

Gender Differences in Self-Concept and Psychological Well-Being in Old Age: A Meta-Analysis

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Because of women's higher risk of being widowed, having health problems, and needing care, one might expect them to have a more negative self-concept and lower subjective well-being (SWB). However, women may also have greater access to sources of SWB (e.g., relations to adult children) and may engage in processes to protect the self (e.g., lowered aspirations). Meta-analysis was used to synthesize findings from 300 empirical studies on gender differences in life satisfaction, happiness, self-esteem, loneliness, subjective health, and subjective age in late adulthood. Older women reported significantly lower SWB and less positive self-concept than men on all measures, except subjective age, although gender accounted for less than 1% of the variance in well-being and self-concept. Smaller gender differences in SWB were found in younger than in older groups. Statistically controlling for gender differences in widowhood, health, and socioeconomic status decreased gender differences in SWB. Cohort differences in SWB are reported as well.

GENDER differences in subjective well-being (SWB) and self-concept are a recurrent field of research in social gerontology. Previous research has focused on three research questions. The first question addresses whether older men and women differ with regard to SWB and aspects of self-concept (e.g., self-esteem, subjective age). Previous studies have revealed a wealth of evidence of gender-typed self-descriptions. For example, men are more likely to describe themselves as independent, achievement oriented, financially oriented, and competitive than are women (e.g., Angeleitner, 1978; Mutran, 1987). Women, on the other hand, describe themselves as sociable, moral, dependent, and less assertive (e.g., Mutran, 1987; Siegler, George, & Okun, 1979). In contrast, as we show, gender differences in global dimensions of self-descriptions and self-evaluations (e.g., life satisfaction) are equivocal.

The second common question deals with whether differences in SWB and self-concept depend on gender-associated disadvantages, such as a higher rate of being widowed, having poor physical health, and low socioeconomic status (SES). The third question, which has not been resolved in the literature to date, is whether gender differences in SWB and self-concept vary with the age of participants and whether they are influenced by cohort differences.

In the present study, we address these questions by means of meta-analysis. We explore, first, whether older men and women differ in their SWB and self-concept. Second, we investigate whether gender differences in health, competence, and SES account for gender differences in SWB. In the third section of this article, we explore whether gender differences in SWB are influenced by age and cohort effects.

Gender Differences in SWB and Self-Concept

SWB can be defined as positive evaluation of one's life associated with positive feelings. In gerontology, general

SWB has most often been assessed with measures of life satisfaction, happiness, and self-esteem. Whereas self-esteem and life satisfaction measure cognitive evaluations of one's self and one's life, happiness generally represents the emotional component (Rosenberg, 1979; Kozma, Stones, & McNeil, 1991). Although all three aspects of SWB are positively correlated (Pinquart, 1998), they tend to measure different aspects of well-being.

Reasons for Gender Differences in SWB and Self-Concept

There are five reasons why older women's SWB might be lower and their self-concept more negative compared with men. The first three reasons focus on women's disadvantages with respect to different sources of SWB. Previous research has shown that social integration, good health, competence, and a high SES are important predictors of SWB and self-concept in old age (Pinquart & Sörensen, 2000).

First, women's disadvantage with regard to health resources occurs because their morbidity rates are higher (Jette, 1996) and because women tend to require more care in later life than men (Hobbs & Damon, 1996). Despite the striking gender difference in longevity, a large part of women's additional years are spent with illness and disabilities. Katz and colleagues (1983) estimated that women at age 65 can expect to live with disabilities for an additional 6.9 years compared with men.

Second, older women are more likely to be widowed than older men. For example, among women 65 years and older, about 50% are widowed; this percentage is about three times as high as for men (Hobbs & Damon, 1996). In the United States, nearly four times as many older women than men live alone (Arber & Ginn, 1994).

Third, older women have, on average, lower material resources due to inequity experienced at an earlier age. As a

result of gender segregation in the labor market and women's less stable employment histories, women are less likely to be covered by pensions (Golombok & Fivush, 1994). Their pensions are, on average, lower than men's (Moen, 1996), and they are more likely to live in poverty than older men, especially in very old age. In the United States, for example, older women are almost twice as likely as older men to have an income below the poverty threshold (Arber & Ginn, 1991, 1994).

Fourth, gender-specific response sets may contribute to older women's lower SWB. Some authors have argued that women may report lower SWB than men because they are more likely to disclose negative feelings (Phillips & Segal, 1969). With regard to old age, however, there is almost no research on gender differences in self-disclosure that could test this assumption.

The fifth reason why women's SWB might be lower has been suggested by Sontag (1972): With increasing age, women are considered less attractive and are therefore less valued, whereas men may gain social prestige with age. This, in turn, may lead to lower SWB in older women. However, although empirical studies have revealed that older women are rated as less attractive than younger women (e.g., Kite, Deaux, & Miele, 1991), there is not much evidence that older women are evaluated more negatively than older men. In some dimensions, women were even rated more positively compared with their male age-peers (see Sherman, 1997, for review). In addition, negative stereotypes seem to have only limited influence on seniors' self-concept (Filipp & Mayer, 1999). Thus, we conclude that the "double standard of aging" may not be the main cause of negative self-concepts and lower SWB in older women as compared with men.

Reasons Against Gender Differences in SWB and Self-Concept

There are two reasons why women may not have lower SWB and more negative self-concept than men. First, research on the protection of a positive self-concept in older adults has shown a considerable resilience of the aging self (Brandstädter, Wentura, & Greve, 1993). Willis (1992), for example, suggested that social comparisons mediate between objective circumstances of life and SWB. When older adults are compared with persons of the same sex, gender differences in health problems, disability, SES, and widowhood are irrelevant for the psychological outcomes of social comparisons. In addition, discrepancies between aspirations and success have been suggested as an important source of SWB (Brandstädter et al., 1993). Thus, lower aspirations in older women compared with men may reduce gender differences in SWB.

A second reason why men and women may not differ in SWB and self-concept is that they may have different sources of SWB and self-concept. Women's identities may tend to be more strongly tied to social network events, whereas men's identities may be more strongly tied to their careers (Golombok & Fivush, 1994; Whitbourne & Powers, 1994). One might infer from this that lower previous career success, educational attainment, and income and other disadvantages of older women may not result in lower SWB

and a more negative self-concept in older women than men because women's SWB is primarily based on other sources, for example, having close relations to others. For example, French, Gekoski, and Knox (1995) showed that for women but not men, undesirable events are negatively related to SWB (life satisfaction, positive affect). However, women may also be more responsive to positive events. For example, French and colleagues (1995) reported some evidence that for women, more than for men, positive life events buffer or counteract the impact of negative events.

