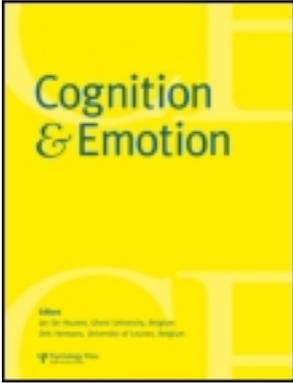


This article was downloaded by: [University of Glasgow]

On: 06 September 2013, At: 05:40

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954
Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH,
UK



Cognition & Emotion

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/pcem20>

Predicting hopelessness: The interaction between optimism/pessimism and specific future expectancies

Rory C. O'Connor^a & Clare Cassidy^b

^a University of Stirling, Stirling, Stirlingshire, UK

^b University of St Andrews, St Andrews, Fife, UK

Published online: 18 Apr 2007.

To cite this article: Rory C. O'Connor & Clare Cassidy (2007) Predicting hopelessness: The interaction between optimism/pessimism and specific future expectancies, *Cognition & Emotion*, 21:3, 596-613, DOI: [10.1080/02699930600813422](https://doi.org/10.1080/02699930600813422)

To link to this article: <http://dx.doi.org/10.1080/02699930600813422>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly

forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

Predicting hopelessness: The interaction between optimism/pessimism and specific future expectancies

Rory C. O'Connor

University of Stirling, Stirling, Stirlingshire, UK

Clare Cassidy

University of St Andrews, St Andrews, Fife, UK

Improving our understanding of hopelessness is central to suicide prevention. This is the first study to investigate whether generalised expectancies for the future (optimism/pessimism) and specific future-oriented cognitions (future thinking) interact to predict hopelessness and dysphoria. To this end, participants completed measures of future thinking, optimism/pessimism and affect at Time 1 and measures of affect and stress at Time 2, 10–12 weeks later. Results indicated that changes in hopelessness but not dysphoria were predicted by the interaction between positive future thinking (but not negative future thinking), optimism/pessimism and stress beyond initial levels of hopelessness and dysphoria. Additional moderating analyses are also reported. These findings point to the fruits of integrating personality and cognitive processes, to better understand hopelessness.

In recent decades, there has been considerable interest in the concepts of optimism/pessimism, future thinking and hopelessness. However, given their shared focus (i.e., on the future), it is surprising that little research has investigated how these variables relate to each other. This is even more noteworthy as hopelessness is the psychological construct most closely related to suicidality (O'Connor, Armitage, & Gray, 2006). The brief synopsis of the optimism/pessimism and future thinking literatures that follows highlights the key theoretical and empirical issues that are pertinent to the present study.

Optimism/pessimism

There has been a proliferation of research focused on optimism and pessimism. Defined as *generalised* positive and negative outcome expectan-

Correspondence should be addressed to: Rory C. O'Connor, Suicidal Behaviour Research Group, Department of Psychology, University of Stirling, Stirling FK9 4LA, UK. E-mail: ro2@stir.ac.uk

cies (cf. Armor & Taylor, 1998), they are proximal predictors of adjustment (Scheier & Carver, 1985). Carver and Scheier (1998) described optimists as those people who expect good experiences in the future and pessimists as those who expect bad experiences (see also Carver & Scheier, 1990; Scheier & Carver, 1992, 2003). This conceptualisation of optimism/pessimism within their self-regulation model is grounded in the expectancy-value models of motivation, which suggest that all behaviour is organised around (a) the pursuit of goals or the avoidance of “anti-goals”¹ (value component) and (b) the degree of confidence or doubt about a goal’s attainability (expectancy component; Carver & Scheier, 1998).

Compared to pessimists, optimists are individuals who have greater confidence in their ability to attain goals (i.e., approach system) and avoid anti-goals (i.e., inhibition system), they are better at identifying suitable goals and more tenacious with respect to goal pursuit. The logical extension, therefore, is that when an individual cannot identify a suitable attainable goal, they either remain committed to the unattainable goal or they disengage; either way, they experience psychological distress, for example, hopelessness. Hopelessness is distinct from pessimism. Pessimism is thought to be a relatively stable personality dimension whereas hopelessness is a state—the individual’s current negative view of the future.

Future thinking and hopelessness

A parallel, but separate, literature concerns the generation of *specific* future expectations in the aetiology and maintenance of hopelessness and suicidal behaviour (Hunter & O’Connor, 2003; MacLeod, Pankhania, Lee, & Mitchell, 1997; MacLeod, Rose, & Williams, 1993; MacLeod et al., 1998; O’Connor, Connery, & Cheyne, 2000a). This literature stemmed from a desire to clarify the concept of hopelessness beyond its original formulation in the 1970s (Beck, Weissman, Lester, & Trexler, 1974). To this end, MacLeod and colleagues were interested in determining whether hopelessness characterised by negative future anticipations was functionally equivalent to the absence of positive future expectations. To investigate this, they devised the future thinking task, in which participants are asked to think of potential future experiences (essentially goals and anti-goals) that either (i) they are looking forward to or (ii) they are worried about (see MacLeod et al., 1993, 1997). Their findings demonstrated that the presence of negative future expectancies is not functionally equivalent to the absence of positive future expectancies (MacLeod et al., 1993). Suicidal individuals,

¹ Anti-goals are defined as values that an individual sees as undesirable (see Carver & Scheier, 1998, p. 18).

when compared with controls or depressed individuals who are not suicidal, are impaired in their ability to generate positive thoughts for the future but do not differ in terms of the number of negative thoughts that they are worried about (MacLeod et al., 1997; see also O'Connor & Sheehy, 2000). The findings from the future thinking literature are also analogous to those from Clark and Watson's (1991) seminal, tripartite model of depression. Specifically, they argue that depression (but not anxiety) is characterised by the presence of negative affectivity and the absence of positive affectivity, whereas anxiety is driven by negative affectivity, physiological tension and hyperarousal (Clark & Watson, 1991; Watson, Clark, Weber, Assenheimer, Strauss, & McCormick, 1995). Similarly, within the future thinking literature, it is positive thinking (not negative future thinking) that distinguishes between depression and hopelessness/suicidality. Both of these literatures also support the overarching premise that the presence of negativity and the absence of positivity are not simply opposites, but functionally distinct.

