

The Effect of Social Comparison Information on the Life Satisfaction of Frail Older Persons

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In this study, the authors examined the effects of social comparison on the life satisfaction of 455 community-dwelling older persons. These older persons were confronted with a fictitious interview with either an upward or a downward target. After downward comparison, older persons felt more satisfied with their lives than after upward comparison, especially those who had higher levels of frailty. These effects were only found with lower levels of identification. Apparently, downward comparison only serves its self-enhancing function on life satisfaction among frail older persons when they perceive the comparison target as different from themselves.

According to Gertrude Stein, “we are always the same age inside.” However, many things change with old age. Research has shown that most major biological systems, like breathing capacity (e.g., Bafitis & Sargent, 1977) and muscle strength (e.g., Fiatarone & Evans, 1993), are vulnerable to age-related decline and that older persons encounter greater limitations in many aspects of perception, attention, and memory (e.g., Dobbs & Rule, 1989; Madden & Plude, 1993; McDowd & Birren, 1990). These physical and cognitive changes can restrict older persons in their daily functioning, making it more difficult to maintain former activities or social contacts. Their environment can change even further when restrictions require a change of residence, like moving to a senior home or admission to a nursing home. Moreover, because the social networks of older persons are aging as well, many suffer the loss of loved ones through sickness or death.

Although aging coincides with a number of changes, many of which are undesirable, older persons do not differ, on average, from younger people in reports of subjective life satisfaction (e.g., Baltes & Baltes, 1990; Heidrich & Ryff, 1993a). Baltes and Baltes (1990) suggested that older persons succeed in maintaining their life satisfaction despite age-related loss by adjusting their criteria of success and failure. These subjective criteria influence people’s satisfaction with objective circumstances. One of the subjective criteria on which people base their satisfaction when evaluating their objective life circumstances is social comparison (Emmons & Diener, 1985).

In his theory of social comparison, Festinger (1954) identified the drive in humans to evaluate their opinions and abilities. In the absence of objective criteria, these evaluations are made by comparing one’s opinions and abilities to those of similar others. By comparing themselves with others who are worse off, people may create a lower reference point to evaluate their own situation, which can make them redefine their situation in a more positive way (e.g., Buunk, Oldersma, & De Dreu, 2001). These kinds of downward comparisons will make people feel more satisfied about their own circumstances (Buunk et al., 2001; Van der Zee, Buunk, & Sanderman, 1995) and have been shown to be more predictive of life satisfaction than factors such as aspiration level or comparison with one’s prior situation (Emmons & Diener, 1985). By comparing themselves with others who are better off (i.e., upward comparison), people engage in an unfavorable match that will make them feel more dissatisfied with their lives (Diener & Fujita, 1997).

Although social comparison information can serve as a neutral criterion against which people evaluate their situation (Festinger, 1954), research suggests that social comparison can have a more motivational purpose when people feel threatened. When people feel at risk of loss, social comparison can serve as means for cognitive adaptation (Gibbons & Gerrard, 1991). In his downward comparison theory, Wills (1981) argued that after a decline in well-being, people are motivated to make downward comparisons. These kinds of favorable comparisons can serve to enhance one’s self-image and to regulate negative emotions as a consequence of threat or loss. Wills’s theory has received much support from research conducted among victimized populations like cancer patients (Van der Zee et al., 1995; Wood, Taylor, & Lichtman, 1985), individuals receiving payment under the Disablement Insurance Act (Buunk & Ybema, 1995), patients with rheumatoid arthritis (Affleck & Tennen, 1991), mothers of medically fragile infants (Affleck & Tennen, 1991), and women with impaired fertility (Affleck & Tennen, 1991).

