Can't Get It Out of My Head: Age Differences in Affective Responsiveness Vary With Preoccupation and Elapsed Time After Daily Hassles

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Abstract

To better understand age differences in negative affective responses to daily hassles, the current study investigated how responses may depend on how much time has elapsed after the hassle and how much one still thinks about the hassle. In an experience-sampling approach with mobile phones, 397 participants aged 12 to 88 years reported their momentary activating (e.g., angry) and deactivating (e.g., disappointed) negative affect and occurrences of hassles, on average 55 times over three weeks. On measurement occasions when a hassle had occurred, participants also reported how long ago it occurred and how much they were currently preoccupied with thoughts about the hassle. Multilevel modeling results showed that, compared with more recent hassles, people across the entire age-range of the sample reported lower activating, yet higher deactivating, negative affect when hassles occurred a longer time ago. Age differences only emerged in situations when individuals were still preoccupied with a past hassle. In these situations, deactivating negative affect was higher with stronger preoccupation and more elapsed time after the hassles; these effects were more pronounced with older age. Activating negative affect was higher the more people reported being preoccupied with the hassle and this effect was also more pronounced with age. The results foster an understanding of age differences in negative affective responses to daily hassles by considering preoccupation with hassles and investigating activating and deactivating negative affect separately. We discuss under which circumstances affective responsiveness and age differences therein are more or less pronounced.

Keywords: temporal affect dynamics; stress reactivity; rumination; experience sampling method; lifespan development

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Affective well-being often remains stable or even increases across adulthood (e.g., Carstensen et al., 2011; Riediger, Schmiedek, Wagner, & Lindenberger, 2009). This effect might be partly due to people exhibiting less affective responsiveness to hassles with older age (whereby older adulthood is demarcated at approximately 60+ years of age, Charles, 2010; Charles & Luong, 2013). Empirical evidence on age differences in hassle responsiveness, however, has been mixed. Some studies find lower negative affect with older age in response to unpleasant events such as daily hassles (Charles, Piazza, Luong, & Almeida, 2009; Uchino, Berg, Smith, Pearce, & Skinner, 2006), whereas other studies find the opposite (e.g., Mroczek & Almeida, 2004; Wrzus, Müller, Wagner, Lindenberger, & Riediger, 2013), or no age differences (e.g., Hay & Diehl, 2010; Stawski, Sliwinski, Almeida, & Smyth, 2008).

These inconsistencies may have arisen partly because the different studies vary in their assessment of affective responses to hassles. Studies differ in *how* they conceptualize and measure negative affect (e.g., general negative affect, Stawski et al., 2008 vs. specific facets of negative affect, Wrzus et al., 2013) as well as in *when* they assess affective experiences following the occurrence of a hassle (e.g., several times a day and hence relatively shortly after a hassle, Stawski et al., 2008, vs. at the end of the day and hence relatively long after hassles occurred, Mroczek & Almeida, 2004). Additionally, most studies on this topic have ignored the extent to which individuals may still be cognitively preoccupied with the hassle, which can prolong the affective experience (Brosschot, Gerin, & Thayer, 2006; Verduyn, Delvaux, Van Coillie, Tuerlinckx, & Mechelen, 2009a). Below we describe how these aspects (which facets of negative affect are measured, how much time has elapsed between the occurrence of a hassle and the assessment of negative affect, and the degree to which

individuals continue to be preoccupied with the hassle) may contribute to age differences in affective responses to daily hassles.

Activating and Deactivating Negative Affect Over Time

Several lines of research support the importance of distinguishing between activating (e.g., angry) and deactivating negative affect (e.g., disappointed) because they are assumed to have different etiologies and elicit different behavioral responses (Carver, 2004; Feldman-Barrett & Russell, 1998; Taylor, 1991; Watson & Tellegen, 1985). Motivational theories argue that activating negative affect, such as anger or frustration, signals that a goal may not be fulfilled (e.g., getting one's way) and that the elevated arousal level mobilizes energy to deal with the situation (Carver, 2001, 2004; Taylor, 1991). In contrast, deactivating negative affect, such as sadness or disappointment, indicates loss and uncontrollability and may help with coming to terms with the hassle. Here, the low arousal level may preserve energy (Carver, 2001, 2004; Streubel & Kunzmann, 2011). In line with such a functional account of activating and deactivating affective states, we propose that both components might be present in a given reaction to a hassle, yet their relative emphasis might differ depending on how long ago the hassle occurred. Activating negative affect should be dominant during or immediately after a hassle has occurred because activating energy is relevant for possible action to do something about the hassle. With time, the intensity of activating negative affect should fade away. The more time that has passed after a hassle, and the more the situation is accepted, the more deactivating negative affect should be dominant.

Research on the duration of negative emotions (irrespective of previous hassles) supports these assumptions, as sadness has been found to last longer than anger (Verduyn, Van Mechelen, Kross, Chezzi, & Van Bever, 2012; Verduyn, Van Mechelen, Tuerlinckx, Meers, & Van Coillie, 2009b). In these studies, participants remembered how their affective experiences varied over time and retrospectively rated affective episodes on one occasion

regarding different time points after the eliciting event. Thus, it is difficult to disentangle how affective experiences actually changed over time from participants' beliefs on how they changed. Despite wide acknowledgement that affective states unfold over time, empirical research on this topic is very scarce (see Kuppens, Oravecz, & Tuerlinckx, 2010; Larsen, Augustine, & Prizmic, 2009). Based on the available literature, we hypothesize that the magnitude of activating and deactivating negative affect depends on how long ago the hassle occurred. Compared to recent hassles, activating negative affect should be lower, yet deactivating negative affect should be higher, when hassles occurred longer ago.

How may age differences in hassle responsiveness depend on the distinct time courses of activating and deactivating negative affect? According to the Strength and Vulnerability Integration (SAVI) model (Charles, 2010; Charles & Luong, 2013) and the Dynamic Integration Theory (Labouvie-Vief, 2003), older age is associated with physiological and cognitive vulnerabilities that make it difficult for older adults to down-regulate high affective arousal once elicited (e.g., intense levels of activating negative affect after hassle experiences). Deactivating negative affect, especially sadness, may also be more difficult to down-regulate with older age due to its greater age relevance, stemming from the association with loss and endings (Kunzmann & Grühn, 2005; Streubel & Kunzmann, 2011). Thus, we hypothesize that with older age, activating negative affect should remain higher even though more time has elapsed after hassles due to greater difficulties in dealing with elicited activating negative affect (Charles, 2010; Charles & Luong, 2013). In other words, the assumed negative association between activating negative affect and more elapsed time should be diminished with older age.[1] Also, with older age, deactivating negative affect should increase more with greater time following a hassle due to its greater age relevance (Kunzmann & Grühn, 2005; Streubel & Kunzmann, 2011). In other words, the assumed

positive association between deactivating negative affect and more elapsed time should be amplified with older age.

SAVI also posits that older age is associated with affect regulatory strengths that help to maintain or regain affective well-being (i.e., low levels of negative affect). Affect regulatory strengths acquired with age should help to down-regulate negative affect, when older adults can physically or mentally distance themselves from past unpleasant events (Charles, 2010; Charles & Luong, 2013). Thus, how much people think about a past hassle should also influence the experienced negative affect.

