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Core Self-Evaluations, Perceived Stress and Life Satisfaction in Spanish Young and Middle-Aged Adults: An Examination of Mediation and Moderation Effects

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Abstract Whereas a vast amount of research has demonstrated the association between core self-evaluations (CSE) and well-being indicators, few studies have specifically focused on the ways in which CSE might facilitate an increased well-being. This study assesses whether perceived stress might either be a potential mediator and/or moderator in the relationship between CSE and life satisfaction in two independent samples: middle-aged adults (N = 320) and young adults (N = 473). In both samples, participants completed a battery of questionnaires composed of a CSE scale, perceived stress scale and life satisfaction scale. Bootstrap analyses showed that perceived stress partially mediated the relationship between CSE and life satisfaction in both samples. However, moderation analyses failed to support that perceived stress moderated the influence of CSE on life satisfaction either in middle-aged adults or young adults samples. The implications of these findings for research and practice are discussed.

Keywords Core self-evaluations · Perceived stress · Life satisfaction · Young and middle-aged adults · Mediation and moderation effects

1 Introduction

Although research findings suggest that personal resources are prominent causes of well-being, compared with the literature on personal characteristics that confer risk for psychological maladjustment, studies on positive dimensions in increasing well-being are relatively scarce (Gable and Haidt 2005). In recent years, core self-evaluation (CSE) have emerged as constituting a positive candidate characteristic proposed by researchers to serve as a predictor of well-being in different applied domains (Chang et al. 2012; Judge and Hurst 2007). Conceptualised as a broad, latent, higher-order trait, CSE represents of

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fundamental evaluations that people make about themselves and their functioning in their environment. CSE is comprised of four well-established personality traits: self-esteem, locus of control, neuroticism and generalised self-efficacy (Judge et al. 1997). Individuals with high CSE appraise themselves in a consistently positive manner across situations; such people evaluate themselves as capable, worthy and in control of their lives (Judgeet al. 2004). In the context of stressors, CSE has been proposed as a major resource that might reduce the harmful consequences of stress and facilitate general well-being (Kammeyer-Mueller et al. 2009). The stressful situations can influence negatively individuals over time, causing them to become less satisfied with their lives or suffer other emotional adverse reactions. As has been suggested, CSE is a useful organising framework for understanding individual differences in the stressor appraisal and emotional response process, so it is important to establish the role of CSE and stress in well-being (Kammeyer-Mueller et al. 2009).

The original purpose of CSE research was to relate the trait to domains of organisational psychology such as job satisfaction, motivation and job performance (Bono and Judge 2003). However, the literature has grown considerably beyond this criterion providing some empirical support for the effect of CSE on personal well-being outcomes (Chang et al. 2012). In particular, studies have generally found greater levels of CSE to be associated with life satisfaction (Judge et al. 2003; Songet al. 2013), happiness (Piccolo et al. 2005; Rey et al. 2012) and positive affect (Heller et al. 2002), among others. In sum, the above evidence suggests that CSE is a construct which appears to be related to better indicators of subjective well-being outcomes.

Subjective well-being contains both a cognitive and an affective component. While positive and negative affect are considered to be the affective component, life satisfaction, defined as valuative judgments based on individuals' life experiences, is considered the cognitive component (Lucas and Diener 2008). In this study, we use the cognitive component of SWB, which has been most widely examined in CSE research (Heller et al. 2002; Judge et al. 1998).

