

Interactive Effects of Traits on Adjustment to a Life Transition

Anat Bardi¹ and Carol D. Ryff²

¹The University of Kent, Canterbury, United Kingdom

²The University of Wisconsin-Madison

ABSTRACT A longitudinal design was used to test theoretically derived interactive effects of traits on adjustment to relocation 1, 8, and 15 months after relocation of elderly women. Openness interacted with Neuroticism and with Extraversion in affecting changes in distress after relocation by amplifying the basic emotional tendencies of Neuroticism and Extraversion. These were delayed effects, occurring only 15 months after relocation. Openness also interacted with Neuroticism in predicting changes in psychological well-being with the effects occurring primarily early in postmove adjustment. In addition, Extraversion interacted with Conscientiousness and with Agreeableness in predicting changes in distress, such that the beneficial effects of Conscientiousness and Agreeableness were evident only for individuals low on Extraversion. These effects were consistent across time, showing long-term effects. Overall, the findings demonstrate the multiplicity of ways in which trait interactions predict dynamic adjustment to a life transition.

How do personality traits combine in affecting people's adjustment to a life transition? Few studies have examined the effects of traits on adjustment to a life transition, and none has examined interactive

Anat Bardi, Department of Psychology, University of Kent, Canterbury, United Kingdom; Carol D. Ryff, Department of Psychology, University of Wisconsin-Madison.

Work on this research began when the first author was at the Department of Psychology of the University of Wisconsin-Madison and was completed when the first author was at the Department of Psychology of the University of Kent. This research was supported by grants from the National Institute of Aging (R01-AG08979-01A2; P01-AG020166) and the National Institute of Mental Health (P50-MH61083).

Correspondence concerning this article should be addressed to Anat Bardi, Department of Psychology, University of Kent, Canterbury, Kent CT2 7NP, UK; E-mail: A.Bardi@kent.ac.uk.

Journal of Personality 75:5, October 2007

© 2007, Copyright the Authors

Journal compilation © 2007, Blackwell Publishing, Inc.

DOI: 10.1111/j.1467-6494.2007.00462.x

effects in predicting adjustment. Yet personality includes multiple traits, and these might not always work in isolation with one another (Markey & Markey, 2006). While trait interactions are rarely reported, there is some evidence that traits work together and interact in meaningful ways in affecting personal outcomes (e.g., Caspi, 1998; Grossarth, Eysenck, & Vetter, 1988; King, George, & Hebl, 2005). Our focus was on examining trait interactions in affecting adjustment to a life transition. We followed a sample of elderly women before and after community relocation and examined interactive effects of traits on psychological adjustment 1, 8, and 15 months after relocation. Using different time-frames enabled us to distinguish among short- or long-term effects as well as delayed effects.

Of the few studies examining effects of traits on adjustment to a life transition, two focused on optimism (Aspinwall & Taylor, 1992; Carver et al., 1993). Yet it is also important to examine personality traits that are part of a basic taxonomy to facilitate links to other lines of research (McCrae & John, 1992). The Big Five trait taxonomy is probably the most prevalent and agreed on today (e.g., John & Srivastava, 1999; McCrae & Costa, 2003). Examining interactions within the Big Five also has the advantage that the five broad traits load on orthogonal factors (e.g., McCrae & Costa, 2003).

Although extensive cross-sectional links between the Big Five personality traits and well-being have been made (see reviews in DeNeve & Cooper, 1998; Diener & Lucas, 1999), little research has examined the effects of personality on adjustment to a life transition. We therefore base most of our expectations on the review of baseline relations of traits to distress and well-being. Such studies have largely focused on two broad traits, Extraversion and Neuroticism (DeNeve & Cooper, 1998; Diener & Lucas, 1999). These traits are consistently strongly related to adjustment and well-being. Remaining traits within the Big Five taxonomy have been less studied and have shown weaker relations to well-being (Diener & Lucas, 1999). We suggest that these traits may interact with Extraversion and Neuroticism in affecting adjustment to a life transition.

Previous Findings Linking the Big Five Traits to Distress and Well-Being

In the sections below, we report relations between traits and psychological outcomes as well as the influence of traits on adjustment

to life events. Distress in this literature has frequently been measured in terms of negative affect, although assessments of depressive symptoms, anxiety, and reactions to stressful events have also been included. Well-being has frequently been assessed in terms of positive affect, which corresponds to hedonic conceptions of well-being (Kahneman, Diener, & Schwarz, 1999). However, eudaimonic aspects of well-being (Ryan & Deci, 2001) are also increasingly considered and include such things as purpose in life, personal growth, and environmental mastery (Ryff, 1989). Our review below includes all such assessments.

Neuroticism. Neuroticism is by far the trait most strongly associated with distress and with poor well-being (e.g., DeNeve & Cooper, 1998; Diener & Lucas, 1999; McCrae & Costa, 1991; Schmutte & Ryff, 1997). In fact, the association of Neuroticism with negative affect was found to be so strong that Watson and Clark (1984) suggested the label “Negative Affectivity” instead of Neuroticism (see evidence in, e.g., Watson & Clark, 1992). Costa and McCrae (1980) offered a temperamental explanation, suggesting that individuals high on Neuroticism are prone to negative affect. Neuroticism also predicts an increase in distress following stressful life events. Specifically, individuals high on Neuroticism reacted with more distress to daily stressors compared with individuals low on Neuroticism (Bolger & Schilling, 1991; Mroczek & Almeida, 2004). Marco and Suls (1993) found that individuals high on negative affectivity (similar to Neuroticism) reacted more severely to stressful life events. Similarly, Bolger (1990) found that Neuroticism was related to increase in anxiety close to the date of an important exam. Furthermore, Neuroticism was associated with poor adjustment to living in a new country (Swagler & Jome, 2005; Ward, Leong, & Low, 2004) and with poor marital adjustment (Bouchard, Lussier, & Sabourin, 1999). Using the longitudinal sample employed herein, Kling, Ryff, Love, and Essex (2003) found that Neuroticism predicted an increase in depression 8 months after community relocation.

Extraversion. Extraversion is consistently found to be positively related to well-being, particularly to positive affect (e.g., Fleeson, Malanos, & Achille, 2002; McCrae & Costa, 1991; Schmutte & Ryff, 1997; see review in Diener & Lucas, 1999; see review and meta-analysis in DeNeve & Cooper, 1998). Based on the strong links between

Extraversion and positive affect, Tellegen (1985) suggested renaming Extraversion as “Positive Emotionality.” McCrae and Costa offered a temperamental explanation for this finding, namely, that extraverts are “simply more cheerful and high-spirited than introverts” (McCrae & Costa, 1991, p. 228; see evidence in, e.g., Watson & Clark, 1992). In the context of adjustment, high Extraversion was associated with better adjustment to living in a new country (Swagler & Jome, 2005; Ward et al., 2004) and with better marital adjustment (Bouchard et al., 1999). Extraversion also predicted an increase in self-esteem 8 months after relocation (Kling et al., 2003).

Conscientiousness. In the relatively smaller number of studies examining Conscientiousness, it has shown weaker relations to well-being compared with Neuroticism and Extraversion (Diener & Lucas, 1999). Still, Conscientiousness is usually positively related to well-being (DeNeve & Cooper, 1998; Schmutte & Ryff, 1997). To explain this relation, McCrae and Costa (1991) suggested that Conscientiousness affects well-being in an instrumental way. Specifically, being efficient, competent, and hard working facilitates creating life conditions that promote well-being. Longitudinally, Kling et al. (2003) found that Conscientiousness had only an indirect relation to increased self-esteem 8 months after relocation through the mediation of a sense of mastery about the move. That is, being efficient, hard working, and organized is important for conducting a successful relocation. Stronger support for this idea was obtained in studies on overseas relocation in which high Conscientiousness was found to be associated with better adjustment to living in the new country (Swagler & Jome, 2005; Ward et al., 2004). Similarly, Conscientiousness was associated with good marital adjustment (Bouchard et al., 1999).

