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SELF-EFFICACY BELIEFS AS DETERMINANTS OF PROSOCIAL BEHAVIOR CONDUCTIVE TO LIFE SATISFACTION ACROSS AGES

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The present study tested the posited structural path of influence through which perceived self-efficacy of affect regulation operates in concert with perceived interpersonal self-efficacy to determine prosocial behavior, which in turn influences satisfaction with life in four age groups. A strong sense of efficacy in the regulation of positive and negative affect was associated with a high perceived efficacy in the management of social relationships and in empathic engagement in others' emotional experiences. Interpersonal self-efficacy directly affected prosocial behavior and entirely mediated the influence of affective self-efficacy on it. As predicted, prosocial behavior directly influenced life satisfaction, showing a higher path of influence for the oldest group as compared to the other ones. The structural model provided a better fit for the data than did alternative models.

The literature on well-being and quality of life shows that people generally feel happy and satisfied with their lives. People judge their lives as more positive than negative across cultures, regardless of their socioeconomic status, and despite functional disabilities (Chwalisz, Diener, &

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Gallagher, 1988; Diener & Diener, 1996; Veenhoven, 1993). The fact that the documented correlation between objective life conditions and subjective happiness is small has been called the paradox of well-being (Filipp, 1996; Staudinger, Fleeson, & Baltes, 1999). The paradox seems more apparent in research on aging and well-being because, despite the difficulties of aging (e.g., physical deterioration, deaths of old friends and relatives), older people do not report concomitant decreases in most aspects of well-being. Numerous studies using cross-sectional data have found negligible age differences in life satisfaction and other forms of subjective well-being. (For a complete review, see Diener & Suh, 1998). Some studies have even found an increase in feelings of well-being among older adults, in that they report less anxiety (Lawton, Kleban, & Dean, 1993) and have a better balance of positive to negative affect (Ryff, 1989).

Central questions among life-span researchers concern how people may maintain a high level of subjective well-being throughout their lives, and what are the specific personal and social processes that may contribute to feelings of well-being at different stages of life. In the present study, we intend to explore age differences in life satisfaction and to verify the role played in its promotion by prosocial behavior in concert with self-efficacy beliefs related to affective and interpersonal domains of functioning.

Our argument draws upon two primary assumptions, which lead to two main hypotheses. First, we assume that the capacity to benefit others contributes to life satisfaction because it is critical to maintaining mutually rewarding relationships with others. Accordingly, prosocial behavior should prove particularly beneficial at ages when people's well-being depends greatly upon support from others. Because being able to reciprocate tends to make people less dependent upon the benevolence of others, the capacity to benefit others is a valuable resource, especially when one most needs others' support. Second, we assume that caring about others' well-being is not just a matter of good character, but rather that it implies a belief in one's capacity to deal effectively with oneself and others, both emotionally and at the level of relationship. Thus, we hypothesize that (1) prosocial behavior contributes to life satisfaction, especially when aging increases the importance of support from others; and (2) the more people believe that they are able to handle their affect and their relationships effectively, the more they are inclined to behave prosocially.

PROSOCIAL BEHAVIOR

Prosocial behavior refers to voluntary actions undertaken to benefit others. It includes a variety of behaviors, such as sharing, donating, caring,

comforting, and helping. It is often associated with altruism because both pursue others' good and may imply common components such as empathy and sympathy (Batson, 1998; Eisenberg & Fabes, 1998; Schroeder, Penner, Dovidio, & Piliavin, 1995).

Because the importance of a willingness and ability to benefit others is quite obvious for the quality of social interactions between individuals and among groups, prosocial behavior has long been the domain of philosophical speculations on human nature, reason, and morality. Some, like Thomas Hobbes, advocated egoism and self-love as essential traits of human nature that are compatible only with an instrumental view of prosocial behavior. Others, like Jean Jacques Rousseau, conceived of benevolence and sensitivity toward others as an innate disposition that risks being corrupted and lost because of society. For others, like Adam Smith, both altruistic and egoistic attitudes are components of human nature that underlie the possibility of human society (Sills, 1968).

One may still recognize the echoes of these debates in the context of earlier reflections on personality development and adjustment. Whereas Sigmund Freud and most of his followers focused on the instrumental, compensatory, and/or defensive aspects of prosocial behavior, Abraham Maslow advocated for the capacity to love, to care, and to transcend contingent self-interest as essential to full actualization (Hall & Lindzey, 1978). In reality, the study of prosocial behavior "is still in its adolescence," as recently stated by Eisenberg and Fabes (1998, p. 702).

Over the past several decades, various arguments have been proposed in support of the biological value of altruistic-prosocial behavior, on the assumption that evolutionary selection operates at the group level rather than mainly through individuals. Individual sacrifices are often required to preserve the pool of genes that maximize the capacity of the species to adapt to the changing environments (Wilson, 1975, 1978). Furthermore, as potential costs of giving aid to others are compensated in the form of help from them, reciprocal altruism has gained survival value in predisposing individuals to behave altruistically, and to expect that others will act altruistically toward them (Trivers, 1971).

Both heritability and stability coefficients of personality dimensions associated with prosocial behavior, such as "agreeableness" or "friendliness," may offer some support for the hypothesis that the tendency to behave prosocially is part of our genetic endowment (Costa & McCrae, 1997; Lohelin, 1992).

Evolutionary hypotheses, however, are difficult to prove. The value to be assigned to heritability coefficients is controversial, and the processes and mechanisms by which heredity shapes prosocial-altruistic dispositions, like any other main personality dimension, are still to be uncovered (Caprara & Cervone, 2000).

