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Age Differences in Forgivingness: The Role of Future Time Perspective

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Abstract

The present study examined age differences in forgivingness, defined as an enduring tendency to forgive others. Building on the theory of socioemotional selectivity, the study aimed at clarifying the role of future time perspective and social proximity on age differences in forgivingness. Older \((N = 132)\) and younger participants \((N = 225)\) were instructed to judge their willingness to forgive as a function of social proximity and future time perspective. Controlling for self-reported future time perspective, results indicate that older adults were more willing to forgive than younger adults. Social proximity did not play a role in older adults, whereas younger adults reported greater forgivingness with respect to a friend as compared to an acquaintance. In addition, results demonstrate that the perception of future time plays an essential role in forgivingness. An age by future time perspective interaction effect was found, suggesting that the effect of limited future time perspective was smaller in older adults than in younger adults. Future directions concerning the meaning and possible implications of age differences in forgivingness are discussed.

Keywords: Forgivingness; Future Time Perspective; Socioemotional Selectivity; Aging
Introduction

Interpersonal transgressions seem inevitable throughout the entire lifespan. Relating to others—whether family, spouse, friends, or strangers—exposes people to the risk of being hurt by others. In many cases, painful hurts, experiences of injustice, and serious transgressions result in negative feelings, thoughts, and behaviors. People may respond to interpersonal transgressions in different ways; they may seek revenge or avoid the transgressor or, conversely, try to understand the transgressor’s perspective (McCullough et al., 1998; McCullough, Fincham, & Tsang, 2003). One possible response to interpersonal transgressions and the negative consequences engendered by them is provided by forgiveness, which involves aspects of releasing or letting go of negative responses, and may also involve positive reactions towards the transgressor over time, e.g., benevolence (cf. Fincham, 2000; McCullough & Witvliet, 2002). Although forgiveness, in general, refers to a psychological process of change with respect to a specific transgressor and a specific transgression, it also might be conceptualized and investigated at the dispositional level (e.g., Allemand, Amberg, Zimprich, & Fincham, 2007; Allemand, Sassin-Meng, Huber, & Schmitt, in press; Berry, Worthington, Parrott, O’Connor, & Wade, 2001; Brown, 2003; Mullet, Houdbine, Laumonier, & Girard, 1998). Roberts (1995) termed forgiveness at this level as forgivingness, which, briefly, reflects an enduring tendency to forgive others. Forgivingness might be understood as being open to engage in the process of releasing resentment about transgressions. The main purpose of the present study was to examine age-related differences in forgivingness by clarifying the role of future time perspective as an explanatory account of age differences in forgivingness.

Age Differences in Forgivingness

Older adults are typically perceived by members of all age groups as wiser, more experienced, more reflective, and more forgiving than younger adults (cf. Heckhausen, Dixon, & Baltes, 1989, p. 112). These lay impressions would imply that older people are also more
practiced in dealing with transgressions and everyday problems in the interpersonal domain than younger people. However, there is little empirical evidence about age differences in forgivingness and their underlying causes. Given the significance of interpersonal transgressions for emotional and social distress, it is important to understand how people of different ages respond to interpersonal transgressions. Further, it is essential to examine the factors that predict variation in how people deal with transgressions to determine how to improve responses to interpersonal hurts, e.g., keeping oneself from getting upset, individual well-being, and relationship functioning, e.g., maintaining goodwill in relationships (Harris & Thoresen, 2005; Sorkin & Rook, 2006; Toussaint, Williams, Musick, & Everson, 2001).

To date, few studies have been conducted on the relation between age and forgivingness. Available empirical research has confirmed that forgivingness varies as a function of age, with young children and adolescents, on average, being least willing to forgive and older adults being most willing (e.g., Enright, Gassin, & Wu, 1992; Girard & Mullet, 1997; Mullet & Girard, 2000; Mullet et al., 1998, 2003; Subkoviak et al., 1995; Toussaint et al., 2001). For example, Subkoviak et al. (1995) found late adolescents (college students) to be less prone to forgive than their middle-aged parents. In an U.S. probability sample, Toussaint et al. (2001) found middle-aged (45-64 years) and older adults (65 years and older) being more willing to forgive others as compared to a younger age group (18-44 years). Recently, Lawler-Row and Piferi (2006) found an age effect in forgivingness in a study of adults ranging from 50 to 95 years, with older adults describing themselves as more forgiving than the middle-aged. However, it seems to be too early to draw firm conclusions about the trajectory of forgivingness across the lifespan. Apart from different age ranges, different types of measures are used in previous studies. This makes it, for example, difficult to compare findings using hypothetical scenarios (Gauché & Mullet, 2005; Girard & Mullet, 1997) with results using more trait-oriented questionnaires (Mullet et al., 1998, 2003), and also with findings regarding the frequency of feeling resentful toward others, holding a
grudge or forgiving others (Krause & Ellison, 2003). Further, different aspects or dimensions of forgivingness were examined, e.g., revenge versus forgiveness (Mullet et al., 1998), forgiving others versus self-forgiveness (Thompson et al., 2005; Toussaint et al., 2001), forgiving situations (Thompson et al., 2005), and forgiveness of God (Krause & Ellison, 2003). Despite these difficulties, available results seem to indicate age differences in forgivingness, with older adults, on average, being more willing to forgive others than younger adults. This finding thus leads to the question of why are there age differences in forgivingness.