However, people under stress also have a tendency to compare themselves with others who are better off (Taylor & Lobel, 1989). In different studies, for example, among cancer patients (Molle-

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man, Pruyn, & Van Knippenberg, 1986; Taylor, Aspinwall, Giulinio, Dakof, & Reardon, 1988; Van der Zee, Buunk, & Sanderman, 1998), information about a person doing better was preferred to information about a person doing worse. Taylor and Lobel (1989) reconciled these contradictory findings by suggesting that downward and upward comparisons may serve different needs. Downward comparisons can be seen as efforts to regulate negative emotions by enhancing self-esteem, whereas upward comparisons can be seen as problem-solving efforts by providing information on how to cope and by increasing hope and motivation (Taylor & Lobel, 1989).

Changes that occur in advanced age are associated with diminished controllability, and are often difficult to reverse (Heckhausen & Baltes, 1991). This is why the self-enhancement function of social comparison should become more salient with age (Heckhausen & Krueger, 1993). Older persons should benefit more from efforts aimed at regulating negative emotions as a consequence of age-related loss than from efforts aimed at improvement. Indeed, Heidrich and Ryff (1993b) found that, in domains in which loss typically occurs as a consequence of age, older women were more motivated to make social comparisons that were self-enhancing. For example, physical health engendered more downward comparisons than friendship, which is more amenable to improvement. Furthermore, the effects of social comparisons on mental health were strongest for women in poor health, resulting in psychological outcomes similar to those of women in good health. Although this is one of the few studies that related the consequences of social comparison to age-related loss, various studies have demonstrated a more favorable reaction to downward comparison with higher levels of negative affect (Buunk & Brenninkmeijer, 1999; DeVelis et al., 1990; Gibbons, 1986). For example, Gibbons found that confronting people with another person's misery improved the mood of depressed participants, but not that of nondepressed participants. Evidently, people with higher levels of depression seem to derive more solace from the knowledge that others are worse off. Because age-related loss is positively related to measures of negative affect (Schuurmans et al., 2003), we expect downward comparison to be more soothing with higher levels of loss.

In this study, the degree to which older persons suffer from age-related loss was conceptualized as frailty. Frailty is a gerontological concept, indicating a mixture of beginning problems at the physical, cognitive, and psychosocial domain. This mixture of problems makes frail older persons more vulnerable to adverse outcomes like dependence on others, the loss of physiological reserves, and chronic illnesses (Rockwood, Hogan, & MacKnight, 2000). Because downward comparisons can help frail older persons to regulate the negative emotions that result from these adverse outcomes, we expect older persons to feel more satisfied with their lives after downward rather than after upward comparison, especially when they have higher levels of frailty.

The positive effect of downward comparison on the life satisfaction of older persons will depend not only on frailty, but also on the extent to which they identify with the comparison target. Research into the adaptive consequences of downward comparison is based upon the assumption that individuals contrast their situation with the situation of the comparison other, that is, they focus on differences between themselves and the person doing worse (Van der Zee, Buunk, Sanderman, Botke, & Van den Bergh,

2000). According to the identification-contrast model (Buunk & Ybema, 1997), people are motivated to contrast themselves with others doing worse because this creates feelings of superiority and makes them feel relatively satisfied with their own circumstances. However, when downward comparison evokes identification instead of contrast, this can raise fear about ending up in the same way as the comparison target (Buunk, Collins, Taylor, VanYperen, & Dakof, 1990). This fear probably makes people feel less satisfied with their lives, because "it could also happen to me." As downward comparison will only serve its self-enhancing function with low levels of identification (Van der Zee et al., 2000), we expect that frail older persons will only feel more satisfied with their lives after downward rather than after upward comparison when identification with the comparison target is low.

It may be noted that, in most studies on the effects of social comparison among older persons, no distinction is made between downward contrast and downward identification. For example, Heidrich and Ryff (1993b) found that older women who engaged in downward comparison more frequently also reported more psychological distress and reduced well-being. These findings seem to contradict those from previous research about the emotional benefits derived from downward comparison. However, the measure of comparison frequency used by Heidrich and Ryff allows for reports of downward identification as well as for downward contrast. It is quite possible that the emotional benefits of downward contrast were overshadowed by the negative consequences of downward identification, making the higher frequency of downward comparisons result in reduced well-being.