Findings Regarding Gender Differences

Gender differences in SWB and self-concept have been assessed in numerous studies. However, both differences in measurement as well as inconsistencies in the results make it very difficult to draw clear conclusions from these studies. In analyzing samples of older adults, Smith and Baltes (1998) reported higher life satisfaction in elderly men than women, and Brand and Smith (1974) and Coke (1992) found higher life satisfaction in older women than men. Because of the many inconsistent results, systematic integration of these findings would be helpful at this time. Meta-analysis is an ideal tool for this.

Previous meta-analyses have focused on age-heterogeneous samples. Wood, Rhodes, and Whelan (1989) did a meta-analysis on 93 studies that compared SWB of men and women. Although there were no significant gender differences in SWB across all studies, in U.S. nationally representative studies women reported higher SWB than men (Cohen's $d = -.05$). Two meta-analyses by Haring, Stock, and Okun (1984) and Kling, Hyde, Showers, and Buswell (1999), however, reported a slightly higher SWB and higher self-esteem in men than women ($r = .04$ and $d = .21$, respectively). Because previous meta-analyses included studies from late adolescence to old age, the multiple disadvantages of older women may not have had a large influence on the results. We propose, therefore, that meta-analyses of older adult samples may show larger gender differences in SWB in favor of men.

Summing up the above theoretical considerations on multiple disadvantages of older women on the one hand and gender differences in processes protecting SWB on the other, older women may have lower SWB compared with their male age-peers, but these differences may be less pronounced than the objective disadvantage of older women. On the basis of these considerations, Hypothesis 1.1 states that across all included studies older women will report lower life satisfaction, less happiness, and lower self-esteem compared with men.

Gender Differences in Domain-Specific Measures

Gender differences are expected not only in general dimensions of self-evaluation but also in domain-specific dimensions. In this article, we focus on three measures, loneliness, self-evaluations of one's health (subjective health), and subjective age.

Loneliness.—Arber and Ginn (1994) suggested that women's higher risk of being widowed and living alone is associated with higher loneliness in older women, compared

with same-aged men. In addition, because women's socialization is focused more strongly on the investment in the maintenance of social ties (Josselson, 1987), actual deficits in contact may be more likely to lead to higher levels of subjective loneliness. In fact, Tornstam (1992) showed that women had higher expectations regarding their access to intimacy compared with men. We infer from this that older women's intimacy needs may be more difficult to fulfill than men's needs.

Subjective health.—On the basis of the higher incidence of chronic illness and disability in older women (Jette, 1996) and the higher percentage of older women needing help with household tasks and care (Hobbs & Damon, 1996), we expected women to report worse subjective health compared with men. One might argue that worse subjective health in older women may be less likely because men are at higher risk for serious and lethal illnesses than are women (e.g., heart disease and cancer; Verbrugge, 1990), which could have negative effects on subjective health. However, persons with fatal illnesses may be underrepresented in most gerontological studies, which would reduce the influence of these illnesses on gender differences in subjective health.

Subjective age.—Both women and men see “old age” as beginning at an earlier age for women than for men (Secombe & Ishii-Kuntz, 1991). Maintaining a younger age identity may be, however, especially important for women in order to preserve a positive self-image (Melamed, 1983). Women do this by creating subjective illusions of a youthful appearance—for example, through antiwrinkle creams, dyed hair, or facelifts—and by downward comparisons to others in worse circumstances (Rodeheaver & Stohs, 1991). Thus, women may be more likely to see themselves as younger in an attempt to reject the stigma of old age. Because maintaining a younger subjective age may be more important for women compared with men but also harder to achieve, we did not have specific hypotheses regarding gender differences in subjective age.

In sum, on the basis of the higher risks for widowhood, living alone, chronic illness, and functional limitations, Hypothesis 1.2 states that older women will report higher loneliness and worse subjective health compared with men.

Influences of Marital Status, Physical Health, and SES on Gender Differences in SWB

In the second section of this article, we investigate whether gender differences in SWB are reduced after controlling for older women's disadvantages in objective life circumstances.

Gender differences in SWB and self-concept in groups differing in marital status.—As discussed above, the higher SWB of older men may, in part, result from the fact that a higher percentage of men are married, which provides them access to an important source of support as well as personal validation. We infer from this that gender differences in self-concept and SWB should be greater in those samples that are heterogeneous with regard to marital status.

In widowed samples, however, self-concept differences in favor of men should be less pronounced, because (a) men may not be prepared for bereavement, based on their lower risk of widowhood (Barer, 1994); (b) men are less likely to report their children and friends as being sources of support (Kahn, 1994; Okun & Keith, 1998); and (c) men have less intimate same-sex friendships (Reis, Senchak, & Solomon, 1985) and receive less support than women (Antonucci, 1990). Thus, compared with women, men are more likely to suffer from the loss of their spouses and to benefit from being married (Moen, 1996). Consistent with these considerations, a meta-analysis by Haring-Hidore, Stock, Okun, and Witter (1985) showed in an age-heterogeneous sample that being married had a significantly higher association with SWB for men than for women. In contrast, Wood and colleagues (1989) found in another meta-analysis that in studies with higher percentages of married respondents, women tended to have higher SWB than men. However, Wood and colleagues did not have access to enough studies with homogeneous samples to adequately compare all-married or all nonmarried samples. This is one of the comparisons made in the present study.

On the basis of theoretical considerations elaborated above, Hypothesis 2.1 states that in all-married samples and in samples that are heterogeneous with regard to marital status, men will report higher SWB and a more positive self-concept than will women, whereas in nonmarried samples women will report higher SWB and a more positive self-concept than will men.

Influences of physical health on gender differences in SWB and self-concept.—As a second influence on gender differences in SWB and self-concept, we focus on physical health and competence. Being healthy and competent is generally regarded as an important precursor of SWB and positive self-concept in old age (e.g., Atchley, 1991): First, living independently and doing preferred activities may be a source of pleasure and lead to a more positive view of the self. Second, illness and disability may worsen the quality of social relationships (e.g., due to the reduced ability to reciprocate support; Rook, 1990), which may contribute to low SWB. Because gender differences in SWB and self-concept have rarely been reported in samples with homogeneous physical health, we were not able to compare gender differences in SWB in such subgroups. In some studies, however, gender differences in physical health or activities of daily living (ADL) are reported. Thus, we can analyze whether larger gender differences in physical health and competence are associated with larger gender differences in SWB.

On the basis of the abovementioned theoretical considerations, Hypothesis 2.2 states that there will be a positive relationship between gender differences in health and gender differences in SWB.