Agreeableness. The relatively small number of studies that examined the relation between Agreeableness and well-being have typically found weak positive relations (e.g., McCrae & Costa, 1991; Schmutte & Ryff, 1997; and see meta-analysis in DeNeve & Cooper, 1998). To explain the positive relationship between Agreeableness and well-being, McCrae and Costa (1991) suggested that, like Conscientiousness, Agreeableness affects well-being in an instrumental way by creating favorable life conditions. That is, individuals high on Agreeableness have close relationships that contribute to their

well-being and to low levels of distress. In the context of adjustment, high Agreeableness was indeed associated with better adjustment to life in a new country (Swagler & Jome, 2005; Ward et al., 2004) as well as with better marital adjustment (Bouchard et al., 1999).

Openness. Openness has been found to have different links to various aspects of well-being (e.g., Diener & Lucas, 1999; McCrae & Costa, 1991; Schmutte & Ryff, 1997). Interestingly, it is positively related both to positive and negative affect (e.g., McCrae & Costa, 1991). To explain this result, McCrae and Costa (1991) suggested that open individuals “experience both the good and the bad more intensely” (p. 228), and, as a result, Openness “seems to amplify experience of both kinds of affect” (p. 228). Longitudinally, Kling et al. (2003) found that Openness predicted an increase in both self-esteem and depression 8 months after relocation. Kling et al. (2003) termed this “dynamic amplification.”

Aims of the Current Investigation

Drawing on the above research, we propose to take the study of trait interactions a step further by examining how the interplay of select traits affect adjustment to a major life transition. In a related review, Chaplin (1997) noted that interactive effects are often small and hence more effective as a means of advancing the sophistication of our understanding than as a means of prediction. According to Chaplin (1997), because the aim should be to further our understanding, it is important to focus on theoretically driven interactions.

We develop two types of interaction hypotheses. One follows directly from McCrae and Costa’s (1991) suggestion regarding the amplification effect of Openness on distress and well-being. The other type builds on the centrality of the role of Extraversion in positive emotion, and suggests that this centrality may attenuate the potential effects of instrumental traits (Conscientiousness and Agreeableness) on psychological adjustment.

We test our hypotheses in the context of community relocation in old age. Relocation is one of the major stressful life events that require adjustment (Holmes & Rahe, 1967). Relocation is likely to be particularly stressful for older individuals who may have lived in their homes for decades. Although stressful, relocation is not necessarily a negative life event. Hence, it may affect both negative and

positive aspects of adjustment (see also Kling et al., 2003). Therefore, we measure adjustment to relocation by changes in emotional distress and psychological well-being from before relocation to 1, 8, and 15 months after relocation. Investigating the hypothesized interactions across multiple time points in the relocation process allows us to clarify whether such outcomes happen early in the transition, later, or both.

Hypothesis Derivation

Interactive effects of Openness with Neuroticism and with Extraversion. McCrae and Costa (1991) suggested that Openness may seem uncorrelated with well-being because it can lead both to positive and to negative affect. They suggested that open individuals experience both the good and the bad more strongly than individuals low on Openness. In other words, they suggested that Openness amplifies emotional reactions.

Individuals high on Neuroticism tend to have objectively more negative experiences (Heady & Wearing, 1989; Magnus, Diener, Fujita, & Pavot, 1993), and they have a strong tendency for negative affect. Hence, Openness may amplify the basic emotional tendency of Neuroticism. Thus, individuals high on Neuroticism are likely to experience negative affect, but more so the more open they are. Hemenover (2003) found that the effects of induced negative affect remained for a longer time among individuals high on Neuroticism than among those low on Neuroticism. Therefore, after relocation, individuals high on Neuroticism are likely to experience an increase in emotional distress, but more so the higher they are on Openness. Alternatively, enhanced well-being in the posttransition adjustment process may result from the opposite of this amplification effect (i.e., low Neuroticism combined with low Openness).

Similarly, extraverts tend to have objectively more positive experiences (Heady & Wearing, 1989; Magnus et al., 1993), and they have a strong tendency for positive affect. Thus, Openness may amplify the basic emotional tendency of Extraversion. Extraversion is usually found to be related to positive affect but not to negative affect. However, Hemenover (2003) found that the effects of induced negative affect remained for a longer time among introverts than among extraverts. Thus, we expect an interactive effect of Openness and Extraversion on changes in emotional distress and psychological

well-being, such that decreases in distress and increases in well-being would follow from the interplay of high Extraversion and high Openness.

Interactive effects of Extraversion with Conscientiousness and Agreeableness. McCrae and Costa (1991) suggested that Conscientiousness and Agreeableness are related to adjustment in an instrumental way through promoting conditions of high quality of life. These traits should also have beneficial instrumental functions in managing the challenges of relocation. Specifically, conscientious individuals are organized, hard-working, and efficient. These attributes would promote successful relocation, both in preparation for the move itself (packing, etc.) and in settling into the new environment. Agreeableness should contribute to adjustment to relocation, as individuals high on Agreeableness have close relationships that are likely to provide social support. Nevertheless, prior findings from the relocation study showed that Conscientiousness and Agreeableness did not have direct effects on changes in well-being and distress (Kling et al., 2003). How could this be explained? Perhaps other traits interact with Conscientiousness and Agreeableness to attenuate their beneficial influences on postmove adjustment. Specifically, the strong positive emotionality of high Extraversion may diminish the expected influences of Conscientiousness and Agreeableness on adjustment. That is, although low Conscientiousness and low Agreeableness should be associated with increases in distress or decreases in well-being after relocation, this effect may occur only for introverts, because extraverts might be happy even without fully resolving the difficulties of settling into a new environment, or without having close relationships. Therefore, we expected to find that the beneficial effects of Conscientiousness and Agreeableness would only be evident for individuals low on Extraversion.

Adjustment Outcomes

The above hypotheses are formulated largely in terms of positive and negative affect, which reflects the focus of most prior research. Although the longitudinal study on which our investigation was based did not include specific assessments of positive and negative affect, it did offer a differentiated set of postmove measures of psychological distress and well-being. Thus, our distress measures include

depressive symptoms, anxiety, and anger, while our well-being measures include purpose in life, personal growth, environmental mastery, self-acceptance, positive relations with others, and autonomy. Schmutte and Ryff (1997), as described above, documented links between all of these aspects of well-being and personality traits. The decision to include diverse aspects of both adaptive and maladaptive postmove outcomes was based on the objective of testing the scope of effects across each of the above hypothesized interactions. In addition, our selection of outcomes draws on prior findings from the relocation study that have documented postmove change in depressive symptoms and self-esteem (Kling et al., 2003; Kling, Ryff, & Essex, 1997) as well as most of the above aspects of psychological well-being (Kling, Ryff, et al., 1997; Kling, Seltzer, & Ryff, 1997; Kwan, Love, Ryff, & Essex, 2003). Thus, a key question was whether these dynamic outcomes might also be predicted by interactions among personality traits.

A key strength of the relocation design was the repeated assessment of psychological adjustment three times after the event of relocation. Because the prior literature on trait interactions is so meager, and essentially nonexistent in the longitudinal context, we had no a priori expectations regarding the time frame within which the proposed interactive effects would become evident. That aspect of our investigation was thus in a discovery rather than a hypothesis-testing mode.