Although the optimism/pessimism and future thinking literatures have developed separately, there is a theoretical and empirical case for integrating them, to enhance our understanding of the aetiology of hopelessness. The evidence for this integration comes from three sources. First, Carver and Scheier's self-regulation model suggests that those individuals who are high on hopelessness have difficulty identifying goals in the form of specific, future positive expectations. This may be because they have continually failed to meet previous goals and have learned that there is no relationship between their behaviour and subsequent outcomes. As a result, their generalised motivation and expectancies are much reduced leading to partial disengagement and hopelessness. Such a postulation is consonant with predominant models of hopelessness and suicidal behaviour (Abramson, Metalsky, & Alloy, 1989; Baumeister, 1990; O'Connor, 2003; O'Connor & O'Connor, 2003; Williams & Pollock, 2001).

Second, in the light of their findings that optimism interacted with unrealistic optimism to produce changes in health-promoting behaviour and knowledge, Davidson and Prjachin (1997) suggested that other contextual features or traits might operate to influence (moderate) the role that optimism plays in the prediction of healthy behaviours and cognitions. In our view, future thinking would be one such moderating factor. Third, Needles and Abramson (1990) found that the *occurrence* of positive events interacted with an enhancing attributional style to produce a reduction in hopelessness among college students within a six-week period. Consequently, in the present study we were interested to determine whether *cognitions* for positive events (rather than the occurrence of positive events) interact with optimism/pessimism to predict hopelessness.

Before outlining our specific research hypotheses, four design issues require comment. First, although the future thinking task was originally devised to define hopelessness, the evidence suggests that positive future thinking and hopelessness are distinct constructs, as illustrated by their low inter-construct correlations (e.g., $r = -.37$ and $r = -.22$; MacLeod et al., 1997, and O'Connor, O'Connor, O'Connor, Smallwood, & Miles, 2004, respectively). Second, consistent with the diathesis-stress literature, which argues that stress moderates the relations between optimism/pessimism and well-being (Chang, 1998a; Chang, 1998b) and between future thinking and distress (O'Connor et al., 2004), we included stress as a moderating variable here. Third, previous research has demonstrated that the symptoms of hopelessness form a cohesive syndrome, distinct from depression (Joiner, Steer, Abramson, Alloy, Metalsky, & Schmidt, 2001) and that impaired positive future thinking is associated with hopelessness rather than depression or dysphoria (e.g., Hunter & O'Connor, 2003; MacLeod et al., 1997). Hence, we tested the specificity of the positive future thinking–hopelessness relationship by including a measure of dysphoria (as well as hopelessness) in this study. Finally, despite the plethora of studies describing the relations between optimism/pessimism and psychological well-being (Aspinwall & Taylor, 1992; Carver & Gaines, 1987; Robinson-Whelen, Cheongtag, MacCallum, & Kiecolt-Glaser, 1997; Scheier, Carver, & Bridges, 2001), to our knowledge, only one study has directly investigated the relationship between optimism/pessimism and hopelessness (Chang, 2002); and it was cross-sectional in design. For this study, therefore, we conducted a prospective study and examined hopelessness in college students at the beginning of a semester and again, 10–12 weeks later.

There were two key research hypotheses. First, we hypothesised that there would be a three-way interaction between stress, optimism/pessimism and positive future thinking to predict hopelessness 10–12 weeks later. As these variables have never been studied together, our reasoned conjecture was that those individuals reporting high levels of pessimism, low levels of positive future thinking and high levels of stress would be more hopeless than those who did not. Second, we hypothesised that positive future thinking would not moderate the relationship between optimism/pessimism and dysphoria. Given the inconsistencies in the literature (see Hunter & O'Connor, 2003; O'Connor et al., 2004), we did not formulate any hypotheses concerning negative future thinking.

METHOD

Participants

One hundred twenty-one college students (102 women and 19 men) were recruited from a Scottish university. Prior to beginning the study, all students

were informed that participation was voluntary, confidential and that even if they agreed, they could withdraw at any stage without explanation. Of the initial sample, 91 completed measures at both time points, at Time 1 (T1) and 10–12 weeks later, at Time 2 (T2), at the beginning and end of semester. Those who did not complete the Time 2 measures did not differ significantly from those who did on any of the variables measured in the study. As a result, the subsequent analyses are based on the responses from the 91 participants. The mean age of the participants was 20.5 years ($SD = 5.0$) and the ages ranged from 17–46 years. The men and women did not differ significantly in age, $t(89) = 1.14$, ns , and the majority of the participants were not married (95%). We did not collect details of the racial/ethnic composition of our sample. However, the students at the university are predominantly White, representing 95% of the student population.