Socioeconomic status.—Less education, lower occupational prestige, and lower income of women compared with men have been hypothesized as a third source of gender differences in SWB (Liang, 1982). High SES, first, may contribute to a positive appraisal of one's life; second, may improve the actual quality of life (e.g., by providing access to varied

leisure activities; George, 1992); and, third, may be associated with more efficient coping with stressors (e.g., Stokes & Maddox, 1967). These advantages may promote SWB. In contrast, economic strain due to low income contributes to low SWB (e.g., Lorenz, Conger, & Montague, 1994).

Gender differences in SWB have rarely been investigated in samples with homogeneous socioeconomic background. Because, however, some of the studies have reported gender differences in SES, we can investigate associations between gender differences in SES and gender differences in SWB. On the basis of associations of high SES with SWB and self-concept, Hypothesis 2.3 states that larger gender differences in SES will be associated with larger gender differences in SWB.

Age and Cohort Differences in the Association Between Gender and SWB/Self-Concept

In the third section of this article, we focus on age and cohort differences in the association between gender and self-concept or SWB. Whereas there is empirical evidence that gender differences in masculine versus feminine self-descriptions peak in middle adulthood and decline thereafter (Palmore, 1997; Puglisi & Jackson, 1980), it is less clear whether gender differences in SWB and global dimensions of self-description change with increasing age. Larger gender differences in SWB may be present in older samples because, first, some of women's disadvantages increase at higher ages, such as the higher risk of chronic illness (Steinhausen-Thiessen & Borchelt, 1999) and the risk of being widowed (Moen, 1996). Second, compared with older women, older men represent a positive selection of survivors whose less hardy counterparts have died off. Thus, in old-old people there may be a high percentage of men with high psychological resources (e.g., coping abilities; SWB) but also with social and economic resources. The awareness of survivorship may be an additional source of high SWB in older men. On the basis of the above considerations, the first part of Hypothesis 3 states that the tendency of men to report higher SWB than women will be more pronounced in old-old than in young-old persons.

It is well-known that gender differences in physical fitness, marital status, SES, and many aspects of lifestyle are lower among younger cohorts (Moen, 1996; Palmore, 1997). In addition, Kling and associates (1999) suggested that role changes brought by the women's movement may have improved women's self-esteem. Because (a) gender differences in health and SES may account for gender differences in SWB and self-concept and (b) these differences are smaller in more recent cohorts, the second part of Hypothesis 3 states that there will be a decrease in gender differences in SWB and self-concept in more recent studies.

METHODS

We used meta-analysis to test our hypotheses. In meta-analysis, the "true" population parameters are estimated on the basis of many separate results.

Sample

Studies investigating gender differences in life satisfaction, happiness, self-esteem, loneliness, subjective health,

and subjective age were identified from the developmental and gerontological literature through electronic databases (Psycinfo, Medline, PSYINDEX) and a nonsystematic search of the gerontological literature. Criteria for inclusion of studies in the meta-analysis were that (a) at least some of the participants were older adults (≥ 60 years) and the sample had a mean age of ≥ 55 years, (b) zero-order effect sizes were reported because the statistical control of variables in multiple analyses is hypothesized to reduce or even eliminate gender differences in SWB, (c) associations were reported as correlations or as statistics that could be transformed into correlations or the direction of gender differences in SWB was reported, and (d) the studies were written in English, German, French, or Russian.

About 25% of the total number of publications surveyed did not report zero-order effect sizes. In cases where the direction of gender differences but no effect size was reported, we used vote counts to estimate the effect size, as suggested by Bushman and Wang (1995). This procedure enabled us to include an additional 45 effects (7% of the studies) in the present meta-analysis. We were able to include 300 studies in the meta-analysis. The majority were published in English-language journals; an additional 14 German papers and 1 French and 1 Russian study were used. Most of the studies were drawn from the *Journals of Gerontology* (50); others were drawn from books (27), the *International Journal of Aging and Human Development* (22), *Psychology and Aging* (20), *Research on Aging* (14), *The Gerontologist* (13), the *Journal of Health and Social Behavior* (9), the *Journal of Aging and Health* (8), presentations at conventions (6), diploma/master's theses or dissertations (3), and other journals (126). The studies were published between 1948 and the fall of 1999. The full list of the meta-analyzed papers is shown in the reference list.

We entered the year of publication, the number of male and female participants, the mean or median age of the participants, the correlation, the percentage of married participants, the instruments used to assess the variables under investigation, and associations of gender with physical health, ADL or instrumental ADL (IADL), income, and education. If effects were provided for several subgroups in one publication (e.g., for different age groups), then we entered these statistical effects into our analysis instead of entering the global association measures.

Measures

Life satisfaction was most often measured with the Life-Satisfaction Index (Neugarten, Havighurst, & Tobin, 1961; 48 studies), single items that assessed overall life satisfaction (30 studies), and the Philadelphia Geriatric Center Morale Scale (Lawton, 1975; 13 studies). Happiness was most often assessed using the Affect-Balance Scale (Bradburn & Caplovitz, 1965; 14 studies) or a single-item measure (14 studies). Self-esteem was primarily measured by Rosenberg's Self-Esteem Scale (Rosenberg, 1965; 21 studies). Loneliness was most frequently assessed using single items (38 studies), the University of California, Los Angeles Loneliness scale (Russell, Peplau, & Cutrona, 1980; 9 studies), and the Rasch-based loneliness scale of DeJong-Gierveld (DeJong-Gierveld & Kamphuis, 1985; 6 studies). Subjec-

tive health and subjective age were most often assessed by single items (120 studies and 19 studies, respectively).

We used two methods to evaluate the quality of studies: First, we coded the representativeness of the sample—whether the sample was a representative sample or a convenience/nonrepresentative sample (e.g., attendees at senior centers). Second, we evaluated the quality of the instruments measuring SWB and self-concept. Studies with widely used, psychometrically sound questionnaires were coded as high quality, whereas those using a measure that was developed specifically for the study and did not provide psychometric information were coded as low quality. Because single-item measures are more error prone than scales, these received a separate code. On the basis of 10% of the studies, two coders for quality of the study achieved an average interrater agreement of 94%. Objective health was measured primarily by symptom checklists. Two indicators of everyday competence were used, namely, ADL and IADL limitations. SES was measured by the number of years of education and by the size of income.

Statistical Integration of the Findings

Calculations for the meta-analyses were performed in five steps, mainly using procedures outlined by Hedges and Olkin (1985).