METHOD

Participants

The participants were older women from the Wisconsin Study of Community Relocation. To be eligible for the study, women had to meet the following criteria: (a) be 55 years of age or older, (b) be able to participate in an interview and complete self-administered materials, and (c) have plans to move (in the following year) to an independent self-care setting, such as apartments and self-care retirement complexes (excluding nursing homes, assisted care facilities, or moving in with their children). Of our participants, 47.6% planned to move to a market-rate apartment or condo, 45.2% to a planned (PRC) or naturally occurring (NORC) retirement community, 5% to subsidized housing, and 2.3% planned to move to other types of accommodation. Thus, all moves were planned, and none was abrupt or unanticipated. Potential respondents were identified through housing facility managers, various organizations providing ser-

ances to the elderly, and the media. The study included four waves of assessment. Time 1 took place shortly after recruitment and before the move. Time 2 was approximately 1 month after the move, intended to assess short-term adjustment. Time 3 was approximately 8 months after the move, intended to assess settling in to the new setting. Time 4 was approximately 15 months after the move and was intended to assess longer-term adjustment. For each assessment, respondents participated in a home interview and completed a packet of self-administered questionnaires. Only data based on self-administered questionnaires are included in the current investigation.

Time 1 included 518 participants. Of these, 179 did not relocate in time to participate in the study. Time 2 included 337 participants, Time 3 included 302 participants, and Time 4 included 301 participants. Participants who dropped out from the study did not differ from those who remained in the study in personality, psychological outcomes, and demographic characteristics (see also Kling et al., 2003). Thus, the sample for the current analysis consisted of 301 women who had data from all four assessments. At recruitment, the mean age of the respondents was 70 ($SD = 8$, ranging from 55 to 91). Regarding education, 51.3% of the sample had completed high school or less, 28.8% had completed between 1 and 4 years of college, and 13.2% had completed schooling beyond college. Concerning the marital status of the participants, 50.5% were widowed, 25.2% were married or living with a partner, 15.6% were divorced or separated, and 8.7% were never married. The majority of the women lived alone both before and after the move (67% and 70.5%, respectively). Before relocation, participants had lived in the same house for an average of 18 years ($SD = 16$). Of the participants, 97.6% were born in the United States and 97.6% were Caucasian.

Big Five Measures

The Big Five trait dimensions were assessed at Time 1 using the NEO Five-Factor Inventory (NEO-FFI; Costa & McCrae, 1989). This is one of the most widely used measures of the Big Five trait dimensions, and it has excellent psychometric characteristics, including internal consistency, temporal stability, and construct validity with other self-report Big Five measures, peer ratings, and spouse ratings. The stable structure of five orthogonal factors enables clear testing of interactions among the trait dimensions. The questionnaire has 60 self-descriptive items, 12 items for each of the five scales. Reliabilities of the trait scales in this study were good, with the following Cronbach's alphas: Neuroticism = .85, Extraversion = .75, Openness = .74, Agreeableness = .71 and Conscientiousness = .79.

Measures of Distress

All measures of distress were administered in each of the four waves of assessments. We used measures of depression, anxiety, and anger to exploit what was available in the longitudinal data as well as to cover multiple aspects of postmove distress. Although these measures are interrelated, prior research has demonstrated that they function as separate constructs (e.g., Gunthert, Cohen, & Armeli, 2002; Watson et al., 1995; Williams, Peeters, & Zautra, 2004; review in Averill, 1997). Our objective in employing such differentiated outcomes was to determine whether particular types of emotional distress were more likely to follow from specific types of trait interactions or, conversely, whether parallel common patterns of distress would be evident. The measures of distress were focused on recent feeling states (i.e., over the past week) and thus tapped current affect as assessed repeatedly over time.

We measured depressive symptoms with the 20-item Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977). Cronbach's alpha reliability coefficients across the four times ranged from .84 to .90. Anxiety was measured by the 10-item State-Trait Anxiety Inventory (STAI Form Y; Spielberger, 1983). Cronbach's alpha reliability coefficients across the four times ranged from .86 to .91. Finally, anger was measured with the 10-item State-Trait Anger Scale (Spielberger, Jacobs, Russel, & Crane, 1983). Cronbach's alpha reliability coefficients across the four times ranged from .87 to .94.

Measures of Well-Being

Well-being was measured by a multidimensional inventory (Ryff, 1989), which was administered in each of the four waves of assessments. Six aspects of positive psychological functioning derived from multiple prior literatures were assessed: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. This measure focuses on respondents' general views of themselves and their lives. Although these well-being dimensions demonstrated short-term stability (Ryff, 1989), they are also sensitive to capturing long-term change, particularly as occurs around life transitions (Kling, Ryff, & Essex, 1997). As described earlier, these aspects of well-being have shown significant links to personality traits, and in the context of this longitudinal study, they have also shown cross-time dynamics (change) following the relocation transition (Kling, Ryff, et al., 1997; Kling et al., 2003; Kling, Seltzer, et al., 1997; Kwan et al., 2003). Detailed definitions of the scales and their psychometric properties are available in Ryff (1989). The factorial validity of this theory-based model of well-

being has been supported in multiple studies (e.g., Clarke, Marshall, Ryff, & Wheaton, 2001; Ryff & Keyes, 1995; van Dierendonck, 2004). Each aspect is measured by 14 items in this sample, and the Cronbach's alpha reliability coefficients across the six aspects of well-being and across the four times of assessment ranged from .83 to .91.¹

We note that our above assessment did not include self-esteem, which has been previously shown to be predicted by personality traits in the relocation transition (Kling et al., 2003). However, because self-esteem and self-acceptance were very highly correlated ($r = .70$), we chose to use only the latter measure, which is part of the above theoretical model. Also, as noted above, positive affect was not included because that variable was not included in the original relocation assessment battery. We return to this limitation in our discussion of the findings.

Analytic Sequence

Following Aiken and West (1991), the centered trait scores were used to examine main effects of traits and the multiplication of the centered trait scores were used as the interaction variable.

Multiple analytic steps were followed to assess the proposed hypotheses. The first step involved conducting a repeated measures analysis of covariance (ANCOVA) to examine whether there was significant support for the hypothesized interactions and whether the interaction effects varied across the times of measurement. Thus, outcome variables for these analyses were the three postrelocation assessments of distress or well-being, and independent variables were the baseline levels of select traits and the interaction between them. Covariates in all analyses were the Time 1 assessment of each dependent variable, thereby allowing for assessment of postmove change in well-being or distress, as well as the number of days that passed from baseline (Time 1) to the first postrelocation assessment (to control for differing intervals of time from the initial assessment to the first follow-up).² Therefore, the ANCOVA was useful in clarifying whether the proposed trait interactions were evident in the overall between-subjects effects as well as whether there was a within-subjects interaction with time. Whenever the latter effect occurred, it meant that the hypothesized trait interaction was not consistent across all postmove assessments.

1. The correlation matrix among all the variables in the study is available from the authors.
2. The time that passed from the Time 1 assessment to the actual relocation varied greatly, with some participants completing the measures just before moving, while others were still on waiting lists for retirement communities. However, the time gaps between assessment times after relocation were similar across participants.