Along with CSE, reviews of stress and coping literature have widely examined the role of psychological stress as a contributor to aspects of emotional functioning across different age groups (Cohen et al. 2007; Hamarat et al. 2001). The exposure to stress may have considerable influence on the development of negative affective responses that can lead to reduced levels of well-being (Schiffrin and Nelson 2010). Thus, beyond the main effect of stress on well-being indicators, some studies have revealed that perceived stress might have an effect as an intervening variable on the relationship between positive personal traits and outcomes with similar conceptual content such as life satisfaction, positive affect, or quality of life, among others (Chang et al. 2007; Hamarat et al. 2001). Accordingly, given the empirical evidence showing the relationship between CSE and stress (Kammeyer-Mueller et al. 2009) and CSE and life satisfaction (Judge et al. 1998; Piccolo et al. 2005), it is predicted that stress may also play a mediator role in the relationship between CSE and life satisfaction. For example, people with high CSE may be more able to integrate stressful experiences appraising in ways that are less threatening and with less negative arousal (Best et al. 2005), supporting its utility as an individual characteristic that helps shape subjective interpretations of life events. These positive effects of CSE on perceived stress may result in increased levels of well-being. Likewise, CSE might influence the manner in which an individual views and reacts to stressful events and experience of stress which, in turn, may increase perceptions of well-being.

A second possibility is that stress is not driven by CSE, but does moderate the relationship between CSE-life satisfaction, with levels of life satisfaction determined by an

interaction of CSE and perceived stress. Although the moderator hypothesis between stressor characteristics and CSE has shown inconclusive results (Chang et al. 2012), there is some evidence that supports the contention that how worthy one views oneself might interact with some levels of strain (Kammeyer-Mueller et al. 2009). Likewise, the impact of CSE is likely to be more profound on well-being outcomes when individuals perceive high levels of stress to cope with threats (Lazarus 1999).

Given how little is known about the ways in which CSE is associated with life satisfaction and potential underlying mechanisms, the present study was designed to broaden our understanding of this relationship by examining the potential mediator and/or moderator effects of perceived stress on CSE-life satisfaction in two independent samples: a middle-aged sample and a young sample. Most middle-aged adults (sample 1) must cope with increasing concerns about job search, career goals, health issues, body image and multiple financial responsibilities (Helson and Soto 2005). Therefore, middle adulthood remains a challenging and stressful period in adult development (Lachman 2001), which might cause decreased well-being. In sample two, we have chosen young adult undergraduates because university is perceived by most students as particularly stressful (Misra and Castillo 2004) and represents a key transitional period potential for growth (Pascarella and Terenzini 2005). It brings increased academic demands, and the need to make new friendships and/or modify existing relationships with parents and family, financial affairs and problems of career choice, among others (Ross et al. 1999), which might have an important influence on people's experience of well-being (Hirsch and Ellis 1996). In short, both periods of life are characterised by plethora of changes and adaptations that can either be perceived as rich and new experiences, or challenges (Lazarus 1999). CSE might have a role in its ability to buffer stress labelling environmental demands as challenges or threats. In view of the wide range of stressful situations in these two periods of life, by examining the relationship between CSE, perceived stress and life satisfaction by two different cohort groups, it is possible to evaluate the stability of CSE influence on outcome across middle-aged and young adults.

As mentioned above, there are both theoretical and empirical reasons for thinking that individual differences in perceived stress might either mediate and/or moderate the CSE-life satisfaction link. In sample one, we examined the role of stress on such a relationship in a middle-aged sample. In order to confirm our findings, in sample two we conducted the same strategic plan analyses in a younger sample. Consistent with mediating hypothesis, we expected the relation between CSE and well-being indicators to become weaker once perceived stress was included in the model. Additionally, consistent with moderating hypothesis, and beyond the main effect of CSE and perceived stress on life satisfaction, we expected to find evidence for a significant CSE $\times$ perceived stress interaction for explaining life satisfaction in both samples.

2 Methods

2.1 Participants and Procedure

Two samples were recruited for the present investigation: an adult multi-occupational sample (Sample 1) and a college student sample (Sample 2). In both samples, we collected data on the CSES, perceived stress and life satisfaction. Participants in Sample 1 consisted of 320 middle-aged full-time employees working for different organisations (adults between the ages of 30 and 64; see Ryff and Keyes 1995). The mean age was 41.50 years

(SD = 8.47 years), and there were slightly more women (179; 56 %) than men. Most participants were employees of organisations in education (97; 30.3 %), followed by services (84; 26.2 %); health care (77; 24.1 %) and public service sector (62; 19.4 %). Participants in Sample 2 were undergraduate students enrolled at a university in the south of Spain. A total of 473 participants (ages between 18 and 28 years) completed the battery of questionnaires during group sessions and received course credit for their participation. The mean age was 21.30 years (SD = 2.24 years); 66.4 % were women. In both samples, all participants signed an informed consent form.

