages 40–64 ($M = \text{50.16}, SD = \text{8.08}$); and 38 older adults (18 men, 20 women), ages 65 and older ($M = \text{70.73}, SD = \text{4.24}$). The young participants, who received extra class credit for their participation, were recruited from the student body of a southeastern university. The middle-aged and older participants, all dwelling in the community and primarily from middle-class backgrounds, were solicited from local community organizations and participant pools. These participants were paid $15 for their participation, which lasted approximately 1.5 hr.

We analyzed age differences in verbal ability, education, and health by using one-way analyses of variance (ANOVAS). We set alpha levels for the Student–Newman–Keuls (SNK) post hoc tests at $p < .05$. We administered the vocabulary subscale of the Wechsler Adult Intelligence Scale as a measure of verbal ability. There was a significant age group effect for verbal ability, $F(2, 102) = 4.76$, $p < .01$, with young adults scoring lower ($M = \text{26.37}, SD = \text{7.26}$) than middle-aged adults ($M = \text{31.97}, SD = \text{4.77}$). Older adults did not differ significantly from either of the other age groups ($M = \text{29.00}, SD = \text{9.03}$). Although the young adults were currently in college and had not completed their education, the age groups did not differ in level of education (overall $M = \text{14.79}, SD = \text{2.27}$). We assessed the overall health of individuals by using a 4-point self-rated scale (1 = poor, 2 = fair, 3 = good, 4 = excellent). We found no significant age differences for this measure (overall $M = \text{3.28}, SD = \text{0.69}$).

**Design and Testing Procedure**

In this study we used a $3 \times 2 \times 2 \times 3$ (Age group $\times$ Gender $\times$ Emotional salience $\times$ Strategy type) mixed-model design. Age group and gender were the between-subjects factors; level of emotional salience of the problem situations (low and high) and strategy type (described in the paragraphs that follow) were the within-subject factors with repeated measures. Testing occurred in a single session, with each interview tape-recorded on audiocassette.

After completing a consent form, a demographic information sheet, and a verbal ability test, the participants were asked to describe two problem situations involving family situations that they had encountered in their own life within the past year. We chose family situations because this is a domain equally pertinent to all age groups (Berg & Calderone, 1994; Hooker, 1999; Watson & Blanchard-Fields, 1998). The participants were also instructed that one of the problem situations should be “one that was not real emotional for you” (low emotional salience) and the other should be “one that was highly emotional for you” (high emotional salience).

The content of the problem situations generated were fairly equally distributed across age groups with the exception of a few age-specific problems. Examples of low emotionally salient problems included having disagreements with relatives, adjusting to retirement in the context of family, and transferring to a new college. Examples of high emotionally salient problems included the death of a child, parent, or spouse; parental abandonment; and communication problems with children and parents.

For each problem generated, participants described in unlimited length and detail the following: (1) how they dealt with or tried to solve the problem (referred to as the problem-solving response), (2) the emotions that were elicited by the problem, (3) how they dealt with these emotions as a whole (referred to as the emotional regulation response), and (4) what led them to assign the problem as low or high in emotional content. In addition, participants responded to a series of rating scales about their perceived effectiveness in solving the problem and in dealing with the emotions elicited by the problem, including the following: (a) “How effective do you feel you were in solving the problem?”, (b) “How effective do you feel your solution was in solving the immediate problem?”, (c) “How effective do you feel you solution was in preventing or minimizing future problems?”, (d) “How effective do you feel your solution was in enhancing your self-esteem, or making you feel better about yourself?”, and (e) “How effective do you feel you were in working with your emotions in this situation?”

There were no age differences in perceived effectiveness for any of these questions and they will not be further considered in the study.

**Emotion Manipulation Check**

We verified that problems were perceived as varying in emotional salience in two ways. First, participants rated the level of emotional involvement they felt in each situation on a Likert-type rating scale ranging from 1 (no emotional involvement) to 5 (a great deal of emotional involvement). A 3 (age group) $\times$ 2 (gender) $\times$ 2 (emotional salience level) repeated-measures ANOVA revealed that, regardless of age and gender, there was a significant difference between the perceived emotional involvement of low ($M = \text{3.32}, SE = \text{.09}$) and high ($M = \text{4.65}, SE = \text{.07}$) emotionally salient situations, $F(1, 97) = \text{150.57}, p < .001, \eta^2 = .61$.