A next step in the analysis following any such ANCOVA effects that showed significant interactions with time was to conduct time-specific hierarchical regression analyses using the same set of predictor and control variables (covariates described above) to determine where in the postmove assessments such significant effects were evident. The regressions were also useful for providing beta coefficients, which clarified the size and direction of any significant outcomes. We also used follow-up regression analyses to clarify the size and direction of any between-subjects significant outcomes from the above ANCOVAs. However, these analyses were not time specific but rather used as the outcome of an average of the three postmove assessments.

Our primary interest was in the hypothesized interactions. Whenever any such effects occurred, we used Aiken and West's (1991) guidelines to explicate the meaning of the interaction. Specifically, the fitted regression lines relating a centered trait score to the outcome variable were graphed separately for participants with high and low levels on the other centered trait (high levels were defined as a trait score of 1 standard deviation above the mean and low levels were defined as a trait score of 1 standard deviation below the mean). In addition, the significance of these simple slopes was tested.

RESULTS

Initial analyses were intended to establish that levels of distress and well-being change over time as well as to examine the general trends of changes. Therefore, each of the outcome variables was subjected to a repeated measures ANCOVA, using the four times of measurement as repeated measures and testing the effect of time on average levels of distress and well-being. All of the outcome variables showed a significant quadratic trend (F s ranged from 8.63 to 47.39, all $ps < .01$). The quadratic trend had the same pattern across all variables. Namely, there was a gradual increase from Time 1 to Time 3 and a decrease in Time 4 (distress variables showed the mirrored pattern). This indicates that levels of distress and well-being changed over time and that relocation was a positive transition on average. However, the main goal of this article was to understand individual differences, via trait interactions, in changes in distress and well-being following relocation. These analyses are presented next.

Our use of multiple distress and well-being outcomes is accompanied by a two-stage screening process to minimize capitalizing on chance outcomes: First, all interactions had to be significant in the repeated measures ANCOVA, as a between- or within-subjects factor;

second, all such effects also had to show significant beta coefficients in the follow-up regressions. These regressions clarified the direction of the effect and, where relevant, the time period of the effect. These criteria, along with the systematic nature of the obtained effects, add to the confidence that the overall patterns are not spurious.

In all the analyses of covariance, there was violation of the Sphericity assumption. Hence, the Greenhouse-Geisser correction to the degrees of freedom was employed.³ The findings below are organized according to trait interactions predicting distress outcomes, followed by trait interactions predicting well-being outcomes.

Distress Outcomes

Significant between- and within-subjects effects of the trait interactions are summarized in Table 1. Although our primary focus was on interactions, we also note significant main effects in the text below.

Openness and Neuroticism. We proposed that Openness amplifies the basic emotional tendencies reflected in Neuroticism. The ANCOVAs showed significant between-subjects main effects of Neuroticism for all three measures of distress, thus predicting an increase in postmove depression ($\beta = .32$), anxiety ($\beta = .30$), and anger ($\beta = .14$), all $ps < .01$. Openness also had a between subjects significant main effect, predicting increase in depression and anger ($\beta s = .10$ and $.12$, respectively, all $ps < .05$). With regard to the hypothesized interaction effects, significant outcomes were obtained for depression and anger (see Table 1). For both outcomes, the interaction effect varied significantly by time. Follow-up regression analyses indicated that it was only at the Time 4 assessment (15 months post relocation) that the interaction of these two traits was a significant predictor of increased depression and anger. We expected that these traits would interact such that individuals high on Neuroticism would experience an increase in distress the more open they were. The top panel of Figure 1 shows support for the hypothesized pattern for depression. That is, for individuals high on Neuroticism, the more open they were, the greater the increase in their level of depression 15 months after relocation. Simple slope analysis indicated that only the slope

3. In practice, for each of the analyses, the alternative statistics produced the same result.

Table 1
Trait Interactions in Predicting Changes in Distress

Trait Interactions (Temporal Effects)	Between-Subjects Effects	Within-Subjects Effects
	Openness × Neuroticism	
Depression (time specific)		$F = 3.69^*$, $\beta^{(T4)} = .14^{**}$
Anger (time specific)		$F^a = 6.93^{**}$, $F^a = 10.07^{**}$, $\beta^{(T4)} = .18^{**}$
	Openness × Extraversion	
Anger (time specific)	$F = 5.31^*$	$F^a = 5.39^*$, $\beta^{(T4)} = -.15^{**}$
	Conscientiousness × Extraversion	
Depression (time invariant)	$F = 5.63^*$, $\beta = .08^{**}$	
Anxiety (time invariant)	$F = 5.75^*$, $\beta = .05^{**}$	
	Agreeableness × Extraversion	
Anger (time invariant)	$F = 11.43^{**}$, $\beta = .16^{**}$	
Anxiety (time invariant)	$F = 4.20^*$, $\beta = .04^{**}$	

Note: All F values were generated from repeated measures (three postrelocation assessments) ANCOVAs, while all beta coefficients were generated as follow-up regressions.

^(T4)This effect was evident only at Time 4 assessment, 15 months post relocation.

^aDenotes a quadratic effect. All other within-subject effects are linear.

* $p < .05$. ** $p < .01$.

for individuals high on Neuroticism was significant, $z = 2.67$ $p < .01$. The effect for anger revealed a similar interaction pattern and simple slope results.⁴ These results support the idea that Openness amplifies the basic emotional tendencies of high Neuroticism, as related to depressive symptoms and anger, but they also suggest that such effects take considerable time to manifest themselves after the relocation transition.

4. The full array of graphs of the interactions and the accompanying simple slope analyses are available from the authors.

Openness and Extraversion. We proposed that Openness would amplify the basic emotional tendencies of Extraversion. With regard to main effects, Extraversion had a significant between-subjects effect in which it predicted a decrease in postmove depression ($\beta = -.19$, $p < .01$). With regard to the hypothesized interaction effects, a significant outcome was obtained for anger (see Table 1). The interaction effect varied significantly by time, with follow-up regression analyses indicating that it was only at Time 4 (15 months post relocation) that the interaction of these two traits significantly predicted decreased anger. We expected that Openness would interact with Extraversion such that individuals high on Extraversion would experience a greater decrease in distress the more open they were. The bottom panel of Figure 1 shows that for individuals high on Extraversion, the more open they were, the greater the decrease in their overall anger 15 months after relocation. This slope, however, only becomes significant at 2.74 standard deviations above the mean of Extraversion, indicating that the expected effect occurs only in extremely extraverted individuals. Alternatively, the slope for individuals low on Extraversion (1 standard deviation below the mean of Extraversion) was significant, $z = 2.87$, $p < .01$. Thus, for introverts, the more open they were, the greater their increase in anger 15 months after relocation.

Conscientiousness and Extraversion. We proposed that Conscientiousness is associated with a decrease in distress primarily for individuals who do not have a strong positive affective tendency, i.e., individuals low on Extraversion. The hypothesized interaction effects were significant for depression and anxiety (see Table 1). For both outcomes, the interaction effect was consistent across time. The top panel of Figure 2 shows support for the expected pattern for anxiety. That is, for individuals low on Extraversion, the more conscientious they were, the less anxious they felt after relocation. Simple slope analysis indicated that only the slope for individuals low on Extraversion was significant, $z = -2.32$, $p < .01$. The effect for depression (not shown) revealed a similar interaction pattern and simple slope results. These results support the suggestion that Extraversion diminishes the relation between Conscientiousness and depression and anxiety.