Rather, there is abundant evidence indicating that culture, socialization practices, and experience play a critical role in setting the conditions and functions of prosocial behavior, and then in predisposing individuals to its different forms. Indeed, the ways the well-being of others is given meaning and is pursued reflect values, norms, beliefs, aspirations, and habits that vary significantly across cultures and social contexts. Social psychologists have pointed to the role played by social norms of reciprocity, responsibility, and justice in prescribing whom to help, as well as when and how, and to the influence of situations in fostering or discouraging altruistic behavior (Taylor, Peplau, & Sears, 2000). Developmental psychologists focused first on the effect that learning, cognitive development, and moral development exert on prosocial behavior, and then on the emotional experiences, interpersonal relations, and representations of selves and others that are conducive to benefiting others (Eisenberg & Fabes, 1998; Mussen & Eisenberg, 2001). However, the diverse empirical findings need to be integrated.

Other areas of study contiguous to prosocial behavior, such as aggression and hostility, have received much more attention in response to urgent demands for the prevention and control of antisocial behaviors. However, it seems increasingly questionable how effective control can be exerted over conduct that represents an impediment to social life without resorting to the potentials and resources that each individual may deploy in alternative behaviors that are conducive to both personal well-being and social adjustment.

In reality, too little attention has been paid to the functions and positive outcomes that giving, sharing, and helping may have for people who act in these ways. Findings from developmental research show that prosocial behavior is positively correlated with a variety of individual characteristics that attest to social competence and good adjustment in children and adolescents (see Eisenberg & Fabes, 1998). Other findings attest to the robust contributions of early prosocial behavior to children's developmental trajectories in the social and academic domains, in warding off depression and transgressive behavior, and in promoting academic achievement (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Bandura, Caprara, Barbaranelli, Pastorelli, & Regalia, 2001; Bandura, Pastorelli, Barbaranelli, & Caprara, 1999). Prosocial behavior in third-grade children had a strong positive impact on academic achievement and social preferences 5 years later. On the other hand, early aggression appeared to have no significant effect on either outcome, whereas early academic achievement had a lesser positive impact on later performance than did prosocial behavior (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000).

Most research has been conducted on children and adolescents, and it primarily continues to target early development; however, the advantage of prosocial behavior over the course of a lifetime, although likely, is merely conjectural. Indeed, few have tried to extend their inquiries over the course of life and to investigate how the higher need of the elderly to be helped and cared for by others can be balanced by individuals' capacity to succor and benefit others.

Midlarsky (1991; Midlarsky & Kahana, 1994) proposed the view that prosocial behavior is a strategy for coping that may benefit elders in terms of (a) providing distraction from one's troubles; (b) enhancing the sense of meaning and value in one's life; (c) increasing perceived competence; (d) improving mood and positive emotions; and (e) promoting social integration. These benefits are particularly relevant to elderly people, who are usually seen as the recipients of help, because they may contrast with the stereotype of old people as the "hands" that receive more than they give.

In fact, the elderly may be quite effective in providing assistance to others (Bengtson, 1985; Kahana & Midlarsky, 1983; Midlarsky & Hannah, 1989) and may draw considerable benefit from doing so in terms of self-esteem and positive affect (Dulin, 2000; Wentowski, 1981). It is likely that the more people need the help of others, the more the ability to reciprocate is a resource that allows them to maintain balance in their relationships. This leads to a better understanding of the personal determinants of prosocial behavior, namely, the psychological structures that set the conditions that promote and regulate prosocial behavior.

AFFECTIVE AND INTERPERSONAL SELF-REGULATORY EFFICACY

Among cognitive structures that attest to the functioning of an integrated self-system capable of conferring unity, continuity, and directness to the actions of individuals, none is more pervasively influential than self-efficacy beliefs, people's belief in their capacity to exert control over the events that affect their lives. Unless people believe that they can produce desired results by their actions, they have little incentive to undertake activities or to persevere in the face of adversity.

Findings from diverse lines of research have documented the influential role of self-efficacy beliefs in various domains of functioning, such as learning, work, sports, health, social adjustment, and well-being (for a review, see Bandura, 1997, 2001). Perceived self-efficacy proved to play a pivotal role in self-regulation, both in affecting actions directly

and through its impact on cognitive, motivational, decisional, and affective determinants.

Although much prior research centered on the effects of self-efficacy beliefs on cognitive processes, motivation, and performance, recent research has broadened and extended analyses of the functional properties of perceived self-efficacy to the regulation of one's affective life and interpersonal relations, and their impact on psychosocial functioning and well-being (Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003; Caprara, 2002; Caprara, Scabini, Barbaranelli, Pastorelli, Regalia, & Bandura, 1999).

Although the management of affect and interpersonal relations is decisive for social adjustment and well-being in most theories of personality, development, and clinical practice, different conceptual models have been proposed concerning the underlying structures and process, and the modes in which affect and interpersonal relations are mutually related and operate through and over behavior (Caprara & Cervone, 2000). To address these issues, an agentic model has been proposed (Figure 1) that assigns causal priority to the capacity to deal with one's own affects over the capacity to deal effectively with interpersonal relationships, which in turn determines psychosocial functioning. The better a person is able to deal effectively with his or her own emotions, the more successfully he or she will be able to deal with relationships, and the more he or she will be able to perform effectively across the diverse contingencies of life (Caprara, 2002).

Theoretically, the model draws on social cognitive theory and relies upon two assumptions: (a) The capacity to handle relations effectively with others is decisive for individual achievement, because it generally depends on shared experience and reliance on others' talents; and (b) the capacity to share positive affect and to moderate negative affect is decisive for handling positive relations with others.

In agreement with social cognitive theory, the model conceives of the sense of self-efficacy as the most proximal determinant of individual capacity to master the various domains of affective and relational experience. In practice, the model refers to affects, relationships, and actions contextually situated, and is compatible with manifold individual combinations of them. One may be effective in dealing with certain emotions, relationships, and behaviors in one domain, but much less able to do so in others. Certain people may be more capable of dealing with their affects than with their relations, or vice versa; certain people may be better able to deal with certain emotions than with others, or with certain relationships better than with others. The posited direction of influence from affect to relationships to performance is a concession to a rationalistic adult-centric view of human agency that does not exclude signifi-



FIGURE 1. Conceptual model of the path of influence exerted by efficacy beliefs across domains of functioning.

cant variations across developmental stages, and that does not underestimate the reciprocal determinism among affect, relations, and actions.