Measures

Future thinking. The future thinking task (FTT; MacLeod et al., 1997) requires participants to think of potential future experiences across three time periods—the next week (including today), the next year and the next five to ten years. This task is completed for positive as well as negative future experiences (e.g., “Please try to think of and write down as many things that you’re looking forward to (things that you enjoy) over the next year”). Order of completion of positive and negative conditions (Valence) is counter-balanced, such that half of the participants complete the positive condition first while the other half complete the negative condition first. Order of presentation of items within each condition is constant (i.e., the next week, year, 5–10 years). For each of the three time periods, participants are given one minute to generate as many responses as possible. It is explained to the participants that the responses can be trivial or important, just that they should write down whatever comes to mind. The responses should be things that are going to happen, or are reasonably likely to happen. Finally, participants are told to keep trying to generate responses until the time-limit is up.²

Hopelessness. Hopelessness was measured using the 20-item Beck Hopelessness Scale (BHS; Beck et al., 1974). Participants are asked to

² In previous case-control studies, participants have completed a measure of verbal fluency before they begin the Future Thinking Task (FTT), to ensure that the “experimental” groups do not differ from the control groups in terms of general cognitive fluency. As this was not a comparative study and given time constraints, this was deemed not to be necessary. However, in the interests of rigour, in a previous study (O'Connor et al., 2004), we administered the Beck Hopelessness Scale and a measure of verbal fluency to 30 participants. Correlational analyses revealed no significant associations.

indicate either agreement or disagreement with statements that assess pessimism for the future (e.g., “I look forward to the future with hope and enthusiasm”). Higher scores represent elevated hopelessness. The maximum score is 20. This is a reliable and valid measure that has been shown to predict eventual suicide (Beck, Steer, Kovacs, & Garrison, 1985; Beck et al., 1974; Holden & Fekken, 1988). In the present study, internal consistency was very good [Kuder–Richardson (KR_{20}) = .84 and .86 at Time 1 and Time 2, respectively].

Dysphoria. The Center for Epidemiologic Studies Depression Scale (CESD) is a 20-item measure of dysphoria for use in the general population (Radloff, 1977). Participants are required to rate on a 4-point Likert-type scale (anchored at *rarely or none of the time* and *most or all of the time*) how often they have felt or behaved like each of the statements during the past week (e.g., “I felt that I could not shake off the blues even with help from my family or friends”). Higher scores represent elevated depressive symptomatology. The scale is reliable and valid (Radloff, 1991) and it exhibited very good internal consistency (α s = .90 and .91 at Time 1 and Time 2, respectively).

Optimism/pessimism. Optimism/pessimism was measured by the Life Orientation Test (LOT; Scheier & Carver, 1985). It includes four positively worded items (e.g., “I always look on the bright side of things”), four negatively worded items (e.g., “If something can go wrong for me, it will”), and four filler items (e.g., “It is easy for me to relax”). Participants are asked to indicate either agreement or disagreement with each of the statements. The positively and negatively worded items (after reversal) are summed to yield an overall measure of optimism/pessimism. Higher scores represent higher optimism. The Life Orientation Test (LOT and LOT-R) has been shown to exhibit temporal stability over 4 weeks ($r = .79$), 4 months ($r = .68$) and 12 months ($r = .60$; Scheier & Carver, 1985; Scheier, Carver, & Bridges, 1994). In the present study, the internal consistency (α) was .80.

Stress. The Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983) is a 14-item global measure of self-appraised stress (e.g., “In the last month, how often have you been upset because of something that happened to you unexpectedly?”). Participants are asked to rate the extent of agreement with these items across a 5-point Likert-type scale ranging from 0 (*never*) to 4 (*very often*). Higher scores reflect elevated levels of stress. In this study, we employed the shorter 4-item version of the PSS. Test–retest reliability and construct validity have been shown to be acceptable (Cohen & Williamson, 1988; Cohen et al., 1983). Cronbach’s α for the present sample was .81.

Procedure

All participants were given a brief introduction of what the study would require and invited to take part. At Time 1 (T1), participants completed measures of future thinking, optimism/pessimism, hopelessness (BHS-T1) and dysphoria (CESD-T1). At Time 2 (T2), 10–12 weeks later, participants completed the measures of hopelessness (BHS-T2), dysphoria (CESD-T2) and stress (PSS-T2). All study measures were administered to participants from two intact classes. All those who were approached agreed to participate. At Time 1, the future thinking task was administered first, followed by the self-report measures. To control for transfer effects, the order of presentation of the self-report measures was counterbalanced. To ensure anonymity but to allow for the follow-up, participants were asked to place either a pseudonym or their registration number on the study measures. Ethical approval had been obtained from the University Psychology Department's ethics committee.

RESULTS

Before presentation of the regression analyses, consistent with other future thinking studies in the field (e.g., MacLeod et al., 1997), we conducted an analysis of variance (ANOVA) to confirm that it was reasonable to aggregate the positive and negative thoughts into composite scores. A Valence (positive/negative future thoughts) \times Period (week, year, 5–10 years) \times Gender (male/female) mixed-model ANOVA produced one significant main effect but no interactions; across all time periods, participants reported significantly more positive expectations for the future ($M = 12.02$, $SD = 3.49$) relative to the events that they were worried about ($M = 8.45$, $SD = 3.42$; $F(1, 89) = 43.63$, $p < .001$). The mean number of future thoughts by time period and valence is displayed in Table 1.