Preoccupation With Hassles

We use the term "preoccupation" to refer to how much an individual is currently thinking about a past hassle. Preoccupation is related to a longer reported duration of negative affective experiences in general (Brosschot & Thayer, 2003; Verduyn et al., 2011, 2012) because thinking about the past event serves as a substitute elicitor and also prevents affective recovery from the event (Brosschot et al., 2006; Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Rumination is a specific case of preoccupation and has been defined as "repetitively and passively focusing on symptoms of distress and the possible causes and consequences" as opposed to solutions to the problem (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008, p. 400). Although rumination has also been linked to greater negative affect (Genet & Siemer, 2012; Nolen-Hoeksema et al., 1993; Ray, Wilhelm, & Gross, 2008), it is unclear whether just thinking about a hassle or thinking about hassles in a negative way (i.e., rumination) contributes to the association with negative affect. Given that we are primarily interested in understanding whether thinking about past hassles may alter the time course of affective experiences and age differences therein, we focus on general preoccupation with past hassles. We hypothesize that greater preoccupation with past hassles

relates to higher levels of both activating and deactivating negative affect when hassles occurred longer ago because being preoccupied prevents the recovery process.

As discussed previously, according to SAVI, older adults' affective strengths lie in their abilities to avoid and mentally disengage from hassles (Charles, 2010; Charles & Luong, 2013). Thus, preoccupation with hassles should be higher among younger compared to older individuals. Indeed, previous work has shown that ruminative or unconstructive repetitive thoughts are often more prevalent among younger adults, relative to older adults (Erskine, Kvavilashvili, & Kornbrot, 2007; Jain & Labouvie-Vief, 2010; Phillips, Henry, Hosie, & Milne, 2006), or sometimes similar (Brose, Schmiedek, Lövdén, & Lindenberger, 2011; Thomsen, Mehlsen, Viidik, Sommerlund, & Zachariae, 2005). SAVI posits that, irrespective of the frequency of avoiding or disengaging from hassles, when older adults are unable to employ their age-related affect regulatory strengths of disengaging from hassles by no longer thinking about past hassles (i.e., when they remain preoccupied with), they may fare worse in their affective well-being compared to younger individuals(Charles, 2010; Charles & Luong, 2013).

Results from one laboratory study (Charles & Carstensen, 2008) are in line with these predictions: Younger and older adult participants listened to audiotaped conversations, whereby others were ostensibly gossiping about them, and repeatedly rated their sadness and anger throughout the laboratory session. Over the course of the conversations, older adults' sadness continually increased, whereas younger adults showed an initial increase and plateaued afterward. Both age groups showed initial increases in their anger and then stabilized. Given that the participants were instructed to listen to the unpleasant gossip, the authors concluded that sadness presumably increased among older adults because they could not mentally disengage from the situation. We hypothesize that the moderating effect of preoccupation on the association between time after hassles and activating or deactivating

negative affect, respectively, should be more pronounced with older age because older adults' well-being will be more impaired when unpleasant situations cannot be avoided (Charles, 2010).

Although the findings by Charles and Carstensen (2008) point to the importance of examining how preoccupation may moderate age differences in affective responses to daily hassles, few studies have done so. For example, Brose et al. (2011) found that older adults' negative affect increased less, compared to younger adults, when they thought about hassles that had occurred earlier that day. This study, however, did not distinguish between activating and deactivating negative affect, and the study did not consider the amount of time that had passed between the occurrence of the hassle and the assessment of momentary affect in the laboratory, thereby obscuring the timescale of the affective responses to hassles. Together, these findings demonstrate the need to study the effect of both the time that has elapsed after the hassle and the preoccupation with the hassle on different facets of negative affect to better understand age differences in hassle responsiveness.

Summary of Hypotheses

Based on the previous reflections regarding time-related aspects of negative affect, the effects of preoccupation with unpleasant events, and age-related changes in these, we postulate four hypotheses, separately for activating and deactivating negative affect:

(H1): The magnitude of activating and deactivating negative affect should depend on how long ago the hassle occurred. Compared to recent hassles, activating negative affect should be lower when hassles occurred longer ago (H1a). The reverse effect should be true for deactivating negative affect, which, compared to recent hassles, should be higher when hassles occurred longer ago (H1b).

(H2): With older age, activating negative affect should remain higher even though more time has elapsed after hassles (i.e., the negative association between activating negative affect and

more elapsed time should be diminished with older age due to greater difficulties dealing with high arousal states, H2a). Also with older age, deactivating negative affect should increase more with greater time following a hassle (i.e., the positive association between deactivating negative affect and more elapsed time will be amplified with older age due to greater age relevance of low arousal states, H2b).

(H3): Preoccupation with past hassles should moderate the associations between how long ago the hassles occurred and the magnitude of activating or deactivating negative affect, respectively. Greater preoccupation with past hassles should attenuate the negative association between more elapsed time and activating negative affect and because preoccupation may sustain levels of activating negative affect (H3a). Also, greater preoccupation with past hassles should amplify the positive association between more elapsed time and deactivating negative affect because preoccupation should hold the eliciting event present and make the loss-relevant portions of the process especially salient (3b).

(H4): The moderating effect of preoccupation on the associations between time after hassles and activating or deactivating negative affect, respectively, should be more pronounced with older age (H4a and H4b) because preoccupation runs counter to cognitive distancing from the event. However cognitive distancing is presumably preferred with older age because it helps to diminish the impact on one's affective well-being (Charles, 2010). Formally, we predict a time × preoccupation × age interaction for both outcome variables, activating and deactivating negative affect.

With respect to the hypothesized age moderations, we predict linear age effects (i.e., associations become weaker or stronger with age) because this corresponds to theoretical positions for the majority of the lifespan (e.g., Charles, 2010). Although non-linear effects sometimes occur with respect to the level of certain constructs (e.g. stronger decreases of hassle occurrence earlier in life with a levelling off later in life), associations between

constructs often show linear age effects (i.e., associations become weaker or stronger with age, or are the same). Nonetheless, we will additionally test non-linear age effects (see Method section *Analytic strategy*).

Method

We used an experience sampling method to study age differences in affective responsiveness to daily hassles for two reasons. First, experience sampling methods usually assess affective experiences in close temporal proximity to their eliciting situations and hence may reduce biases often inherent in retrospective or end-of-day reports (Ready, Weinberger, & Jones, 2007; Schwarz, 2011). Second, the assessments in people's natural environment capture affective experiences under real-life conditions, enhancing the ecological validity of the results (Riediger & Rauers, in press).

Participants

The present data were collected in the context of the 2010 wave of an ongoing longitudinal project, [*reference removed for masked review*]. A fieldwork agency originally recruited 400 participants for the study from [*geographic region removed for masked review*]. Twenty-four trained interviewers, who later conducted the data assessments, recruited participants from their extended network and neighborhood based on predefined criteria regarding gender, age, educational level, and the independence of the participants (i.e., prohibiting spouses to both take part in the study). In the experience sampling assessment, 397 participants took part (52% female). Participants ranged in age from 11.6 to 88.1 years (M = 39.9, SD = 20.5). The sample was approximately stratified by gender (52% women) and age group (20% 12–17 yrs.; 20% 18–29 yrs.; 13% 30–39 yrs.; 14% 40–49 yrs.; 12% 50–59 yrs.; 14% 60–69 yrs.; 8% 70–88 yrs.). Twenty-three percent of the 320 participants who had already finished school attained a university degree.

Procedure

Participants completed computerized questionnaires in individual sessions at their homes. In these sessions, they received instructions on the questionnaires as well as mobile phones (Nokia E50) for the experience sampling phase (ESM) that always started the next day. The phones prompted participants six times a day on at least nine days over the course of three weeks to answer a short questionnaire displayed on the phone. The six assessments occurred approximately two hours apart—the exact timing was randomized so that participants were unaware when the next assessment would occur (see [*reference removed for masked review*] for further details). After the experience sampling phase, participants received a reimbursement of approximately US$135 (100€). The Ethics Committee [*institutional affiliation removed for masked review*] approved the study.