The model has been empirically corroborated in a longitudinal study showing that a strong sense of efficacy in managing negative affect due to anger, rejection, and distressful preoccupation and a strong sense of efficacy in expressing positive affect due to joy and pride are accompanied by robust belief in one's own interpersonal efficacy beliefs. These beliefs, in turn, positively affect prosocial behavior and counter depression, delinquency, loneliness, and shyness. The posited causal model fit the empirical data over time better than did alternative models (Bandura et al., 2003; Caprara et al., 1999; Caprara, Gerbino, & Barbaranelli, in press; Caprara, Steca, Cervone, & Artistic, 2003).

In the present study, we draw upon the same theoretical reasoning and conceptual model to focus on the influence that the belief in affective and interpersonal self-efficacy exerts on prosocial behavior, which is conducive to life satisfaction. A growing body of literature on personal well-being has also shown that both negative and positive emotions play a central role in influencing the quality of interpersonal relationships, as well as in affecting physical and mental health, coping with life's difficulties, facilitating subjective well-being, and enhancing longevity.

Whereas the negative effects of negative affect on health, relationships, and longevity are well established (Booth-Kewley & Friedman, 1987; Fraser-Smith, Lesperance, & Talajic, 1995; Kawachi, Sparrow, Vokonas, & Weiss, 1994; Salovey, 1992; Smith, 1992; Watson, 1988, 2000), it is relatively new for positive affect to be credited with a positive effect. Fredrickson's (1998, 2001) "broaden-and-build" theory suggests that certain positive emotions, such as joy, interest, and love, all share the ability to broaden people's momentary thought-action repertoires and

to build enduring personal resources, not only at the physical and intellectual levels, but also at the social and psychological levels. Recent longitudinal studies suggest that optimism and the experience and expression of positive emotions are associated with positive long-term outcomes and a longer life (Danner, Snowdon, & Friesen, 2001; Harker & Keltner, 2001; Maruta, Colligan, Malinchoc, & Offord, 2000; Peterson, Seligman, Yurko, Martin, & Friedman, 1998).

The expression of positive emotions constitutes a signal of friendliness and sociability that favors mutuality and helping behavior (Frijda & Mesquita, 1994; Isen, 1987; Keltner & Kring, 1998). The experience and expression of positive emotions also promotes engagement with others, cooperation among individuals and groups, and positive intimate relationships (Berry & Willingham, 1997; Carstensen, Gottman, & Levenson, 1995; Cunningham, 1988; Isen, 1987; Watson, Clark, McIntyre, & Hamaker, 1992). Over time the repeated experience and expression of positive affect accompanied by proper strategies to manage negative affect contributes to satisfying and lasting interpersonal relations that promote individual well-being by direct and indirect pathways. In addition, a vast literature attests to the importance of interpersonal relations in the formation of personal identity and in the promotion of health and well-being over the entire life span (Caprara & Cervone, 2000).

Whatever the various emphases placed by different theoretical approaches on the influence of interpersonal relationships in the development and functioning of individuals, there is no doubt that they play a critical role in mediating feelings and cognitions, and in setting the conditions for actions. In short, they make life worth living (Bateson, 1972; Hinde, 1997; Sullivan, 1953).

Contemporary developments that extend the early conceptualizations of Vygotsky (1934/1962), Ainsworth (1967), and Bowlby (1969, 1973, 1980) further emphasize the importance of early interpersonal relationships in the development of cognition (Rogoff, 1998; Van Geert, 1998), affect (Sroufe, 1996), and relational bonds (Bartholomew, 1993; Hazan & Shaver, 1994). Most research on affect has focused on the frequency of different emotional experiences, and most research on interpersonal relations has centered on the quality of relational experiences and their outcomes. To our knowledge, the systematic study of mastery in emotional and interpersonal experiences and the study of the influence that the belief in self-efficacy exerts on the management of affect and interpersonal emotions are mostly due to social cognitive theory. A number of findings have demonstrated the impact of self-efficacy beliefs on the successful handling of family, school, work, and social relationships (Bandura, 1997). New studies on affective self-regulatory belief (Bandura et al., 2003; Caprara et al., 1999, 2003) have broadened