The bivariate correlations for all the variables are displayed in Table 2. Given that there were no differences across the time periods (i.e., next week, year, 5–10 years), we collapsed the future thinking measures into (1) total positive future thinking and (2) total negative future thinking.³ Positive future thinking was correlated with negative future thinking, which was probably indicative of the shared variance associated with verbal fluency ($r = .524$, $p < .001$). With the exception of the positive correlations between negative future thinking and CESD-T1 and BHS-T1 ($r = .227$, $p < .05$, $r = .253$, $p < .05$, respectively), neither positive nor negative future thinking were associated with any of the other variables. Hopelessness and dysphoria at

³ This is consistent with other studies in the field (e.g., Hunter & O'Connor, 2003; MacLeod et al., 1998; O'Connor et al., 2000b).

TABLE 1

The mean number of future thoughts (standard deviations in parentheses) by time period and valence

	<i>Next week</i>		<i>Next year</i>		<i>Next 5–10 years</i>	
	<i>Positive</i>	<i>Negative</i>	<i>Positive</i>	<i>Negative</i>	<i>Positive</i>	<i>Negative</i>
Total	3.85 (1.53)	2.57 (1.94)	3.97 (1.33)	3.00 (1.35)	4.21 (1.55)	2.88 (1.59)

baseline (BHS-T1, CESD-T1) and at Time 2 (BHS-T2, CESD-T2) were correlated positively with each other, positively with stress but negatively with optimism/pessimism (all at least $p < .01$).

We conducted four hierarchical regression analyses to investigate whether future thinking and stress moderated the relationship between optimism/pessimism and psychological distress to predict hopelessness or dysphoria at Time 2 over and above baseline levels of distress.⁴ Consistent with Aiken and West (1991), all predictors were centred before inclusion in the regression analyses. In all the regression analyses, initial levels of distress (BHS-T1 and CESD-T1) were entered at step 1. The three independent predictors were entered in the second step, i.e., stress, optimism/pessimism and negative or positive future thinking (see Table 3). Next, to test for moderation, the three relevant two-way interactions (i.e., multiplicative terms) were entered in step three followed by the appropriate three-way interaction in step four (Aiken & West, 1991).⁵

Positive future thinking, stress and optimism/pessimism as predictors of hopelessness and dysphoria

In the first regression analysis, we investigated the effects of positive future thinking, stress and optimism/pessimism to predict changes in hopelessness. The final model yielded four significant effects: initial level of hopelessness, BHS-T1, $\beta = .513$, $t(90) = 5.42$, $p < .001$, and stress, $\beta = .434$, $t(90) = 4.93$, $p < .001$, were significant predictors of Time 2 hopelessness (BHS-T2). The interaction between optimism/pessimism \times stress was also significant, $\beta = -.189$, $t(90) = -2.55$, $p < .05$. However, this was qualified by the significant three-way interaction, $\beta = -.223$, $t(90) = -2.74$, $p < .01$. To probe the three-way interaction, consonant with Aiken and West (1991), in two graphs we plotted the regression lines of best fit at high (one standard deviation above

⁴ Mean hopelessness increased from $M = 3.77$ (BHS-T1) to $M = 4.01$ (BHS-T2). This increase was not significant, $t(90) = 0.762$, *ns*.

⁵ Due to issues concerning statistical power, the interactions were examined using separate regression analyses (Chaplin, 1991).

TABLE 2
Zero order correlations for all the variables

	1	2	3	4	5	6	7
1. Positive total	—						
2. Negative total	.524***	—					
3. BHS-T1	.092	.253*	—				
4. BHS-T2	.082	.205	.603***	—			
5. CESD-T1	.050	.227*	.456***	.607***	—		
6. CESD-T2	-.047	.075	.301**	.663***	.572***	—	
7. PSS-T2	-.063	-.006	.315**	.618***	.599***	.777***	—
8. Opt/Pess	.017	-.148	-.637***	-.474***	-.552***	-.317**	-.483***

Note: * $p < .05$; ** $p < .01$; *** $p < .001$. BHS-T1 = Time 1 Hopelessness; BHS-T2 = Time 2 Hopelessness; CESD-T1 = Time 1 Depression; CESD-T2 = Time 2 Depression; PSS-T2 = Perceived Stress; Opt/Pess = Optimism/Pessimism.

the mean) and low (one standard deviation below the mean) levels of stress and positive future thinking separately for the high-pessimism and low-pessimism groups (one standard deviation above and below the mean; see Figure 1).

Next, we tested each of the four simple slopes for significance, to determine whether they differed significantly from zero. Among those high on pessimism, both the high and low stress lines were significantly different from zero ($p < .05$), whereas in the optimistic group only the high stress line was significantly different ($p < .05$). These analyses suggest that among the optimists, impaired positive future thinking is only associated with increased hopelessness when under stress. However, there was an interesting pattern of results in the high stress pessimism group. As anticipated low positive thinking was associated with increased hopelessness when under low levels of stress. Contrary to expectations, in the high stress pessimism group, the presence of positive future thinking was associated with increased hopelessness.

Given that the Aiken and West (1991) procedure plots hypothetical predictions generated from the regression model, it is possible that the model generates predictions that no individual actually attains. To investigate whether this was the case, we performed a median split on each of the three independent variables and looked at the 8 cells of the study design. This analysis revealed that 6/8 cells had between 9 and 22 participants, however, two of the cells contained five participants. These were the pessimism \times low stress \times high positive future thinking cell and the optimism \times high stress \times high positive thinking cell. So, although all of the cells were populated, it would have been preferable to have more participants in two of the cells.