Measures—Repeated Assessment During Experience Sampling Methodology (ESM)

Negative affect. At each assessment, participants first rated their current negative affect with six adjectives on a scale ranging from 0 (*not at all*) to 6 (*very much*). The selected adjectives (activating negative affect: tense, angry, nervous; deactivating negative affect: disappointed, downcast, tired) were from validated adjective lists to assess affect (Hampel, 1977; Matthews et al., 1990; Watson & Clark, 1999). A multilevel confirmatory factor analysis conducted in Mplus (Muthén & Muthén, 2008) attested an acceptable fit to this proposed two-factor structure (comparative fit index [CFI] = .902, root mean-square error of approximation [RMSEA] = .063, $\chi^2 = 702.98$, $p < .001$).

Hassles, time elapsed after the hassles, and preoccupation with the hassles. During the initial instruction session, trained research assistants explained that hassles referred to having experienced something unpleasant, such as an interpersonal conflict or sleeping through one's alarm. During the experience sampling phase, participants indicated whether they had experienced a hassle (*yes/no*) since the last assessment or since waking up,

when it was the first assessment in the morning. If a hassle was reported, participants were asked to indicate how long ago the hassle occurred (elapsed time: 0 = *less than 5 min. ago*, 1 = *less than 10 min. ago*, 2 = *less than 30 min. ago*, 3 = *less than 60 min. ago*, 4 = *more than 60 min. ago*). We deliberately chose an equally spaced measurement scale (0, 1, 2, etc.) and unequally distanced response categories because together they correspond to the logarithmic functions assumed for the affect time course, that is, first faster change, followed by a slowed leveling off (Verduyn et al., 2009a). Participants also rated how much they were currently still thinking about the hassle (preoccupation: 0 = *not at all* to 6 = *very much*) and how important it was (severity: 0 = *not at all* to 6 = *very much*).

The date and time of each assessment was automatically saved by the software at each assessment and allowed computations of the lagged effect of hassle occurrences (see *Analytic Strategy* below).

Control variables. At each assessment, participants also reported their current activity and the presence of other persons. From seven answering options each, we created overarching categories: for activities *work & duties* (work/school/study, chores/errands, doctor visit/office run), *leisure* (leisure activity, conversation/visit), *inactive leisure* (doing nothing/sleeping/watching TV), and *unspecified* (other and multiple categories chosen); for other persons present: *alone* (nobody present), *private social partner* (partner, family, friends), *non-private social partner* (colleagues/fellow students, strangers), and *unspecified* (other and multiple categories chosen). We used the current activity and the presence of other persons as control variables because affective experiences may vary with what people do and whom they are with (White & Dolan, 2009). We also checked that our results remain robust when controlling for the severity of the hassle because subjective severity might differ both between hassles and between people (e.g., Mroczek & Almeida, 2004).

Analytic Strategy

As measurement occasions (Level 1) were nested within persons (Level 2), we specified multilevel random coefficient models in HLM 6.0 (Raudenbush, Bryk, & Congdon, 2004). We used full information maximum likelihood estimation and robust standard errors to take deviations from normal distribution in negative affect into account. The time-related dependencies of measurements within persons (i.e., auto-correlation) and the unequal spacing between Level-1 measurements were modeled by predicting the Level-1 error-covariance structure by the time of each assessment in hours since the beginning of the study, which was automatically recorded by the phone (Raudenbush & Bryk, 2002). In our main analyses, the dependent variables were activating or deactivating negative affect at a specific measurement occasion (Level 1), which were predicted by elapsed time since the hassle occurred (Level 1), degree of momentary preoccupation with the hassle (Level 1), and the interaction between both (Level 1). Both Level 1 predictors were uncentered because 0 was a meaningful value, indicating either "less than 5 min had elapsed" or "not being preoccupied" for each variable, respectively. Using uncentered Level 1 predictors was desirable because the coefficients are conditional effects and hence interpreted as effects when the other variables were 0, e.g., when no preoccupation with a hassle was reported (Raudenbush & Bryk, 2002). The interaction term between both was computed with person-mean centered variables to reduce collinearity. Age was entered as a linear and quadratic predictor (both centered at the sample mean) on Level 2. We first tested all interactions with linear and quadratic age and then omitted non-significant age effects for reasons of parsimony. Formally, the equations were:

Occasion level (level 1)

$$\text{Negative affect}_{ij} = \beta_{0j} + \beta_{1j}\,(\text{elapsed time}) + \beta_{2j}\,(\text{preoccupation}) + \beta_{3j}\,(\text{elapsed time} \times \text{preoccupation}) + r_{ij}$$

Person level (level 2)

$$\beta_{0j} = \gamma_{00} + \gamma_{01}\,(age) + \gamma_{02}\,(age^2) + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}\,(age) + \gamma_{12}\,(age^2) + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + \gamma_{21}\,(age) + \gamma_{22}\,(age^2) + u_{2j}$$

$$\beta_{3j} = \gamma_{30} + \gamma_{31}\,(age) + \gamma_{32}\,(age^2) + u_{3j}$$

We also predicted affective experiences at the next assessment within the same day to test for effects of elapsed time longer than the approximate 2-hour window between assessments. Here, we used very similar equations to before: The dependent variable now was negative affect at the next assessment within the same day. The modified predictor of how much time elapsed since the hassle occurred took the varying times between assessments into account, which were automatically recorded. The scale categories for this variable were: 0 = *less than 60 min. ago*, 1 = *between 60 and less than 90 min. ago*, 2 = *between 90 and less than 120 min. ago*, 3 = *between 120 and less than 180 min. ago*, 4 = *more than 180 min. ago.* These categories were chosen because two consecutive assessments were at least 20 min and at most 180 min. apart (M = 118.5 min., SD = 29.4 min.). To give examples, if at T+0 a hassle was reported to have occurred "less than 5 min. ago" and the T+1 assessment occurred 1 hr and 16 min. later, we coded the elapsed time since hassle as "between 60 and less than 90 min. ago"; if at T+0 the hassle was reported to have occurred "less than 30 min. ago" and the T+1 assessment occurred 1 hr and 16 min later, we coded the elapsed time as "between 90 and less than 120 min. ago". Further predictors on Level 1 were the amount of preoccupation (uncentered), the interaction between elapsed time and preoccupation (person-mean centered before multiplication), and the occurrence of a hassle at the next assessment as a control variable (1 = *yes*, 0 = *no*). Age was again entered as linear and quadratic Level 2 predictor and non-significant age effects were removed for parsimony. All analyses controlled for the

severity of the hassle, current activity, and the presence of other persons. The interpretation of the coefficients is the same as in ordinary least squares regression.

Results

First, we summarize descriptive results regarding the central study variables. Next, we report findings on the magnitude of momentary activating and deactivating negative affect related to the occurrence of a hassle and the time that had elapsed after a hassle (H1), which, contrary to our predictions, did not significantly vary with age of participant (H2). Then, we show that preoccupation with the hassle moderated the associations between deactivating negative affect and elapsed time (H3), and, as expected, this was different for people of varying ages (H4). Afterwards, we address whether these effects persisted across longer time intervals until the next assessment about two hours later. Finally, we explore situational predictors of the elapsed time after hassles and the degree of preoccupation with the hassle to understand age-differential effects of elapsed time and preoccupation.