**Theoretical Approach for Explaining Age Differences in Forgivingness**

A theoretical approach that might account for age difference in forgivingness is future time perspective (FTP), which can be conceptualized as the length of one’s personal time horizon (Carstensen, Isaacowitz, & Charles, 1999). The theory of socioemotional selectivity (e.g., Carstensen, 1992, 1993; Carstensen et al., 1999) posits that the perception of future time has important implications for our emotional and social life. Briefly, the theory predicts changes of social motivation across the lifespan, for example, why older adults pursue different emotional and social goals from those of younger adults. According to the theory, FTP is the dominating force that structures human motivations and goals (Lang & Carstensen, 2002). The theory contends that people have a conscious and subconscious awareness of their time left in life, and that perceived boundaries of time direct attention to emotionally meaningful aspects of life. Carstensen et al. (1999) argued that the perception of time as limited as opposed to open-ended or even expansive has important implications for emotion, cognition, and motivation. Specifically, when future time is perceived as limited, emotional experience assumes primacy; people are motivated to monitor and select their environments to optimize emotional meaningfulness and emotional functioning. By contrast, when future time is perceived as open-ended—as it is in healthy young adults—goals aimed at optimizing the future are prioritized. Such goals often pertain to the acquisition of knowledge or to seek
new contacts that could be useful in the more distant future. According to socioemotional selectivity theory, and supported by empirical evidence, younger people who are approaching the end of life show similar motivational changes like older adults (Carstensen & Fredrickson, 1998). However, because chronological age is inextricably related to time left in life, socioemotional selectivity theory posits that the regulation of emotional states receives greater priority as people age (e.g., Carstensen, Pasupathi, Mayr, & Nesselroade, 2000; Gross et al., 1997; Labouvie-Vief & Mendler, 2002). Therefore, as people become older, social partners are chosen for their emotional value, and social interactions are regulated in a way that optimizes emotional outcomes. Moreover, people become more vested in the relationships they seek to maintain, and the narrowing of contacts does not occur with spousal, family, or close relationships, but rather with acquaintances (Carstensen, 1992). Over the past decade, numerous studies have provided support for the theoretical assumptions of socioemotional selectivity theory (cf. Carstensen, Fung, & Charles, 2003; Carstensen et al., 1999; Carstensen, Mikels, & Mather, 2006). So far, however, no empirical research has investigated the generalizability of the theory of socioemotional selectivity with respect to forgivingness.

Building upon the arguments of the theory of socioemotional selectivity, one might expect that forgivingness increases with age. This line of reasoning is based on the following theoretical proposition. Interpersonal transgressions typically elicit negative emotions, cognitions, motivations, and behaviors that have to be dealt with because they might endanger interpersonal relationships in the shorter and longer term as well as they might have negative effects on well-being and health of the transgressed person (e.g., Worthington & Scherer, 2004; Worthington & Wade, 1999). One way of dealing with the hurtful emotional state of being transgressed is to forgive the transgressor because forgiving may help to relieve negative emotions (cf. Fincham, 2000; Worthington & Wade, 1999), which according to socioemotional selectivity theory, under a limited future time perspective, may assume primacy. Hence, one would expect that older adults are more forgiving than younger adults.
As people grow older, they become increasingly concerned with the maintenance of emotionally close relationships (e.g., Carstensen et al., 1999, 2006). Thus, older people are more likely than younger people to behave in ways, e.g., forgiving, that decrease the experiences of negative emotions. Forgiving interpersonal transgressions implies regulating negative emotions as well as unconstructive cognitions and behaviors. Hence, as a result of forgiving, maintaining or repairing the emotionally close relationship becomes easier, thus stabilizing the relationship (Fincham, 2000; McCullough et al., 1998).

The Present Study

In the present study we investigated age differences in forgivingness and compared older and younger adults with respect to their willingness to forgive others. Subsequently, the role of social proximity and future time perspective on forgivingness was investigated. Finally, we examined whether the concept of FTP might explain, in part, age differences in forgivingness. We used hypothetical forgiveness and FTP scenarios to test our hypotheses.

Regarding our hypotheses, we aimed at replicating and extending results on age differences in forgivingness that have previously been reported. First, on the basis of the theory of socioemotional selectivity, in Hypothesis 1 we expected an age effect of forgivingness (see below). Our second hypothesis is based on findings by Girard and Mullet (1997; Mullet & Girard, 2000) and others (e.g., Gauché & Mullet, 2005; McCullough et al., 1998) that people are more willing to forgive socially close partners, because forgiveness could be the best way to restore good relations with people. Thus, in Hypothesis 2 we expected an effect of degree of social proximity to the target of forgivingness. Additionally, since relationships are chosen more selectively with increasing age and the narrowing of contacts occurs rather with acquaintances (Carstensen, 1992), in Hypothesis 2a we expected an age by social proximity interaction effect. Third, building on the theory of socioemotional selectivity, in Hypothesis 3 we expected an effect of future time perspective. Additionally,
because of age-associated future time constraints in older adults, in Hypothesis 3a we expected an age by FTP interaction effect.

In sum the present study will examine the following hypotheses.