TABLE 3
 Hierarchical multiple regression analyses testing the moderating effects of stress and positive future thinking on the relationship between optimism/pessimism and hopelessness and dysphoria

Predictor variable	R	R ²	ΔR ²	Final β	F(2, 90)
<i>Dependent variable: Hopelessness (BHS-T2)</i>					
Step 1:					
BHS-T1	.681	.464		.513***	37.59***
CESD-T1				.105	
Step 2:					
PSS-T2	.754	.568	.105	.434***	6.80***
Optimism/pessimism				.095	
Total positive thinking				-.046	
Step 3:					
Optimism/pessimism × PSS-T2	.775	.601	.033	-.189*	2.22
Total positive thinking × PSS-T2				.133	
Total positive thinking × optimism/pessimism				.032	
Step 4:					
Total positive thinking × stress × optimism/pessimism	.797	.635	.034	-.223**	7.52**
<i>Dependent variable: Dysphoria (CESD-T2)</i>					
Step 1:					
BHS-T1	.548	.300		.131	18.65***
CESD-T1				.142	
Step 2:					
PSS-T2	.798	.636	.336	.739***	25.91***
Optimism/pessimism				.191	
Total positive thinking				-.092	
Step 3:					
Optimism/pessimism × PSS-T2	.802	.643	.007	-.093	.51
Total positive thinking × PSS-T2				.063	
Total positive thinking × optimism/pessimism				-.008	
Step 4:					
Total positive thinking × stress × optimism/pessimism	.810	.656	.013	-.138	3.05

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

The second hierarchical regression analysis focused on the same relationship with one difference, the outcome variable was dysphoria rather than hopelessness. As is evident in Table 3, BHS-T1 and CESD-T1, as a block ($\Delta R^2 = .30, p < .001$), as well as stress, $\beta = .739, t(90) = 8.64, p < .001$, were the only significant predictors of dysphoria 10–12 weeks later, at Time 2. As predicted, there were no significant interactions.

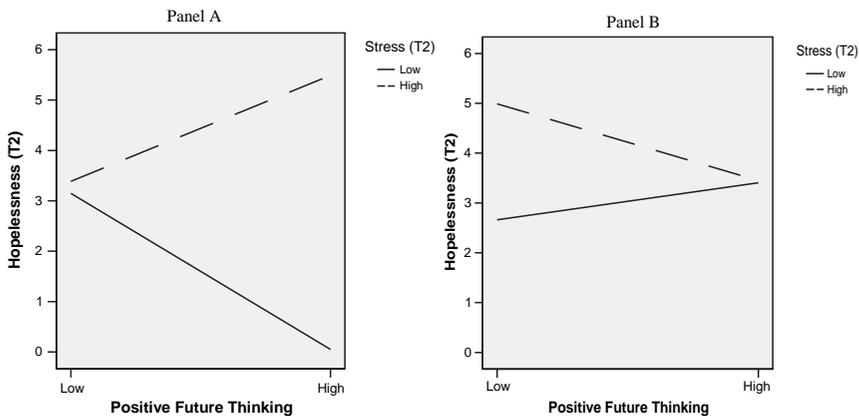


Figure 1. The relationship between positive future thinking and hopelessness as function of pessimism (Panel A) and optimism (Panel B).

Negative future thinking, stress and optimism/pessimism as predictors of hopelessness and dysphoria

Next, we investigated the moderating effects of stress and negative future thinking on the optimism/pessimism–distress relationship. Hence, the third hierarchical regression analysis focused on hopelessness and, as before, the variables were entered into the regression equation in logical steps as described in Table 4. On this occasion, there were only two significant predictors, independent effects of BHS-T1, $\beta = .515$, $t(90) = 4.98$, $p < .001$, and PSS-T2, $\beta = .419$, $t(90) = 4.34$, $p < .001$. None of the interactions were significant. In the final regression, we looked at negative future thinking as a moderator in the optimism/pessimism–dysphoria relationship. This analysis yielded one significant effect, for stress, $\beta = .723$, $t(90) = 7.79$, $p < .001$, and there were no interactions.

DISCUSSION

This study yielded partial evidence in support of the two key hypotheses and extended our understanding of the relationship between generalised and specific expectancies. First, stress and positive future thinking did moderate the relationship between optimism/pessimism and hopelessness. These findings were strengthened by the fact that the interactions explained additional variance over and above that accounted for by the baseline measures of psychological distress. As anticipated, low levels of positive future thinking were associated with increased distress among the high stress optimists and low stress pessimists. However, we did not expect high levels of

TABLE 4
 Hierarchical multiple regression analyses testing the moderating effects of stress and negative future thinking on the relationship between optimism/pessimism and hopelessness and dysphoria

<i>Predictor variable</i>	<i>R</i>	<i>R</i> ²	ΔR^2	<i>Final β</i>	<i>F(2, 90)</i>
Dependent variable: Hopelessness (BHS-T2)					
Step 1:					
BHS-T1	.679	.461		.515***	36.32***
CESD-T1				.083	
Step 2:					
PSS-T2	.751	.565	.104	.419***	6.52***
Optimism/pessimism				.138	
Total negative thinking				-.014	
Step 3:					
Optimism/pessimismPSS-T2	.778	.605	.041	-.116	2.71
Total negative thinking \times PSS-T2				.144	
Total negative thinking \times optimism/pessimism				.041	
Step 4:					
Total negative thinking \times stress \times optimism/pessimism	.789	.623	.018	-.158	3.72
Dependent variable: Dysphoria (CESD-T2)					
Step 1:					
BHS-T1	.538	.290		.108	17.36***
CESD-T1				.120	
Step 2:					
PSS-T2	.788	.622	.332	.723***	23.96***
Optimism/pessimism				.191	
Total negative thinking				-.016	
Step 3:					
Optimism/pessimism \times PSS-T2	.800	.640	.019	-.040	1.38
Total negative thinking \times PSS-T2				.098	
Total negative thinking \times optimism/pessimism				-.053	
Step 4:					
Total negative thinking \times stress \times Optimism/pessimism	.807	.651	.011	-.122	2.39