Age Differences in Elapsed Time after Hassles and Preoccupation with Recent Hassles

Table 1 shows that people reported hassles on average in 10% of their measurement occasions, and somewhat less often with older age, where the quadratic age effect denotes that the decrease in hassle occurrence leveled off approximately after age 50. The time that had passed between the hassle occurrence and the measurement occasion was on average similarly distributed across the answering categories, with slightly more hassles being reported as having occurred less than 30 minutes ago. With older age, people reported fewer hassles as having occurred less than 5 minutes ago, whereas they reported relatively more hassles as having occurred less than 10, 30, or 60 minutes ago. Finally, people were quite preoccupied with past hassles (M = 3.5 on a 0–6 scale). Average preoccupation was higher with older age and again somewhat lower among the oldest participants (older than 70 years) as indicated by the quadratic age effect.[2]

Increased Momentary Negative Affect after Hassles—Differently for Activating and Deactivating Negative Affect Depending on the Elapsed Time after Hassles

We computed discontinuous change multilevel models (Singer & Willett, 2003) to test simultaneously whether negative affect was higher when hassles occurred (compared to situations without preceding hassles), how elapsed time after hassles related to activating (H1a) and deactivating negative affect (H1b) and whether age moderated these associations (H2a & H2b). Momentary activating or deactivating negative affect was predicted by a dummy-coded variable whether a hassle had occurred (-1 = no hassle, 0 = hassle less than 5 minutes ago; Level 1), the elapsed time after a hassle (Level 1), and age as continuous linear and quadratic person variables (Level 2).[3] The inclusion of both Level 1 variables allowed a simultaneous testing of hassle responsiveness (i.e., hassle occurrence) and elapsed time after hassles. In addition, the intercept became meaningful from centering both variables in such a way that "0" indicated situations when hassles occurred less than 5 minutes ago.

Activating negative affect. We first established that participants showed hassle responsiveness: Activating negative affect was higher in situations when a hassle had occurred less than five minutes ago compared to situations without preceding hassles (hassle occurrence $b = 1.23$, $SE = 0.07$, $p < .01$). This effect was more pronounced the older the participants were (hassle occurrence × age $b = 0.013$, $SE = 0.004$, $p < .01$). Regions of significance analyses (Preacher, Curran, & Bauer, 2006) showed that the increase in activating negative affect in response to hassles was nonetheless significant for the full age range of the sample. Age explained about 10.6% of the variance in the hassle responsiveness. Importantly the significant effect of elapsed time ($b = –0.07$, $SE = 0.03$, $p < .01$) supported H1a: Activating negative affect was lower with greater time elapsed since the hassle. Contrary to H2a, age did not moderate the effect of elapsed time.

Deactivating negative affect. Again, we first established that participants showed hassle responsiveness: Deactivating negative affect was higher in situations when a hassle had occurred less than five minutes ago (hassle occurrence $b = 0.73$, $SE = 0.05$, $p < .01$) compared to situations without preceding hassles.[4] Age did not moderate the effect of hassle occurrence. Importantly, the significant effect of elapsed time ($b = 0.04$, $SE = 0.02$, $p < .01$) supported H1b: In contrast to activating negative affect, deactivating negative affect was higher with greater elapsed time since hassles occurred. Contrary to H2b, age again did not significantly moderate the effect of elapsed time.

Follow-up comparison on activating and deactivating negative affect. Figure 1 illustrates the previous findings and shows two things: (a) Initial hassle responsiveness (i.e., differences in negative affect in situations without preceding hassles compared to situations with recent hassles) was more pronounced for activating compared to deactivating negative affect. Following the logic of comparing correlations, we compared the coefficients of hassle occurrence for activating and deactivating negative affect.[5] This confirmed that hassle responsiveness was significantly larger for activating compared to deactivating negative affect: $b = 0.25$, $SE = 0.04$, $p < .01$. (b) Effects of elapsed time differed for activating and deactivating negative affect, showing decreases in activating, yet increases in deactivating negative affect, with more elapsed time. Accordingly, we compared the relative magnitude of activating and deactivating negative affect at different times after hassles: When hassles were reported as having occurred less than 5 minutes ago, activating negative affect was significantly higher than deactivating negative affect (difference between affect facets $b = 0.28$, $SE = 0.006$, $p < .01$); no significant differences between both affect facets appeared when hassles occurred less than 30 minutes or less than 60 minutes ago. In contrast, when hassles were reported as having occurred more than 60 minutes ago, activating negative affect

was significantly lower than deactivating negative affect (difference between affect facets b = –0.13, SE = 0.06, p = .02).

Preoccupation with Hassles and Age Moderated the Association between Momentary Negative Affect and Elapsed Time after the Hassle

After we established that negative affect varied with the time that had elapsed after a hassle, differently for activating and deactivating negative affect, we now addressed how preoccupation with the hassle moderated the effects of elapsed time on negative affect (Hypothesis 3a & 3b) and whether this differed with age (Hypothesis 4a & 4b). Thus, for the next analyses, we focused only on measurement occasions when participants reported that a hassle had occurred. Momentary activating or deactivating negative affect was predicted by the elapsed time after a hassle, preoccupation with the hassle, and the interaction between the two (Level 1), and age as continuous linear and quadratic person variables (Level 2); see the Method Section for the formal equations. Note again that these effects were conditional effects and have to be interpreted as effects when the other predictors were at their centered value and had a value of zero.

Activating negative affect. Table 2 shows that the key interactions between elapsed time and preoccupation (H3a) or between elapsed time, preoccupation, and age (H4a), respectively, were not statistically significant. We observed a significant main effect of preoccupation and a preoccupation × age interaction: Activating negative affect was higher the more people reported that they were still preoccupied with a hassle. This association was more pronounced the older the participants were, yet significant across the entire age range of the sample, as confirmed by computing regions of significance (Preacher et al., 2006). Age statistically explained about 7.5% of the variance in the association between activating negative affect and preoccupation. Figure 2 summarizes the effects of preoccupation and age

on activating negative affect. We see that the more people reported to be still preoccupied with the hassle, the higher the activating negative affect was, and this increased with age.

Deactivating negative affect. The statistically significant interaction between elapsed time, preoccupation, and age supported Hypothesis 4b (see Table 2). This 3-way interaction translated into the following simple slopes (Preacher et al., 2006): When people reported no preoccupation, deactivating negative affect was higher the more time had elapsed after hassles (positive slope), without significant age differences therein. Yet when people reported around average preoccupation (=4), the association between the elapsed time and deactivating negative affect was significant for people younger than 26.3 years old and negative, and significant for people older than 41.9 years old, yet positive. This means, for people younger than 26.3 years of age, deactivating negative affect was smaller with greater elapsed time since the hassles occurred, whereas for people older than 41.9 years, deactivating negative affect was greater with greater elapsed time. The simple slopes illustrate why the elapsed time × preoccupation interaction was not significant in Table 2. This coefficient tests H3b and denotes the interaction at the sample average age (39.9 years), which was just outside the region-of-significance reported before (41.9 years to age maximum). Age statistically explained about 22.7% of the variance in the association between deactivating negative affect, elapsed time, and preoccupation.

Figure 3 summarizes the effects of elapsed time, preoccupation, and age on deactivating negative affect. Without preoccupation with a prior hassle (striped bars), deactivating negative affect was higher the more time had elapsed after the hassle—this effect was not significantly moderated by participants' age. Yet the moderation effect of preoccupation on the association between elapsed time and deactivating negative affect varied with participants' age. Among adolescents and young adults, stronger preoccupation with hassles that occurred longer ago related to **smaller** deactivating negative affect compared to

more recent hassles. Among middle-aged and older adults, however, stronger preoccupation with hassles that occurred longer ago related to **greater** deactivating negative affect compared to more recent hassles.

Later Negative Affect Significantly Predicted by Preoccupation with Hassles, but Not Elapsed Time after the Hassle and Age

After establishing that negative affect, reported at most two hours after a hassle, varied with the time that had elapsed and the momentary preoccupation, we next examined whether interactions between preoccupation with the hassle and elapsed time would persist across longer time intervals (i.e., several hours later).[6] Here, we predicted negative affect at the next assessment T+1 and did not control for negative affect at T+0 because we were interested in absolute levels of negative affect at a later time and not residual change in negative affect. In these analyses, the amount of elapsed time took into account both when the hassle occurred and the time between two assessments (see Methods Section).