1. We computed effect sizes (d) for each study as difference in the SWB measure between men and women divided by the pooled standard deviation of both groups. Effect sizes were also derived from t values, F values, exact p values, and alpha levels. The effect-size estimates were adjusted for biases due to overestimation of the population effect size (common for small samples), based on Hedges (1981). Confidence intervals that include 95% of the effects were computed for each effect size.
2. In the next step, weighted mean effect sizes were computed. If more than one effect size was provided for an intervention with regard to one group of outcome measures (e.g., two life satisfaction scales were used), we weighted the samples as suggested by Rosenthal (1991).
3. The significance of the mean effect size was tested by dividing the mean effect size by the estimated standard deviation.
4. The homogeneity of effect sizes was computed by using the homogeneity statistic Q , which is distributed approx-

imately as χ^2 with $k - 1$ degrees of freedom, where k is the number of effect sizes.

5. We tested for difference of effect sizes between conditions. On the basis of the fact that most analyses showed heterogeneous effect sizes, we used random-effect models to analyze the effects of moderator variables because fixed-effect models may underestimate the 95% intervals (Raudenbush, 1994). When dichotomous moderator variables were used (e.g., comparing married to nonmarried respondents), two effect sizes were interpreted as significant when the 95% intervals did not overlap (Hedges & Olkin, 1985). In the case of continuous moderator variables, we used weighted linear regression analyses to test the influence of moderators on gender differences in SWB, following the approach outlined by Raudenbush (1994). The significance test from the weighted regressions was corrected because the standard errors for the regression coefficients are incorrect by a factor of the square root of the residual mean square (Hedges, 1994). In the first analysis, we computed a simple regression analysis for each moderator variable. Unfortunately, computing multiple regression analyses with simultaneous inclusion of all predictors was not possible because there was almost no single study that gave sufficient information regarding all predictor variables. However, multiple regression analysis was used to test the influence of participants' age and cohort membership simultaneously.

RESULTS

Gender Differences in SWB and Self-Esteem

In Hypothesis 1, we expected that older women would report lower SWB and a more negative self-concept compared with men. As shown in Table 1, gender differences were generally quite small. Owing to the large sample sizes, however, all gender differences were statistically significant. Compared with older men, older women reported slightly lower life satisfaction, happiness, and self-esteem. Thus, our data supported Hypothesis 1.1.

Our data also supported Hypothesis 1.2, in that older women reported more loneliness and lower subjective health. The greatest gender difference was found in subjective age. As can be seen in Table 1, older women felt younger compared with older men. As shown in the homogeneity tests, all seven statistical effects were heteroge-

Table 1. Gender Differences in Subjective Well-Being and Self-Concept

	k	Sum of Men	Sum of Women	g	95% Interval of the Mean		Q_W	Significance of the Mean
Life satisfaction	176	33,434	45,933	-.08	-.09	-.06	560.05***	-10.53***
Happiness	56	11,164	16,005	-.06	-.09	-.04	168.40***	-4.95***
Self-esteem	59	13,175	18,923	-.08	-.10	-.06	147.37***	-7.11***
Low loneliness	102	42,314	50,461	-.155	-.17	-.14	422.73***	22.76***
Subjective health	179	83,652	112,355	-.08	-.09	-.07	697.16***	-14.95***
Subjective age (not feeling old)	45	5,717	9,236	.17	.14	.21	178.14***	-10.23***

Notes: Positive values of g indicate a higher subjective well-being and a more positive self-concept in women compared with men. k = number of effects; Q_W = test of within-group differences. Significant values indicate heterogeneity of effect sizes.

*** $p < .001$.

neous. Thus, variables have to be taken into consideration that influence the size of gender differences in SWB and self-concept.

In the next step of the analysis, we investigated influences of moderator variables on gender differences in SWB. Table 2 reports the intercorrelations of the moderator variables. The reader should be aware that there was considerable variation in the number of studies that reported correlations between the variables.

Because Wood and colleagues (1989) showed a moderator effect of the representativeness of samples, in the next step of our analysis we controlled for this variable and for the quality of the measure of SWB. As shown in the Q_B statistic, we found, with the exception of subjective health and subjective age, some variation of effect sizes depending on the representativeness of the samples. However, there were no significant differences in effect size between representative and nonrepresentative samples, given the overlap of the confidence intervals. With one exception, all gender differences were significant in both representative and nonrepresentative samples: As shown in Table 3, we found no gender differences in happiness in nonrepresentative samples.

The quality of measurement had some influence on gender differences in happiness, loneliness, and subjective age, as shown by the test of between-group differences, Q_B (Table 4). Greater loneliness among women as compared with men was more pronounced for studies in which loneliness was measured with single-item indicators than for studies that used higher quality questionnaires. In addition, women's tendency to not feel old was significantly stronger when subjective age was measured with single-item indicators than with questionnaires.

Influences on SWB and Self-Concept

In our second research question, we investigated influences on the size of gender differences in SWB and self-concept. The conditions under comparison did not differ

with regard to the representativeness of samples and the quality of measurement. The first part of Hypothesis 2 stated that higher SWB in older men than women would be found in samples with heterogeneous marital status and in all-married samples, whereas in nonmarried samples women would report higher SWB than men. Unfortunately, we were able to compare all-married samples, nonmarried samples, and samples with both married and nonmarried participants only with regard to life satisfaction, loneliness, and subjective health. In concordance with our hypothesis, we found significant gender differences in favor of men in all-married samples and in samples that included both married and nonmarried participants (Table 5). However, no gender differences in loneliness and life satisfaction emerged in nonmarried samples. The lack of gender differences in life satisfaction in nonmarried respondents may, however, be based on the small number of studies included in the meta-analysis.

Gender differences in loneliness were significantly larger in samples with heterogeneous marital status than in nonmarried samples. Thus, our data mostly support Hypothesis 2.1 with regard to loneliness, whereas no support for this hypothesis was found with regard to subjective health and life satisfaction.

Influences of physical health and competence on gender differences in SWB were the focus of the second part of Hypothesis 2. We used weighted simple regression analyses to search for moderator effects of health and competence on gender differences in SWB. Because almost no papers reported gender differences in both variables, we were not able to compute multiple regression analyses. No analyses on moderator effects of health and competence on subjective age were computed because of the very low number of studies that measured these moderators.