Agreeableness and Extraversion. We proposed that Agreeableness is associated with a decrease in distress only for individuals who do

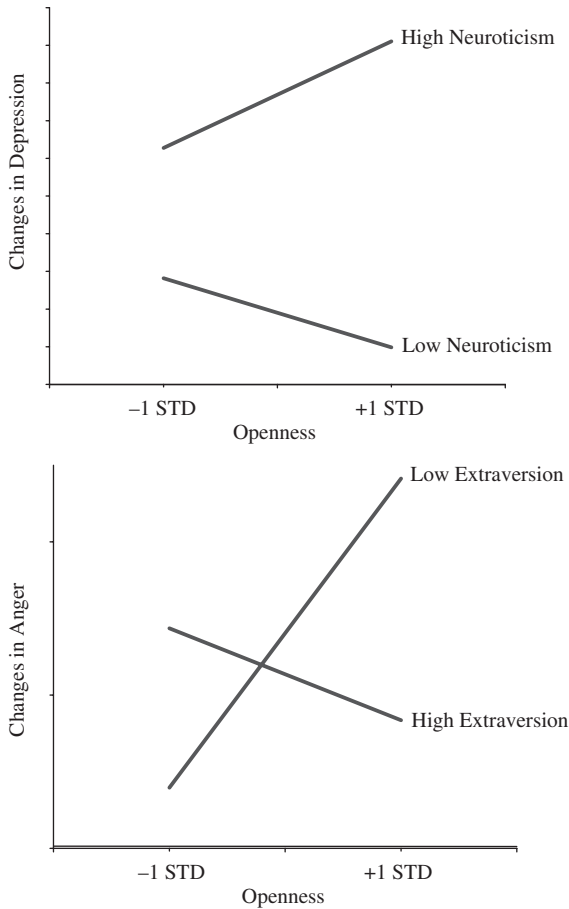


Figure 1

Interactive effects of Openness with Neuroticism and with Extraversion on changes in distress 15 months after relocation.

not have a strong positive affective tendency, i.e., individuals low on Extraversion. Agreeableness had a between-subjects significant main effect that varied across time, predicting a decrease in anger 15 months after relocation ($\beta = -.16, p < .01$). The hypothesized interaction effects were significant for anxiety and anger (see Table 1), and in both instances the interaction effect was consistent across time. The interaction effect for anger is presented on the bottom panel of Figure 2, which reveals that the expected pattern of interaction was

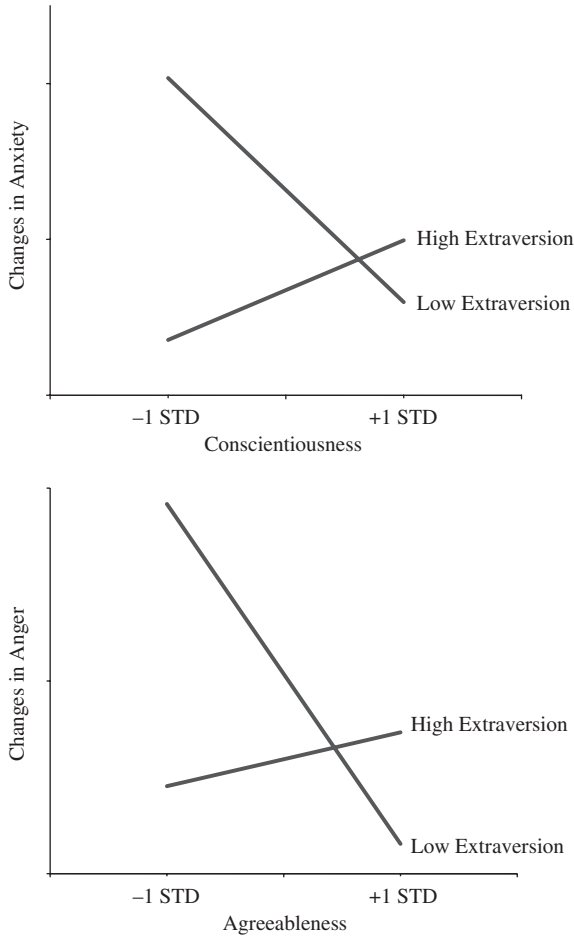


Figure 2
Interactive effects of Extraversion with Conscientiousness and with Agreeableness on changes in distress after relocation.

supported. That is, for individuals low on Extraversion, the more agreeable they were, the less anger they felt after relocation. Simple slope analysis indicated that only the slope for individuals low on Extraversion was significant, $z = -3.99 p < .01$. The effect for anxiety revealed a similar interaction pattern and simple slope results. This pattern of results supports the suggestion that Extraversion diminishes the relation between Agreeableness and anxiety and anger.

Well-Being Outcomes

Fewer significant changes in psychological well-being were predicted by trait interactions (see Table 2), and those satisfying both statistical screening criteria occurred only for the interaction of Neuroticism with Openness to Experience. As shown in the table, two significant ANCOVA effects were obtained for purpose in life, but they are not discussed below because follow-up regression analyses were not significant. With regard to main effects, Neuroticism had a significant between-subjects effect on all six aspects of well-being, predicting lower postmove levels of autonomy ($\beta = -.13$), environmental mastery ($\beta = -.12$), personal growth ($\beta = -.09$), purpose in life ($\beta = -.12$), positive relations with others ($\beta = -.09$), and self-acceptance ($\beta = -.09$), all $ps \leq .01$.

With regard to the hypothesized interaction between Neuroticism and Openness, we had predicted that well-being would be enhanced by low Neuroticism working interactively with low Openness (i.e., the obverse of how these two traits were hypothesized to increase

Table 2
Interactions Between Openness and Neuroticism in Predicting Changes in Well-Being

Trait Interactions (Temporal Effects)	Between-Subjects Effects	Within-Subjects Effects
	Openness \times Neuroticism	
Environmental Mastery (time specific)		$F = 11.80^{**}$, $\beta^{(T2)} = .09^*$
Self-Acceptance (time specific)		$F = 11.23^{**}$, $\beta^{(T2)} = .10^{**}$
Personal Growth (time specific)		$F = 7.38^{**}$, $\beta^{(T4)} = -.08^*$
Purpose in Life		$F = 4.16^*$, $\beta^{(T2-4)} = \text{ns}$
	Openness \times Extraversion	
Purpose in Life	$F = 4.47^*$, $\beta = .05^+$	

Note: All F values were generated from repeated measures (three postrelocation assessments) ANCOVAs, while all beta coefficients were generated as follow-up regressions.

^(T2)This effect was evident only at Time 2 assessment, 1 month post relocation.

^(T4)This effect was evident only at Time 4 assessment, 15 months post relocation.

⁺ $p < .10$. * $p < .05$. ** $p < .01$.

