Relationships among optimism, coping styles, psychopathology, and counseling outcome

Gregory T. Hatchett a,*, Heather L. Park b

a Carey Counseling Center, Union City, TN 38261, USA
b University of Tennessee at Martin, TN 38238, USA

Received 2 December 2002; received in revised form 6 May 2003; accepted 1 July 2003

Abstract

This study had two objectives. The first objective was to evaluate the discriminant validity of optimism by examining the relationships between optimism and coping styles, while controlling for psychopathology. The second objective was to evaluate how well optimism, coping styles, and psychopathology predicted counseling outcome. Participants consisted of 96 college students involved in individual counseling at a university counseling center located in the southeastern United States. Consistent with previous studies, optimism was positively correlated with task-oriented coping and social diversion (social support), and it was negatively correlated with emotion-oriented coping and avoidance (distraction) coping. However, after partially out psychopathology, only the relationship between optimism and task-oriented coping remained statistically different from zero. Both optimism and psychopathology predicted two measures of counseling outcome. In contrast, coping styles were not useful for predicting any of the outcome measures. Results provide limited support for the discriminant validity of optimism in general and the Life Orientation Test in particular.

© 2003 Elsevier Ltd. All rights reserved.

1. Introduction

Optimism and coping have risen to become two of the most widely researched constructs in the behavioral sciences (Peterson, 2000; Somerfield & McCrae, 2000). This popularity may be attributable to the many associations these characteristics share with important outcome variables

* Corresponding author. Address: Department of Social Work and Human Services, Northern Kentucky University, Highland Heights, KY 41099, USA.
E-mail address: hatchettg@nku.edu (G.T. Hatchett).

0191-8869/$ - see front matter © 2003 Elsevier Ltd. All rights reserved.
doi:10.1016/j.paid.2003.07.014
Optimism and coping even share some common correlates. For example, both emotion-oriented coping and lower levels of optimism have been associated with negative affectivity and somatic complaints (e.g., Andersson, 1996; Endler & Parker, 1999; Raikkonen et al., 1999; Scheier & Carver, 1985; Smith, Pope, Rhodewalt, & Poulton, 1989; Vickers & Vogeltanz, 2000). One potential explanation for these shared relationships is that optimism and coping styles interact with one another to produce how an individual responds to a stressful or challenging situation (Scheier, Weintraub, & Carver, 1986). Shedding some light on this hypothesis, numerous investigations have explored the relationships between optimism and various coping styles (Carver et al., 1993; Carver, Scheier, & Weintraub, 1989; Fournier, de Ridder, & Bensing, 1999; Grove & Heard, 1997; Harju & Bolen, 1998; Scheier, Carver, & Bridges, 1994; Scheier et al., 1986; Strutton & Lumpkin, 1993). In general, these studies have found that higher levels of optimism are associated with a greater use of more active coping strategies (e.g., problem-oriented coping, planning, seeking social support), whereas lower levels of optimism are associated with a greater use of emotion-oriented and avoidance coping strategies (e.g., emotional ventilation, behavioral disengagement).