As shown in Table 6, we found larger differences in life satisfaction and subjective health in favor of men in those samples where gender differences in objective health and

Table 2. Intercorrelations Between Moderator Variables

	1	2	3	4	5	6	7	8	9
1. Δ income	—	.28 (<i>N</i> = 8)	.35 (<i>N</i> = 11)	.52** (<i>N</i> = 28)	-.13 (<i>N</i> = 41)	.11 (<i>N</i> = 41)	.16 (<i>N</i> = 41)	.13 (<i>N</i> = 39)	.28† (<i>N</i> = 41)
2. Δ health		—	.55† (<i>N</i> = 11)	.32† (<i>N</i> = 24)	-.09 (<i>N</i> = 65)	-.11 (<i>N</i> = 65)	.07 (<i>N</i> = 65)	-.11 (<i>N</i> = 63)	.16 (<i>N</i> = 65)
3. Δ competence			—	.11 (<i>N</i> = 23)	-.01 (<i>N</i> = 62)	.14 (<i>N</i> = 62)	.01 (<i>N</i> = 62)	-.45** (<i>N</i> = 60)	.17 (<i>N</i> = 62)
4. Δ education				—	-.04 (<i>N</i> = 66)	.06 (<i>N</i> = 66)	.22† (<i>N</i> = 66)	-.03 (<i>N</i> = 62)	.33** (<i>N</i> = 66)
5. Married					—	-.05 (<i>N</i> = 241)	.02 (<i>N</i> = 249)	-.05 (<i>N</i> = 250)	.00 (<i>N</i> = 262)
6. Representativeness of sample						—	-.09*** (<i>N</i> = 541)	.09* (<i>N</i> = 515)	.04 (<i>N</i> = 541)
7. Quality of SWB measure							—	.07 (<i>N</i> = 515)	.04 (<i>N</i> = 512)
8. Age								—	.01 (<i>N</i> = 515)
9. Year of publication									—

Notes: Δ = gender differences in objective health, competence, income, and education (higher values indicate better conditions in women than men); Married = percentage of married participants; Quality of subjective well-being (SWB) measure: 1 = high methodological quality, 2 = single item-indicator or "home-made measures"; *N* = number of studies.

p* < .05; *p* < .01; †*p* < .10.

Table 3. Influences of the Representativeness of Samples on Gender Differences in Subjective Well-Being and Self-Concept

	<i>k</i>	Sum of Men	Sum of Women	<i>g</i>	95% Interval of the Mean	Significance of the Mean	<i>Q_W</i>	<i>Q_B</i>
Life Satisfaction								5.93**
Representative	76	24,007	32,890	-.09	-.12	-.06	-5.66***	219.32***
Nonrepresentative	98	9,313	12,953	-.05	-.07	-.03	-4.43***	334.80***
Happiness								34.96***
Representative	28	8,638	12,141	-.10	-.17	-.03	-2.84*	63.98***
Nonrepresentative	30	2,627	3,978	.01	-.09	.11	0.20*	69.46***
Self-Esteem								15.42***
Representative	23	7,957	11,595	-.11	-.18	-.05	-3.26***	63.99***
Nonrepresentative	33	4,699	6,922	-.08	-.14	-.01	-2.34*	67.96***
Loneliness (not feeling lonely)								7.30**
Representative	65	34,996	41,938	-.15	-.18	-.11	8.09***	344.99***
Nonrepresentative	39	7,318	8,368	-.19	-.23	-.16	11.07***	70.44**
Subjective Health								1.07
Representative	113	67,416	92,713	-.09	-.12	-.07	-6.98***	562.12***
Nonrepresentative	66	16,236	19,642	-.05	-.09	-.01	-2.52**	133.97***
Subjective Age (not feeling old)								2.05
Representative	20	2,709	3,686	.15	.08	.22	-3.95***	37.35**
Nonrepresentative	25	3,008	5,550	.20	.13	.26	-6.29***	138.74***

Notes: *k* = number of effects; *Q_B* = test of between-group differences; *Q_W* = test of within-group differences. Positive values of *g* indicate higher subjective well-being and a more positive self-concept in women compared with men.

p* < .05; *p* < .01; ****p* < .001.

everyday competence in favor of men were also larger. In addition, there was a greater tendency for women to feel lonely and to report lower self-esteem than for men in samples with higher gender differences in everyday competence. Whereas these data support Hypothesis 2.2, one result for happiness contradicted our hypothesis: Greater differences in objective health in favor of men were associated with smaller gender differences in happiness. Thus,

Hypothesis 2.2 was supported only for four out of five aspects of SWB and self-concept.

In the third part of Hypothesis 2, we were interested in influences of SES on gender differences in SWB. Because few studies reported gender differences in both income and education, we computed separate analyses for both variables. In concordance with our hypothesis, there were larger gender differences in life satisfaction, self-esteem, and sub-

Table 4. Influences of the Quality of Measurement on Gender Differences in Subjective Well-Being and Self-Concept

Measure & Quality	<i>k</i>	Sum of Men	Sum of Women	<i>g</i>	95% Interval of the Mean	Significance of the Mean	<i>Q_W</i>	<i>Q_B</i>
Life Satisfaction								1.01
High	88	11,748	17,163	-.08	-.10	-.06	-6.01***	320.39***
Low	48	15,358	20,443	-.08	-.11	-.02	-2.75**	168.93
Single item	38	6,215	9,136	-.06	-.11	-.01	-2.38*	69.72**
Happiness								11.73**
High	20	3,058	4,147	.01	-.05	.06	0.20	20.22
Low	14	3,190	4,524	-.06	-.19	.07	-0.87	99.25***
Single item	24	5,017	7,448	-.10	-.16	-.04	-3.42***	37.20**
Self-Esteem								1.31
High	28	7,021	10,118	-.06	-.12	-.01	-2.22*	61.03**
Low	25	5,368	7,887	-.11	-.19	-.03	-2.61**	77.49***
Single item	4	512	756	-.12	-.23	-.01	-2.05*	2.00
Loneliness (not feeling lonely)								104.48***
High	23	7,829	8,319	.01	.09	-.11	-.19	112.22***
Low	17	8,471	10,156	-.13	-.21	-.05	3.29**	22.42
Single item	63	26,110	30,872	-.20	-.24	-.16	10.39***	183.61***
Subjective Health								0.32
Questionnaire ^a	21	10,417	14,755	-.09	-.15	-.03	-2.79**	71.23***
Single item	158	73,235	97,600	-.08	-.10	-.06	-6.65***	625.61***
Subjective Age (not feeling old)								31.91***
Questionnaire ^a	8	763	1,155	-.08	-.17	.02	1.63	3.25
Single item	37	4,954	8,081	.21	.12	.29	-4.84***	142.28***

Notes: *k* = number of effects; *Q_B* = test of between-group differences; *Q_W* = test of within-group differences. Positive values of *g* indicate higher subjective well-being and a more positive self-concept in women compared with men.

^aBecause there were no widely used questionnaires with extensive methodological development that measures subjective age, we compared studies using questionnaires versus single items.

p* < .05; *p* < .01; ****p* < .001.