Activating and deactivating negative affect. The results summarized in Table 3 show that, unlike predicting momentary affect, the reports of how long ago a hassle occurred did not significantly predict activating nor deactivating negative affect at the next assessment. Yet, the more people reported to be preoccupied with a hassle at time T+0, the greater were both activating and deactivating negative affect at the next measurement occasion (T+1). The elapsed time × preoccupation interaction was not a significant predictor of activating nor deactivating negative affect at the next assessment. Age did not significantly moderate the effects of elapsed time after hassles, preoccupation with hassles, or the elapsed time × preoccupation-interaction on activating and deactivating negative affect. Effects were robust when we controlled for effects of hassle occurrence at the next assessment (T+1). Since the association between hassle occurrence and negative affect referred to the same occasion (T+1), these results in Table 3 mirror the results reported previously for the effects of

momentary negative affect: Activating negative affect was higher when hassles occurred and this effect was more pronounced with older age; also, deactivating negative affect was higher when hassles occurred.

Exploratory Analyses on the Predictors of Elapsed Time after Hassles and Preoccupation with Hassles

We followed up on the unexpected finding that, for young participants, higher preoccupation with hassles that occurred longer ago was related to lower momentary deactivating negative affect compared to more recent hassles. Hence, we explored whether such situations (when hassles were reported as longer ago or with high preoccupation) varied among participants with respect to the presence of other persons or current activity.

The amount of reported time elapsed since the hassle occurred was not significantly related to which other persons were present or which activity was pursued (all *p*s > .13, no significant age effects *p*s > .07). However, how much a person reported to be preoccupied with a hassle varied depending on other persons being present or not. We regressed the amount of preoccupation on the variables "alone" (alone = 1, somebody present = 0, Level 1) and age (continuous linear and quadratic person variable, Level 2). The average difference in preoccupation with a hassle when participants were alone versus not alone (b = –0.16, SE = 0.10, p = .13) was more positive with age (b = 0.012, SE = 0.005, p = .01). Follow-up analyses on the interaction showed that, adolescents younger than 18 years reported less preoccupation when they were alone (b = -0.87, SE = 0.30, p < .01), whereas people older than 60 years reported more preoccupation when they were alone (b = 0.29, SE = 0.13, p = .03); and adults between 18 to 60 years of age did not differ in how much they were preoccupied with the hassle when they were in company or alone (b = –0.03, SE = 0.14, p = .82). Importantly, with older age, participants reported that they were alone at more assessments (r_{age} = .28, p < .01). The amount of preoccupation with the hassle was not

significantly related to the type of activity currently pursued (all *p*s > .28, no significant age effects *p*s > .15).

Discussion

People of various ages often differ in affective responsiveness, that is, how much their negative affect is higher than usual when they encounter hassles in daily life. To better understand such age differences in affective responsiveness, we analyzed the effects of the time that had elapsed after hassles and how much people were still preoccupied with the hassles on two different facets of negative affect. We found that activating and deactivating negative affect distinctly varied within persons related to how much time passed after hassles, without significant age differences therein. Only when people reported to be preoccupied with the hassle did age differences emerge.

Activating and Deactivating Negative Affect Show Distinct Relations to Elapsed Time after Hassles

The current study is the first to show that, in people's daily life, activating negative affect was higher immediately after a hassle compared to times when the hassle occurred longer ago; by contrast, deactivating negative affect was lower immediately after a hassle compared to situations when hassles occurred longer ago. Also, briefly after the hassle, activating negative affect was more intense than deactivating negative affect; yet, when hassles occurred longer ago, the pattern reversed and deactivating negative affect was now more intense. These findings are all in line with the theoretical argument that first affective reactions to hassles include stronger activating negative affect, such as anger or tension, to provide energy for dealing with the obstacle. In contrast, first affective reactions include only low(er) levels of deactivating negative affect because experiences, such as disappointment and sadness, presumably become stronger over time. This should help people come to terms

with the hassle and preserve energy by calming the organism down (Carver, 2001, 2004; Taylor, 1991).

We did not find that the associations between elapsed time and affective responses differ with age. One study (Scott, Sliwinski, & Blanchard-Fields, 2013) found that, for hassles, which occurred less than three hours before, older age was associated with less negative-affect responsiveness, whereas for hassles that occurred between three and six hours before, age differences disappeared. No clear conclusions can be drawn from this study because the authors did not distinguish activating and deactivating affect and did not assess the amount of preoccupation with hassles. These two issues might explain the diverging findings. Theoretical accounts state age differences may occur when older people are still preoccupied with the hassle (Charles 2010; Charles & Luong, 2013), which we address in the next section.

Preoccupation with Hassles More Strongly Related to Momentary Negative Affect with Age

As expected, we observed that preoccupation with previous hassles intensified the association between how long ago the hassle occurred and the intensity of deactivating negative affect. This effect was more pronounced with older age. This result matches previous experimental results that older adults' sadness increased more over time after unpleasant remarks compared to young adults, possibly because older adults were continually thinking about the situation (Charles & Carstensen, 2008). The findings are in line with the theoretical accounts that older people's momentary well-being is lower (i.e., negative affect higher) when they do not/cannot avoid, mitigate, or mentally disengage from a hassle (Charles, 2010; Charles & Luong, 2013). An exception may occur when people think about the hassle but reappraise it, that is, view the hassle in a more positive light, as reappraisal has been shown to diminish negative affect after unpleasant experiences (Gross, 1998, 2002).

Unexpectedly, among adolescents up to 18 years of age, greater preoccupation was related to lower deactivating negative affect when the hassle was longer ago compared to more recent hassles. Perhaps younger participants reported being preoccupied with a prior hassle, when they shared their experience with somebody, and therefore experienced lower levels of deactivating negative affect (Frattaroli, 2006; Pennebaker, 1997). Accordingly we found that adolescents reported more preoccupation when they were with other people compared to when they were alone. This tentative interpretation needs to be readdressed in future studies.

We observed the moderation effect of preoccupation on the association between time after hassles and intensity of negative affect only for deactivating but not for activating negative affect. Activating negative affect was generally higher the more the people reported being preoccupied with the hassle and this effect increased with age. An experimental study also found that physiological correlates of activating negative affect increased similarly when people thought about a stressful situation either shortly after the situation or after some time had passed (Glynn, Christenfeld, & Gerin, 2007). In that study, thinking about the situation, but not the amount of elapsed time, affected the (physiological) hassle response. Their study, however, included only young adults. We can only speculate about the divergence between activating and deactivating negative affect. Activating negative affect may be intense when thinking about a recent hassle, no matter whether it occurred five minutes or two hours ago. Yet, perhaps deactivating negative affect slowly builds up the more time passes and the more one thinks about the hassle in the meantime. This hints at the cumulative effects of rumination for developing depression (Nolem-Hoeksema, 2008; Whitmer & Gotlieb, 2013).

Limitations and Outlook

Despite the strengths of employing an experience sampling design with almost 400 people aged 12 to 88 years, which allowed us to address within-person associations and prospective effects of hassles on affective experiences, some limitations need to be considered

when interpreting the results of this study. First, we did not assess affective experiences repeatedly after the same hassle, for instance, after 5, 10, 20, 30, and 60 minutes, but compared affective experiences after hassles, which differed in how much time had elapsed in between. We preferred this approach to the repeated assessment because it was less demanding for the participants with respect to the number of assessments and it induced fewer expectations that affective experiences must change (Schwarz, 2011). If the theoretically assumed time courses exist (i.e., initially high activating negative affect decreases and deactivating negative affect increases with time), our assessments represent random samples of time points from these time courses. Yet, the same result pattern is possible if hassles, which elicit activating negative affect occur more frequently than hassles eliciting deactivating negative affect. Future studies should measure affective responses continuously but without inducing expectancy or measurement reactivity (Schwarz, 2011).