The present study also extends previous research by employing an experimental manipulation of social comparison. Prior research mostly applied a cross-sectional design, which allows for conclusions about the relationship between social comparison and another variable, but not for conclusions about the causal effect of social comparison on this variable. If research is to demonstrate unequivocally the self-enhancing effect of social comparison on the psychological outcome measures of older persons, it is advisable to apply an experimental design in which the level of identification with the comparison target is also considered.

Summarizing our expectations, our first hypothesis is that older people will feel more satisfied with their lives after downward rather than after upward comparison. This is predicted because the former offers a lower point of reference when evaluating one's objective circumstances. The second hypothesis builds on the first one, by stating that downward comparison will result in a higher level of life satisfaction than upward comparison, especially among older persons with higher levels of frailty. When older persons have suffered substantial age-related loss, as frail older persons have, the self-enhancement function of downward comparison becomes more salient. Because downward comparison will only serve this self-enhancing function with low levels of identification, our expectations can be further elaborated in a third hypothesis that builds on the second one: Downward comparison will result in a higher level of life satisfaction than upward comparison, especially among older persons with higher levels of frailty, but only among those with low levels of identification. In other words, we expect that there will be a three-way interaction effect among direction of social comparison, level of frailty, and level of identification on life satisfaction. For more frail older persons with low levels of identification, downward comparison

will result in more life satisfaction than upward comparison, whereas for more frail older persons with high levels of identification, downward comparison will result in less life satisfaction than upward comparison. For less frail older persons, these effects will be less profound.

Method

Sample and Procedure

In August 2001, a questionnaire was sent to a random sample of 1,000 older persons. We obtained the addresses of this sample by approaching six municipalities in the north of the Netherlands, namely, Groningen, Delfzijl, Zuidhorn, Leeuwarden, Heerenveen, and Smallingerland, with the request for addresses of a random sample of community-dwelling older persons aged 65 years and older. All municipalities granted our request, and sent us a random selection of addresses from their registers.

An experimental manipulation was performed by having one version of the questionnaire contain upward comparison information, whereas the other version contained downward comparison information. Participants were randomly assigned to one of these versions. They were told that the study was about the way in which people aged 65 years and older give meaning to their lives, and that they were to read an interview that had been held with a respondent in a prior study. They were instructed to read the interview carefully, because they would have to answer some questions about the passage afterwards.

Forty-six percent of the addresses returned their questionnaires ($N = 455$). This response rate might seem low in comparison to longitudinal aging studies in which respondents were personally approached by an interviewer (e.g., Baltes & Mayer, 1999), their physician (e.g., Dutch Institute of Gerontology, 1995), or through civic, social, or church organizations (e.g., Schaie, 1983). However, it is quite high compared to similar experiments on social comparison in which a questionnaire was sent by mail, for example, to a sample of individuals under the Disablement Insurance Act (Ybema, Buunk, & Heesink, 1996). More important, because our main interest was to find effects of the manipulation of social comparison, and not to determine general parameters for the total population of older persons, a low response rate does not pose a problem unless it affects the randomization of the experimental conditions.

Upward condition. Fifty percent of the addressees who returned their questionnaire had received the upward comparison information ($n = 229$). Of the participants in the upward condition, 43% were men and 57% were women. The average age was 74; the oldest participant was 94 years old. The mean score on frailty was 2.92 (range = 0–11). Sixty-four percent of the respondents in the upward condition had a partner with whom they shared a house, 1% had a partner with whom they did not share a house, and 35% did not have a partner at the time of completion.

Downward condition. Fifty percent of the addressees who returned their questionnaire had received the downward comparison information ($n = 226$). Of the participants in the downward condition, 37% were men and 63% were women. The average age was 74.5; the oldest participant was 98 years old. The mean score on frailty was 2.70 (range = 0–10). Fifty-eight percent of the respondents in the downward condition had a partner with whom they shared a house, 1% had a partner with whom they did not share a house, and 38% did not have a partner at the time of completion. For 3% of the participants, this information was unknown.