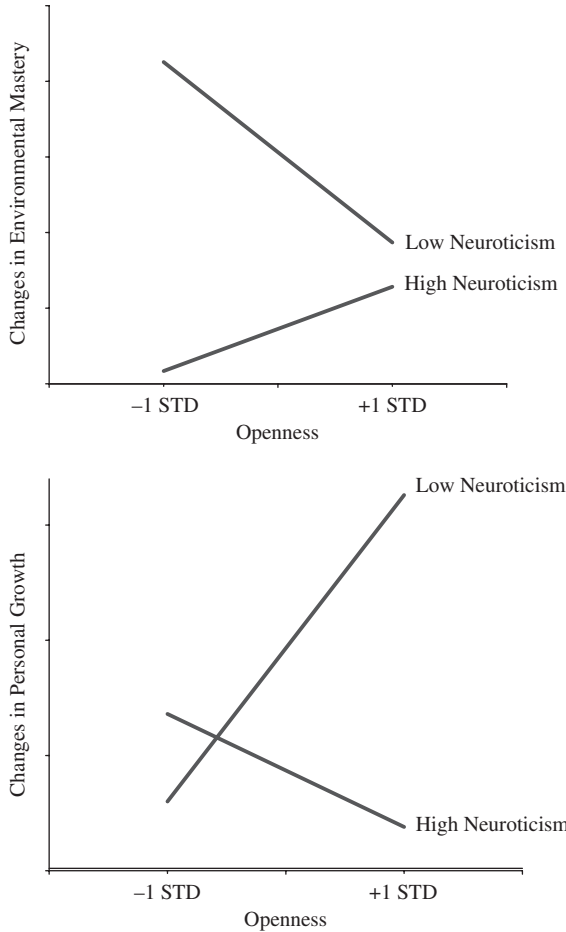


Figure 3

Interactive effects of Openness with Neuroticism on changes in environmental mastery 1 month after relocation and in personal growth 15 months after relocation.

distress outcomes). Significant interactions between these traits were obtained for environmental mastery, personal growth, and self-acceptance. For all, the interaction effect varied significantly by time. Follow-up regression analyses indicated that the interaction effect predicting environmental mastery and self-acceptance was significant only 1 month after relocation. The top panel of Figure 3

shows this effect for environmental mastery. The simple slope is only significant for individuals low on Neuroticism, $z = -2.31$, $p < .05$. Thus, for individuals low on Neuroticism, the less open they were, the greater their increase in early postmove environmental mastery. The effect for self-acceptance (not shown) revealed a similar interaction pattern and simple slope results.

The interaction effect predicting changes in personal growth was different. This effect was significant only at the Time 4 assessment (15 months post relocation), and its pattern is illustrated in the bottom panel of Figure 3. The simple slope is again significant only for individuals low on Neuroticism, $z = 2.71$, $p < .01$, but for these individuals, the more open they were, the greater their increase in postmove sense of personal growth.

DISCUSSION

The purpose of this investigation was to test whether and how traits interact to affect adjustment to a life transition. The findings demonstrate that many of the hypothesized trait interactions did, indeed, predict changes in postrelocation adjustment. But importantly, the pattern of effects varied depending on the type of trait interaction under consideration, the type of psychological outcome examined, and the time course of the adjustment process. These advances were made possible by the multiwave longitudinal design on which the findings were based as well as by the comprehensive nature the postmove adjustment outcomes. Summarized below are the ways in which our findings contribute to a more complex understanding of the effects of personality traits (see also Markey & Markey, 2006) on adjustment to life challenges.

The Interplay of Openness to Experience With Neuroticism and Extraversion

A key hypothesis was that Openness to Experience would serve to amplify the basic emotional tendencies of Neuroticism and Extraversion. We found strong support for the hypothesized interplay of Openness and Neuroticism, such that this interaction predicted significant change in postmove adjustment for multiple aspects of emotional distress and psychological well-being. With regard to distress, those individuals who were high on both Neurot-

icism and Openness experienced an increase in depressive symptoms and anger following relocation, although these effects were not immediately evident and instead occurred only at the Time 4 assessment, approximately 15 months after the move. With regard to psychological well-being, the interaction of Neuroticism and Openness predicted significant change in environmental mastery, personal growth, and self-acceptance. However, the nature of this interaction and its time course differed from the effects for postmove distress. For environmental mastery and self-acceptance, the effects occurred early in postmove adjustment (approximately 1 month after the move), and here, as predicted, it was the opposite of the above effect—namely, gains in postmove well-being were predicted by low levels of Neuroticism combined with low levels of Openness to Experience.

Personal growth, however, showed a different pattern—for those who were low on Neuroticism, their postmove sense of growth increased to the extent they were *higher* on Openness to Experience. In addition, this effect was not evident until late in the postrelocation adjustment process (Time 4). Prior findings linking the Big Five to psychological well-being have shown personal growth to be strongly positively linked to Openness to Experience, even after adjusting for various spurious influences (i.e., overlap in item content, common affective underpinnings, source overlap; see Schmutte & Ryff, 1997). Personal growth, however, was found to be both positively and negatively correlated with Neuroticism, depending on the nature of preceding statistical adjustments. The present investigation carries these complex patterns forward by showing how Openness and Neuroticism combine to predict gains in the sense of personal growth following relocation. High Openness was part of the story but only under the condition that one was also low on Neuroticism, perhaps suggesting that the latter trait serves to guard against excesses of the former.

With regard to Extraversion, our hypothesis was that high Openness would amplify its positive emotional tendencies. The interaction of these two traits did significantly predict postmove changes in distress but only for assessments of anger, and like the above effects, this effect was evident only late in postmove adjustment (Time 4). Although the slope analyses showed a trend in which higher Extraversion combined with higher Openness to reduce postmove anger (following the hypothesis), the significant slope outcome was for

those low on Extraversion (i.e., introverts). For those individuals, postmove anger levels were significantly higher the more open they were. This finding complements Hemenover's (2003) findings in which individuals low on Extraversion were similar to individuals high on Neuroticism in the endurance of their negative emotional reactions.

The Interplay of Extraversion With Conscientiousness and Agreeableness

Conscientiousness and Agreeableness have been described as affecting well-being in an instrumental way by creating favorable life conditions (McCrae & Costa, 1991). Specifically, individuals high on Conscientiousness may have higher levels of well-being because of their hard work and organizational strengths, which likely contribute to achievement of personal goals. Individuals high on Agreeableness may have higher well-being because of their ability to form and maintain positive and close relationships with others. However, prior research from the relocation study did not find that these two traits contributed to positive postrelocation adjustment (Kling et al., 2003). We hypothesized that trait interactions may help explain why such effects were not found—namely, that other traits may serve to attenuate these beneficial influences. Focusing on Extraversion, we, in fact, found that postmove distress was significantly lower among those who were high on Conscientiousness and Agreeableness but who, at the same time, were also low on Extraversion. Yet these effects were evident for postmove anxiety, while for postmove depressive symptoms, only the interaction with Conscientiousness was significantly predictive; for anger, only the interaction with Agreeableness was significantly predictive. All of these effects did not vary over the time course of postrelocation adjustment, and, further, no well-being outcomes were found for either of these interactions.

What could explain this pattern of findings? Andrews and Withey (1976) suggest the importance of distinguishing between cognitive and emotional well-being. Our measures of distress tap more explicitly on emotion compared with the measures of psychological well-being, which tend to be more self-evaluative in nature. Because our hypothesis was based on the emotional tendencies of Extraversion and the related argument that the strong positive emotionality

of high Extraversion may diminish relations of other traits to adjustment, it is possible that this kind of effect may be limited to emotion-based measures of adjustment. To fully test this idea would require adjustment outcomes that vary not only in valence (distress, well-being) but also in cognitive versus emotional distinctions. We noted earlier that the relocation study lacked assessments of positive affect, which would have helped clarify whether the prior findings were, indeed, specific to emotion rather than cognitively based aspects of well-being.

The Temporal Course of Adjustment to a Life Transition

Theory and research on adaptation suggest that well-being changes shortly after an event but gradually returns to its basic level (e.g., Brickman, Coates, & Janoff-Bulman, 1978; see reviews in Diener, Suh, Lucas, & Smith, 1999 and in Frederick & Loewenstein, 1999). Yet a review of the literature reveals that this is not the case for all the life domains that have been studied (Diener et al, 1999; Frederick & Loewenstein, 1999). Suh, Diener, and Fujita (1996) found that major life events, such as death and divorce of parents, had long-term effects on well-being. They suggested that these events have long-term effects on well-being because they affect a person's daily life. Still others have found evidence of delayed effects, for example, in the aftermath of traumatic events (Freedman & Shalev, 2000; Wallerstein & Corbin, 1989). Our study adds support to all of these possibilities by showing that postrelocation adjustment encompasses multiple temporal effects, with some being short term (delimited in time), while others were long term (persist over time), and still others were delayed in time.