Second, we also coded emotions as a manipulation check for the high versus low emotional salience conditions. In other words, we expected that high emotionally charged situations would elicit more negative emotions than low emotionally salient problem situations. Discrete emotions reported by participants for each situation were classified into six emotion groupings, according to the procedural strategies outlined by Magai and Hunziker (1993). These categories include (a) anger; (b) contentment; (c) guilt; (d) sadness or distress; (e) wary hostility or anxiety; and (e) no emotions named.

In the first analysis we examined the differential elicitation of negative emotions. The analysis consisted of a 3 (age group) $\times$ 2 (level of emotional salience) $\times$ 3 (type of negative emotions) mixed model, using SAS CATMOD (Stokes, Davis, & Koch, 2000) with weighted least squares (WLS). Age group (young adult, middle-aged adults, and older adults) was a between-subject effect, and level of emotional salience (low and high) and type of negative emotions (anger, sadness, and anxiety) were within-subjects effects. Because of low response frequency, we could not include guilt in the model. The dependent variable was the frequency of the emotions elicited.

The level of emotional salience strongly predicted the elicitation of negative emotions [$\chi^2(1, N = 91) = \text{52.94}, p < \text{.001}$], with individuals demonstrating more negative emotions in the high level of emotional salience than in the low level of emotional salience. In addition, there was a main effect of type of negative emotion [$\chi^2(2, N = 91) = \text{12.30}, p < \text{.01}$]. To determine which negative emotions were elicited more than the others, we ran three pairwise analyses. Individuals demonstrated more anger than sadness [$\chi^2(1, N = 91) = \text{8.13}, p < \text{.01}$].
Proactive emotional regulation

Passive emotional regulation

Emotional Regulation Responses

Coding Scheme for the Problem-Solving and Anxiety Instrument

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrumental strategies</td>
<td></td>
<td></td>
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<tr>
<td>Cognitive analysis</td>
<td>Intrapsyhetic or cognitive efforts to understand</td>
<td>“One of the ways that I handle situations is that I get out my yellow pad, and I put down ‘plus’ and I put down ‘minus.’ And then I add them up and see what I [(?)] did, because this helps me to analyze what I did.”</td>
</tr>
<tr>
<td>Planful problem solving</td>
<td>Self-initiated, overt behaviors that deal directly with the problem and its effects</td>
<td>“I knew what the problem was, and just tackled it.”</td>
</tr>
<tr>
<td>Regulation–inclusion of others</td>
<td>Attempts to shape another’s opinions or behaviors to conform to that of the problem solver</td>
<td>“I just gave him some suggestions about different things . . . just offered some advice.”</td>
</tr>
<tr>
<td>Passive emotional regulation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidance–Denial–Escape</td>
<td>Intentionally redirecting thoughts and behaviors away from the situation</td>
<td>“Look for something else to do that day to . . . channel my energies into another outlet.”</td>
</tr>
<tr>
<td>Managing reactions through suppression of emotions</td>
<td>Attempts not to feel or show emotional reactions</td>
<td>“I tried to stay calm and . . . not be frustrated with my father, so I tried to be calm with him, and not be so snippy.”</td>
</tr>
<tr>
<td>Passive–dependent</td>
<td>Accepting the situation as is; heavy dependence on someone else for a solution</td>
<td>“I’m just going day by day, and seeing how our life works out.”</td>
</tr>
<tr>
<td>Proactive emotional regulation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managing reactions through confrontive emotion coping</td>
<td>Expressing the emotions to other person(s) seen as the cause of the problem</td>
<td>“I told them how I felt about everything.”</td>
</tr>
<tr>
<td>Reflection of emotions</td>
<td>Consciously dealing with the emotions of self or others; looking at another’s viewpoint</td>
<td>“Trying to understand what he was going through . . . and so, to try to solve it was to understand those feelings. I’m glad that I had the open mind to at least try to see his feelings, and not just mine.”</td>
</tr>
<tr>
<td>Acceptance of responsibility</td>
<td>Acknowledging one’s obligations; accepting duties</td>
<td>“I thought how selfish I was, to think that she, my own sister, was invading my privacy, she was just wondering what I had done that day.”</td>
</tr>
<tr>
<td>Seek social support</td>
<td>Seek assistance in dealing with the emotions</td>
<td>“I’ve gone to a support group for single parents. And I’ve gone to a priest and talked about my problems.”</td>
</tr>
</tbody>
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and anxiety \[\chi^2(1, N = 91) = 12.27, p < .001\]. These main effects did not vary by age group or with each other.