There was no significant difference between participants in the upward and the downward condition on any of the demographic variables just described. Obviously, the randomization of the experimental conditions was successful. This prevents the confounding of an experimental effect with an effect of these demographic variables upon life satisfaction. However, because we found a significant relationship between having a partner and life satisfaction, we decided to control for this demographic variable in further analyses to be absolutely safe.

In some cases of nonresponse, the addressees or family members of the addressees contacted us by phone or letter. This gave us an impression of the reasons why this group did not return the questionnaire. In a few cases, the addressee had died or had been admitted to a nursing home. Some addressees could not participate as a consequence of a physical condition like a stroke or brain hemorrhage, whereas others had cognitive disabilities like Alzheimer's disease. There were also addressees who did not want to fill out the questionnaire because they were too busy, felt too old, or did not feel like it. There was a small group of older persons who were concerned about their privacy. Because many reasons for nonresponse were physical, this may have caused an underrepresentation of severely frail older persons.

Instruments

Measure of frailty. To determine the levels of frailty of our participants, we used the Groningen Frailty Indicator (GFI; Steverink, Slaets, Schuurmans, & Van Lis, 2001). This is a simple questionnaire designed to screen older persons for beginning physical, cognitive, and psychosocial problems. An example of a physical item is "Can you do your shopping independently?" An example of a psychosocial item is "Are there times when you miss other people around you?" The GFI consists of 15 items ($\alpha = .73$) that can be answered with "yes," "sometimes," or "no." Answers indicating a high level of frailty were assigned 1, and answers indicating a low level of frailty were assigned 0; these points were summed and resulted in a range from 0 (not frail) to 15 (severely frail).

Manipulation of social comparison. To manipulate the kind of social comparison the participants made, we administered a bogus interview to each of them (El Boundati, Grotenhuis, Henselmans, & Oldenhuis, 2001). This interview was either with a fictive person low on frailty (the upward condition), or with a fictive person high on frailty (the downward condition). Information about the comparison target was mirrored, so that when the upward target performed well, the downward target performed poorly. Examples of interview fragments in the upward condition are "Well, I live in a senior home. People visit me all the time," "I take my car to go shopping or to visit some friends," and "I'm still very active, physically I feel fine." Examples of the downward condition are "Well, I live in a nursing home. Often I'm alone in my room," "My wheelchair makes it difficult to go out and do my shopping on my own," and "I need help with just about everything and often my joints ache." The gender and exact age of the comparison target were not mentioned. Participants received either the upward or the downward comparison condition randomly.

Manipulation check. We formulated seven items ($\alpha = .90$) to check whether the respondents perceived the upward target as doing better and the downward target as doing worse than themselves on dimensions of frailty. A 5-point scale was used, with possible answers ranging from 1 (*much worse*) to 5 (*much better*). The answers were summed and averaged to form a simple index, with a higher score indicating that the participant perceived the target as doing better than himself or herself.

Life satisfaction. We used a Dutch version of the Satisfaction With Life Scale (Arrindell, Heesink, & Feij, 1999; Diener, Emmons, Larsen, & Griffin, 1985) to measure life satisfaction. This is a brief scale, consisting of five items ($\alpha = .85$), that approaches life satisfaction as a cognitive-judgmental process. An example of an item is "In most ways, my life is close to my ideal." Answers could be given on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). These answers were summed and averaged to form a simple index, with higher scores indicating a higher life satisfaction.

Identification. We measured degree of identification using four items ($\alpha = .90$), based on items used by Ybema and Buunk (1995), for example, "To what extent do you recognize yourself in the person who was interviewed?" Answers could be given on a 5-point scale, ranging from 1 (*not at all*) to 5 (*very strongly*). These answers were summed and averaged to form a simple index, with higher scores indicating a higher level of identification.