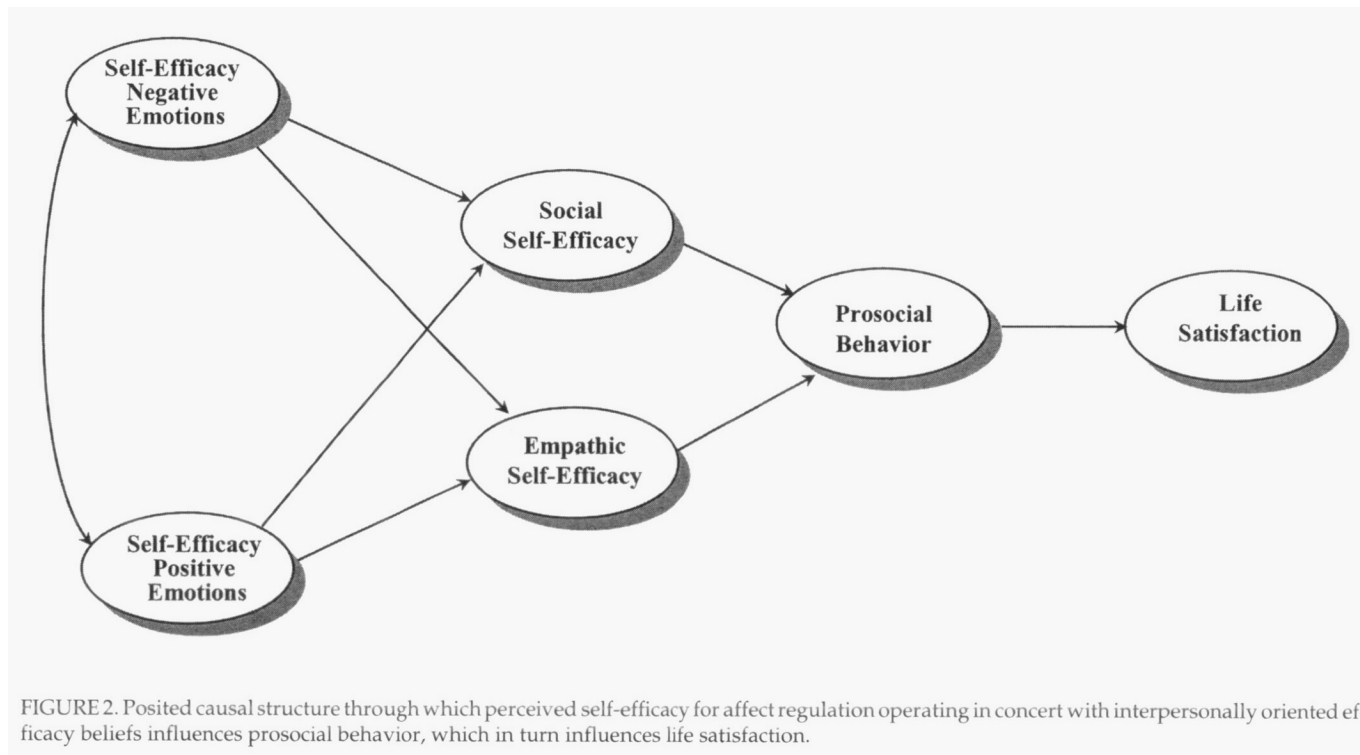
earlier interest in anxiety and dysfunctional modes of coping (Bandura, 1997; Williams, 1995).

Drawing upon these premises and capitalizing upon previous findings, the present study has been conceived with the aim of investigating how self-efficacy beliefs in managing negative and positive affects act in concert with other more interpersonally oriented efficacy beliefs to promote prosocial behavior and to contribute to life satisfaction at different ages. People's belief in their capacity to express and assert constructively their own opinions and views in challenging interpersonal situations, to enter into new and rewarding acquaintanceships, and to be actively engaged in group activities strongly influences the quality of social transactions and the degree of life satisfaction. Moreover, the belief in their capacity to understand the points of views and feelings of others, and to be actively and supportively involved in the emotional life of others, is no less important in fostering harmonious relationships. It is worth noting that although a number of findings have attested to the impact of perceived social efficacy in various domains of functioning (Bandura, 1977), only two previous studies have focused on empathic efficacy (Bandura et al., 2003; Caprara, Capanna, Steca, & Paeiello, *in press*), despite the vast literature attesting to the importance of empathy in promoting positive relationships, in countering transgressive conduct, and in fostering prosocial behavior (Feshbach & Feshbach, 1986; Hoffman, 2001; Mussen & Eisenberg, 2001; Stephan & Finlay, 1999).

THE STRUCTURAL MODEL

Figure 2 summarizes schematically the direct and mediated paths of influence in the posited structural model.

The perceived self-efficacy to regulate positive and negative affect influences prosocial behavior medially by its impact on social and empathic self-efficacy. Perceived self-efficacy to manage positive affect supports these interpersonal forms of perceived efficacy, whereas perceived self-inefficacy to regulate negative affect undermines them. Perceived social and empathic efficacy, in turn, directly influence prosocial behavior; high levels of these two forms of interpersonal efficacy are associated with prosocial behavior. Prosocial behavior, in turn, contributes directly to life satisfaction and completely mediates the paths of influence of self-efficacy beliefs on it. Although we presume that the different paths of influence are significant for all the age groups, we hypothesize that the influence of prosocial behavior on life satisfaction is higher for older adults than for other age groups.



METHOD

PARTICIPANTS

The participants in this study were 259 men and 253 women, ranging in age from 20 to 87. They were recruited by an Italian national survey and were divided into four age groups: young adults ($n = 135$, mean age = 27.30, $SD = 5.51$), adults ($n = 120$, mean age = 44.21, $SD = 4.02$), middle-aged adults ($n = 130$, mean age = 56.70, $SD = 4.53$) and elderly adults ($n = 127$, mean age = 73.13, $SD = 5.13$).

The participants varied widely in demographic and socioeconomic background. Twenty-three percent were unmarried, 63% were married, 3% were divorced, and 11% were widows or widowers. Education ranged from 5 to 18 years; generally, elderly adults had a lower level of education than the other age groups; the level was higher for men in the older age groups and higher for women in the younger ones. Seventeen percent were in the professional or managerial ranks, 23% were merchants or employees in various types of businesses, 5% were workers, 11% were students, 17% were housewives, 25% were retired, and 2% were unemployed.

MEASURES

Participants completed a set of scales measuring the variables of theoretical interest.

Affective Self-Regulatory Efficacy. Affective self-regulatory efficacy was measured by 17 items concerning the perceived capability to manage one's emotional life (Caprara & Gerbino, 2001). Perceived *self-efficacy to manage positive affect* was measured by 8 items in terms of the perceived ability to express liking and affection toward others, to express enthusiasm and enjoyment, and to feel satisfaction at personal accomplishments. The sample item, "I can feel gratified over achieving what I set out to do" assessed perceived efficacy to express satisfaction. Perceived *self-efficacy to regulate negative affect* was assessed by 9 items in terms of the perceived capability to manage negative affect in the face of anxiety-arousing threats, anger provocation, rejection, and disrespect, and to control worry when things go wrong. "I can get over irritation quickly for wrongs I have experienced" was a sample item.