In the second analysis we examined the frequency of contentment, a positive emotion. Again, the model consisted of a 3 (age group) \(\times\) 2 (level of emotional salience) mixed model, using SAS CATMOD (Stokes et al., 2000) with WLS. Age group (young adult, middle-aged adults, and older adults) was a between-subject effect and level of emotional salience (low and high) was a within-subjects effect. All effects were nonsignificant.

In summary, across age groups, perceived emotional involvement and negative emotions such as anger, sadness, and anxiety were experienced more in the high emotionally charged problem situations than in low emotionally charged problem situations. This suggests that participants perceived the problems as varying in emotional salience. In addition, the negative emotion of anger is the predominant emotion reported in these family problem situations.

**Coding Scheme for the Problem-Solving and Emotional Regulation Responses**

We developed the coding scheme for the problem-solving and emotional regulation responses as a synthesis of several coding plans found in the literature (e.g., Cornelius & Caspi, 1987; Folkman et al., 1987; Labouvie-Vief, DeVoe, & Bulka, 1989), using both problem-focused and emotion-focused problem-solving strategies. To allow for a more fine-grained analysis, we added additional strategies to these categories, resulting in a total of 10 strategies (as reported in Watson & Blanchard Fields, 1998). There were three problem-focused strategies, including cognitive analysis, planful problem solving, and regulation–inclusion of others. There were seven emotion-focused strategies, including avoidance–denial–escape, managing reactions through suppression, passive–dependent, managing reactions through confrontive emotion coping, reflection on emotions, acceptance of responsibility, and seek social support.

For analysis purposes, we further categorized the 10 strategies into three higher-order categories: instrumental problem solving, passive emotion regulation strategies, and proactive emotion regulation strategies. See Table 1 for descriptions and examples of the 10 strategies grouped into the three broader categories. In line with Carver and colleagues (1989), we theoretically derived these higher-order strategy categories. In addition to instrumental problem solving (corresponding to their active coping style), our emotion-regulation categories were based on both behavioral self-regulation models (Carver & Scheier, 1985) and measures of coping and problem solving (Folkman & Lazarus, 1988; Heppner et al., 1995). For example, Carver and colleagues (1989) argue that there is much diversity in emotion-regulation strategies, ranging from passive approaches, such as denial, to more active approaches, such as reflecting on emotional events and seeking social support. These qualitatively different forms of emotion regulation have very different implications for handling problem situations.

Three raters independently scored participants’ responses for both low and high emotionally salient problems. They assigned a numeric score to each of the 10 problem-solving strategies separately for the problem-solving response and the emotional regulation response, yielding a total of 20 scores for each of the two participant-generated problems (of low and high emotional salience). Scores ranged from 1 to 3, indicating the degree to
which each particular strategy was used (1 = no use; 2 = some use; 3 = strong use). Finally, raters computed the scores for the three higher-order categories by taking the mean scores of the three problem-solving strategies included in each category: instrumental strategies (mean of scores for cognitive analysis, planful problem solving, and regulation—incursion of others), passive emotional regulation (mean of scores for avoidance—denial—escape, managing reactions through suppression of emotions, and passive—dependent), and proactive emotional regulation (scores for managing reactions through confrontive emotion, reflection on emotions, and seeking social support). The three subcategories that define each global category are not multiple aspects of one attribute. Instead, they are alternative pathways by which this behavior can be manifested. Accordingly, the age differences in subcategories reflected those of the global categories, although we did not expect the subcategories to be internally consistent. Thus each score reflected an index of the average degree of strategy use.