With older age, people reported that hassles occurred somewhat longer ago compared to younger individuals. One could speculate that the self-reported elapsed time is somewhat biased and age differences exist regarding whether hassles are remembered as more recent or more distant. Research on decreasing semantic autobiographical memory and associated details offers little information because this research so far focused on events that were several days, months, or years ago and more important, for example, weddings or illnesses, compared to daily hassles (Boals, Hayslip, & Banks, 2014; Piefke & Fink, 2005; Piolino et al., 2006). We assume that the observed age differences actually reflect the different properties of people's daily life. For example, adolescents report hassles as occurring more frequently compared to adults (Larson & Ham, 1993), and with older age, people report hassles less frequently (e.g., Stawski et al., 2008; Wrzus et al., 2013). If adolescents experience hassles more frequently, asking them at random times when a hassle had occurred would lead to observing more recent hassles compared to other people. However, these

assumptions rest on self-reported occurrences of hassles and more objective information on the occurrence and time of hassles, e.g., from sound or video recordings (Mehl & Robins, 2012) would be needed.

Additionally, hassles may differ in daily life, such that hassles related to one's health, for example, may be more stressful than interpersonal arguments (Hay & Diehl, 2010). We found that the reports of preoccupation and elapsed time since the hassle occurred were largely similar across different hassle domains. This might result from observing only a limited number of hassles from different domains per person. Thus, scrutinizing the effects of the content the hassle dealt with could prove valuable in future studies. Also, disentangling daily manifestations of chronic stressors (e.g., spousal conflict that arises from severe relationship problems) and "true daily hassles" (e.g., spousal conflict about "nothing" in an otherwise harmonious relationship) would be interesting. Previous studies showed that both types of hassle have unique effects on affective experiences (Serido, Almeida, & Wethington, 2004). In the current study, we accounted partially for differences between hassles by statistically controlling the severity and showed that the findings were robust.

Causal inferences from these findings are limited. It is possible that, when negative affect is higher than usual for some other reason than a hassle, people may then think about the hassle and also report that the hassle occurred long ago. We observed converging patterns when predicting momentary and the next assessment's negative affect, however, which supports our interpretation that thinking about a hassle increases negative affect. Nonetheless, experimental manipulations of elapsed time after the hassle (e.g., Glynn et al., 2007; [*reference removed for masked review*]) and thinking about the hassle (e.g., Ray et al., 2008), that is, preoccupation, would provide stronger evidence for the proposed directionality, but these have not been applied in field studies or with age-heterogeneous samples.

Finally, the cross-sectional design of the present study leaves open whether the observed age-related differences correspond to intraindividual change as people age (Lindenberger, von Oertzen, Ghisletta, & Hertzog, 2011). Longitudinal studies would be necessary to answer this question, although they would have to limit themselves to a shorter time span compared to the age range of more than 70 years covered in the current study.

Summary and Conclusion

Our study demonstrates that both how much time passed after a hassle and how much one still thinks about it are important factors related to the intensity of activating and deactivating negative affect. Thus, conclusions on individual differences in hassle responses will also depend on these three factors: elapsed time, preoccupation, and affect facets. At the same time, the study helps to clarify some of the discrepancies among previous findings on age differences in affective responsiveness. Such discrepancies may be due to age-differences in preoccupation with the event, or affect regulation more generally. If people in previous, often end-of-day studies differed in how much they still thought about the hassle, and perhaps partly due to whether they were alone or not (in the evening at home when the interview occurred), this could contribute to diverging results. Thus, it seems necessary to assess cognition related to hassles to achieve an accurate picture on age differences in affective responsiveness. Importantly, we observed distinct, at times even opposite, effects for activating and deactivating negative affect. Thus, it is important to distinguish between both affect facets because they presumably have different causes as well as consequences (Carver, 2004; Taylor, 1991) in addition to age-differential relevance (Kunzmann & Grühn, 2005). In sum, age differences in hassle responses can be in any direction—they depend on age differences in the content, severity and complexity of hassles (Neupert, 2007; Stawski, 2008; Wrzus et al., 2013), which cognition or emotion regulation strategies occurred in the

meantime (Charles, 2010; Urry & Gross, 2011), and, as this study added, also how long after the hassle negative affect is assessed, and which affect facets are measured.

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Footnotes

[1] Some previous studies often reported lower frequency and intensity of anger with older age (Blanchard-Fields & Coats, 2008; Charles & Carstensen, 2008). However, these studies focused on age differences in experiencing anger related to interpersonal hassles only and were conducted in the laboratory. In the current study, we focus on situations in daily life when activating negative affect (e.g., anger) was experienced after different hassles and specifically how such experiences vary depending on how much time has elapsed after hassles.

[2] For each reported hassle, participants also indicated what the hassle dealt with (answering options: other persons, work, health, finances, future, daily life annoyance, other). The percentage of hassles per person from the different domains varied across the domains with small age effects: other persons M = 35.2%, SD = 33.4%, β_{age} = -.09, p = .11, β_{age^2} = .12, p = .02; work M = 11.3%, SD = 20.9%, β_{age} = -.18, p = .001; health M = 7.8%, SD = 17.9%, β_{age} = .08, p = .05; finances M = 4.2%, SD = 13.4%, β_{age} = .13, p = .01, β_{age^2} = -.12, p = .03; future M = 1.5%, SD = 7.6%, β_{age} = .01, p = .90; daily life & other M = 15.6%, SD = 21.9%, β_{age} = .11, p = .02; multiple domains M = 13.5%, SD = 24.1%, β_{age} = -.06, p = .21. Health-, finance-, and future-related hassles were reported as having occurred somewhat longer ago than person-, work-, or daily life-related hassles (ps < .05). Yet, the amount of preoccupation did not differ among hassles from different domains (ps > .10) except when hassles related to multiple domains, stronger preoccupation was reported (difference in preoccupation b = 0.37, p < .01). Importantly, age differences in reported elapsed time and preoccupation did not vary across the different hassle domains; this means the general age effects in elapsed time and the effects of greater preoccupation with older age were not significantly moderated through the hassle domain (ps > .18, with the exception that with older age people reported hassles that related to multiple domains as somewhat longer ago, b_{age} = 0.013, SE = 0.005, p = .01). Thus,

although, small age effects occurred regarding the hassle content (see also Hay & Diehl,2010; Neupert et al., 2007), the hassle content did not affect differently with age the reported time that had elapsed and the amount of preoccupation. For this reason and because not enough hassles from different domains were reported from each person for the different elapsed time categories, we did not include the hassle domain as a further control variable.

[3] Formally, the equations were:

Occasion level (level 1)

$$\text{Negative affect}_{ij} = \beta_{0j} + \beta_{1j}\,(\text{hassle occurrence}) + \beta_{2j}\,(\text{elapsed time}) + r_{ij}$$

Person level (level 2)

$$\beta_{0j} = \gamma_{00} + \gamma_{01}\,(\text{age}) + \gamma_{02}\,(\text{age}^2) + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}\,(\text{age}) + \gamma_{12}\,(\text{age}^2) + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + \gamma_{21}\,(\text{age}) + \gamma_{22}\,(\text{age}^2) + u_{2j}$$

[4] When comparing all situations with prior hassles irrespective of when they occurred to situations when no hassle had occurred, we replicated previous findings: Compared to situations without prior hassles (Intercept $b = 0.84$, $SE = 0.03$, age $b = –0.002$, $SE = 0.001$, $p = .21$), activating negative affect was higher in situations when a hassle had occurred and more so with older age (hassle occurrence $b = 1.10$, $SE = 0.04$, $p < .001$, hassle occurrence × age $b = 0.010$, $SE = 0.002$, $p < .001$). Deactivating negative affect (Intercept $b = 1.07$, $SE = 0.03$, age $b = –0.009$, $SE = 0.002$, $p < .001$) was also higher in situations when hassles had occurred, yet there were no significant age differences (hassle occurrence $b = 0.81$, $SE = 0.04$, $p < .001$, hassle occurrence × age $b = 0.003$, $SE = 0.002$, $p = .18$).