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

positive thinking to be associated with increased hopelessness among the high stress pessimists. These findings point to a more complex relationship between positive future thinking and well-being than was previously thought. The negative effects of positive thoughts among the high stress pessimists may reflect the fact that the future thoughts represent opportunities for failure and as a result they have a pernicious effect on well-being. Indeed, it may be that pessimists view future thoughts as events or

experiences that are unobtainable. Such an explanation is consistent with Carver and Scheier's (1998) definition of pessimists, as individuals who expect bad experiences to happen. What is more, the optimism and pessimism findings also supports a diathesis–stress model of optimism/pessimism. The present study, therefore, suggests that impaired positive future thinking has deleterious effects on well-being under some but not all conditions. Nonetheless, this is the first study to empirically investigate the optimism/pessimism–future thinking relationship and to demonstrate that future positive thinking has utility in the temporal prediction of hopelessness.

The second hypothesis was supported. As predicted, positive future thinking did not moderate the relationship between optimism/pessimism and dysphoria. Indeed, the only independent predictor of dysphoria was stress. It appears that impaired positive future thinking has a particular effect, not on dysphoria per se, rather its effect seems to be circumscribed to hopelessness. These data add to the growing body of research that posits that positive and negative cognitions are mediated via different motivational systems (namely the Behavioural Inhibition System and the Behavioural Activation System; Fowles, 1994; Gray, 1994; O'Connor & Forgan, in press).

Generalised and specific expectancies: A case of synergy?

This is the first study to investigate the relationship between optimism/pessimism and changes in hopelessness prospectively. It teases apart Chang's (2002) cross-sectional finding that optimism/pessimism are strongly correlated with hopelessness in Asian and Caucasian American college students. Our study suggests that the direct effects of generalised anticipations on hopelessness can be explained via initial levels of distress and Time 2 stress; beyond this, they have no independent predictive utility. However, optimism/pessimism does interact with stress and specific future expectations to predict change in psychological distress in the form of hopelessness. This is consonant with the classic work by Beck (1967) and Chang, Maydeu-Olivares, and D'Zurilla's (1997) findings that highlight the sometimes detrimental consequences of pessimism.

In addition, the synergistic relationship between specific positive future expectations and optimism/pessimism is of interest clinically. It identifies the types of cognitions (goals/expectancies) that should be targeted in therapy. To this end, behavioural and cognitive techniques have been suggested, to train patients to encode and access particular memories (MacLeod & Moore, 2000) and to develop positive schemas (Padesky, 1994; see also Pretzer & Walsh, 2001, for a discussion of the psychotherapeutic implications of optimism/pessimism). In addition, it may be useful for pessimists to

reframe positive cognitions to represent opportunities for success rather than failure.

Self-regulation, optimism and pessimism

This study augments the existing evidence base for Carver and Scheier's (1998) self-regulation model. It is evident that, not only are pessimists predisposed to exhibit generalised, low levels of motivation and tenacity when pursuing goals, but the impact of this predisposition can be strengthened or attenuated by the presence of specific future positive expectancies. This finding is bolstered by our data showing that these future expectations are not correlated with either optimism or pessimism. These data also extend Needles and Abramson's (1990) study, which found that the *occurrence* of positive events and an enhancing attributional style interacted to produce a reduction in hopelessness among college students within a six-week period. Our findings add to this work in two respects: first, they demonstrate that optimism/pessimism, another relatively stable personality dimension conjoint with positive future thinking, predicts hopelessness beyond initial levels of distress under certain conditions. Second, they suggest that positive *cognitions* per se, as distinct from the *experience* of positive events, serve a function in the aetiology of hopelessness.

Nevertheless, there are several issues regarding the nature of the relationship between generalised and specific expectancies that require elucidation. For example, what mediates this relationship? One possibility is that coping or social support may account for the relations between, for example, optimism/pessimism and specific positive expectations. A recent study of college students found that the coping style that students used, as well as their ability to generate more supportive social networks, improved psychological well-being and adjustment (Brissette, Scheier, & Carver, 2002). Therefore, it is reasonable to speculate that pessimists who employ less problem-focused coping strategies, particularly when they are stressed, may become less able to conceptualise positive future expectations as being positive.

A second issue concerns the extent to which optimism/pessimism is distinct from other personality dimensions. For example, perfectionism has been implicated in the aetiology of hopelessness, suicide risk and specific future expectations (Chang, 1998c; Hewitt, Flett, & Turnbull-Donovan, 1992; Hunter & O'Connor, 2003; O'Connor & O'Connor, 2003). Future research ought to determine the relation of perfectionism with both generalised and specific expectations. Such a contribution by perfectionism

would be consistent, not only with Carver & Scheier's (1998) self-regulation model, but also with Baumeister's (1990) and Williams' (Williams & Pollock, 2001) models of suicidal behaviour (see also O'Connor, 2003). Another possibility is that self-esteem or extraversion might mediate the generalised-specific expectancies relationship given their established association with adjustment and optimism/pessimism (e.g., Marshall, Wortman, Kusulas, Hervig, & Vickers, 1992; Symister & Friend, 2003).