The raters completed an extensive amount of training and used stringent guidelines and a library of illustrative responses for coding. Raters resolved coding discrepancies by discussion among the coders and the first author. We randomly selected 10 participant protocols consisting of a total of 40 scores for coding to obtain reliability measures. Percentage agreement ranged from 92% to 94%. Cohen’s kappa coefficients for each pair of the three coders were $k = .63$ (95% confidence level ranged from .54 to .73), $k = .72$ (95% confidence level ranged from .63 to .81), and $k = .80$ (95% confidence level ranged from .72 to .87), indicating good interrater reliability.

**RESULTS**

The major analysis for both the problem-solving response and the emotional regulation response was a 3 (age group: young adults, middle-aged adults, older adults) × 2 (gender: female, male) × 2 (emotional salience level: low, high) × 3 (strategy type: instrumental strategies, passive emotional regulation, proactive emotional regulation) mixed-design model ANOVA. Age group and gender were the between-subjects factors, and emotional salience level and strategy type were the within-subjects factors. Degree of strategy use was the dependent variable in the analysis and is represented by the raters’ average score (i.e., derived from averaging scores from the subcategories) reflecting the three higher-order categories of strategies (instrumental strategies, passive emotion regulation, and proactive emotion regulation). We removed the acceptance of responsibility strategy from the analysis of proactive emotion regulation category because of the low frequency of use in both the problem-solving and the emotional regulation responses.

**Problem-Solving Response**

When we looked at the strategies participants used to solve the self-generated problems, there were only two effects that reached significance—a main effect of emotional salience level, $F(1, 95) = 18.9, p < .001, \eta^2 = .17$, and a main effect of strategy type, $F(2, 94) = 61.3, p < .001, \eta^2 = .57$. For all age groups, high emotional salience was associated with a higher degree of strategy use, $1.37, SE = .01$, and low emotional salience was associated with a lower degree of strategy use, $1.30, SE = .01$. Similarly, across all age groups, instrumental strategies were used to a greater degree than either passive or proactive emotional regulation ($p < .001$), each of which were not significantly different from the other. Means associated with instrumental strategies, passive emotional regulation, and proactive emotional regulation were $1.63, SE = .03$, $1.19, SE = .02$, and $1.18, SE = .03$, respectively.

**Emotion-Regulation Response**

**Age and gender.**—There were no age differences in the overall strategy use in regulating the emotions elicited by the self-generated problems ($F = 1.7$). However, there was a main effect for gender, $F(1, 90) = 6.5, p < .02, \eta^2 = .07$, such that women ($M = 1.33, SE = .01$) had a higher degree of overall strategy usage than men ($M = 1.28, SE = .02$) when regulating their emotions.

**Emotional salience level and strategy type.**—When we looked at the main effect of emotional salience level, we found that, overall, the degree to which strategies were used to regulate emotions did not differ for low and high emotionally salient situations ($F < 1$). There was, however, a main effect for strategy type, $F(2, 89) = 16.64, p < .001, \eta^2 = .27$, such that all age groups used instrumental strategies and passive emotional regulation to a greater degree than proactive emotional regulation to deal with their emotions ($p < .001$). Means associated with instrumental strategies, passive emotional regulation, and proactive emotional regulation were $1.36, SE = .03$, $1.38, SE = .03$, and $1.18, SE = .02$, respectively.

We further qualified this main effect for strategy type by an interaction between strategy type and emotional salience level, $F(2, 89) = 3.54, p < .04, \eta^2 = .07$. We used planned comparisons, using one-tailed $t$ tests, to determine emotional salience level effects for each type of strategy. We predicted that emotion-regulation strategies would be used to a greater degree in the high emotionally salient situations whereas instrumental strategies would be used to a greater degree in low emotionally salient situations. Proactive emotional regulation was used to a greater degree when participants were dealing with emotions elicited by situations high in emotional salience, $M = 1.22, SE = .03$, than when they were dealing with emotions elicited by situations low in emotional salience, $M = 1.14, SE = .03$ [$t(95) = 1.84, p = .07$]. In contrast, instrumental strategies were used to a greater degree when participants were dealing with emotions elicited by situations low in emotional salience, $M = 1.40, SE = .04$, than when they were dealing with emotions elicited by situations high in emotional salience, $M = 1.32, SE = .03$ [$t(95) = 1.98, p = .05$].