[5] To compare whether effects of hassle occurrence (i.e., hassle responsiveness) or effects of elapsed time after hassles differed for activating and deactivating negative affect, we computed the differences between the affect facets as an additional level (Level 0 nested within occasions, e.g., Bleidorn, 2009; Nezlek, 2007). The dependent variable thus was

negative affect (Level 0), which was predicted by a contrast-coded variable indicating the arousal level of negative affect (1= activating negative affect, –1 = deactivating negative affect), by the dummy-coded variable whether a hassle had occurred (0 = *hassle occurred less than 5 minutes ago*, -1 = *no hassle*; Level 1), by the elapsed time after hassles (Level 1), and age as a continuous person variable (Level 2). The significant interaction effects reported in the text showed that effects of hassle occurrence and elapsed time on negative affect differed with the affect facet. There was no significant age effects therein, $p > .19$.

[6] Both activating and deactivating negative affect at the next assessment T+1 were higher when a hassle was reported at T+0 compared to T+1 assessments without prior hassle at T+0: for activating negative affect, hassle occurrence$_{T+0}$ $b = 0.34$, $SE = 0.04$, $p < .01$, hassle occurrence$_{T+0}$ × age $b = 0.007$, $SE = 0.002$, $p < .01$; for deactivating negative affect, hassle occurrence$_{T+0}$ $b = 0.32$, $SE = 0.03$, $p < .01$, hassle occurrence$_{T+0}$ × age $b = 0.002$, $SE = 0.002$, $p = .19$. This means, when hassles occurred, negative affect was still increased at the next assessment. The effects were robust when controlling for the occurrence of hassles at the next assessment T+1; however, only in 2% of all measurement occasions did hassles occur at the momentary T+0 and the next assessment T+1.

Table 1

Descriptive Statistics and Age Differences of Central Study Variables

	M (*SD*)	Association with age
Situation-level variables		
Average activating negative affect[a]	0.94 (0.69)	$\beta_{age} = -.01$, $p = .92$, $\beta_{age^2} = -.08$, $p = .14$
Average deactivating negative affect[a]	1.15 (0.71)	$\beta_{age} = -.21$, $p < .001$, $\beta_{age^2} = -.12$, $p = .03$
Occasions with hassles (in %)[b]	0.10 (0.09)	$\beta_{age} = -.15$, $p = .01$, $\beta_{age^2} = .09$, $p = .05$
Hassles that occurred … (in %)[c]		
less than 5 min ago	0.18 (0.24)	$\beta_{age} = -.23$, $p < .001$
less than 10 min ago	0.17 (0.22)	$\beta_{age} = .10$, $p = .03$
less than 30 min ago	0.28 (0.25)	$\beta_{age} = .11$, $p = .02$
less than 60 min ago	0.12 (0.18)	$\beta_{age} = .11$, $p = .02$
more than 60 min ago	0.18 (0.24)	$\beta_{age} = .02$, $p = .38$
Average preoccupation with hassle[a]	3.50 (1.22)	$\beta_{age} = .17$, $p = .002$, $\beta_{age^2} = -.18$, $p = .001$

Note. [a] Person average across the ESM period. [b] Proportion of measurement occasions with hassles. [c] Relative to a given participant's total number of hassles.

Table 2

Momentary Activating and Deactivating Negative Affect Predicted by Elapsed Time After Hassles, Preoccupation With Hassles, and Age

	Activating negative affect			Deactivating negative affect		
	Estimate	(*SE*)	*stand.*	*Estimate*	(*SE*)	*stand*
Intercept	1.072	(0.087)	na	0.967	(0.081)	na
Age[a]	-0.0001	(0.004)	-.002	–0.009**	(0.003)	-.222
Elapsed time[b]	–0.067**	(0.022)	-.086	0.046*	(0.019)	.064
Age[a] × elapsed time[b]	–0.0003	(0.001)	-.008	–0.001	(0.001)	-.028
Preoccupation[b]	0.303**	(0.018)	.476	0.252**	(0.016)	.428
Age[a] × preoccupation[b]	0.002*	(0.001)	.064	0.001	(0.001)	.035
Elapsed time[c] × preoccupation[c]	0.005	(0.012)	.011	–0.003	(0.010)	-.007
Age[a] × elapsed time[c] × preoccupation[c]	0.001	(0.001)	.047	0.001**	(0.0001)	.051

Note. Estimates denote unstandardized multilevel modeling regression coefficients with standard errors provided in brackets. stand = coefficient standardized with the average within person standard deviation SD(x)/SD(y) (Hoffman & Stawski, 2009). na = not available. Effect were robust when controlling for hassle severity, present persons, and current activity. For reasons of parsimony control variables are not included in the table. [a] centered at sample mean. [b] uncentered. [c] centered at person mean for computing interaction term. * $p < .05$; ** $p < .01$.

Table 3

Activating and Deactivating Negative Affect at Next Assessment Predicted by Elapsed Time After Hassles, Preoccupation With Hassles, and Age

	Activating negative affect at next assessment$_{T+1}$			Deactivating negative affect at next assessment$_{T+1}$		
	Estimate	(*SE*)	*stand.*	*Estimate*	(*SE*)	*stand.*
Intercept	0.711	(0.122)	na	0.826	(0.118)	na
Age[a]	0.002	(0.002)	.046	–0.008**	(0.002)	-.203
Elapsed time$_{T+0}$[b]	0.040	(0.033)	.052	0.038	(0.032)	.054
Preoccupation$_{T+0}$[b]	0.094**	(0.017)	.150	0.115**	(0.017)	.201
Elapsed time[c] × preoccupation $_{T+0}$[c]	–0.001	(0.019)	-.002	–0.001	(0.018)	-.003
Hassle at next beep$_{T+1}$[b] (1 = yes)	0.922**	(0.083)	.261	0.748**	(0.086)	.232
Age[a] × hassle at next beep$_{T+1}$[b]	0.013**	(0.004)	.075	0.002	(0.004)	.013

Note. Estimates denote unstandardized multilevel modeling regression coefficients with standard errors provided in brackets. stand = coefficient standardized with the average within person standard deviation SD(x)/SD(y) (Hoffman & Stawski, 2009). na = not available. Effect were robust when controlling for hassle severity, present persons, and current activity. For reasons of parsimony control variables are not included in the table. [a] centered at sample mean. [b] uncentered. [c] centered at person mean for computing interaction term. * $p < .05$; ** $p < .01$.