Given that the focus of this paper was on hopelessness, we need to determine the generalisability of these findings by investigating whether the synergy between specific and generalised expectations has predictive utility across different populations and outcome measures as well as over longer time periods. In particular, we should determine whether pessimism/optimism, positive future thinking and stress interact to predict suicidal thinking. It would also be useful to replicate these findings using the Revised Life Orientation Test (LOT-R; Scheier et al., 1994), although, given that the LOT and LOT-R are strongly correlated ($r = .95$ reported in Scheier et al., 1994), we would not anticipate any difficulties. One notable limitation of this study was the paucity of men in the sample. Future research should confirm whether or not there are gender differences in this respect. Another issue merits comment. In the present study, for pragmatic reasons, we operationalised optimism/pessimism as a single bipolar dimension. Future research, with a larger sample, should investigate whether pessimism is the functional opposite of optimism or indeed, whether they are two distinct constructs. Finally, to our knowledge, this is the first study to investigate the relations between specific and generalised expectations. Therefore, we urge some caution in the interpretation of these findings until they are replicated, in particular in the light of the observation that two of the cells of the interaction were not well populated within the present dataset. Three-way interactions are sometimes unstable and the present data may have been affected by the unequal distributions.

In conclusion, the present research has accumulated empirical evidence to support the postulation that *generalised* expectancies can be moderated by *specific* future-oriented expectancies. Moreover, these findings have conceptual, theoretical and clinical importance in the management of hopelessness. Taken together, they point to the fruits of integrating personality and cognitive processes, to better understand the self-regulation of affect.

REFERENCES

- Abramson, L. Y., & Metalsky, G. I., & Alloy, L. B. (1989). Hopelessness depression: A theory-based subtype of depression *Psychological Review*, 96.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*.
- Armor, D. A., & Taylor, S. E. (1998). Situated optimism: Specific outcome expectancies and self-regulation In M. Zanna (Eds.), *Advances in experimental social psychology* (Vol. 30).
- 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.
- Baumeister, R. (1990). Suicide as escape from self *Psychological Review*, 99.
- Beck, A. T. (1967). *Depression: Clinical, experimental and theoretical aspects*.
- Beck, A. T., & Steer, R. A., & Kovacs, M., & Garrison, B. (1985). Hopelessness and eventual suicide: A 10-year prospective study of patients hospitalized with suicidal ideation *American Journal of Psychiatry*, 142.
- Beck, A. T., & Weissman, A., & Lester, D., & Trexler, L. (1974). The measurement of pessimism: The hopelessness scale *Journal of Consulting & Clinical Psychology*, 42.
- Brissette, I., & Scheier, M. F., & Carver, C. S. (2002). The role of optimism in social network development, coping and psychological adjustment during a life transition *Journal of Personality and Social Psychology*, 82.
- Carver, C. S., & Gaines, J. G. (1987). Optimism, pessimism, and postpartum depression *Cognitive Therapy and Research*, 11.
- Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view *Psychological Review*, 97.
- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*.
- Chang, E. C. (1998a). Does dispositional optimism moderate the relation between perceived stress and psychological well-being?: A preliminary investigation *Personality and Individual Differences*, 25.
- Chang, E. C. (1998b). Dispositional optimism and primary and secondary appraisal of a stressor: Controlling for confounding influences and relations to coping and psychological and physical adjustment *Journal of Personality and Social Psychology*, 74.
- Chang, E. C. (1998c). Cultural differences, perfectionism, and suicidal risk in a college population: Does social problem-solving matter? *Cognitive Therapy and Research*, 22.
- Chang, E. C. (2002). Cultural differences in psychological distress in Asian and Caucasian American college students: Examining the role of cognitive and affective concomitants *Journal of Counseling Psychology*, 49.
- Chang, E. C., & Maydeu-Olivares, A., & D'Zurilla, T. J. (1997). Optimism and pessimism as partially independent constructs: Relationship to positive and negative affectivity and psychological well-being *Personality and Individual Differences*, 23.
- Chaplin, W. F. (1991). The next generation of moderator research in personality psychology *Journal of Personality*, 59.
- Clark, L. A., & Watson, D. (1991). Tripartite model of anxiety and depression: Psychometric evidence and taxonomic implications *Journal of Abnormal Psychology*, 100.
- Cohen, S., & Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress *Journal of Health and Social Behavior*, 24.
- Cohen, S., & Williamson, G. K. (1988). Perceived stress in a probability sample of the United States In S. Spacapan, & S. Oskamp (Eds.), *The social psychology of health*.
- Davidson, K., & Prjachin, K. (1997). Optimism and unrealistic optimism have an interacting impact on health-promoting behaviour and knowledge changes *Personality and Social Psychology Bulletin*, 23.