**Age-related interactions with strategy type and emotional salience.**—As we reported earlier, there were no age differences in overall strategy usage in dealing with emotions. However, a significant Age group × Strategy type interaction revealed age differences in the usage of certain types of strategies, $F(4, 180) = 2.79, p < .03, \eta^2 = .06$. We hypothesized that middle-aged and young adults would use proactive and instrumental strategies more so than older adults. In addition, older adults would use passive strategies more so than young adults and middle-aged adults. We conducted planned comparisons, using one-tailed $t$ tests, to test these hypotheses. Two effects explain the interaction. Middle-aged
adults used proactive emotion-regulation strategies to a greater degree, $M = 1.24$, $SE = .05$, than older adults, $M = 1.07$, $SE = .03$ [$t(63) = 3.19$, $p = .002$]. In addition, older adults used passive emotion-regulation, $M = 1.46$, $SE = .06$, to a greater degree than middle-aged adults, $M = 1.30$, $SE = .06$ [$t(63) = -1.85$, $p = .07$].

We were especially interested in whether age group differences in dealing with emotions would depend on the level of emotional salience. Accordingly, we further qualified the interaction reported herein by a significant Age group × Strategy type × Emotional salience interaction, $F(4, 180) = 3.58$, $p < .01$, $\eta^2 = .07$. The hypothesis that middle-aged and younger adults would demonstrate greater use of instrumental and proactive strategies and older adults would rely on passive strategies was expected to be motivated by situations with high emotional salience. Thus, we recomputed planned comparisons, using one-tailed $t$ tests, by level of emotional salience. These findings are depicted in Figure 1. To better illustrate our findings, we present the percentage of individuals by age group who produced responses that fell into each of the higher-order category of strategies (i.e., averaged across subcategories). In the low level of emotional salience, the only significant comparison demonstrated that older adults used passive strategies ($M = 1.48$, $SE = .07$) to a greater degree than did young adults [$M = 1.28$, $SE = .07$; $t(67) = -2.05$, $p = .02$]. In contrast, a majority of the expected effects were found in the high level of emotional salience. Middle-aged adults demonstrated greater use of instrumental strategies than young adults [$t(59) = -2.33$, $p = .02$] and older adults [$M = 1.29$, $SE = .06$; $t(67) = 1.86$, $p = .07$]. Middle-aged adults also demonstrated a greater degree of proactive emotion-regulation strategy use than older adults [$t(63) = 3.78$, $p < .001$]. Finally, older adults demonstrated a greater reliance on passive strategies than middle-aged adults [$t(63) = -2.22$, $p = .03$].

**Gender-Related Interactions With Strategy Type and Emotional Salience Level**

The three-way interaction of Gender × Emotional salience level × Strategy type reached significance, $F(2, 89) = 3.53$, $p < .04$, $\eta^2 = .07$. We did not develop a priori hypotheses for gender effects. Therefore, we conducted simple main effects tests to determine gender differences within each strategy type

**DISCUSSION**

Overall, the present study lends support to previous findings that, in solving social problems, there are relatively no age differences in the implementation of instrumentally oriented problem-solving strategies. Adults of all ages are just as likely to use action-oriented strategies to solve such problems. However, age differences emerge when the focus is on the use of emotion-regulation strategies and, in particular, for interpersonal situations that are emotionally charged (Blanchard-Fields et al., 1995, Watson & Blanchard-Fields, 1998). Furthermore, we extend these findings by demonstrating that differential age effects depend on the type of emotion-regulation strategy examined. Of primary interest was the finding that middle-aged adults chose more instrumental, problem-focused and proactive emotion-regulation strategies than young and older adults, respectively. In contrast, both young and older adults were more similar in their preference for passive emotion-regulation strategies.