2.2 Materials

Core Self-evaluations Scale (CSES, Judge et al. 2003). The CSES is a 12-item scale developed in order to measure the underlying self-evaluative factor that is present across the four more specific traits of self-esteem, generalised self-efficacy, neuroticism and locus of control. For this study, the CSES was translated from English into Spanish using the method of back-translation. The Spanish translation of CSE showed acceptable alpha reliability for research purposes (Rey et al. 2012).

The Perceived Stress Scale (PSS; Cohen et al. 1983) is a 14-item measure of self-appraised stress. We selected the PSS to assess for stress over life events or hassles surveys because the PSS does not constrain respondents to a specific list or number of stressors. Respondents are asked to rate the frequency during the last month in which they have experienced stress. The shorter 4-item version of the PSS was used in the present study. This scale has been validated on numerous occasions and has appropriate psychometric properties (Cohen et al. 1983). We used a well-validated Spanish version (Remor and Carrobles 2001).

Satisfaction with life Scale (SWLS; Diener et al. 1985). This scale comprises of five self-referencing statements on perceived global life satisfaction. Participants completed the Spanish version of the Satisfaction with life Scale (Atienza et al. 2003). Both English and Spanish versions have shown evidence for discriminant validity and appropriate internal consistency (Atienza et al. 2003; Diener et al. 1985).

2.3 Data Analytic Plan

After calculating means, standard deviations and internal consistency reliabilities for each scale, and computing the intercorrelations among the CSE, perceived stress and life satisfaction for the two samples, specific analyses were conducted to test for possible mediating and/or moderating effects of perceived stress.

To test for possible mediating effects of CSE, we performed regression based mediation analyses by employing the procedures provided by Preacher and Hayes (2004). Their approach tests for mediation by assessing the statistical significance of the indirect effect, that is, the path from the independent variable (CSE) via the mediator variable (perceived stress) to the dependent variable (life satisfaction). Bootstrapping methods to estimate the confidence intervals for the indirect effects of interest in mediation analyses have been shown to be superior in simulated data sets to either a reliance on Baron and Kenny's (1986) causal steps criteria or the Sobel test (MacKinnon et al. 2004). To test for possible moderating effects of perceived stress, hierarchical multiple regression analyses were conducted using Aiken and West's (1991) statistical procedure for testing for moderator effects with life satisfaction as dependent variable.

3 Results

3.1 Descriptive Analyses

Pearson correlations, means, standard deviations and reliability of the different subscales used for both samples are presented in Table 1. As the table shows, the expected pattern of associations was very similar between middle-aged and young adults. As expected, CSE were moderately and negatively correlated with perceived stress scores for both middle-aged adults ($r = -0.53$) and young adults ($r = -0.52$), with similar magnitude in both samples. Similarly, greater perceived stress was negatively associated with life satisfaction for both middle-aged adults ($r = -0.54$) and young adults, but with lower magnitude ($r = -0.38$). Finally, as Table 1 shows, CSE was moderately and positively associated with life satisfaction scores for both middle-aged adults ($r = 0.55$) and young adults ($r = 0.30$). Hence, the nomological net of associations between the present set of variables was similar between both samples.

3.2 Mediation Analyses

Next, mediational analyses were performed (see Table 2). To test mediation, we used a bootstrapping method with 5,000 bootstrap resamples to test the indirect effects of CSE via perceived stress on life satisfaction in both samples. Using Preacher and Hayes' SPSS macro (2004) for the bootstrap estimates in sample 1 (with $n = 5{,}000$ bootstrap resamples), we found that perceived stress partially mediated the effect of CSE on life satisfaction given that zero is not in the 95 % confidence interval (point estimate for indirect effect = .37; 95 % CI .243; .498). For sample 2, the indirect effects were also significant (point estimate for indirect effect = .27; 95 % CI .180; .369). Again, because zero is not in the 95 % confidence interval for perceived stress, these findings support the view that perceived stress partially mediates the CSE-life satisfaction link in both age groups.