With regard to the prediction of emotional distress, all significant effects were either delayed in time (occurring only at the Time 4 assessment about 15 months after the move), or they were long term and persistent across time. Interestingly, these two patterns covaried with the two primary types of interactions considered (i.e., the delayed effects pertained to the interactions of Openness to Experience with Neuroticism and Extraversion, while the persistent effects pertained to the interactions of Extraversion with Conscientiousness and Agreeableness). Although we did not have a priori hypotheses about how the time course of these interactions might vary, we believe the obtained patterns may have meaningful interpretations. For

example, the reason for the delayed effects may be based on thought processes associated with Openness to Experience. Individuals high on Openness are characterized by a complex and broad perspective (e.g., McCrae & Costa, 1997), but the enactment of this complex perspective takes time to unfold, particularly in the context of a major life transition. Thus, over time, the complex perspective taking may amplify the preexisting neurotic tendencies of some individuals and thus culminate in elevated depressive symptoms or increased anger. Alternatively, this same orientation of Openness to the surrounding world, may also, over time, contribute to the sense of growth, although only among those who have low neurotic tendencies to begin with. But again, the perception that one is growing, changing, and learning new things does not happen overnight; rather, it requires the passage of time. Future longitudinal inquiries are needed to confirm whether this idea that high Openness to Experience in interaction with Neuroticism, indeed, requires the unfolding of time to show posttransition effects on adjustment.

Alternatively, that the interactions of Extraversion with instrumental traits (Conscientiousness, Agreeableness) were persistent in their effects on distress over time may stem from the very instrumental nature of the traits under consideration. That is, Conscientiousness and Agreeableness are likely to be immediately relevant in the tasks of managing postmove adjustment. What our findings clarify, however, is that how these characteristics benefit postmove adjustment accrue primarily to those who are simultaneously low on the positive emotional tendencies of Extraversion.

Our two most anomalous temporal findings pertain to the short-term effects obtained for environmental mastery and self-acceptance, both of which were significantly predicted by the interaction of Neuroticism with Openness to Experience. Why these outcomes would reveal significant change only in the early aftermath of moving (approximately 1 month post relocation) is perhaps related to the fact that both effects followed from the combination of low Openness to Experience with low Neuroticism. That is, not perceiving one's new life situation in all of its complexity may enhance one's immediate sense environmental mastery and positive self-regard, especially if one is also low on Neuroticism.

All of the above interpretations are clearly provisional in nature and must be tested by future investigation employing research

designs that track posttransition adjustment processes at multiple points in time.

Limitations and Future Directions

The pattern of outcomes summarized above clarifies the specificity in which types of trait interactions predicted types of adjustment outcomes with temporal variations therein. If such refined understanding is to constitute a meaningful stride forward, it requires replication from other investigations—a notable challenge, given difficulties in replicating interactions between continuous variables (Chaplin, 1997). Such difficulties may be partly due to low statistical power in analyzing interactions with continuous individual-difference variables, although there are currently no indications of spurious interaction effects (Aiken & West, 1991). This suggests that when such interactions are found, they may even be an underestimation of the true interaction effects in the population. In any case, as we have stated multiple times above, the specificity of our findings clearly calls for future attempts to replicate the patterns.

With regard to contributions of our findings to future inquiry, we believe our differentiated outcomes were particularly valuable for bringing something new to the prior literature on traits, life events, and well-being—namely, the importance of assessing anger as an important component of postmove adjustment. Most of the literature we reviewed emphasized how traits predict negative affect, depression, and anxiety, but our findings showed that anger had the most pervasive effects, appearing in 3 of the 4 hypothesized trait interactions. This finding, we believe, underscores the need for greater inclusion of this aspect of emotional adjustment in future inquiries.

Incorporating both positive and negative adjustment outcomes in the study of life transitions is also an important priority for future studies. Although our findings showed that trait interactions more strongly predicted postmove distress than postmove well-being, some of the difference between the two may be partially explained by the greater degree of content overlap between distress outcomes and traits used to predict them. The most obvious example of this is Neuroticism, with its underlying facets of depression, anxiety, and angry hostility. Concerns about such circularities in the linkage of traits with well-being (see Schmutte & Ryff, 1997) underscore the need to include adjustment outcomes that are less vulnerable to rival

interpretations of effects involving construct redundancy between independent and dependent variables.

Overall, the results of this study demonstrate the importance of studying interactions between traits, which combined in theoretically meaningful ways to predict both positive and negative aspects of postmove adjustment. Such work advances the sophistication of our understanding of the effects of personality on adaptation to a life transition, and the findings highlight the temporal dynamics of these effects. Future studies will also need to employ multiwave longitudinal designs to strengthen knowledge of when in time trait interactions have their impact.

REFERENCES

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being: America's perception of life quality*. New York: Plenum Press.
- Aspinwall, L. G., & Taylor, S. E. (1992). Modeling cognitive adaptation: A longitudinal investigation of the impact of individual differences and coping on college adjustment and performance. *Journal of Personality and Social Psychology*, **63**, 989–1003.
- Averill, J. R. (1997). The emotions: An integrative approach. In R. Hogan, J. A. Johnson, & S. R. Briggs (Eds.), *Handbook of personality psychology* (pp. 513–543). San Diego, CA: Academic Press.
- Bolger, N. (1990). Coping as a personality process: A prospective study. *Journal of Personality and Social Psychology*, **59**, 525–537.
- Bolger, N., & Schilling, E. A. (1991). Personality and the problems of everyday life: The role of N in Exposure and reactivity to daily stressors. *Journal of Personality*, **59**, 355–386.
- Bouchard, G., Lussier, Y., & Sabourin, S. (1999). Personality and marital adjustment: Utility of the five-factor model of personality. *Journal of Marriage and the Family*, **61**, 651–660.
- Brickman, P., Coates, D., & Janoff-Bulman, R. J. (1978). Lottery winners and accident victims: Is happiness relative? *Journal of Personality and Social Psychology*, **36**, 917–927.
- Carver, C. S., Pozo, C., Harris, S. D., Noriega, V., Scheier, M. F., Robinson, D. S., et al. (1993). How coping mediates the effect of optimism on distress: A study of women with early stage breast cancer. *Journal of Personality and Social Psychology*, **65**, 375–390.
- Caspi, A. (1998). Personality development across the life course. In W. Damon (Ser. Ed.), and N. Eisenberg (Vol. Ed.), *Handbook of Child Psychology, Vol. 3: Social, emotional, and personality development* (pp. 311–388). New York: Wiley.