**Middle-Aged Adults’ Emotion-Regulation Strategy Preferences**

The question arises as to why middle-aged adults opt for more proactive emotion-regulation strategies than either young or older adults. To begin with, there are a number of theoretical models and empirical evidence that identify developmental changes in emotion regulation as we grow older (Blanchard-Fields, 1998; Carstensen et al., 2000; Labouvie-Vief, 1998; Magai & Halpern, 2001). Labouvie-Vief (1998) suggests that there are two general emotion-regulation styles: one that is responsible for maintaining a positive affective state and one that involves an exploration of emotions (both positive and negative) and, thus, involves the amplification of one’s emotional experience. She further suggests that, in older adulthood, given reduced physical and energy resources, there is a shift toward maintaining a positive balance in emotions (i.e., reducing negative affect and maintaining positive affect). In contrast, in middle adulthood, there is a greater emphasis on an exploratory style that amplifies emotional experience, which leads to greater reflection on one’s emotions. Evidence supporting this dual emotion-regulation trajectory includes (a) findings that one’s self-core remains positive well into old age (Labouvie-Vief & Medler, 2002); (b) an increase in affective complexity until middle age with a corresponding decrease in

![Figure 1. Age differences in strategy use in the high emotionally salient level for the emotion-regulation response.](https://academic.oup.com/pyschsocgerontology/article-abstract/62/5/P261/570891/09 February 2019)
this style of emotion regulation in older adulthood (Blanchard-Files & Norris, 1994; Labouvie-Vief & Medler, 2002); (c) older adults’ tendency to suppress their feelings in response to conflict accompanied by positive interpretations of one’s conflicts (Diehl, Coyle, & Labouvie-Vief, 1996); and (d) findings that older adults report less negative affect in everyday situations relative to younger age groups and more consistently report high positive affect (Carstensen et al., 2000).

Thus, theories of change in emotion regulation over the life span offer a plausible explanation for greater proactive emotion-regulation strategy use observed in our middle-aged sample. In accordance with Carstensen’s model (Carstensen, 1992; Fung, Carstensen, & Lang, in press), middle age, at least in its earlier phases, is a period of establishing career and family, and thus goals align more with knowledge seeking, even at the expense of emotional satisfaction. This corresponds well with our finding that middle-aged adults engage in greater use of proactive emotion-regulation strategies, such as confronting one’s emotional experience and consciously reflecting on one’s emotions, and adopt more instrumental strategies. In addition, Labouvie-Vief’s (1998) notion of emotion exploration and amplification is consistent with greater use of proactive emotion-regulation strategies.

An alternative approach to understanding middle-aged adults’ strategy preferences is to consider cohort-related differences among the age groups. Middle-aged adults represent the Baby Boomer generation. To the dismay of their elders, this generation grew up in times (e.g., the 1960s) in which individuals were encouraged to question, challenge, and disobey authority (Starker, 1989). In this context, psychological well-being involved the need to embrace self-expression and the need to take responsibility for one’s feelings. In addition, there are life-stage differences to consider. Middle-aged adults are in a more instrumental–proactive stage in life management. For example, they may be more engaged in family maintenance, both with young children and older parents. Older and younger adults may be more disassociated from problems within the family. Both of these developmental interpretations, again, correspond well with a proactive and instrumental style of confronting and reflecting on emotions. Further research must tease apart the developmental trends associated with age-related change in experience and motivational goals and those that are influenced by cohort differences.

Finally, middle-aged adults may experience greater control over their problem situations generated in comparison with older adults. In fact, it is argued that midlife individuals experience a peak in personal control and power (Clark-Plaske & Lachman, 1999; Lachman & Weaver, 1998). In the context of the present study, it may be the case that middle-aged adults’ instrumental and proactive approach to emotion regulation such as directly confronting others results directly from a perceived control and power over the situation. We did not assess perceived controllability over the problem in the present study; however, this would be a fertile ground for future research to establish other possible mechanisms accounting for the use of proactive emotion-regulation strategies in midlife.