3.3 Moderator Analyses

Using Aiken and West's (1991) statistical procedure for testing for moderator effects, hierarchical multiple regression with two-way interaction term testing whether CSE could act as a moderator between perceived stress and each dependent variable was performed in both samples. CSE and perceived stress scores were centred for reducing problems

Table 1 Means, SD, reliabilities and correlations of the variables of interest

	1	2	3
1. Core self-evaluations	–		
2. Perceived stress	−.53** (−.52**)	–	
3. Life satisfaction	.55** (.30**)	−.54** (−.38**)	–
M	3.61 (3.45)	1.17 (1.51)	4.91 (5.02)
SD	.57 (.57)	.69 (.68)	1.16 (.96)
Alpha	.82 (.72)	.75 (.70)	.85 (.76)

Numbers outside of the parentheses are for the sample 1 (N = 320). Numbers within the parentheses are for the sample 2 (N = 473). 256)

** $p < 0.01$

Table 2 Results of indirect effects of CSE on life satisfaction, through perceived stress

Sobel test for indirect effect and significance using normal distribution	Value	SE	95 % CI		z	*p*
			Lower	Upper		
Sample 1	.37	.06	.24	.49	5.71	.00
Sample 2	.27	.04	.17	.36	5.64	.00

Bootstrap result for indirect effect	M	SE	UL99CI	UP99CI
Sample 1	.37	.07	.57	.18
Sample 2	.26	.04	.40	.14

Estimated using bias corrected and accelerated bootstrapping, with 5,000 samples. CI = confidence interval; UL = upper limit; LL = lower limit

Table 3 Hierarchical regression analyses predicting life satisfaction accounted for by CSE, perceived stress and interactions in both samples

Middle aged adults (sample 1)				Young adults (sample 2)			
	β	R^2	ΔR^2		β	R^2	ΔR^2
Life satisfaction				Life satisfaction			
Step 1		.37	.37**	*Step 1*		.17	.17**
CSE	.34**			CSE	15**		
Perceived stress	−.36**			Perceived stress	−.31**		
Step 2		.37	.00	*Step 2*		.17	.00
CSE × perceived stress	.06			CSE × perceived stress	−.02		

N = 320, N = 473

** $p < 0.01$

associated with multicollinearity between the interaction term and the main effects, and interaction terms were computed by multiplying the centred means (Aiken and West 1991). In the first step, the main effects of CSE and perceived stress on life satisfaction were examined. In the second step, an interaction term (that involved CSE and perceived stress) was entered (see Table 3).

In sample 1, both main effects explained an additional significant portion of the variance in life satisfaction ($R^2 = .37$), with CSE ($\beta = .34$; $p < .01$) and perceived stress ($\beta = -.36$; $p < .01$) acting as important predictors. In the second step, the interaction term was included, the CSE-stress interaction was not significant for predicting life satisfaction after partialling out the variances accounted for by both CSE and perceived stress.

In sample 2, both main effects of CSE ($\beta = .15$; $p < .01$) and perceived stress ($\beta = -.32$; $p < .01$) explained a significant portion of the variance in SWB ($R^2 = .18$). In the second step, addition of the CSE × perceived stress interaction term to the regression model did not yield a significant change in Chi square, indicating that perceived stress had not a significant moderator effect on life satisfaction. In sum, the results from the interaction step did not support the moderator hypothesis in any sample.

4 Discussion

This study investigates perceived stress either as mediator and moderator of the relation between CSE and life satisfaction in two independent samples. As mentioned earlier, although evidence exists for the explanatory power of CSE and perceived stress in predicting life satisfaction, the way in which perceived stress might influence the relationship between CSE-life satisfaction has never been examined. Two competing models were tested, which were thought to illuminate the role of perceived stress in this link in two independent samples composed of middle-aged adults and young adults.