Interpersonal Self-Regulatory Efficacy. Interpersonal self-regulatory efficacy was measured by 24 items concerning the perceived ability to manage one's interpersonal relationships (Caprara, Gerbino, & Delle Fratte, 2001). Perceived *social self-efficacy* was measured by 14 items in terms of the perceived capability to express personal opinions in groups, to share personal experiences with others, to invite people to go out together, to know

people in a new situation, and to help others to integrate into one's circle of friends. "I can share an interesting good experience I had with other people," was a sample item. Perceived *empathic self-efficacy* was measured by 10 items in terms of the perceived ability to sense another person's feelings and need for emotional support, to experience emotions from another person's perspective, to respond empathetically to others' distress and misfortune, and to be sensitive to how one's actions affect the feelings of others. The sample item, "I can experience how a person in trouble feels," assessed perceived empathic capability for distress.

Participants rated the strength of their self-efficacy beliefs on 5-point scales ranging from 1 = *perceived incapability* to 5 = *complete self-assurance*. A principal components factor analysis with Oblimin rotation revealed a four-factor structure, corresponding to the posited four domains of self-efficacy functioning, each representing a single factor. The alpha reliability coefficients for the self-efficacy factor scales were uniformly high for each age group. The coefficients were .82, .86, .90, and .80 for managing positive affect; .85, .85, .87, and .81 for regulating negative affect; .89, .91, .93, and .87 for social efficacy; and .82, .89, .89, and .87 for empathic efficacy.

Prosocial Behavior. Participants rated their prosocialness on a 16-item scale (with 5-point response) that assessed their degree of helpfulness, sharing, consoling, supportiveness, and cooperativeness (Caprara et al., in press; Caprara, Steca, Zelli, & Capanna, in press). "I try to help others" and "I try to console people who are sad" are sample items. Factor analysis revealed a single factor structure; the alpha reliability coefficients for the four age groups were .90, .93, .90, and .91.

Satisfaction with Life. Participants rated their life satisfaction on the five-item Satisfaction With Life scale (Diener, Emmons, Larsen, & Griffin, 1985). Participants rated on a 7-point scale the extent to which they feel generally satisfied with life. "In most ways my life is close to my ideal" and "So far I have gotten the important things I want in my life" are sample items. The alpha reliability coefficients for the four age groups were .86, .91, .88, and .82.

Participants also completed a brief Physical Health scale composed of six items that measure the frequency of some health-related behaviors. The response format varies from 1 = *never in my life* to 5 = *more than fifteen times during the past year*. "I has been sick for more than two days" and "I had a general checkup" are sample items.

RESULTS

Before conducting the analyses, we examined the data for univariate and multivariate variables' distributions, using the procedure devised

TABLE 1. Means and Standard Deviations of the Different Variables for Men and Women in the Four Age Groups

	Age 20–36				Age 37–50				Age 51–65				Age ≥ 65			
	Men		Women		Men		Women		Men		Women		Men		Women	
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)
Self-efficacy to manage positive affect	4.03	(.44)	4.06	(.48)	3.78	(.54)	3.95	(.50)	3.78	(.57)	3.96	(.60)	3.82	(.47)	3.90	(.52)
Self-efficacy to regulate negative affect	3.18	(.50)	2.75	(.54)	3.16	(.51)	2.88	(.56)	3.19	(.51)	2.80	(.61)	2.81	(.61)	2.98	(.51)
Social self-efficacy	3.65	(.49)	3.43	(.57)	3.24	(.58)	3.22	(.59)	3.27	(.62)	3.20	(.73)	3.15	(.50)	3.16	(.63)
Empathic self-efficacy	3.70	(.44)	3.67	(.40)	3.57	(.54)	3.76	(.45)	3.59	(.44)	3.65	(.57)	3.38	(.55)	3.57	(.51)
Prosocial behavior	3.53	(.57)	3.57	(.48)	3.42	(.57)	3.67	(.61)	3.62	(.47)	3.68	(.57)	3.30	(.67)	3.46	(.62)
Satisfaction with life	4.78	(1.16)	4.51	(1.40)	4.63	(1.40)	4.72	(1.48)	5.05	(1.27)	5.04	(1.26)	4.91	(1.43)	4.66	(1.15)

by Tabachnik and Fidell (1989), and eliminated participant outliers from subsequent analyses. Table 1 presents the means and variances for the different variables in the four age groups.

For each variable, the data were analyzed with a 2 (men and women) \times 4 (young, young adults, middle-aged adults, old-aged adults) analysis of variance. The degrees of freedom for all of the F values were 7 and 504. When significant effects were obtained, the Tukey honestly significant difference procedure was used to interpret effects involving more than two groups.

Women were more prosocially oriented than men in all age groups ($F = 7.147$; $p < .01$). Young people, compared to other groups, displayed a stronger sense of efficacy to express positive affect ($F = 1.066$; $p < .01$), and of social efficacy ($F = 1.898$; $p < .01$). Elderly adults showed a lower sense of empathic efficacy compared to other groups ($F = 4.268$; $p < .01$) and were less prosocially oriented than middle-aged adults ($F = 4.8$; $p < .01$). A significant Sex \times Age interaction was found for self-efficacy in managing negative affect ($F = 8.043$; $p < .001$). With age, the perceived ability to control negative affect appeared to decrease in men, whereas it increased in women. No significant gender or age differences were found for life satisfaction.

Table 2 displays the matrix of relationships among the various forms of perceived self-efficacy, prosocial behavior, and life satisfaction.

The different forms of perceived self-efficacy are highly and positively related to each other. They also display strong positive associations with prosocial behavior and a lower but significant correlation with life satisfaction. A positive association between prosocial behavior and life satisfaction was also found.

To exclude the possibility of physical health's effect on the relationships between variables, we calculated partial correlations between variables controlling for health. No differences were found between correlations and partial correlations, either for the total sample or for the different ages, so we can say that physical health does not influence the relationships between variables.