Results

Manipulation Check

In order to verify whether the upward comparison target was perceived as doing better, and the downward comparison target as doing worse by respondents with different levels of frailty, we did a hierarchical regression analysis using direction of social comparison (coded +1 for the upward condition and -1 for the downward condition) and frailty as predictors of the manipulation check. The main effects of frailty and direction of social comparison explained 70% of the variance in the manipulation check, $\Delta F(2, 382) = 436.83, p < .001$. Both main effects were significant. In general, the respondents perceived the upward target as doing better than themselves and the downward target as doing worse ($M_{\text{upward condition}} = 3.43, M_{\text{downward condition}} = 1.77, B = .83, p < .001$), and with higher levels of frailty, the comparison target was generally perceived as doing better ($B = .17, p < .001$). Entering the interaction between frailty and direction of social comparison into the regression equation yielded no significant increase in explained variance of the manipulation check, $\Delta F(1, 381) = 2.89, ns$. Apparently, with lower levels of frailty, older persons still perceived the upward comparison target as doing better, whereas with higher levels of frailty, older persons still perceived the downward comparison target as doing worse than themselves.

Testing the Hypotheses

The effects of direction of social comparison, frailty, identification, and the interactions between them were examined by executing a hierarchical regression analysis using life satisfaction as the dependent variable. Except for the direction of social comparison (coded +1 for the upward condition and -1 for the downward condition), all scores of the predictors were standardized. Standardizing variables facilitates the interpretation of results: With standardized variables, the unstandardized regression coefficients (B) reflect the relative contribution of the predictors, controlling for differences in variance (Aiken & West, 1991). In the first step, the main effects were entered into the regression equation,¹ in the second step, the two-way interactions, and in the third step, the three-way interaction.

As indicated in Table 1, 32% of the variance in life satisfaction was explained by the main effects of frailty, identification, and direction of social comparison, $\Delta F(3, 385) = 61.04, p < .001$. All

Table 1
Hierarchical Regression Analysis of Life Satisfaction

Variables/Interactions	ΔR^2	ΔF	B
1. Direction of social comparison	.32	61.04 ^{a***}	-.11**
Frailty			-.39***
Identification			.16***
2. Direction \times Frailty	.04	8.23 ^{b***}	-.01
Direction \times Identification			.15***
Frailty \times Identification			.11**
3. Direction \times Frailty \times Identification	.01 ^c	6.38 ^{d*}	.10*

^a $df = 3, 385$. ^b $df = 3, 382$. ^c Total $R^2 = .37$. ^d $df = 1, 381$.
* $p < .05$. ** $p < .01$. *** $p < .001$.

three main effects were significant. In general, frailty was negatively related to life satisfaction ($B = -.39, p < .001$), whereas identification was positively related to life satisfaction ($B = .16, p < .001$). Furthermore, upward comparison had a more negative effect on life satisfaction than downward comparison ($B = -.11, p < .01$). The first part of our prediction, that downward comparison would result in a higher level of life satisfaction among older persons than upward comparison, was confirmed.

To test the second part of our prediction—that downward comparison would result in a higher level of life satisfaction than upward comparison, especially among older persons with higher levels of frailty—we entered the two-way interaction terms into the regression equation. This yielded a significant increase of 4% in explained variance of life satisfaction, $\Delta F(3, 382) = 8.23, p < .001$. There was no significant two-way interaction between frailty and direction of social comparison ($B = -.01, ns$), which means that the effects of social comparison on life satisfaction were not stronger with higher levels of frailty. The second part of our prediction could not be confirmed. We did find a significant two-way interaction between identification and direction of social comparison ($B = .15, p < .001$). To probe this two-way interaction (Identification \times Direction of Social Comparison), we needed to determine the simple regression lines of direction of social comparison on life satisfaction with a specific value of identification. Following Cohen and Cohen (1983), this specific value of identification was chosen to be one standard deviation above the mean for higher levels of identification and one standard deviation below the mean for lower levels of identification. Simple regression lines for frailty on life satisfaction were then generated by substituting these new values of identification (+1 SD or -1 SD) in separate regression equations (Aiken & West, 1991). The regression equation in which the level of identification was set at +1 SD resulted in the regression coefficient for direction of social comparison on life satisfaction with high levels of identification, whereas the regression equation in which the level of identification was set at -1 SD resulted in the regression coefficient for direction of social comparison on life satisfaction with low levels of identification. The simple regression equation for low levels of identification indicated that downward comparison had a more positive effect on life satisfaction than upward comparison ($B = -.29, p < .001$), whereas the simple regression equation for high levels of identification indicated no difference between downward and upward comparison on life satisfaction ($B = .11, ns$).