**Hypothesis 1:** Older adults will be more willing to forgive than younger adults.

**Hypothesis 2:** Participants will be more willing to forgive a friend as opposed to an acquaintance.

**Hypothesis 2a:** The effect of social proximity will be smaller in older adults than will be in younger adults.

**Hypothesis 3:** Participants will be more willing to forgive when future time is perceived as limited as opposed to open-ended.

**Hypothesis 3a:** The effect of limited future time perspective will be smaller in older adults than will be in younger adults.

Finally, as the concept of FTP might concern the time horizon of both the victim and the transgressor, we wanted to explore whether there are differences in the effect of FTP with respect to this differentiation. Hence, we denoted the two conditions as (1) future time perspective of victim versus (2) future time perspective of transgressor. Thus, in extending the theory of socioemotional selectivity, we aimed at exploring whether people are also more willing to forgive when they knew that future time of the transgressor is limited or constrained; however, we did not have a specific hypothesis, as this analysis was exploratory.

**Method**

**Participants**

The sample consisted of older and younger adults from Switzerland \((N = 357)\). Participants were unpaid volunteers and were contacted by convenience sampling at courses at the University of Seniors, community centers, and at different courses at university, respectively. As is typical in studies requiring imagining hypothetical scenarios, which is a
task that might be novel to people with relatively little education, only people with a 10th-grade education or higher were included in the present study.

Older adults ($N = 132$) ranged in age from 60-83 years ($M = 70.1, SD = 6.2$), and younger adults ($N = 225$) ranged in age from 18-35 years ($M = 23.8, SD = 3.8$). Women constituted 75% of the older adult sample and 85% of the younger sample. Similarity in perceived health across age groups at the time of the investigation was ensured by asking participants to rate their physical health relative to an average person on a 5-point Likert-type scale ranging from 1 (poor; Idler & Kasl, 1991, 1995). Older and younger adults did not vary significantly in perceived health: for older adults, $M = 4.06, SD = 0.77$, versus for younger adults, $M = 3.94, SD = 0.74$; $t(355) = 1.43, p > .10$, Cohen’s $d = 0.16$. None of the older participants was hospitalized or was in a nursing home at the time of the study. Age differences were found regarding current mood. On a 5-point Likert-type scale ranging from 1 (very negative) to 5 (very positive) older adults reported better positive mood compared to younger adults: for older adults, $M = 4.00, SD = 0.59$, versus for younger adults, $M = 3.86, SD = 0.67$; $t(355) = 2.12, p < .05$, Cohen’s $d = 0.22$. Although statistically significant, with respect to effect size, this difference was small.

**Materials**

The test material included two sets of four hypothetical scenarios describing a situation in which participants imagine themselves being intentionally transgressed by another person (see description below). Each of these scenarios contained two information items: (a) social proximity to the target of forgivingness (friend versus acquaintance), and (b) future time perspective (open-ended versus limited). One set of scenarios referred to FTP with respect to the victim (condition 1, see above), while the other set of scenarios referred to FTP with respect to the transgressor (condition 2). Two verbatim examples are given in the Appendix.

The basic interpersonal transgression was roughly based on Schonbach’s (1990) “breach of trust” scenario (see also Berry et al., 2001, scenario 4) and was modified to suit our research
purposes. In adapting the scenario, we preserved the central theme of the transgression and it was written in a way that study participants took the role of the victim. The scenario described a situation in which the participant imagined himself or herself as having lunch in a restaurant and realizing that some people were talking about him or her and laughing. Then, he or she discovers that a person intentionally has told about something from the participant’s past that he or she is deeply ashamed of and did not want anyone to know about (see Appendix).

Each scenario was printed on a separate sheet of paper. A question appeared below each text: *In your opinion, how willing would you be to forgive your friend and your acquaintance, respectively?* Participants indicated the extent to which they were willing to forgive on a 9-point Likert-type scale anchored with *not at all willing* (1) and *completely willing* (9).

Although single-item measures are not optimal from a psychometric perspective, they are commonly used in forgiveness research utilizing scenario-based methodology (e.g., Berry et al., 2001; Girard & Mullet, 1997; Gauché & Mullet, 2005) because of the difficulty of capturing participants’ idiosyncratic understanding using a priori, investigator defined items.

*Social proximity.* Social proximity was manipulated by indicating that the transgressor is a friend or an acquaintance. Gender of the transgressor has not been further differentiated. The nature and context of the transgression was standardized, which controls the exact transgression and the study participant’s hypothetical relationship to the transgressor.