- Chaplin, W. F. (1997). Personality, interactive relations, and applied psychology. In R. Hogan, J. A. Johnson, & S. R. Briggs (Eds.), *Handbook of personality psychology* (pp. 873–890). San Diego, CA: Academic Press.
- Clarke, P. J., Marshall, V. W., Ryff, C. D., & Wheaton, B. (2001). Measuring psychological well-being in the Canadian Study of Health and Aging. *International Psychogeriatrics*, **13**, 79–90.
- Costa, P. T. Jr., & McCrae, R. R. (1980). Influence of extraversion and neuroticism on subjective well-being: Happy and unhappy people. *Journal of Personality and Social Psychology*, **38**, 668–678.
- Costa, P. T. Jr., & McCrae, R. R. (1989). *NEO-PI/FFI manual supplement*. Odessa, FL: Psychological Assessment Resources.
- DeNeve, K. M., & Cooper, H. (1998). The happy personality: A meta-analysis of 137 personality traits and well-being. *Psychological Bulletin*, **124**, 197–229.
- Diener, E., & Lucas, R. E. (1999). Personality and subjective well-being. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 213–229). New York: Russell Sage Foundation.
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, **125**, 276–302.
- Dierendonck, D. van (2004). The construct validity of Ryff's scales of psychological well-being and its extension with spiritual well-being. *Personality and Individual Differences*, **36**, 629–643.
- Fleeson, W., Malanos, A. B., & Achille, N. M. (2002). An intraindividual process approach to the relationship between extraversion and positive affect: Is acting extraverted as “good” as being extraverted? *Journal of Personality and Social Psychology*, **83**, 1409–1422.
- Frederick, S., & Loewenstein, G. (1999). Hedonic adaptation. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 302–329). New York: Russell Sage Foundation.
- Freedman, S., & Shalev, A. Y. (2000). Prospective studies of the recently traumatized. In R. Yehuda & A. Y. Shalev (Eds.), *International handbook of human response to trauma* (pp. 249–261). Dordrecht, the Netherlands: Kluwer Academic Publishers.
- Grossarth, M. R., Eysenck, H. J., & Vetter, H. (1988). Antismoking attitudes and general prejudice: An empirical study. *Perceptual and Motor Skills*, **66**, 927–931.
- Gunthert, K. C., Cohen, L. H., & Armeli, S. (2002). Unique effects of depressive and anxious symptomatology on daily stress and coping. *Journal of Social and Clinical Psychology*, **21**, 583–609.
- Hemenover, S. H. (2003). Individual differences in rate of affect change: Studies in affective chronometry. *Journal of Personality and Social Psychology*, **85**, 121–131.
- Heady, B., & Wearing, A. (1989). Personality, life events, and subjective well-being: Toward a dynamic equilibrium model. *Journal of Personality and Social Psychology*, **57**, 731–739.
- Holmes, T. H., & Rahe, R. H. (1967). The Social Readjustment Rating Scale. *Journal of Psychosomatic Research*, **11**, 213–218.
- John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.),

- Handbook of personality: Theory and research* (2nd ed., pp. 102–138). New York: The Guilford Press.
- Kahneman, D., Diener, E., & Schwarz, N. (Eds.). (1999). *Well-being: The foundations of hedonic psychology*. New York: Russell Sage Foundation.
- King, H. B., George, J. M., & Hebl, M. R. (2005). Linking personality to helping behaviors at work: An interactional perspective. *Journal of Personality, 73*, 585–607.
- Kling, K. C., Ryff, C. D., & Essex, M. J. (1997). Adaptive changes in the self-concept during a life transition. *Personality and Social Psychology Bulletin, 23*, 981–990.
- Kling, K. C., Ryff, C. D., Love, G., & Essex, M. (2003). Exploring the influence of personality on depressive symptoms and self-esteem across a significant life transition. *Journal of Personality and Social Psychology, 85*, 922–932.
- Kling, K. C., Seltzer, M., & Ryff, C. D. (1997). Distinctive late life challenges: Implications for coping and well-being. *Psychology and Aging, 12*, 288–295.
- Kwan, C. M. L., Love, G. D., Ryff, C. D., & Essex, M. J. (2003). The role of self-enhancing evaluations in a successful life transition. *Psychology and Aging, 18*, 3–12.
- Magnus, K., Diener, E., Fujita, F., & Pavot, W. (1993). Extraversion and neuroticism as predictors of objective life events: A longitudinal analysis. *Journal of Personality and Social Psychology, 65*, 1046–1053.
- Marco, C. A., & Suls, J. (1993). Daily stress and the trajectory of mood: Spillover, response assimilation, contrast, and chronic negative affectivity. *Journal of Personality and Social Psychology, 64*, 1053–1063.
- Markey, P. M., & Markey, C. N. (2006). A spherical conceptualization of personality traits. *European Journal of Personality, 20*, 169–194.
- McCrae, R. R., & Costa, P. T. Jr. (1991). Adding liebe und arbeit: The full five-factor model and well-being. *Personality and Social Psychology Bulletin, 17*, 227–232.
- McCrae, R. R., & Costa, P. T. Jr. (1997). Conceptions and correlates of openness to experience. In R. Hogan, J. A. Johnson, & S. R. Briggs (Eds.), *Handbook of personality psychology* (pp. 826–847). San Diego, CA: Academic Press.
- McCrae, R. R., & Costa, P. T. Jr. (2003). *Personality in adulthood: A five-factor theory perspective*. New York: The Guilford Press.
- McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality, 60*, 175–215.
- Mroczek, D. K., & Almeida, D. M. (2004). The effect of daily stress, personality, and age on daily negative affect. *Journal of Personality, 72*, 355–378.
- Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385–401.
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology, 52*, 141–166.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*, 1069–1081.

- Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, **69**, 719–727.
- Schmutte, P. S., & Ryff, C. D. (1997). Personality and well-being: Reexamining methods and meanings. *Journal of Personality and Social Psychology*, **73**, 549–559.
- Spielberger, C. D. (1983). *Manual for the State-Trait Anxiety Inventory STAI Form Y. Consulting*. Palo Alto, CA: Psychologists Press.
- Spielberger, C. D., Jacobs, G., Russel, S., & Crane, S. R. (1983). Assessment of anger: The State-Trait Anger Scale. In J. N. Butcher & C. D. Spielberger (Eds.), *Advances in personality assessment* (pp. 159–187). Hillsdale, NJ: Lawrence Erlbaum.
- Suh, E., Diener, E., & Fujita, F. (1996). Events and subjective well-being: Only recent events matter. *Journal of Personality and Social Psychology*, **70** (5), 1091–1102.
- Swagler, M. A., & Jome, L. R. M. (2005). The effects of personality and acculturation on the adjustment of North American sojourners in Taiwan. *Journal of Counseling Psychology*, **52**, 527–536.
- Tellegen, A. (1985). Structures of mood and personality and their relevance to assessing anxiety, with an emphasis on self-report. In A. H. Tuma & J. D. Maser (Eds.), *Anxiety and the anxiety disorders* (pp. 681–706). Hillsdale, NJ: Erlbaum.
- Wallerstein, J. S., & Corbin, S. B. (1989). Daughters of divorce: Report from a ten-year follow-up. *American Journal of Orthopsychiatry*, **59**, 593–604.
- Ward, C., Leong, C. H., & Low, M. (2004). Personality and sojourner adjustment: An exploration of the Big Five and the cultural fit proposition. *Journal of Cross Cultural Psychology*, **35**, 137–151.
- Watson, D., & Clark, L. A. (1984). Negative affectivity: The disposition to experience negative affective states. *Psychological Bulletin*, **96**, 465–490.
- Watson, D., & Clark, L. A. (1992). On traits and temperament: General and specific factors of emotional experience and their relation to the five-factor model. *Journal of Personality*, **60**, 441–476.
- Watson, D., Weber, K., Assenheimer, J. S., Clark, L. A., Strauss, M. E., & McCormick, R. A. (1995). Testing a tripartite model: I. Evaluating the convergent and discriminant validity of anxiety and depression symptom scales. *Journal of Abnormal Psychology*, **104**, 3–14.
- Williams, J., Peeters, F., & Zautra, A. (2004). Differential affect structure in depressive and anxiety disorders. *Anxiety, Stress and Coping: An International Journal*, **17**, 321–330.