There was also a significant two-way interaction between frailty and identification on life satisfaction ($B = .11, p < .01$). To determine the simple regression lines of level of identification on life satisfaction, we substituted new variables for higher and lower levels of frailty (+1 SD for higher and -1 SD for lower levels of frailty) in separate regression equations. The simple regression equation for higher levels of frailty indicated that an increase in identification with the comparison target resulted in more life satisfaction ($B = .29, p < .001$). The simple regression equation

¹ To control for the significant relationship between having a partner and life satisfaction, we entered the demographic variable into the first step of the regression equation; however, this did not change any of the results reported in this section.

for lower levels of frailty showed no effect of identification on life satisfaction ($B = .04, ns$).

To test the last part of our prediction—that downward comparison would result in a higher life satisfaction among frail older persons than upward comparison, but only among those with low levels of identification—we entered the three-way interaction (Frailty \times Identification \times Direction of Social Comparison) into the equation. This yielded an additional 1% of explained variance in life satisfaction, $\Delta F(1, 381) = 6.38, p < .05$. Next, we investigated the two-way interaction effect of the direction of social comparison and identification on the life satisfaction of more frail and less frail older persons separately (+1 *SD* for higher and -1 *SD* for lower levels of frailty).

Among less frail older persons, we found only a marginally significant two-way interaction effect between direction of social comparison and identification ($B = .09, p = .06$). To determine the simple regression lines of direction of social comparison on life satisfaction, we substituted new variables for higher and lower levels of identification (+1 *SD* for higher and -1 *SD* for lower levels of identification) in separate regression equations. The simple regression lines for low levels of identification (see Figure 1A) show that downward comparison resulted in a slightly higher level of life satisfaction than upward comparison ($B = -.12, p = .06$). The simple regression lines for high levels of identification show no effect of direction of social comparison on the life satisfaction of less frail older persons ($B = .07, ns$).

Whereas social comparison had only a marginal effect on the life satisfaction of less frail older persons, this effect was much

stronger with higher levels of frailty. Among more frail older persons, we found a significant two-way interaction effect of direction of social comparison and identification on life satisfaction ($B = .30, p < .001$). To determine the simple regression lines of direction of social comparison on life satisfaction, we substituted new variables for higher and lower levels of identification (+1 *SD* for higher and -1 *SD* for lower levels of identification) in separate regression equations. The simple regression lines that resulted from the analyses using the variables for higher and lower levels of identification (see Figure 1B) confirmed our prediction: When identification among more frail older persons was low, downward comparison resulted in a higher level of life satisfaction than upward comparison ($B = -.33, p < .001$). When identification was high, downward comparison resulted in a lower level of life satisfaction than upward comparison ($B = .25, p < .001$).

Although the two-way interaction of frailty and direction of social comparison on life satisfaction did not confirm the second part of our prediction—that downward comparison would result in a higher life satisfaction than upward comparison, especially among frail older persons—including identification in the regression analyses did result in a stronger effect of social comparison among more frail older persons (see Figure 1B) than among less frail older persons (see Figure 1A).