- Fowles, D. C. (1994). A motivational theory of psychopathology. In W.D. Spaulding (Ed.), *Integrative views of motivation, cognition and emotion* (Vol. 41, pp. 181–238). Lincoln: University of Nebraska Press.
- Gray, J. A. (1994). A framework for a taxonomy of psychiatric disorder. In S. H. M. Van Goozen, N. E. Van de Poll, & J. A. Sargent (Eds.), *Emotions: Essays on emotion theory* (pp. 29–59). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Hewitt, P. L., & Flett, G. L., & Turnbull-Donovan, W. (1992). Perfectionism and suicide potential *British Journal of Clinical Psychology, 31*.
- Holden, R. R., & Fekken, G. C. (1988). Test–retest reliability of the Hopelessness Scale and its items in a university population *Journal of Clinical Psychology, 44*.
- Hunter, E., & O'Connor, R. C. (2003). Hopelessness and future thinking in parasuicide: The role of perfectionism *British Journal of Clinical Psychology, 42*.
- Joiner, T. E., & Steer, R. A., & Abramson, L. Y., & Alloy, L. B., & Metalsky, G. I., & Schmidt, N. B. (2001). Hopelessness depression as a distinct dimension of depressive symptoms among clinical and non-clinical samples *Behavior Research and Therapy, 39*.
- MacLeod, A. K., & Moore, R. (2000). Positive thinking revisited: Positive cognitions, well-being and mental health *Clinical Psychology and Psychotherapy, 7*.
- MacLeod, A. K., & Pankhania, B., & Lee, M., & Mitchell, D. (1997). Depression, hopelessness and future-directed thinking in parasuicide *Psychological Medicine, 27*.
- MacLeod, A. K., & Rose, G. S., & Williams, J. M. G. (1993). Components of hopelessness about the future in parasuicide *Cognitive Therapy and Research, 17*.
- MacLeod, A. K., & Tata, P., & Evans, K., & Tyrer, P., & Schmidt, U., & Davidson, K., et al. (1998). Recovery of positive future thinking within a high-risk parasuicide group: Results from a pilot randomised controlled trial *British Journal of Clinical Psychology, 37*.
- Marshall, G. N., & Wortman, C. B., & Kusulas, J. W., & Hergig, L. K., & Vickers, R. R. (1992). Distinguishing optimism from pessimism: Relations to fundamental dimensions of mood and personality *Journal of Personality and Social Psychology, 62*.
- Needles, D. J., & Abramson, L. Y. (1990). Positive life events, attributional style, and hopefulness: Testing a model of recovery from depression *Journal of Abnormal Psychology, 99*.
- O'Connor, R. C. (2003). Suicidal behavior as a cry of pain: Test of a psychological model *Archives of Suicide Research, 7*.
- O'Connor, R. C., Armitage, C. J., & Gray, L. (2006). The role of clinical and social cognitive variables in parasuicide. *British Journal of Clinical Psychology, 45*, 465–481.
- O'Connor, R. C., & Connery, H., & Cheyne, W. (2000a). Hopelessness: The role of depression, future directed thinking and cognitive vulnerability *Psychology, Health and Medicine, 5*.
- O'Connor, R. C., & Forgan, G. (in press). Suicidal thinking and perfectionism: The role of goal adjustment and behavioral inhibition/activation systems (BIS/BAS). *Journal of Rational-Emotive & Cognitive Behavior Therapy*.
- O'Connor, R. C., & O'Connor, D. B. (2003). Predicting hopelessness and psychological distress: The role of perfectionism and coping *Journal of Counseling Psychology, 50*.
- O'Connor, R. C., & O'Connor, D. B., & O'Connor, S. M., & Smallwood, J., & Miles, J. (2004). Hopelessness, stress and perfectionism: The moderating effects of future thinking *Cognition and Emotion, 18*.
- O'Connor, R., & Sheehy, N. (2000). *Understanding suicidal behaviour*.
- O'Connor, R. C., & Sheehy, N. P., & O'Connor, D. B. (2000b). Fifty cases of general hospital parasuicide *British Journal of Health Psychology, 5*.
- Padesky, C. A. (1994). Schema change processes in cognitive therapy *Clinical Psychology and Psychotherapy, 1*.

- Pretzer, J. L., & Walsh, C. A. (2001). Optimism, pessimism, and psychotherapy: Implications for clinical practice In E. C. Chang (Eds.), *Optimism and pessimism: Implications for theory, research, and practice*.
- Radloff, L. S. (1977). The CES-D depression inventory *Applied Psychological Measurement*, 1.
- Radloff, L. S. (1991). The use of the Center for Epidemiological Studies Depression Scale in adolescents and young adults *Journal of Youth and Adolescence*, 20.
- Robinson-Whelen, S., & Cheongtag, K., & MacCallum, R. C., & Kiecolt-Glaser, J. K. (1997). Distinguishing optimism from pessimism in older adults: Is it more important to be optimistic or not to be pessimistic? *Journal of Personality and Social Psychology*, 73.
- Scheier, M. F., & Carver, C. S. (1985). Optimism, coping and health: Assessment and implications of generalized outcome expectancies *Health Psychology*, 4.
- Scheier, M. F., & Carver, C. S. (1992). Effects of optimism in psychological and physical well-being: Theoretical overview and empirical update *Cognitive Therapy and Research*, 16.
- Scheier, M. F., & Carver, C. S. (2003). Goals and confidence as self-regulatory elements underlying health and illness behavior In L. D. Cameron, & H. Leventhal (Eds.), *The self-regulation of health and illness behavior*.
- Scheier, M. F., & Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test *Journal of Personality and Social Psychology*, 67.
- Scheier, M. F., & Carver, C. S., & Bridges, M. W. (2001). Optimism, pessimism, and psychological well-being In E. C. Chang (Eds.), *Optimism and pessimism: Implications for theory, research, and practice*.
- Symister, P., & Friend, R. (2003). The influence of social support and problematic support on optimism and depression in chronic illness: A prospective study evaluating self-esteem as a mediator *Health Psychology*, 22.
- Watson, D., & Clark, L. A., & Weber, K., & Assenheimer, J. S., & Strauss, M. E., & McCormick, R. A. (1995). Testing a tripartite model: II. Exploring the symptom structure of anxiety and depression in student, adult, and patient samples *Journal of Abnormal Psychology*, 104.
- Williams, J. M. G., & Pollock, L. R. (2001). Psychological aspects of the suicidal process In K. van Heeringen (Eds.), *Understanding suicidal behaviour*. Chichester, UK: Wiley.