Older and Young Adults Strategy Preferences

In contrast to middle-aged adults, older adults adopted more passive emotion-regulation strategies in managing emotions evoked in high emotionally salient problem situations. Interestingly, so did young adults, although this was not one of our tested a priori hypotheses. On the part of older adults, this tendency is consistent with previous findings that demonstrate a shift in older adulthood toward a more internal focus in emotion regulation (Schulz & Heckhausen, 1997) and toward optimizing positive affect (Carstensen et al., 2000; Labouvie-Vief, 1998), as well as a reliance on passive emotion-problem-solving strategies (Blanchard-Fields et al., 1995, 1997). However, in considering a cohort-related perspective, one can see that these findings could also relate to the socialization of this older cohort that grew up during the Great Depression. During this period, it was quite adaptive to suppress feelings and keep a stiff upper lip (Blanchard-Fields, 1998).

However, young adults also displayed the tendency to adopt passive emotion-regulation strategies in highly emotionally salient problem situations. Previous literature suggests that this strategy is more adaptive and more prominent in older adulthood, whereas more proactive (primary control striving) strategies should be more evident in youth (e.g., Schulz & Heckhausen, 1997). However, Blanchard-Fields and colleagues (1997) found that young adults endorsed more passive-dependent strategies in interpersonal conflict domains. These researchers argue that it may be a matter of experience in dealing with interpersonal conflicts. In other words, young adults may not have the skills to deal with the aftermath of an interpersonal conflict. Thus, both young adults and older adults may exhibit the same pattern of emotion regulation in this context, yet for differing reasons. Further research should explore the social mechanisms underlying problem-solving strategy choice.

Conclusions

The findings of this study indicate that age differences do not appear in the use of instrumental strategies in solving social problems. Age differences, however, do emerge when emotion-regulation strategies are the focal point and when problem situations that are emotionally charged are examined. In highly emotional contexts, middle-aged adults tend to be more proactive in confronting their emotions, whereas both young and older adults take a more passive approach.

Some potential limitations of the present study should be noted and temper the interpretation of these findings. First, there are other variables that could have influenced problem-solving strategies that were allowed to vary freely: the age relevance of the problem situation reported, the situational specificity of the family-related problem content, and the like. It may be the case that the relevance and importance of the content of the problem reported influenced strategy choice. Having individuals give open-ended responses to standardized family related situations or the use of standardized hypothetical vignettes could provide converging evidence for age differences in preferred emotion-regulation strategies. However, it would also be informative to examine other problem domains to test for the generalizability of the age-related emotion-regulation styles. For example, it may be the case that family problems are particularly volatile for middle-aged adults and thus produce an increase in proactive emotion management. They are dealing with family problems related to both their children and aging parents. It was the case that, in high emotional problem situations, middle-aged adults appeared to
experience a higher level of negative emotions than the other two age groups. A more representative sampling of problem situations is needed to further validate these findings.

Second, the discrete emotions evoked in the various situations were also allowed to vary freely. In addition, emotion-regulation strategy reports were directed toward the combination of emotions reported as a whole. Future research should isolate the particular type of emotion and the emotion-regulation strategy linked to it. For example, differential emotions theory and a functionalist theory of emotion (Izard, 1991; Magai & Halpern, 2001) suggest that emotions are differentially linked to adaptive regulation strategies.

In conclusion, this study further supports the notion that emotion plays an important role in the process of solving everyday problems. Furthermore, an important aspect of this study was the exploration of developmental differences often missed in the aging literature (where extreme-age-group designs dominate): the oft-overlooked middle-aged group. By distinguishing proactive from passive emotion-regulation strategies in the context of social problem solving, the findings of this study draw attention to the differential approach that middle-aged adults take toward emotion regulation. This generation of adults tends to be more proactive in confronting and reflecting on their emotional experience in contrast to more youthful and elderly adults. The question remains as to whether this is a function of emotional socialization indicative of the Baby Boomer Generation or a normative developmental trajectory in which emotional development in the form of affective complexity peaks in middle age. Longitudinal data are necessary to tease apart age-related differences in the emotion trajectory from the influence of cohort-related socialization of emotional expression and regulation.

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