Despite this general conclusion, there are several methodological problems associated with this body of literature. First, many of the aforementioned investigations failed to control for potential third variables, such as neuroticism or psychological distress. This omission is important because several studies have challenged the discriminant validity of optimism (e.g., Boland & Cappeliez, 1997; Smith et al., 1989). As an example, Smith et al. (1989) found that the relationships between optimism and coping styles nearly disappeared after controlling for neuroticism. These authors argued that optimism is basically indistinguishable from the construct of neuroticism. Although a subsequent study offered evidence to counter this criticism (Scheier et al., 1994), the distinctiveness of optimism continues to remain an unresolved issue. Second, most of the previous studies used the total score from the Life Orientation Test (LOT; Scheier & Carver, 1985) to measure dispositional optimism. Several studies have indicated the LOT really measures two separate constructs (optimism and pessimism), and these two constructs should be considered separately (Marshall, Wortman, Kusulas, Hervig, & Vickers, 1992; Mroczek, Spiro, Aldwin, Ozer, & Bosse, 1993; Raikkonen et al., 1999; Scheier & Carver, 1985). Third, nearly all of the previous studies used either the COPE or Ways of Coping Checklist (WCCL) to measure participants’ preferred coping styles. Information on the psychometric properties of these instruments raises concerns about their internal characteristics, and consequently, the meaning of scale scores (see Carver et al., 1989; Cook & Heppner, 1997; Endler & Parker, 1990; Lyne & Roger, 2000; Mishel & Sorenson, 1993; Strutton & Lumpkin, 1993; Vitaliano, Russo, Carr, Maiuro, & Becker, 1985). Finally, rather than treating optimism as a continuous variable, several researchers divided participants into groups of optimists and pessimists for the purposes of data analysis (Harju & Bolen, 1998; Rim, 1990; Strutton & Lumpkin, 1993). This decision was unfortunate because dichotomizing a continuous variable reduces the amount of variance that can be accounted for by that variable and unnecessarily reduces statistical power (Cohen, 1983).
Even if the relationships between optimism and coping styles can be accurately described, it remains unclear how assessment of these characteristics might be helpful to practitioners involved in direct client care. Coyne and Racioppo (2000) have criticized the coping literature for being irrelevant to the needs of practitioners involved in the provision of psychotherapy. This same criticism could also be directed at the optimism literature. Including these constructs into clinical research programs might be a step toward bridging the gap between personality and clinical research. Notwithstanding its potential value as a predictor variable, we located only a single study that specifically evaluated the relationship between optimism and therapy outcome. Strack, Carver, and Blaney (1987) examined the relationship between optimism and completion of a 90-day aftercare program for substance abusers. As predicted, higher levels of optimism were associated with completion of the aftercare program, explaining a moderate amount of variation in the outcome variable. Because the individuals in this sample represented a somewhat unique population (i.e., highly motivated patients willing to complete a 90-day aftercare program), it is uncertain how well this finding might generalize to other clinical populations and treatment settings. Regarding the coping literature, we were unable to locate any studies that examined the relationships between preferred coping styles and treatment outcome. Given their importance in other domains, optimism and coping styles may be informative for understanding the outcome differences exhibited by clients involved in mental health services.

The first objective of our study was to reexamine the relationships between optimism and coping styles, attempting to remedy a few of the deficiencies associated with previous studies. First, rather than using the total LOT score to provide an index of dispositional optimism, we decided to use all three potential scores derived from the revised Life Orientation Test (Scheier et al., 1994) to evaluate the discriminative validity of optimism. Second, rather than using neuroticism as a covariate, we used a broader measure of psychopathology. Because our study took place in a clinical setting, we reasoned that a measure of psychopathology would be more relevant than neuroticism given that these inventories are routinely administered in these settings. Third, we decided to measure coping styles using the Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1999) because of the inventory’s clear-cut factor structure and strong psychometric characteristics (Cook & Heppner, 1997; Endler & Parker, 1994, 1999). We expected that a more parsimonious and straightforward measure of coping might better illuminate the complex relationships between optimism and coping styles.

The second objective was to evaluate whether knowledge of optimism, coping styles, or psychopathology would be useful for explaining variance in counseling outcome. We pursued this objective for both theoretical and practical reasons. From a theoretical standpoint, knowledge of these characteristics might be useful for understanding the individual differences exhibited by people in response to counseling. Furthermore, should optimism emerge as a useful predictor of psychotherapy outcome, such a finding would contribute to the discriminant validity of this construct. From a practical standpoint, these constructs might provide clinicians with useful information for understanding and predicting how clients respond to mental health interventions. Clinicians routinely administer assessment inventories that provide information about a client’s initial level of psychopathology (e.g., Piotrowski, 1999), which has been identified as a predictor of treatment outcome (e.g., Luborsky et al., 1993). However, in addition to assessing psychopathology, Harkness and Lilienfeld (1997) recommend that clinicians also assess relevant personality characteristics that might affect the treatment planning process. We wanted to evaluate whether
assessment of optimism or coping styles enhanced the prediction of counseling outcome, both alone and in comparison to a measure of psychopathology. If optimism or coping styles enhanced the prediction of treatment outcome, then clinicians might be interested in assessing these constructs as part of the initial assessment protocol.