Discussion

In this study, we investigated how social comparison information affects the life satisfaction of frail older persons. The first part of our prediction was that downward comparison would result in a higher level of life satisfaction among older persons than upward comparison, because the first offers a lower point of reference. This part of our prediction was confirmed: Older persons did indeed report that they felt more satisfied with their lives after reading about a person doing worse, than after reading about a person doing better than themselves. The second part of our prediction was that downward comparison would result in a higher level of life satisfaction than upward comparison, especially among older persons with higher levels of frailty, because with age-related loss, the self-enhancement function of downward comparison becomes more salient. This part of our prediction could not be confirmed: The effects of social comparison on life satisfaction were not stronger with higher levels of frailty. However, when level of identification was considered, the more frail older persons did benefit more from downward comparison than less frail older persons, but only with low levels of identification. In line with the third part of our prediction, downward comparison only served its self-enhancing function when the older persons did not identify with the comparison target.

When older persons did identify with the comparison target, the more frail older persons benefited less from downward comparison as opposed to upward comparison than the less frail older persons. Evidently, the fear of ending up similar to the comparison target, aroused by downward identification, had stronger negative consequences for the life satisfaction of the more frail older persons than for the life satisfaction of the less frail older persons. Perhaps the more frail older persons viewed the situation of the downward target as a possibility for the near future, whereas the less frail older persons considered it a more remote possibility.

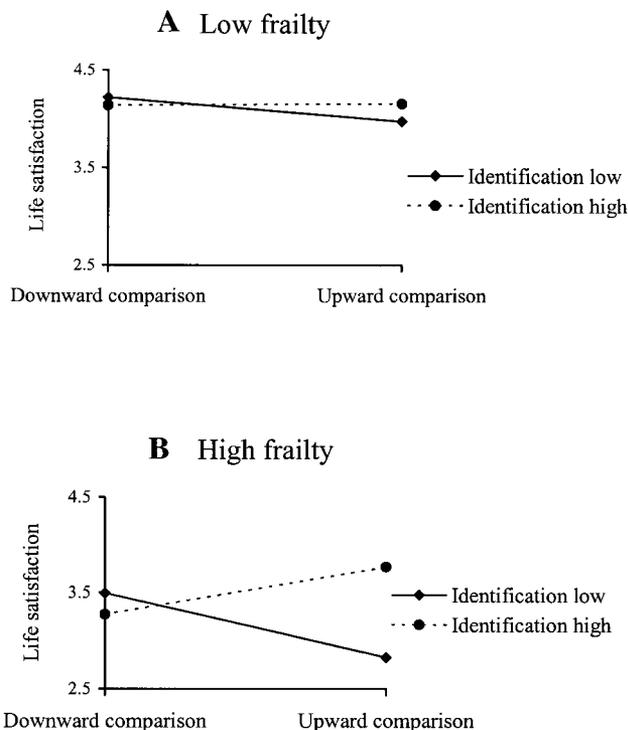


Figure 1. A: Simple slopes of the interaction effect of direction of social comparison and identification on life satisfaction of less frail older persons. B: Simple slopes of the interaction effect of direction of social comparison and identification on life satisfaction of more frail older persons.

Although level of identification was included as a determinant of the relationship between social comparison information and life satisfaction in this study, we also found a direct effect of identification on well-being. Older persons who identified more strongly with the comparison target experienced more well-being, but only when they suffered from higher levels of frailty. This finding can be explained by the rejection–identification model (Branscombe, Schmitt, & Harvey, 1999), which addresses the consequences of perceptions of discrimination and prejudice. According to that model, experiencing rejection from a majority leads disadvantaged groups to increase their identification with their minority group, which in turn alleviates some of the harm to psychological well-being. It might be that older persons experience more rejection in society when they suffer from higher levels of age-related complaints. Among these older persons, the identification with age peers, like the fictive person in the interview, may create a sense of belonging to an in-group, which alleviates feelings of rejection and thereby increases life satisfaction.