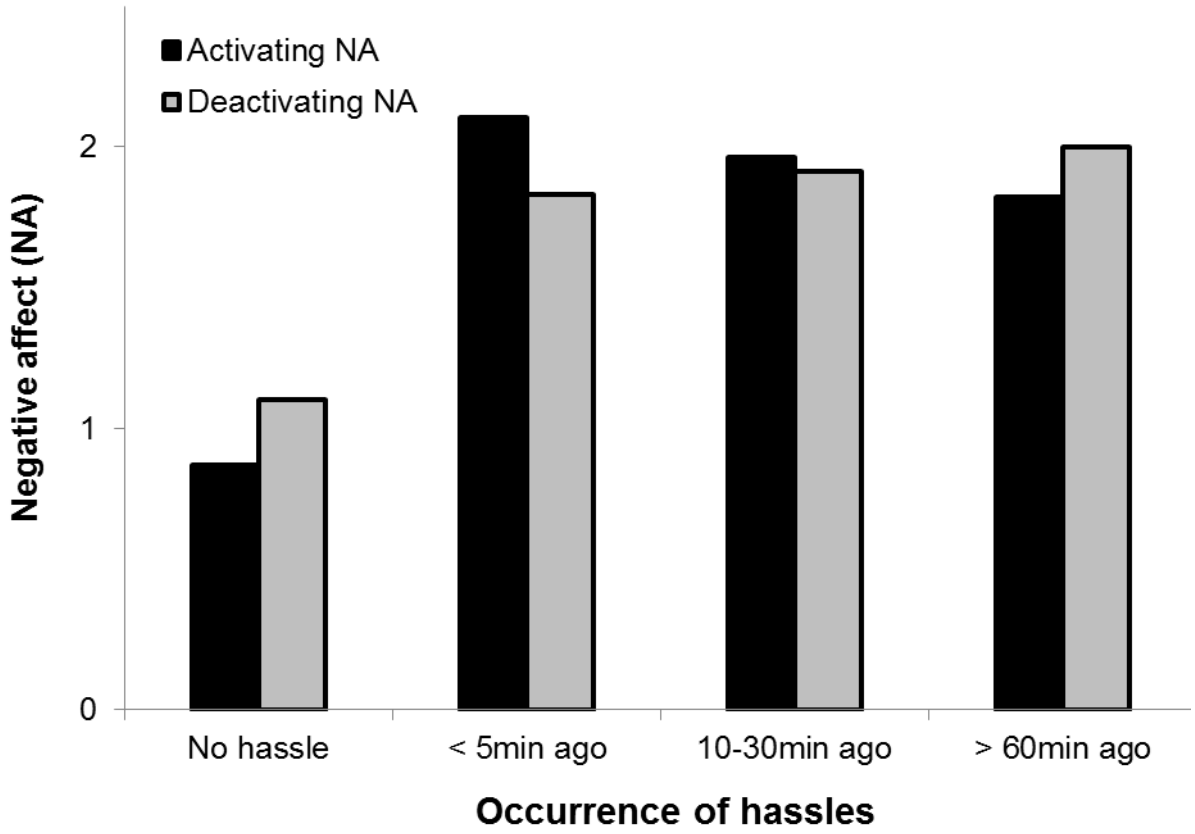

Figure 1. Intensity of activating and deactivating negative affect (NA) in situations with no previous hassle, and situations when hassles occurred differently long ago. Predicted unstandardized values from multilevel models, which included no further predictors, are shown.

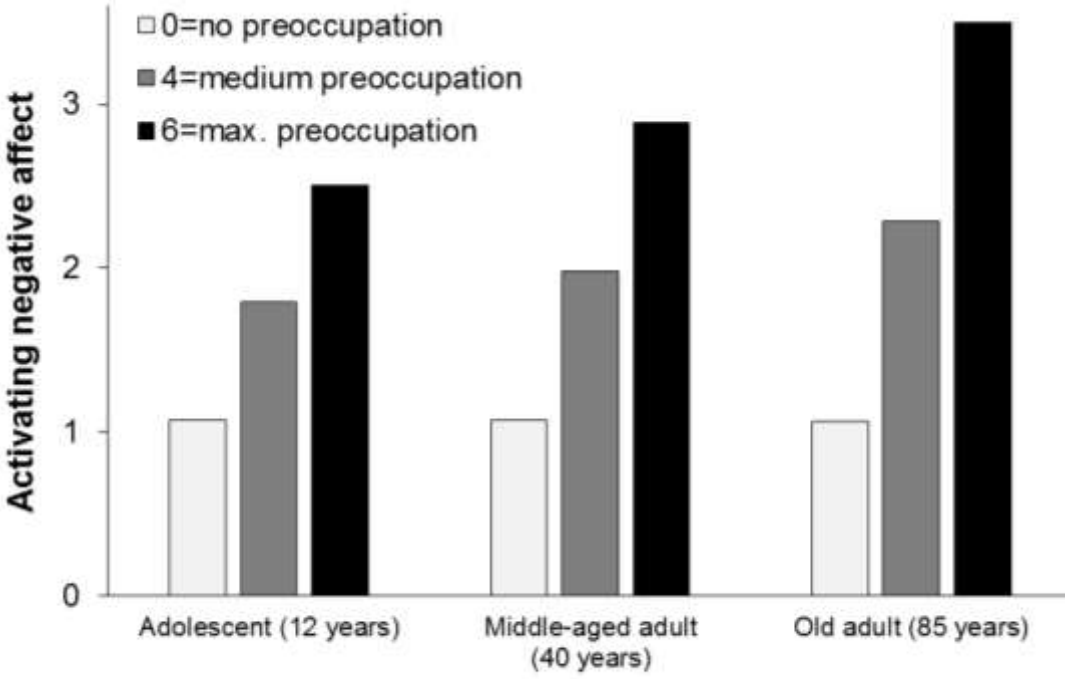

Figure 2. Age differences in momentary activating negative affect when experiencing hassles that varied in how much participants were still preoccupied with the hassles. Predicted unstandardized values from multilevel models are shown.

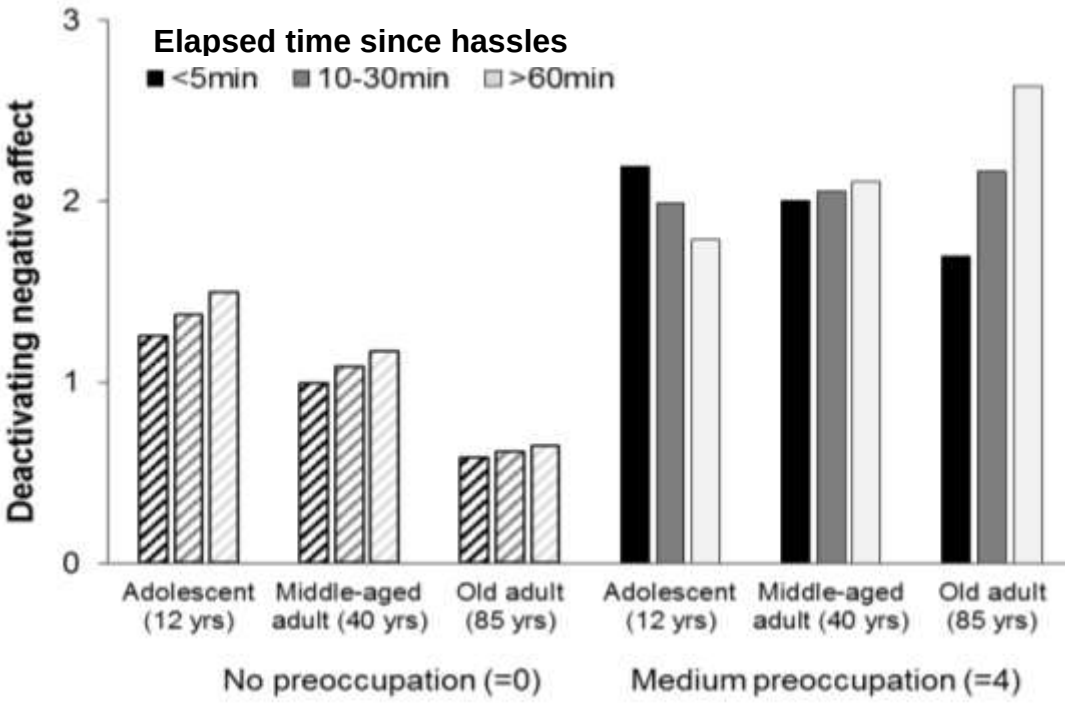

Figure 3. Age differences in momentary deactivating negative affect when experiencing hassles that varied how long ago they occurred and how much participants were still preoccupied with the hassles. Predicted unstandardized values from multilevel models are shown.