Table 5. Influences of Marital Status on Gender Differences in Subjective Well-Being and Self-Concept

Marital Status	<i>k</i>	Sum of Men	Sum of Women	<i>g</i>	95% Interval of the Mean		Significance of the Mean	<i>Q_W</i>	<i>Q_B</i>
Life Satisfaction									
All married	12	1,215	1,461	-.13	-.24	-.02	-2.23*	32.94***	13.65**
Married/nonmarried	154	31,752	43,643	-.07	-.10	-.04	-4.36***	493.83***	
No one married	8	353	739	-.12	-.38	.09	-1.04	19.63**	
Loneliness (not feeling lonely)									
All married	18	8,507	3,890	-.14	-.23	-.05	6.74***	56.34***	66.17***
Married/nonmarried	67	30,835	37,140	-.20	-.16	-.24	10.53***	225.80***	
No one married	19	3,068	8,317	-.07	.03	.13	-0.57	74.42***	
Subjective Health									
All married	9	1,718	1,804	-.11	-.17	-.05	-3.18**	13.27	4.62
Married/nonmarried	164	81,605	109,752	-.08	-.12	-.05	-4.34***	671.45***	
No one married	6	329	799	-.20	-.33	-.07	-2.93**	7.86	

Notes: *k* = number of effects; *Q_B* = test of between-group differences; *Q_W* = test of within-group differences. Positive values of *g* indicate higher subjective well-being and a more positive self-concept in women compared with men.
 p* < .05; *p* < .01; ****p* < .001.

jective health in favor of men in studies in which men had exceptionally higher education and income than women (Table 6). A similar influence of income was shown on happiness and loneliness, whereas no significant moderator effect of education on these variables emerged.

One reason for small gender differences in SWB may be that individuals who suffer from deficits in health, competence, and low SES may be less likely to take part in gerontological studies so that gender differences in the whole

population may not be present in the samples under investigation. Thus, we ran additional analyses on gender differences in these objective variables. We found that older women had lower levels of objective health (*g* = -.16, confidence interval [CI] = -.18 to -.14), everyday competence (*g* = -.39, CI = -.41 to -.37), lower educational attainment (*g* = -.13, CI = -.15, -.11), and lower income (*g* = -.68, CI = -.70 to -.66) than men. These gender differences were significantly larger than the observed gender differences in life satisfaction, happiness, self-esteem, and subjective health (Table 1).

Table 6. Influences of Physical Health, Competence and Socioeconomic Status on Gender Differences in Subjective Well-Being (SWB) and Self-Concept (Weighted Simple Linear Regression Analyses)

Moderator & SWB	<i>K</i>	Sum of Men	Sum of Women	<i>b</i>	β	<i>R</i> ²
Objective Health						
Life satisfaction	19	6,177	7,019	.49***	.53	.28
Self-esteem	5	1,449	2,202	.005	.23	.05
Happiness	14	1,965	1,131	-.26*	-.22	.05
Loneliness (not lonely)	13	6,965	7,140	.007	.07	.005
Subjective health	48	24,872	31,629	.14***	.18	.03
Competence						
Life satisfaction	14	4,108	5,378	.18*	.19	.04
Self-esteem	7	1,548	1,723	.33*	.32	.10
Happiness	6	1,157	1,731	-.08	-.24	.06
Loneliness (not lonely)	11	868	1,203	.24**	.39	.15
Subjective health	42	21,946	30,090	.22***	.44	.20
Education						
Life satisfaction	23	9,476	11,666	.37***	.60	.36
Self-esteem	12	4,832	6,875	.17**	.36	.13
Happiness	3	355	551	-.001	-.09	.002
Loneliness (not lonely)	12	9,706	11,865	.22	.18	.03
Subjective health	45	25,122	14,384	.21***	.42	.18
Income						
Life satisfaction	19	9,582	12,597	.21*	.18	.03
Self-esteem	9	4,060	5,409	.42***	.53	.28
Happiness	12	2,493	3,708	.07*	.34	.12
Loneliness (not lonely)	9	6,785	8,900	.36***	.66	.44
Subjective health	24	23,636	17,798	.04*	.07	.01

Notes: *b* = unstandardized regression coefficient; β = standardized regression coefficient; *R*² = explained variance by the moderator.
 p* < .05; *p* < .01; ****p* < .001.

Age and Cohort Differences in the Relation of Gender to SWB and Self-Concept

The third research question investigated whether gender differences in SWB and self-concept vary by age. We hypothesized that gender differences in SWB would be greater in older samples. In addition, we expected a decrease in gender differences in SWB and self-concept in more recent studies. Weighted regression analyses were used to test our third hypothesis. First, separate analyses were run on influences of the mean age of participants and the year of publication on gender differences in SWB. Because of the growing interest of gerontologists in old-old persons, however, effects of participants' age and year of publication may be confounded. Thus, in the second step both variables were entered into the regression simultaneously.

As shown in Table 7, our data are in concordance with Hypothesis 3 in that larger gender differences in SWB in favor of men were found in older age groups with regard to self-esteem, happiness, subjective health, and not feeling lonely. No moderator effects of age emerged for life satisfaction and subjective age.

The second part of our third hypothesis was supported only for loneliness and self-esteem: Gender differences were smaller in more recent studies. With regard to life satisfaction, however, the reverse trend emerged in that gender differences in favor of men were larger in more recent studies. All effects remained significant after controlling for participants' mean age.

Because at the beginning of our analysis we showed higher SWB in men than women and found a decrease in

Table 7. Influences of Age and Year of Publication on Gender Differences in Subjective Well-Being and Self-Concept (Weighted Linear Regression Analyses)

Subjective Well-Being, Regression Model, & Moderator	<i>b</i>	β	<i>R</i> ²
Life Satisfaction			
Simple			
Mean age	-.002	-.002	.00
Year of publication	-.002**	-.09	.01
Multiple			
Mean age	-.001	-.03	.01
Year of publication	-.002***	-.11	
Self-Esteem			
Simple			
Mean age	-.005***	-.21	.05
Year of publication	.004***	.19	.04
Multiple			
Mean age	-.005***	-.18	.09
Year of publication	.005***	.22	
Happiness			
Simple			
Mean age	-.003*	-.10	.01
Year of publication	-.00001	-.006	.00
Multiple			
Mean age	-.003*	-.10	.01
Year of publication	-.00001	-.004	
Loneliness (not feeling lonely)			
Simple			
Mean age	-.004***	-.14	.02
Year of publication	.006***	.31	.10
Multiple			
Mean age	-.004***	-.13	.15
Year of publication	.005***	.27	
Subjective Health			
Simple			
Mean age	-.003***	-.12	.01
Year of publication	.0001	.03	.001
Multiple			
Mean age	-.003***	-.12	.01
Year of publication	.0003	.02	
Subjective Age (not feeling old)			
Simple			
Mean age	-.002	-.04	.001
Year of publication	.005	.19	.03
Multiple			
Mean age	-.002	-.04	.03
Year of publication	.005	.18	

Notes: *b* = unstandardized regression coefficient; β = standardized regression coefficient; *R*² = explained variance by the moderator.

p* < .05; *p* < .01; ****p* < .001.

gender differences with regard to self-esteem and loneliness in more recent studies, we further explored whether gender differences in favor of men were still significant in the recent studies. In studies published between 1995 and 1999, there were no significant gender differences in self-esteem ($g = -.02$, $CI = -.07$ to $.04$), but greater loneliness in women than men still emerged ($g = -.08$, $CI = -.14$ to $-.02$).