The results of our study are in line with suggestions about the adaptive function of social comparison that have been put forward in theoretical work on successful aging (Baltes & Baltes, 1990; Brandtstädter & Rothermund, 2002; Schulz & Heckhausen, 1996). We found that social comparison can have a positive effect on life satisfaction, independent of age-related loss. However, whereas prior studies found that downward comparison has more positive affective consequences than upward comparison among older persons (e.g., Heckhausen, 1999; Suls, Marco, & Tobin, 1991), our study shows that this only holds when the comparison target evokes little identification. Our findings illustrate the importance of considering the level of identification with the comparison target for drawing conclusions about the function of social comparison. Whereas downward comparison can be self-enhancing when identification with the comparison target is low, it can evoke fear of future similarities when identification is high. Apparently, research into the adaptive function of downward comparison information should be restricted to those instances in which the social comparison target is perceived as quite different.

Before we discuss the practical implications of these findings, some limitations of this study must be noted. Because our sample only contained community-dwelling older persons, we have excluded the frailest older persons, those residing in nursing homes. The physical nature of many reasons of nonresponse may have added to this underrepresentation of severely frail respondents in our sample. Furthermore, for most addressees the reasons of nonresponse remained unknown. Because half of our original sample did not return the questionnaire, our findings might not be representative of the entire population of community-dwelling older persons. However, because the low response rate did not influence the randomization of our experimental conditions, it does not affect the relevance of our results.

Despite these limitations, our findings offer some clear suggestions on how social comparison could be an important adaptive strategy in dealing with the adverse outcomes of frailty. Thus far, many programs that have attempted to address the adverse outcomes of frailty, like the increased risk of falling (e.g., Reinsch, MacRae, Lachenbruch, & Tobis, 1992) or placement in a nursing home (e.g., Hedrick, Koepsell, & Inui, 1989), have only had mixed success. Perhaps intervention programs should not focus exclusively on preventing the outcomes of frailty, but should also make

an effort to influence the way in which frail older persons evaluate these outcomes. Even though frail older persons have suffered substantial loss, they can maintain a certain level of satisfaction with their lives by adjusting their subjective criteria of success and failure. The results of our study show that social comparison information influences the life satisfaction of frail older persons: Information about others who are doing worse and who are very different from themselves facilitates psychological adjustment to age-related losses more than information about different others doing better. Family members and professionals could use this knowledge when presenting information to frail older persons. For example, to soothe an African American frail older woman from New York who is no longer capable of doing her shopping alone, one might tell a story about a Chinese frail older man from San Francisco who is no longer capable of leaving the house at all. This information is self-enhancing and nonthreatening because it relates to a person very different from herself. Were a spouse or a health care provider to use a story about someone who is doing better and who is very different, for example, a Chinese frail older man from San Francisco who does the shopping for the entire neighborhood, then this might instill feelings of inferiority. Were an example about someone doing worse who is very similar to herself be used, for example, an African American frail older woman from New York who is no longer capable of leaving the house at all, then this might instill fear of ending up like this person. By the strategic use of downward comparison information, examples about other people can help frail older persons regulate the negative emotions resulting from age-related loss.

Although the results of this study show that social comparison might help older persons maintain their life satisfaction despite the adverse outcomes of frailty, they should only be regarded as offering a glimpse into its mechanisms. We investigated the responses of older persons to one of two possible comparison targets, but in reality the number of comparison targets available is unlimited. The existence of an indefinite number of comparison targets allows for a more strategic use of social comparison than has been demonstrated in our study. People do not respond passively to social comparison information, but actively make the kinds of comparisons that meet their needs for cognitive adaptation. Suls et al. (1991) even suggested that older persons compare themselves with a cognitively manufactured stereotype of a frail older person rather than with a specific other. Because few older persons fit such a stereotype, it allows them to evaluate themselves as doing relatively well. Further research should focus more on the strategic use of social comparisons by investigating which social comparisons frail older persons make on their own initiative. In this way, we will not only know what the consequences of social comparison are for the life satisfaction of frail older persons, but we will also know whether frail older persons are capable of selecting the kind of social comparison information that is most likely to help them adapt.

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