*Future time perspective.* FTP of victim was manipulated as follows: “*Imagine you are healthy and in good condition and have a long life ahead of you*” (open-ended), and “*Imagine that because of a critical illness you have not much longer to live*” (limited). FTP of transgressor was manipulated in a similar way: “*Imagine your friend (or acquaintance) is healthy and in good condition and has a long life ahead of him/her*” (open-ended), and “*Imagine that because of a critical illness your friend (or acquaintance) has not much longer to live*” (limited).
Manipulation checks. We performed manipulation checks for both the social proximity manipulation and the future time perspective manipulation in two pilot studies. The results of the first pilot study in a sample of young adults ($N = 41$) ranging in age from 20-42 years ($M = 25.4$, $SD = 5.5$) has shown an effect of the social proximity manipulation (friend vs. acquaintance), that is, participants were more willing to forgive a friend compared to an acquaintance ($t(40) = 5.20$, $p < .001$, Cohen’s $d = 0.81$). In a second pilot study, our future time manipulation was compared with an alternative manipulation type adapted from the literature (cf. Fung & Carstensen, 2004; Fung, Carstensen, & Lutz, 1999): “Imagine that you have settled in very well and you plan to stay indefinitely” (open-ended), and “Imagine that you will immigrate to another country next week–by yourself. No member of your family and your current social circle will be accompanying you on this trip” (limited). Younger and older participants ($N = 49$) ranging in age from 20-85 years ($M = 37.9$, $SD = 21.4$) were randomly assigned either to the healthy condition/critical illness manipulation type (51% of participants) or the alternative manipulation type (49%). The time manipulations (open-ended versus limited) were then presented in a random order. As manipulation check, participants completed five items from the German version of the Future Time Perspective Scale (FTPS; Lang & Carstensen, 2002) after each FTP instruction. Internal consistencies (Cronbach’s alpha) of the scale ranging from $\alpha = .85$ to $\alpha = .89$. As expected, time was perceived as limited under the limited future time instruction, $M = 2.35$, $SE = 0.11$, in comparison to open-ended future time, $M = 3.64$, $SE = 0.13$; $F(1, 47) = 95.51$, $MSE = 0.42$, $p < .001$, $\eta^2_p = .670$. Moreover, an interaction between FTP and type of manipulation was found, with the future time instruction developed for this study having a greater impact on the perception of limited future time than the alternative instruction: healthy condition/critical illness time manipulation type, open-ended: $M = 3.82$, $SE = 0.18$, limited: $M = 1.62$, $SE = 0.15$; versus alternative time manipulation type, open-ended: $M = 3.45$, $SE = 0.19$, limited: $M = 3.09$, $SE = 0.16$; $F(1, 47) = 49.23$, $MSE = 0.42$, $p < .001$, $\eta^2_p = .512$. Taken together, the findings from the second pilot
study suggest that the experimental manipulation type developed for this study was more effective for manipulating FTP than the alternative manipulation type. Consequently, we used our experimental FTP manipulation type in the study.

Control variable. Previous studies have shown that self-reported future time perspective is strongly associated with chronological age (e.g., Lang & Carstensen, 2002). Consequently, the German version of the Future Time Perspective Scale (FTPS; Lang & Carstensen, 2002) was used to control for each participant’s self-reported future time perspective. Participants rated on a 5-point Likert-type scale from agree strongly (1) to disagree strongly (5) the degree to which they agreed with each of 10 items. Sample items are “I have the sense that time is running out,” and “My future seems infinite to me” (reverse). Higher scores indicate a more open-ended time perspective. The internal consistency was $\alpha = .92$.

Procedure

Participants were randomly assigned to one of the two conditions, i.e., FTP of victim versus FTP of transgressor (see above). After completed a demographic information sheet and the questions regarding perceived health and current mood, the four hypothetical scenarios were presented in a random order. Participants read each scenario and indicated the extent to which they are willing to forgive the transgressor. Each participant responded individually, usually in his/her home or in a quite room at the university. Participants also completed the 10-item FTPS as part of another research project.

Data Analysis

Forgivingness with respect to the hypothetical scenarios was analyzed using a $2 \times 2 \times 2 \times 2$ mixed ANOVA design. The within-subject factors were social proximity (friend versus acquaintance) and future time perspective (open-ended versus limited). The between-subject factors were age (old versus young) and condition (future time perspective of victim versus future time perspective of transgressor). As expected, a strong negative correlation between
the FTPS and chronological age was found ($r = -.73, p < .001$). Consequently, in order to
differentiate age-related variance of future time perspective from non-shared variance of
chronological age, self-reported future time perspective (FTPS) was controlled as a covariate.

Results

Table 1 displays means and standard deviations for each of the four scenarios as a
function of age and condition. The sample sizes with respect to age groups and conditions
were as follows. In the older age group, 72 participants were assigned to the condition FTP of
victim and 60 to the condition FTP of transgressor; in the younger age group there were 108
and 117 participants, respectively.

In accordance with the first hypothesis, the main effect of age on forgivingness was
statistically significant, $F(1, 352) = 12.29, MSE = 11.23, p < .001, \eta_p^2 = .034$, with older
adults being more willing to forgive than younger adults: for older adults, $M = 6.00, SE = 0.19$, versus for younger adults, $M = 5.08, SE = 0.13$. In terms of effect sizes, the age effect
was small (Cohen, 1988).

Table 2 presents results regarding the within-subjects effects. Contrary to our second
hypothesis, the main effect of social proximity was not statistically significant. However, as
expected (see Hypothesis 2a), the age by social proximity interaction was significant (see
Table 2). As displayed in Figure 1, older adults showed high levels of forgivingness scores
irrespective of whether the transgressor was a friend or an acquaintance, whereas younger
adults were more willing to forgive a friend as compared to an acquaintance. The interaction
effect accounted for 3% of the overall variance.

With respect to the third hypothesis, a significant main effect of future time perspective
emerged (see Table 2), with participants being more willing to forgive when future time is
perceived as limited as compared to open-ended: for limited future time, $M = 6.27, SE = 0.11$, versus for open-ended future time, $M = 4.81, SE = 0.11$. In terms of effect sizes, the effect of
the manipulated future time perspective accounted for 9% of the overall variance, notably
after controlling for self-reported FTP as assessed by the Future Time Perspective Scale, and represents a medium effect (Cohen, 1988). If FTP varied by age as hypothesized (see Hypothesis 3a), then an interaction between age and FTP would indicate this result. In accordance with our expectation, the age by FTP interaction was statistically significant (see Table 2). As displayed by Figure 2, the manipulation of limited future time had a smaller effect in older adults than in younger adults. The interaction effect accounted for 2% of the overall variance.