Consistent with earlier studies (Judge et al. 1998; Song et al. 2013), the present study found that CSE were related in the expected direction to life satisfaction for both samples. Similarly, CSE was related to perceived stress in similar direction and magnitude for both samples. These results are in line with theoretical assumptions, which have proposed CSE as a major resource that might reduce the harmful consequences of stress (Best et al. 2005).

Consistent with previous findings indicating a link between stress and well-being (Hamarat et al. 2001), perceived stress was found to be negatively associated with life satisfaction for both middle-aged and young adults. Undoubtedly, more research is needed to understand better the mechanisms by which different stressful factors affect satisfaction with life across the adult life span.

Consistent with mediational approach, we did find some support that perceived stress is an underlying mechanism in the link between CSE-life satisfaction in both samples. Specifically, one plausible explanation for the association between CSE and life satisfaction is related to the reduced perceptions of stress experienced by people with high CSE. Hence, these findings suggest that beyond the indirect influence of CSE through stress, CSE has a direct impact on negative psychological outcome in younger and older adults. The stressful situations can influence negatively individuals over time, causing them to become less satisfied with their lives or suffer other emotional adverse reactions. Our study lends some support to this assumption suggesting that the significant path from CSE to life satisfaction through low perceived stress in both samples may influence high CSE individuals, in terms of the way in which they interpret and react to life events in determination of affective responses, higher pleasure in their lives. Stress should be included in psychosocial causal models that link CSE and well-being, which is considered a viable intervention target in positive programme interventions designed to impact levels of well-being in stressful people.

In terms of interaction effect, results do not provide support for moderator hypothesis. Specifically, data from two samples failed to find support for a CSE $\times$ perceived stress interaction, suggesting that it is not necessarily the case that being higher or lower in CSE increases or reduces individuals' life satisfaction in the face of perceived stress. This negative result is in line with several studies which have failed to support interactions between characteristics stressors and CSE (Best et al. 2005; Kammeyer-Mueller et al. 2009). In fact, some recent systematic reviews have found that CSE and stress may have buffering, exacerbating, or no moderating effects, depending on the study (Chang et al. 2012). These apparent mixed findings may in part be explained because CSE is a broad, distal trait that taps into several motivational and appraisal oriented processes that influence relationships between constructs in opposing ways. Support for this assertion is provided by Kammeyer-Mueller et al. (2009), who found that only one CSE subtraits, emotional stability, interacted with perceived stressors and the degree to which these stressors increase strains. Future research would need to explore the particular influence of perceived stress with each CSE subtraits and its specific role in life satisfaction.

Despite our study's findings, limitations must be addressed. Our design is cross-sectional, therefore, precluding any causal inferences being made. Also, following Lazarus and Folkman's model of stress and coping (1984), the apparent reduction of the influence of perceived stress on life satisfaction may be due not only to differences in their positive self-worth, but also to differences in how they cope with stress. Therefore, it would be important in future studies to examine the influence of coping strategies in the dynamic interplay between CSE and stress and its role in the formation of life attitudes. Finally, we only used a cognitive component of SWB, life satisfaction; thus, it would be necessary to examine the role of CSE dimensions in predicting the outcomes of affective component of subjective well-being.

Limitations notwithstanding, there are several implications of these findings for research and practice. First, our results give some support for the mediational model. Accordingly, our investigation contributes to a growing body of research that investigates how individual differences in dispositional subtraits vary on life satisfaction due to the intervening role of perceived stress. Findings warrant further research concerning their relationship to intervention issues. Our mediation results indicate that intervention should be geared towards developing an individual's stress management, which is aimed at decreasing the overall level of stress. This in turn might improve the general level of life satisfaction. Since ability to experience positive self-worth in the context of stress is indeed adaptive, then interventions designed to bolster individuals' fundamental appraisals about their own capabilities in everyday stressful situations may prove to be beneficial to increase satisfaction in their lives. Besides, various studies have found that changing the appraised personal significance of stressful conditions may be one mechanism by which to cultivate well-being in the midst of stress (Ong et al. 2006). According to Schiffrin and Nelson (2010), interventions designed to increase well-being indicators may benefit from the inclusion of activities to manage and cope with stress. Results suggest that it is the interplay of CSE and perceived stress that may explain the development and maintenance of life satisfaction. With regard to practice, our findings might help therapists to understand and evaluate the impact of positive self-worth in stress and well-being. Individual differences in how people make fundamental appraisals of their own self-worth and capabilities may partly explain why some reduce significantly their levels of life satisfaction, while others seem to be relatively unaffected due to increased vulnerability to perceived stress. Moreover, since the nomological net of CSE, stress and life satisfaction was similar in direction, it is hoped that effective coping resource interventions focusing on increasing self-worth to experience positive moods might be developed to assist older and younger adults, paying attention to the stressors unique to each development stage.