PATTERN OF INFLUENCES

We tested the posited structural model on the covariance matrix with the EQS program (Bentler, 2001). To test age differences in the posited paths, we analyzed the structural model by using the multiple groups model approach, which estimated simultaneously the same pattern of relationships among variables in the four age groups. In this approach, equivalence among different samples is evaluated by constraints that impose identical estimates for the model's parameters (Byrne, 1994;

TABLE 2. Correlation Matrix of the different variables, for the total sample

	1	2	3	4	5	6
1. Self-efficacy to manage positive affect	—					
2. Self-efficacy to regulate negative affect	.20***	—				
3. Social self-efficacy	.60***	.29***	—			
4. Empathic self-efficacy	.55***	.30***	.45***	—		
5. Prosocial behavior	.43***	.20***	.40***	.60***	—	
6. Satisfaction with life	.24***	.27***	.20***	.23***	.25***	—

p* < .05, *p* < .01, ****p* < .001.

Scott-Lennox & Scott-Lennox, 1995). In EQS, the plausibility of these equality constraints is examined with the Lagrange Multipliers (LM) test (Bentler, 2001). For each of the constraints specified, the LM test provides evidence that the constraint applies to the populations involved. In the present study, the equality constraints were imposed on path coefficients across the age groups.

Figure 3 presents the results of the path analyses, using the different self-efficacy beliefs and prosocial behavior as predictors of life satisfaction for the four age groups. The figure includes all of the path coefficients that are significant at and beyond the .05 level.

The perceived self-efficacy to regulate positive and negative affect is accompanied by both high social and high empathic efficacy. Perceived self-efficacy to manage positive affect contributed more strongly to each of the latter spheres of perceived efficacy.

A strong sense of social and empathic efficacy strongly contributes to variance of prosocial behavior and entirely mediates the impact on it of perceived self-efficacy to manage both positive and negative affect.

Satisfaction with life is directly affected by prosocial behavior, and also receives a nonspecified path of influence of self-efficacy to regulate negative affect. Prosocial behavior entirely mediates the impact of self-efficacy beliefs in regulating positive affect and of interpersonal self-efficacy beliefs on life satisfaction. Its direct path on life satisfaction is significant for all the age groups, but higher for elderly adults compared to those of the other groups. No significant differences were found for the paths of influence among the four age groups.

The refined model that includes the significant nonspecified relation between self-efficacy to regulate negative affect and life satisfaction provided a good fit for the empirical data, as shown by different good-

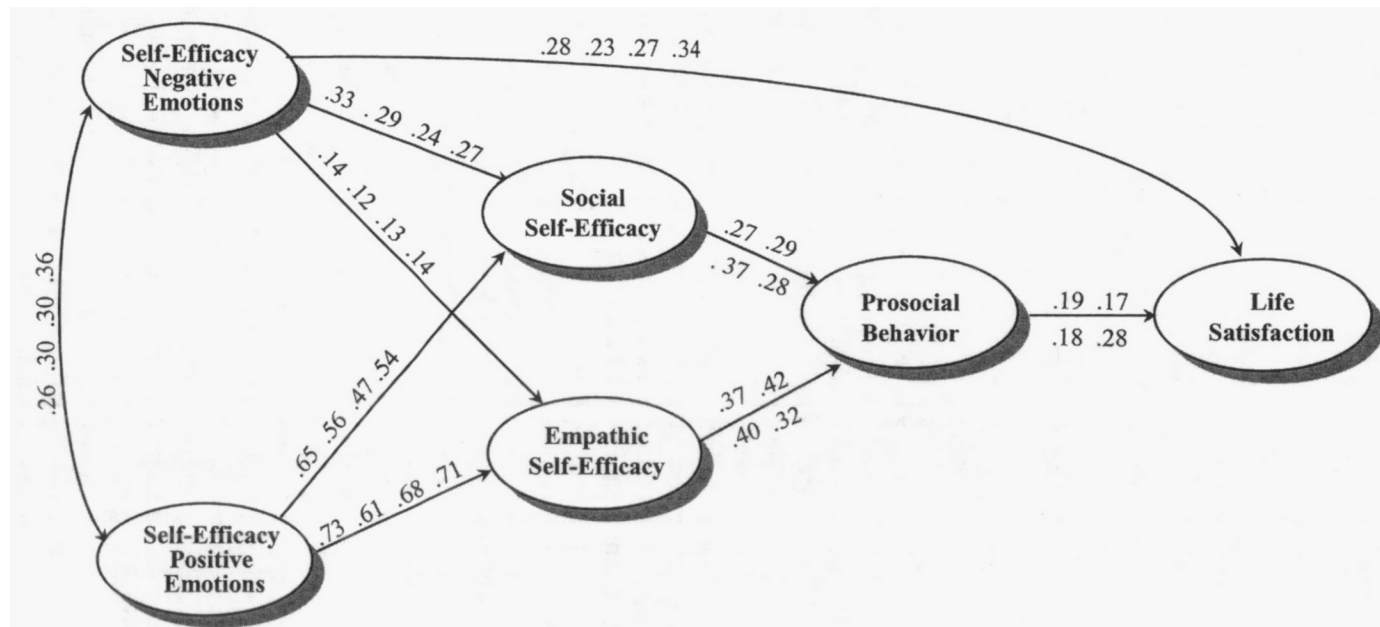


FIGURE 3. Path analysis of the pattern of influences through which perceived self-efficacy to regulate positive and negative emotions acting in concert with social and empathic self-efficacy affects prosocial behavior, which in turn influences life satisfaction. The first path coefficient on each of the structural links is for young adults, the second is for adults, the third is for middle-aged adults, and the fourth is for elderly adults. All the path coefficients are significant above the $p < .05$ level.

ness-of-fit indices. These tests yielded a nonsignificant chi square, $\chi^2(233, 512) = 256.90$, a non-normed fit indices (NNFI) of .99, a comparative fit index (CFI) of .99, and a root-mean-square error of approximation (RMSEA) of .017.