Finally, we explored whether there are differences in forgivingness with respect to the condition, i.e., FTP of victim versus FTP of transgressor. Both the main effect of condition, $F(1, 352) = 3.48, MSE = 11.23, p < .07, \eta_p^2 = .010$, and the condition by age interaction were not significant, $F(1, 352) = 0.68, MSE = 11.23, p > .10, \eta_p^2 = .002$. However, as can be seen from Table 2, a significant condition by FTP interaction emerged, which accounted for 6% of the overall variance. The effect of limited future time on forgivingness was stronger when FTP refers to the transgressor as to the victim, i.e., when the time horizon of the hypothetical transgressor was manipulated as being limited. Figure 3 presents the interaction effect.

As can be further seen from Table 2, the other interaction effects were not significant except for the three-way interaction between social proximity, future time perspective, and age ($p < .05$), accounting for 1% of the overall variance. Figure 4 presents the interaction effect. This interaction shows that irrespective of the FTP younger adults were more willing to forgive a friend than an acquaintance. By contrast, under limited FTP older adults tended to show slightly higher forgivingness scores with respect to an acquaintance as opposed to a friend, whereas under open-ended FTP the opposite pattern was found. However, this second-order interaction effect was not hypothesized.

**Discussion**

The present study aimed to investigate age differences in forgivingness. Based on the theoretical background of socioemotional selectivity theory, we examined the role of future
time perspective on willingness to forgive. Four results stand out. First, as hypothesized, an age effect on forgivingness was identified showing that older adults are, on average, more willing to forgive than younger adults. Second, there was evidence for an age by social proximity interaction effect, that is, the effect of social proximity on forgivingness had an impact only for younger adults. Third, the significant main effect of FTP on forgivingness indicates that the perception of time as limited versus open-ended powerfully influences people’s willingness to forgive. In line with our expectation, we also found an age by FTP interaction effect, that is, the effect of future time perspective was smaller in older adults than in younger adults. Finally, we found a condition by FTP interaction effect, implying that condition may have a stronger effect on forgivingness under a limited time perspective.

In support of our first hypothesis, even after controlling for age-related variance of future time perspective (FTPS) an age effect in forgivingness was found. This finding is consistent with previous results reporting that participants are more forgiving in older age than in younger age (e.g., Girard & Mullet, 1997; Mullet et al., 1998, 2003; Toussaint et al., 2001). These results also converge with those of Birditt, Fingerman, and Almeida (2005), who found that older adults were more likely than younger age groups to report conciliatory responses to upsetting interactions with social network members. The results of age differences in forgivingness may have important emotional consequences since forgiving others tends to enhance well-being (Krause & Ellison, 2003) and tends to have unique beneficial effects on psychological distress and life satisfaction in old age (Harris & Thoresen, 2005; Toussaint et al., 2001). Because of the dispositional character of forgivingness (e.g., Allemand et al., 2007, in press; Berry et al., 2001), the age effects in forgivingness might also be discussed in light of age differences and age-related changes in personality traits. Research on personality trait development have reported systematic increases in agreeableness and conscientiousness through midlife into old age, while neuroticism decreases with age (e.g., Allemand, Zimprich, & Hertzog, 2007; Martin & Mroczek, in press; Roberts, Robins, Caspi,
& Trzesniewski, 2003; Roberts, Walton, & Viechtbauer, 2006). Indeed, agreeableness and neuroticism represent those traits that are found to be most consistently related to forgivingness, with the former being positively associated, while the latter showing a negative association (cf. Mullet, Neto, & Rivière, 2005). Since forgivingness is closely related to the regulation of negative emotions (Worthington & Scherer, 2004), the present findings might also be discussed in light of age differences in the capacity to regulate emotions. For example, Gross et al. (1997) argued that lifelong experience may result in improved emotion regulation, and suggest that this is likely to result in less frequent experience of negative affect among older adults. There is empirical evidence that aging is associated with improvements in the ability to regulate emotions (Birditt et al., 2005; Carstensen et al., 2003; Gross et al., 1997). Similarly, Phillips, Henry, Hosie, and Milne (2006) reported age difference in trait anger, that is, older adults experienced anger less frequently and intensely than do younger adults. Trait anger is found to be negative related to forgivingness (cf. Mullet et al., 2005). Another possibility is that age differences in forgivingness may be due to age effects in exposure to interpersonal transgressions. Birditt et al. (2005) argued that interpersonal tensions may vary from early adulthood to old age. Lifespan theories assume that as people grow older, they have fewer problems in their relationships, experience less distress, and become less aggressive and more conciliatory because they are exposed to different social contexts and/or are better able to regulate reactions to problems (Birditt et al., 2005; Blanchard-Fields & Cooper, 2004; Carstensen et al., 1999). Similarly, there might be age differences in thinking about past events and feelings such as being hurt by another person. For example, Webster and Gould (2007) recently reported lower reminiscence about “bitter memories” in older versus younger adults. It will be interesting in future studies to concurrently track age effects in forgivingness and in exposure and reactions to interpersonal transgressions.