Finally, overall, CSE and perceived stress accounted for a small to moderate percentage of variance in levels of life satisfaction (17 % for young adults and 37 % for middle-aged adults), suggesting that there may also be potentially important variables that we were unable to include in analytic models but should be accounted for to better explain the relationship between our variables of interest. Insofar as other key dimensions such as basic dimensions of personality, life circumstances or cultural variables have been shown to also be linked to life satisfaction in different populations (Diener et al. 2003), it would be useful to examine the extent to which CSE and perceived stress add to the prediction of other established predictors (i.e. big-five, optimism), but also emerging constructs from positive psychology such as personal strengths (i.e. gratitude, emotional intelligence, forgiveness). This promising stream of research would help provide a comprehensive and more pluralistic framework to evaluate and identify those underlying mechanisms that potentially have unique influences on the prediction of positive well-being outcomes.

Perhaps the inclusion of other potential underlying mechanisms, along with CSE and stress, will increase the explanatory power of the proposed model and may allow researchers to conceptualize more integrative models of human well-being, offering a potential starting point for interventions that lead to more effective means for enhancing positive views and evaluations with one's life.

References

Aiken, L., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.

Atienza, F., Balaguer, I., & Garcia-Merita, M. (2003). Satisfaction with life scale: Analysis of factorial invariance across sexes. *Personality and Individual Differences, 35*, 1255–1260.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51,* 1173–1182.

Best, R. G., Stapleton, L. M., & Downey, R. G. (2005). Core self-evaluations and job burnout: The test of alternative models. *Journal of Occupational Health Psychology, 10*, 441–451.

Bono, J. E., & Judge, T. A. (2003). Core self-evaluations: A review of the trait and its role in job satisfaction and job performance. *European Journal of Personality, 17*, S5–S18.

Chang, C. H., Ferris, D. L., Johnson, R. E., Rosen, C. C., & Tan, J. A. (2012). Core self-evaluations: A review and evaluation of the literature. *Journal of Management, 38*, 81–128.

Chang, E. C., Sanna, L., Riley, A. M., Thornburg, A. M., Zumberg, K. M., & Edwards, M. C. (2007). Relations between problem-solving styles and psychological adjustment in young adults: Is stress a mediating variable?. *Personality and Individual Differences, 42*, 135–144.

Cohen, S., Janicki-Deverts, D., & Miller, G. E. (2007). Psychological stress and disease. *Journal of the American Medical Association, 298*, 1685–1687.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 385–396.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality and Social Psychology, 69*, 71–75.

Diener, E., Oishi, S., & Lucas, R. E. (2003). Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. *Annual Review of Psychology, 54*, 403–425.

Gable, S., & Haidt, J. (2005). What (and Why) is Positive Psychology? *Review of General Psychology, 9*, 103–110.

Hamarat, E., Thompson, D., Zabrucky, K. M., Steele, D., Matheny, K. B., & Aysan, F. (2001). Perceived stress and coping resource availability as predictors of life satisfaction in young, middle-aged, and older adults. *Experimental Aging Research, 27*, 181–196.

Heller, D., Judge, T. A., & Watson, D. (2002). The confounding role of personality and trait affectivity in the relationship between job and life satisfaction. *Journal of Organizational Behavior, 23*, 815–835.