DISCUSSION

In this research, we investigated gender differences in SWB and self-concept in older adults. In concordance with our first hypothesis, we showed that, with the exception of subjective age, women had lower SWB and a more negative

self-concept. With respect to our second research question, we found that gender differences in marital status, physical health, and SES influenced gender differences in SWB and self-concept, although these effects were found only in a subset of our analyses. Regarding our third hypothesis, we found that gender differences in favor of men were larger in older samples in four out of six aspects of SWB. Furthermore, we found smaller gender differences with regard to self-esteem and loneliness, but larger gender differences with regard to life satisfaction, in the more recent studies.

The Statistical and Practical Relevance of Gender Differences in SWB and Self-Concept

We had hypothesized that older women should have lower SWB than older men. Although all gender differences were found to be significant, gender explained less than 1% of variance of the dependent variables. With regard to five out of six measures of SWB, the average older men exceeded 53% (happiness) to 55% (low loneliness) of the older women. Thus, although significant gender differences can be shown, they seem to be of limited empirical importance.

With regard to the six aspects of SWB and self-concept we investigated, the largest gender difference in favor of men was found for not feeling lonely. This may be the case, first, because loneliness is most strongly influenced by deficits in social contact (Pinquart, 1998) and because gender differences in widowhood and living alone may be larger than gender differences in physical health and SES (the percentage of widowed women 65 years and older is more than three times as high as for men; Hobbs & Damon, 1996). Second, because women's socialization is focused more strongly on the maintenance of social ties (Josselson, 1987), some processes of protecting the self against lower SWB (e.g., lowering ones' aspirations) may be less applicable in the face of loneliness and therefore less effective for women than men.

There was only one aspect of self-concept in which older women had a more positive view of the self than older men, namely subjective age. With regard to feeling younger, the average women exceeded 57% of men. Thus, our data support the notion that being "old" may be more threatening to older women than to men, so that maintaining a younger age identity may be especially important for women in order to maintain high SWB (Rodeheaver & Stohs, 1991; Sontag, 1972). In addition, because role changes (e.g., retirement) have been found to promote changes in subjective age (Pinquart & Stecher, 1999), a larger stability in social roles of older former housewives may have contributed to the maintenance of an identity as middle aged in women, whereas after retirement men may be more likely to change their subjective age identity to being old.

Gender differences in SWB and self-concept did not significantly vary by the representativeness of studies, and the quality of the measurement had significant influence on gender differences only for loneliness. Thus, we conclude that gender differences in SWB are quite robust with regard to research methodology. The fact that gender differences in loneliness are greater when loneliness is asked about directly than when less direct questions are used may indicate

that women are more willing to admit to socially unacceptable feelings than men and that disclosing loneliness, in particular, may be more socially accepted in women than men (Borys & Perlman, 1985). Thus, it may be more adequate to assess men's loneliness with multi-item questionnaires, which may show higher sensitivity regarding aspects of dissatisfaction with one's social network.

In sum, our meta-analysis suggests that gender differences in SWB and self-concept are quite small, even though women are at higher risk of being widowed, of having lower SES, and of suffering from health problems and deficits in competence. Three possible explanations are discussed for the small size of gender differences in the variables under investigation.

First, there may be sampling bias: Women who are widowed and have health problems and low SES may be less likely to participate in gerontological studies. However, we found that gender differences in health, competence, education, and income were present in the studies and that these gender differences in the objective circumstances of life were significantly larger than the observed gender differences in SWB. Thus, small gender differences in SWB cannot mainly be explained by the oversampling of women who live in positive life circumstances.

Second, being female may not only be associated with factors that increase the risk of low SWB but also with sources of positive SWB and self-concept. For example, Barer (1994) suggested that older women perceive higher role continuity than men as a result of their ongoing domestic and family responsibilities. In addition, Pinquart and Sörensen (2000) reported a meta-analysis in which SES was more strongly related to life satisfaction and happiness for men compared with women, but social integration was more strongly related to life satisfaction and happiness for women than for men.

Third, selective processing of self-related information (e.g., lowering aspirations) may have reduced the influence of detrimental life circumstances on SWB and self-concept in our sample. Studies that compare coping processes of older men and women reported a greater tendency of women to use intrapsychic coping processes that show high efficacy in coping with adversities in later life (e.g., Labouvie-Vief, Hakim-Larson, & Hobart, 1987; Quayhagen & Quayhagen, 1982). Coping processes may reduce the influence of women's negative life events on SWB. For example, Hansson, Jones, Carpenter, and Remondet (1986) showed that social comparisons with widowed friends are associated with less loneliness for elderly widows. However, more research is needed on gender differences in protecting SWB and positive self-concept in old age to support this interpretation.

Influences of Marital Status, Physical Health, and SES on Gender Differences in SWB and Self-Concept

Five reasons have been stated as to why older women may have lower levels of SWB than their male age-peers. In the present meta-analysis, we were able to test three of these reasons.

The assumption that the higher percentage of widows versus widowers contributes to women's greater loneliness

received empirical support. The tendency of women to feel more lonely than men was strongest in samples with heterogeneous marital status. In studies with no married (and mostly widowed) participants, gender differences in loneliness were nonsignificant. In contrast to the suggestion that men may suffer more from widowhood than women (Barer, 1994; Moen, 1996), we did not find more loneliness in nonmarried (mostly widowed) men than women. The nonsignificance of gender differences in nonmarried older adults may be due to the fact that we did not have enough studies to run separate meta-analyses for widowed, separated, and single older adults. Older single men, for example, may have learned to satisfy their social needs as effectively as older women (Choi, 1996).

Contrary to our hypothesis, we did not find a significant variation of gender differences in life satisfaction and subjective health depending on the marital status of the respondents. This may, first, indicate that gender differences in widowhood primarily influence only that aspect of SWB that most closely reflects deficits in the social network, namely, loneliness. Second, because only eight samples with nonmarried older adults were included in our analysis on life satisfaction and because we did not have enough studies to investigate the influence of marital status on gender differences in happiness and self-esteem, more research is needed in this area.