As expected, we found an age by social proximity interaction effect, which implies that the differentiation into friend versus acquaintance plays a role only to younger participants,
whereas older adults showed high levels of forgivingness irrespective of whether the transgressor was a friend or an acquaintance. Similarly, Girard and Mullet (1997) have shown that the proximity factor had more impact in younger adults than in older adults (see also Mullet & Girard, 2000). It is important, however, to note that the proximity factor was manipulated differently in previous studies, e.g., brother or sister versus colleague (Girard & Mullet, 1997), sibling versus friend since childhood versus colleague (Gauché & Mullet, 2005). Although the social partner categories of “friend” and “acquaintance” seem to be closely related (see Lang & Carstensen, 2002), our proximity manipulation shows variation with respect to forgivingness in younger adults. This result might reflect socioemotional selectivity, that is, social relationships are chosen more selectively with increasing age and the narrowing of contacts occurs rather with acquaintances (cf. Carstensen, 1992). Hence, forgivingness might reflect a strategy to maintain important social ties. Consistent with this idea, Sorkin and Rook (2006) recently found that maintaining harmony with the interaction partner was the most commonly endorsed coping goal in an elderly sample. Moreover, those participants reported using greater forgiveness and less avoidance of the partner, which reflects a higher willingness to use more conciliatory responses. Insofar, the issue of forgiveness is relevant in later adulthood because personal networks do tend to reduce in size in old age, with emotionally close social partners are maintained while more peripheral social partners are increasingly excluded (Antonucci, 2001; Carstensen et al., 1999). An important extension of the present work would involve collecting data on age differences in forgivingness with respect to distinct types of social relationships such as knowledgeable partner versus controversial partner (e.g., Lang & Carstensen, 2002).

To the best of our knowledge, forgivingness has been investigated for the first time with respect to socioemotional selectivity theory (cf. Carstensen, 1993; Carstensen et al., 1999, 2006), thus linking willingness to forgive with the concept of future time perspective (FTP). As outlined in the theory of socioemotional selectivity, when time appears to be open-ended,
people tend to pursue goals associated with broadening their understanding of the world by acquiring accurate knowledge. Doing so enables people to prepare for the challenges and opportunities that await them. By contrast, perceiving time as limited, in contrast, brings about a shift in attention. Rather than preparing for the future, people turn their attention to the present and pursue social goals aimed at regulating their affective states through positive interactions with others. With respect to forgivingness, it has been hypothesized that people would be more willing to forgive when future time is perceived as limited as opposed to open-ended. The present finding clearly supports the idea that an individual’s perception of his or her remaining time to live might determines, in part, his or her proneness to deal with interpersonal hurts or transgressions. The perception of limited time seems to encourage forgiveness, which, according to Roberts (1995), reflects an openness to engage in the process of releasing resentment about interpersonal transgressions. As such, it depicts the initial step for responses of forgiveness that facilitate conciliatory responses. More generally, the time horizon may be an important aspect of the social context with implications for forgivingness. Specifically, a near endpoint may induce a general state of flexibility and motivates people to regulate their affective states through pursuing social goals such as to maintaining goodwill in social relationships. This may be a highly effective way of minimizing interpersonal conflict and maximizing the likelihood of maintaining harmony. Hence, it will be interesting to systematically examine different temporal perspectives, e.g., open-ended versus expanded (Fung et al., 1999), in order to test for possible boundaries of the future time effect on forgivingness.

Consistent with our interaction hypothesis that the effect of limited FTP would be smaller in older than in younger adults, a significant interaction between age and future time perspective emerged. The results indicate that the impact of the FTP manipulation on forgivingness was more powerful for younger adults than older adults. However, the interaction effect is rather small. Moreover, the expected age by future time interaction effect
only emerged after controlling for age-related variance of future time perspective as measured with the FTPS. Note that without controlling for FTPS, the impact of the future time perspective manipulation on forgivingness was equally powerful for both age groups. Therefore, it is unclear, whether increases in willingness to forgive also emerges using different manipulations of FTP such as those used in previous research on socioemotional selectivity (e.g., Fung & Carstensen, 2004; Fung et al., 1999). It is possible that our FTP manipulation using the critical illness scenario might have activated thoughts of death (but see Fung & Carstensen, 2006). Awareness of mortality creates the potential for stress by evoking aversive thoughts and feelings, but also it may increase the tendency to look for social closeness (Greenberg et al., 2003; Mikulincer, Florian, & Hirschberger, 2003). Recently, Gailliot, Schmeichel, and Baumeister (2006) have shown that self-regulation is a key mechanism for alleviating troublesome thoughts and feelings about mortality. It seems possible that forgiveness can function as a self-regulation strategy for minimizing death-related thoughts and anxiety by focusing on interpersonal concerns and by coping with negative emotions. Alternatively, the limitation of time remaining in life may favor prosocial attitudes and behaviors such as helping others, maintaining harmony, or showing conciliatory behaviors. Likewise, such attitudes might be supported, in part, by a wish for a positive end or a good “going away” (e.g., Fredrickson, 2000).