The model accounted for 14%, 10%, 13%, and 25% of the variance of life satisfaction, respectively, for young, young adults, middle-age adults, and elderly adults. The model also accounted for 34%, 37%, 42%, and 27% of the variance of prosocial behavior for the four age groups.

ALTERNATIVE MODELS

Although the refined model provided an excellent fit for the empirical data, plausible alternative models were also tested. One structural model gave causal primacy to prosocial behavior, affecting the various forms of self-efficacy beliefs, which in turn affect life satisfaction. This model provided a poorer fit to the data. It yielded a significant chi square, $\chi^2(248, 512) = 474.789$, $p < .001$, and fared less well on the other indices of goodness of fit, with an NNFI = .91, a CFI = .92, and an RMSEA = .042.

A second plausible model reversed the direction of causation, with life satisfaction influencing prosocial behavior, which in turn influences the different forms of efficacy beliefs. Even this model provided a poorer fit for the data. It yielded a significant chi square, $\chi^2(249, 512) = 489.254$, $p < .001$, and fared less well on the other indices of goodness of fit, with an NNFI = .91, a CFI = .92, and an RMSEA = .044.

DISCUSSION AND CONCLUSIONS

These findings substantially corroborate the assumptions and hypothesis on which we premised our study. Previous findings have documented the role of prosocial behavior in promoting and maintaining the long-term peer acceptance and academic achievement of children in the transition from infancy to adolescence (Caprara et al., 2000). The present findings, while documenting the assumed association between prosocial behavior and life satisfaction across ages, show that the contribution of prosocial behavior is more consistent among young adults and older adults than among adults and middle-aged adults, and is most relevant in the older adults than in any other group.

More broadly, the results of the present study match both our assumption that the contribution of prosocial behavior is particularly influential when people's well-being mostly depends upon others' support and

our hypothesis that prosocial behavior contributes to adults' well-being, particularly in aging when others' support is most likely needed.

It remains for further investigation to determine whether the same reasoning and hypothesis should apply to the higher contribution of prosocial behavior to life satisfaction in young adults as to the other two adult groups. In this regard, the prolonged dependency of young Italian adults on parental support, as suggested by youth unemployment of over 20%, and the fact that over 30% of young adults in their 30s still live with their parents, leaves no doubt about their need for support (Cherlyn, Scabini, & Rossi, 1997).

It is worth noting that both the young adult and the elderly adult groups are not more inclined to behave prosocially than the other adult groups, but that their life satisfaction benefits more from behaving prosocially. However, our findings leave no doubt about the significant contribution of prosocial behavior to the life satisfaction of the elderly. In this regard, our findings corroborate the early claims of Midlarsky (1991; Midlarsky & Kahana 1994) and in fact go beyond her recommendation that we view prosocial behavior as an effective behavioral and coping strategy by recognizing that it is particularly beneficial for the elderly.

Our findings, which draw on social cognitive theory, elucidate the personal determinants of prosocial conduct and provide directions for interventions aimed at developing, implementing, and promoting behaviors that are conducive to life satisfaction. The same conceptual model that proved valid for explaining prosocial behavior in young adolescents (Bandura et al., 2003) is corroborated across four age groups, attesting to the influential role that affective self-regulatory efficacy beliefs exert on interpersonal efficacy beliefs, which in turn affect prosocial behavior. The posited structural model fits the empirical data across ages better than any alternative model. The posited path of influence has been corroborated across ages, with the exception of perceived efficacy in the management of negative affect, whose influence on life satisfaction is both direct and indirect through empathic and social efficacy and through prosocial behavior. Perceived self-efficacy to manage negative affect and to express positive affect contributes to both social self-efficacy and empathic self-efficacy, which in turn contribute to prosocial behavior conducive to life satisfaction.

The direct link between perceived efficacy in the management of negative affect and life satisfaction was not anticipated in the posited model, but it is not completely surprising. Indeed, a direct path of influence has been found from perceived efficacy in the management of negative affect to depression, shyness, and loneliness, in addition to the indirect path of influence through the mediation of interpersonal social efficacy

(Bandura et al., 2003; Caprara et al., in press). Because depression, loneliness, and shyness are all negatively correlated with life satisfaction, it is reasonable to suppose that perceived efficacy to manage negative affect, as a robust deterrent to despondency, is a particularly influential determinant of well-being.

The direct link between self-regulatory negative affect beliefs and life satisfaction deserves special attention in connection with the percentage of prosocial behavior variance explained by the model and with the contribution of the latter to life satisfaction. Although the path coefficient linking self-regulatory negative affect belief is higher in the older group than in any other group, the percentage of explained variance of prosocial behavior is lower in the older group than in any other group. Yet prosocial behavior contributes more to life satisfaction in the older group than in any other group. In all likelihood, self-regulatory negative efficacy and prosocial behavior together contribute more to life satisfaction in old age than at any other age. In this regard, our findings provide new elements to the current debates on the role that emotions and interpersonal relations play in successful aging. They confirm the lack of difference in life satisfaction across ages; on the other hand, they show us new ways in which affect and interpersonal self-regulatory structures and mechanisms contribute to life satisfaction through prosocial behavior.

Various studies suggest that maintenance of and improvement in emotional functioning may continue into middle and old age (Carstensen, Pasupathi, Mayr, & Nesselroade, 2000; Levenson, Carstensen, Freisen, & Ekman, 1991), and others demonstrate that older people continue to express great satisfaction with their social relationships, even in late life (Carstensen, 1992; Diener & Suh, 1997; Field & Minkler, 1988; Ryff, 1989). Our findings indicate that the beliefs people hold about their capacity to function well emotionally influence their beliefs about their capacity to function well interpersonally and socially, both these beliefs being critical in promoting behaviors conducive to life satisfaction. Furthermore, perceived efficacy in management of negative affect proved to be associated with life satisfaction not only indirectly but also directly.