Gender differences in physical health and competence were suggested as a second explanation for lower SWB in older women than men. In fact, men were more likely to report higher satisfaction, better subjective health, higher self-esteem, and less loneliness than women in samples where women were more disadvantaged with regard to objective health and everyday competence. Surprisingly, the reverse was true with regard to influences of objective health on gender differences in happiness. This result, however, was based primarily on one large study for which several subsamples were included in the present analysis (Cavan, Burgess, Havighurst, & Goldhamer, 1949). Thus, further research is needed to replicate this finding.

At the beginning of our article, we stated gender differences in SES as a third explanation for lower SWB in older women compared with men. Gender differences in SWB in favor of men were indeed larger when differences between men and women in income and education went in the same direction.

In sum, our data support the notion that the disadvantages of older women with regard to social resources, health, and SES are associated with gender differences in SWB, but the influence of widowhood may be primarily a domain-specific effect on loneliness. However, because the gender differences in health, competence, education, and income were, in part, positively correlated, it is difficult to draw causal inferences about which disadvantage is the most important cause of lower SWB in older women. This question remains to be answered in future multivariate analyses.

Gender differences in the disclosure of negative feelings have been discussed as a fourth reason for lower SWB in older women as compared with men. Although we were not able to test this assumption directly, there is one result in support of this assumption, namely, that gender differences

in loneliness were significantly larger when the frequency or seriousness of loneliness was measured with a single item compared with the more indirect measure with a multiple-item scale. Thus, women's higher willingness to disclose negative feelings may, in part, explain gender differences in SWB.

Because of the lack of a sufficient number of studies on the double standard of aging, we were not able to analyze the fifth suggested influence on gender differences in SWB.

Age Differences in the Effect of Gender on SWB and Self-Concept

In the present study, we found larger gender differences in SWB and self-concept compared with the meta-analysis with age-heterogeneous samples by Wood and associates (1989), but similar effect sizes to the meta-analysis by Har- ing and colleagues (1984) and the meta-analysis on adult samples by Kling and associates (1999). The larger effect sizes of the present meta-analysis as compared with that of Wood and colleagues (1989) may reflect differences in the age of participants. In fact, in the present study we found that gender differences in self-esteem, happiness, loneliness, and subjective health were stronger in samples with higher mean age. These age effects can be explained by the fact that the disadvantages of women with regard to chronic illness and widowhood increase at higher ages (Moen, 1996; Steinhagen-Thiessen & Borchelt, 1999). Greater disadvantages at older ages make it increasingly difficult for women to maintain high SWB.

Cohort effects were the focus of our last hypothesis. Although the year of data collection would be the best variable with which to analyze cohort effects, this information was not reported in a large part of the studies. We thus investigated whether gender differences in SWB varied by the year of publication. Smaller differences in favor of men were found in more recent studies for self-esteem and loneliness. This finding may reflect a decline in women's objective disadvantages in more recent cohorts (Palmore, 1997). Moreover, we found that gender differences in education and income favoring men were smaller in more recent studies. Another explanation for changes in gender differences in more recent studies may be changes in the research methodology (Knight, Fabes, & Higgins, 1996). However, we did not find a significant correlation between the representativeness of the samples and the year of publication. In addition, the most widely used research instruments for self-esteem and loneliness have been used for the past three decades, so it is very unlikely that changes in research methodology influenced our results.

Surprisingly, gender differences in life satisfaction in favor of men were larger in more recent studies. We have no theoretical reasons to assume that cohort effects should differ for life satisfaction compared with other measures of SWB. One may speculate that, compared with other aspects of SWB, life satisfaction might be highly influenced by aspirations (Herzog & Rodgers, 1986). On the basis of the general improvement of living conditions or the women's movement, more recent cohorts of older women may have higher aspirations that may, however, not be as easily fulfilled. This would increase gender differences in life satis-

faction. However, more research is needed on cohort differences in aspirations.

Several factors specific to the present study limit the conclusions that can be drawn from this meta-analysis. First, two criticisms have been leveled against meta-analytical techniques. These are (a) that summing up studies that vary with regard to important study characteristics is problematic and (b) that an overestimation of effect sizes may occur as a result of the low probability of getting nonsignificant effects published (Cooper & Hedges, 1994). We addressed the first criticism by comparing effect sizes between different contexts and subsamples and, therefore, have analyzed which contexts influence the association of SWB with the variables under investigation. With regard to the second criticism, we were able to include a large percentage of nonsignificant effects in our meta-analysis. Because all gender differences in Table 1 were found to be of low size but of high statistical significance (because of large sample sizes), adding some hypothetical unpublished studies would not have had much influence either on effect sizes or on the question of whether overall effects are statistically significant or not. Rosenthal (1991) proposed a procedure to estimate the number of unpublished studies with zero results that would be needed to conclude that the population effect size is no longer significant. In each of the analyses shown in Table 1, more than 500 studies with zero results would be needed to eliminate the shown significant gender difference.

A second limitation of this study is that we were not able to test the influences of gender differences in marital status, health, and SES simultaneously. More research is needed that estimates which disadvantages have the highest influence on gender differences in SWB. In addition, we were not able to investigate moderator effects of marital status, physical health, and SES with regard to all six aspects of SWB and self-concept. More research is needed on variables that influence gender differences in SWB and self-concept before clear conclusions can be drawn.

Conclusions

Despite these limitations, several conclusions can be drawn from this study. First, even though women experience several disadvantages as compared with men, and although prevailing stereotypes suggest lower SWB in older women (Formanek, 1986), gender differences in SWB and self-concept are small. Thus, gender-specific sources of SWB and selective processing of self-referent information may protect older women's SWB. Because gender differences in coping with negative information about the self have rarely been investigated, this would be a rich field for future research. Furthermore, because there is not much research on gender differences in sources of SWB and self-concept we would encourage more research in this field.

Second, we conclude that disadvantages of older women compared with men with regard to health, everyday competence, SES, and widowhood account for gender differences in SWB. Because of the lack of studies on gender differences in self-disclosure of negative feelings and on the influence of societal evaluations on older women's and men's SWB, more research is suggested on the contribution of those factors to gender differences in SWB.

Gender differences in resources in old age are influenced by societal change (Arber & Ginn, 1991). We found evidence that gender differences in self-esteem and loneliness were lower in more recent studies. Future societal change may further reduce gender differences in SWB or may even promote higher SWB for women than for men. But societal change may also enhance women's level of aspirations, compared with which their actual life may be less satisfying. Thus, it is difficult to predict the nature of gender differences in SWB in future cohorts.

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