Based on the concept of future time perspective, the present study offers initial empirical evidence for explaining, in part, age differences in forgivingness. Future studies should test other theoretical propositions for explaining why forgivingness varies as a function of age. One theoretical proposition that might be investigated in future studies is based on lived time, i.e., past time perspective (PTP). Lay impressions suggest that aging is associated with being more experienced (Heckhausen et al., 1989). This implies that older age is linked with a greater number of life experiences, and, consequently, more knowledge and judgment about life and ways of planning, managing, and understanding life (Baltes &
Staudinger, 2000). Therefore, future studies might examine the hypothesis that the association between forgivingness and aging is due to an effect of increased experiences with hurtful situations and forgiveness across the adult lifespan. As people grow older, they might gain more expertise in letting go of hurtful feelings and thoughts, and therefore be more inclined to forgive others than younger and middle-aged adults.

An additional feature of the present study was to explore the role of open-ended and limited FTP with respect to both victim and transgressor. In general, applications of the concept of future time perspective refer to the length of time one’s personal time horizon (Carstensen et al., 1999). The present study thus extended the concept with respect to the time horizon of the other person, i.e., the hypothetical transgressor. Pertaining to the results, the conditions, i.e., FTP of victim versus FTP of transgressor, did not have a significant influence on forgivingness. Also, we did not find an interaction between age and condition. However, a condition by future time perspective interaction effect emerged, implying that participants were, on average, more willing to forgive when the temporal constraint refers to the transgressor as compared to the victim. That is, the other’s limited time horizon elicited higher forgivingness scores across both age groups. By contrast, no mean differences were found between the two conditions under open-ended time perspective. It seems plausible, that with respect to those conditions different processes might influence people’s willingness to forgive when time is perceived as limited. It is possible that with respect to the common perspective, forgivingness is more driven by self-focused processes, while a limited time perspective of the transgressor might elicit more other-focused processes such as perspective taking and empathy. Empathy, for instance, has been found to increase forgiveness of specific transgressions (e.g., McCullough et al., 1998), and is associated with forgivingness (e.g., Berry et al., 2001; Mullet et al., 2005).

Some limitations of the present study have to be noted. First, the gender balance was very unequal in the present study as three-quarter of the sample being female and this may
have affected the results, although gender differences in forgiveness are not widely reported (Worthington, 2005). However, with respect to forgivingness no age by gender interaction effect was found. A further limitation of this study is the reliance on imagined scenarios and the utilization of single-item measures of forgivingness. Although research have shown that individuals’ responses to hypothetical scenarios often correspond to how they would react in similar, real-life situations, it is possible that these hypothetical scenarios may not correspond to how people would respond in individual situations. For example, participants might interpret scenarios differently, including their sensitivity to transgressions, emotional reactions, attitudes toward forgiveness, and beliefs about the motives of the transgressor. An important extension of this work would involve collecting data from participants who have experienced actual time limitation and actual transgressions and examining the features of those transgressions in relation to the amount of forgiveness that has occurred. Another limitation refers to the fact that only one kind of hypothetical transgression scenario has been studied (see also Girard & Mullet, 1997; Mullet & Girard, 2000). However, one advantage of the transgression scenario is its real-life character. Future studies may gather more information about other types of transgressions including different real-life situations such as divorce, psychological and physical aggression (e.g., Gauché & Mullet, 2005). It would also be interesting not only to focus on single transgressions but simultaneously investigating multiple transgressions. Although we specified a particular transgression situation, we acknowledge that participants may have interpreted this situation differently, including their sensitivity to transgressions, anger or fear reactions, attitudes toward forgiveness, and beliefs about the motives of the transgressor. Such responses might influence forgiveness in a respondent’s daily life and are the variables that must be assessed independently in research on the nature of forgivingness. Finally, a developmental interpretation of our results is tempered by the fact that we used a cross-sectional design to make inferences about developmental effects and, consequently, cannot intrinsically differentiate between age and
cohort effects. Longitudinal studies are needed to confirm these cross-sectional age differences in forgivingness.

To conclude, the present study adds empirical evidence that forgivingness varies as a function of age, with older adults being, on average, more willing to forgive others than younger adults. Moreover, the present findings advances and extends prepositions of the theory of socioemotional selectivity, according to which an individual’s perceptions of his remaining time to live may determine, in part, his willingness to deal with interpersonal hurts or transgressions.
References


Appendix

Examples of the Materials

Example 1

_Scenario: Friend, Open-ended, Future Time Perspective of Victim_

Imagine yourself in the following situation. You are having lunch in a restaurant and you overhear several people, not realizing you are nearby, talking about you and laughing. You discover that a friend has intentionally told them about something you did back in your past that you are deeply ashamed of and did not want anyone to know about. **NOW, IMAGINE YOU ARE HEALTHY AND IN GOOD CONDITION AND HAVE A LONG LIFE AHEAD OF YOU.**

Example 2

_ Scenario: Acquaintance, Limited, Future Time Perspective of Transgressor_

Imagine yourself in the following situation. You are having lunch in a restaurant and you overhear several people, not realizing you are nearby, talking about you and laughing. You discover that an acquaintance has intentionally told them about something you did back in your past that you are deeply ashamed of and did not want anyone to know about. **NOW, IMAGINE THAT BECAUSE OF A CRITICAL ILLNESS YOUR ACQUAINTANCE HAS NOT MUCH LONGER TO LIVE.**
Footnotes

1) Note that without controlling for participants’ self-reported future time perspective (FTPS) the main effect of age accounted for 8% of the overall variance in forgivingness and denotes a medium effect (Cohen, 1988).