Further relevant findings of the present study concern significant gender differences. Females score higher than males in prosocial behavior, in agreement with all previous findings (Bandura et al., 1996, 1999, 2001, 2003; Caprara, Barbaranelli, & Pastorelli, 2001; Eisenberg & Fabes, 1998). The perceived self-efficacy to master negative affect decreases in men, but increases in women in old age, attesting to increasing resiliency in women and to greater emotional vulnerability in men with aging. This is contrary to previous findings from a younger population, which indi-

cated higher self-efficacy in expressing positive affect and lower self-efficacy in managing negative affect among women than among men (Bandura et al., 2003; Caprara & Gerbino, 2001). It is, however, consistent with women's greater longevity and better general health in old age (Barer, 1994; Crose, 1997; Wylie, 1984).

In this regard, our findings highlight important age differences regarding self-efficacy beliefs about management of affect and interpersonal relations. Whereas young adults displayed a stronger sense of self-efficacy in expressing positive affect and in habitual social transactions compared to other groups, older adults displayed a lower sense of empathic efficacy compared to other groups.

In this study, we have not assessed the frequency of experienced emotions, but the beliefs people hold about their capacity to manage positive and negative emotions successfully. Thus, our findings cannot be compared with other findings that report more positive and less negative affect (or neuroticism) in older people than in midlife and youngest subjects (Carstensen et al., 2000; Diener & Diener, 1996; Eysenck, 1987; McCrae et al., 1999; Mroczek & Kolarz, 1998). However, we can note that findings from other studies show a negative relationship between negative affect (and emotional instability) and self-efficacy beliefs in the management of negative emotions, and a positive relationship between positive affect and self-efficacy beliefs in expressing positive emotions (Caprara & Gerbino, 2001) one cannot exclude a kind of divergence between the frequency of habitual feelings and behaviors and the beliefs people hold about their capacity to master them, nor can one rule out the possibility that relationships between mastery beliefs and the frequency of emotional experience may change over a lifetime, or be different across different conditions of life or cultures (McCrae et al., 1999).

Studies report that in comparison with younger adults, older adults display more efficient expressive systems (Levenson et al., 1991; Malatesta & Kalnok, 1984), a comparable subjective intensity of positive and negative emotions in everyday life (Carstensen et al., 2000), and better emotional regulation (Gross, Carstensen, Tsai, Skorpen, & Hsu, 1997; Lawton et al., 1993; Lawton, Kleban, Rejagopal, & Dean, 1992). Other studies suggest that the salience of emotions may even increase with age, such that emotional experience may be more complex in later years (Carstensen et al., 2000). Emotional material is also more central in memory tasks (Carstensen & Turk-Charles, 1994), in storytelling (Pasupathi, Henry, & Carstensen, in press) and in cognitive representations of other people (Carstensen & Fredrickson, 1998; Fredrickson & Carstensen, 1990).

Our findings do not contradict these findings; rather they include affective self-regulatory efficacy among the variables that should be taken

into account, thus adding new elements that may help to promote successful aging. Nor do our findings contradict other findings concerning the importance of interpersonal relations for successful aging.

It may seem surprising that older adults score lower in empathic self-efficacy compared to other groups. Although one might expect more charitable wisdom from the elderly, awareness of one's own vulnerability may recommend prudence in identifying with the misery of others so that succor does not turn into contagion. As proposed by the "model of selective optimization with compensation" (Baltes & Baltes, 1990) and by socioemotional selectivity theory (Carstensen, 1991, 1992, 1995), the capacity to select activities and relations to maximize social and emotional gains and minimize social and emotional risks is particularly decisive in preserving healthy functioning in old age. In particular, socioemotional selectivity theory predicts that as age increases and time is perceived as more limited, there is a change in emotional and interpersonal experiences connected to a new balance of interpersonal goals. Those related to the acquisition of knowledge assume less relevance, and emotionally meaningful goals are increasingly pursued. The selection of social partners becomes characterized by a greater engagement in smaller, but more emotionally centered, social networks; this allows an efficacious way to avoid negative emotional states and to optimize positive ones (Carstensen, 1991, 1992, 1995; Carstensen, Isaacowitz, & Charles, 1999). In agreement with these approaches, our findings point to the great contribution of prosocial behavior to life satisfaction.

As time goes on and as social choices are made with increasing selectivity, with less emphasis on the novelty of activities and situations, and with more concern for the quality of relationships, the capacity to have restricted and selected groups of significant others becomes increasingly important. However, it is unlikely that people are able to have rewarding relationships, even if few in number, unless they are able to cultivate these relationships with mutual trust, confidence, and support. It is likely that the more restricted the number of relationships, the more important the investment one puts into them; and the more satisfaction one derives from them, the more important becomes the capacity to nourish them. This probably explains the considerable amount of variance in life satisfaction accounted for by caring, sharing, and helping in old age, in comparison with other ages. Nevertheless, we have the impression that this has not been fully appreciated in the literature on successful aging.

Obviously, some people are more inclined than others to behave prosocially, and some situations foster prosocial behavior more than others, because the value assigned to prosocial behavior in its various forms may significantly change across cultures. Our findings show that

it contributes to life satisfaction mostly in old age and indicate that it is unlikely that people behave prosocially if they are not convinced to be able to master their affect and relations. Social cognitive theory provides much evidence that self-efficacy can be promoted and maintained through guided mastery experiences, and provide direction to extend one's own control throughout life.

Our findings show not only that relational and emotional experiences continue to play a central role in old age, but also that they may gain a more central role in promoting good personal functioning and a satisfying life. In applying a model that predicts that the combined action of emotional and interpersonal self-efficacy beliefs and prosocial behavior promotes life satisfaction, we hypothesize that this relationship will become stronger with age.

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