Helson, R., & Soto, C. J. (2005). Up and down in middle age: Monotonic and nonmonotonic changes in roles, status, and personality. *Journal of Personality and Social Psychology, 89*, 194–204.

Hirsch, J. K., & Ellis, J. B. (1996). Differences in life stress and reasons for living among college suicide ideators and non-ideators. *College Student Journal, 30,* 377–384.

Judge, T. A., Erez, A., Bono, J. E., & Thoresen, C. J. (2003). The core self-evaluations scale (CSES): development of a measure. *Personnel Psychology, 56*, 303–331.

Judge, T. A., & Hurst, C. (2007). The benefits and possible costs of positive core self-evaluations: A review and agenda for future research. D. Nelson & C. L. Cooper (Eds.), *Positive organizational behavior* (pp. 159–174). London, UK: Sage Publications.

Judge, T. A., Locke, E. A., & Durham, C. C. (1997). The dispositional causes of job satisfaction: A core evaluations approach. *Research in Organizational Behavior, 19*, 151–188.

Judge, T. A., Locke, E. A., Durham, C. C., & Kluger, A. N. (1998). Dispositional effects on job and life satisfaction: The role of core evaluations. *Journal of Applied Psychology, 83*, 17–34.

Judge, T. A., Van Vianen, A. E. M., & De Pater, I. E. (2004). Emotional stability, core self-valuations, and job outcomes: A review of the evidence and an agenda for future research. *Human Performance, 17*, 325–346.

Kammeyer-Mueller, J. D., Judge, T. A., & Scott, B. A. (2009). The role of core self-evaluations in the coping process: Testing an integrative model. *Journal of Applied Psychology, 94*, 177–195.

Lachman, M. E. (2001). *Handbook of midlife development*. Hoboken, NJ: Wiley.
Lazarus, R. (1999). *Stress and emotion: A new synthesis*. New York: Springer.
Lazarus, R. S., & Folkman, S. (1984). *Psychological stress and the coping process*. New York, NY: Springer.
Lucas, R. E., & Diener, E. (2008). Subjective emotional well-being. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (3rd ed., pp. 471–484). New York: Guilford.
MacKinnon, D. P., Lockwood, F. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research, 39*, 99–128.
Misra, R., & Castillo, L. G. (2004). Academic stress among college students: Comparison of American and International Students. *International Journal of Stress Management, 11*, 132–148.
Ong, A. D., Bergeman, C. S., Bisconti, T. L., & Wallace, K. A. (2006). Psychological resilience, positive emotions, and successful adaptation to stress in later life. *Journal of Personality and Social Psychology, 91*, 730–749.
Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students, a third decade of research*. San Francisco, CA: Jossey-Bass.
Piccolo, R. F., Judge, T. A., Takahashi, K., Watanabe, N., & Locke, E. A. (2005). Core self-evaluations in Japan: Relative effects on job satisfaction, life satisfaction and happiness. *Journal of Organizational Behavior, 26*, 965–984.
Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, and Computers, 36*, 717–731.
Remor, E. A., & Carrobles, J. A. (2001). Versión española de la Escala de Estrés Percibido (PSS-14): Estudio psicométrico en una muestra VIH. *Ansiedad y Estrés, 7*, 195–201.
Rey, L., Extremera, N., & Durán, M. A. (2012). Core-self evaluations, meta-experience and happiness: Test of direct and moderating effects. *Personality and Individual Differences, 53*, 207–212.
Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology, 69,* 719–727.
Ross, S. E., Niebling, B. C., & Heckert, T. M. (1999). Sources of stress among college students. *College Student Journal, 33*, 312–318.
Schiffrin, H. H., & Nelson, S. K. (2010). Stressed and happy? Investigation of the relationship between happiness and perceived stress. *Journal of Happiness Studies, 11*, 33–39.
Song, G., Kong, F., & Jin, W. (2013). Mediating effects of Core Self-Evaluations on the relationship between social support and life satisfaction. *Social Indicators Research.*