2) Note that without controlling for participants’ self-reported FTPS the main effect of future time perspective accounted for 43% of the overall variance in forgivingness, and thus represents a large effect.
<table>
<thead>
<tr>
<th>Scenario</th>
<th>Younger adults</th>
<th>Older adults</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FTP of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>victim (N = 108)</td>
<td>transgressor (N = 117)</td>
</tr>
<tr>
<td>Friend, open-ended</td>
<td>4.85 (2.21)</td>
<td>4.31 (2.28)</td>
</tr>
<tr>
<td>Friend, limited</td>
<td>5.82 (2.36)</td>
<td>6.76 (1.96)</td>
</tr>
<tr>
<td>Acquaintance, open-ended</td>
<td>4.06 (1.95)</td>
<td>3.83 (1.93)</td>
</tr>
<tr>
<td>Acquaintance, limited</td>
<td>5.07 (2.22)</td>
<td>5.70 (1.97)</td>
</tr>
</tbody>
</table>

*Note.* FTP: future time perspective.
Table 2

*Analysis of Variance Results for all Within-Subjects Effects*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>$\eta^2_p$</th>
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</thead>
<tbody>
<tr>
<td>Social proximity (SP)</td>
<td>1</td>
<td>2.35</td>
<td>0.96</td>
<td>.329</td>
<td>.003</td>
</tr>
<tr>
<td>SP × FTPS</td>
<td>1</td>
<td>0.05</td>
<td>0.02</td>
<td>.887</td>
<td>.000</td>
</tr>
<tr>
<td>SP × age</td>
<td>1</td>
<td>27.15</td>
<td>11.02</td>
<td>.001</td>
<td>.030</td>
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<tr>
<td>SP × condition</td>
<td>1</td>
<td>2.53</td>
<td>1.03</td>
<td>.311</td>
<td>.003</td>
</tr>
<tr>
<td>SP × age × condition</td>
<td>1</td>
<td>2.36</td>
<td>0.96</td>
<td>.328</td>
<td>.003</td>
</tr>
<tr>
<td>Error (SP)</td>
<td>352</td>
<td>2.46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future time perspective (FTP)</td>
<td>1</td>
<td>97.23</td>
<td>34.60</td>
<td>.000</td>
<td>.089</td>
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<tr>
<td>FTP × FTPS</td>
<td>1</td>
<td>21.39</td>
<td>7.61</td>
<td>.006</td>
<td>.021</td>
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<tr>
<td>FTP × age</td>
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<td>15.46</td>
<td>5.50</td>
<td>.020</td>
<td>.015</td>
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<tr>
<td>FTP × condition</td>
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<td>65.17</td>
<td>23.19</td>
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<td>.062</td>
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<tr>
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<td>1.62</td>
<td>.205</td>
<td>.005</td>
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<tr>
<td>Error (FTP)</td>
<td>352</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>SP × FTP</td>
<td>1</td>
<td>1.05</td>
<td>0.99</td>
<td>.320</td>
<td>.003</td>
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<tr>
<td>SP × FTP × FTPS</td>
<td>1</td>
<td>0.98</td>
<td>0.92</td>
<td>.339</td>
<td>.003</td>
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<tr>
<td>SP × FTP × age</td>
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<td>4.86</td>
<td>4.57</td>
<td>.033</td>
<td>.013</td>
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<tr>
<td>SP × FTP × condition</td>
<td>1</td>
<td>1.89</td>
<td>1.78</td>
<td>.183</td>
<td>.005</td>
</tr>
<tr>
<td>SP × FTP × age × condition</td>
<td>1</td>
<td>1.94</td>
<td>1.83</td>
<td>.177</td>
<td>.005</td>
</tr>
<tr>
<td>Error (SP × FTP)</td>
<td>352</td>
<td>1.06</td>
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<td></td>
<td></td>
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</table>

*Note. N = 357. Self-reported future time perspective (FTPS) was controlled as a covariate in the analysis.*
Figure Captions

*Figure 1.* Forgivingness as a function of age and social proximity. Error bars indicate SE.

*Figure 2.* Forgivingness as a function of age and future time perspective. Error bars indicate SE.

*Figure 3.* Forgivingness as a function of condition and future time perspective. Error bars indicate SE.

*Figure 4.* Forgivingness as a function of age, social proximity and future time perspective. Error bars indicate SE.
Age Differences in Forgivingness

- Younger:
  - Friend: [Value]
  - Acquaintance: [Value]

- Older:
  - Friend: [Value]
  - Acquaintance: [Value]
Age Differences in Forgivingness

![Bar chart showing forgivingness for victims and transgressors with open-ended and limited conditions.](chart.png)
Age Differences in Forgivingness

Younger adults

- Open-ended forgivingness:
  - Friend: 4.5 ± 0.2
  - Acquaintance: 3.8 ± 0.3

- Limited forgivingness:
  - Friend: 7.8 ± 0.5
  - Acquaintance: 6.2 ± 0.4

Older adults

- Open-ended forgivingness:
  - Friend: 5.2 ± 0.3
  - Acquaintance: 4.1 ± 0.4

- Limited forgivingness:
  - Friend: 8.0 ± 0.4
  - Acquaintance: 7.2 ± 0.5