2. Method

2.1. Participants

We recruited participants from a university counseling center located at a medium-size (5800 students) university located in the southeastern United States. At the time of their intake appointments, new clients were informed about the study through an informed consent document that included all of the information needed to make an educated decision (nature of study, rights/responsibilities, benefits/risks, freedom to withdraw, etc.). Most of the new clients during an academic year agreed to participate in the study, resulting in a sample size of 100. Four of these participants failed to complete at least one of the assessment instruments. This sample size was judged to be sufficient for detecting medium effect sizes (Cohen, 1988).

The sample consisted of 30 (31.3%) males and 66 (68.6%) females. The ages of the participants ranged from 18 to 48 ($M = 21.98$, $SD = 5.61$). The racial/ethnic background of the participants consisted of the following: 83 (86.5%) Caucasian, 10 (10.4%) African American, 2 (2.1%) Hispanic, and 1 (1%) Asian. Concerning educational status, 35 (36.5%) were freshmen, 18 (18.8%) were sophomores, 22 (22.9%) were juniors, 20 (20.8%) were seniors, and 1 (1%) was a graduate student. By marital status, 76 (79.2%) were single, 12 (12.5%) were married, and 8 (8.3%) were divorced. Three licensed, doctoral-level psychologists provided counseling services to the participants in the study. All three psychologists had experience working with college students in a university counseling center environment. Participants were assigned to the psychologists based on considerations of convenience and availability.

2.2. Instruments

2.2.1. Outcome Questionnaire-45 (OQ-45; Lambert et al., 1996)

In partnership with two managed care organizations, the authors developed the OQ-45 to provide an inexpensive and efficient means for tracking client progress and evaluating treatment outcome (Lambert, Okiishi, Johnson, & Finch, 1998). Additionally, the OQ-45 can be used to assess initial severity and provide direction for treatment planning. The OQ-45 is a 45-item inventory that measures mental health problems in three relevant domains: (1) subjective discomfort (e.g., depressive symptoms), (2) interpersonal relationships, and (3) social role functioning. Items on the inventory measure problems typically experienced by outpatient populations, such as depression, anxiety, relationship problems, somatic complaints, and social adjustment. The authors also included several critical items to signal substance abuse and suicidal risk. Examinees respond to the items using a five-point Likert scale that ranges from Never to Almost Always. Although the OQ-45 provides separate scores for all three domains, factor analyses indicate that the instrument measures a single factor, which is best represented by the Total score, calculated by
summing an examinee’s responses to all 45 items. For comparison purposes, information on several normative groups is available in the OQ-45 manual (undergraduate students, university counseling center clients, community sample, inpatients, and other outpatient clients). Having information on the typical scores of both normal and clinical populations facilitates estimates of clinical significance (Jacobson & Truax, 1991).

The OQ-45 has been demonstrated to possess adequate reliability and validity. Within our sample, coefficient $\alpha$ for the total OQ-45 score was 0.96. The test manual reports a test–retest reliability coefficient of 0.84. Validity has been demonstrated by comparing scores on the OQ-45 to scores on other assessment inventories, such as the Beck Depression Inventory, Inventory of Interpersonal Problems, Social Adjustment Scale, State-Trait Anxiety Inventory, and the Symptom Checklist-90-R. Correlations were in the expected direction and of sufficient magnitude. For example, the correlation between the Total OQ-45 score and the General Severity Index from the SCL-90-R was 0.78. Besides its strong psychometric properties, we also selected the OQ-45 because of its recent inclusion in a large-scale study involving clients at several university counseling centers (Draper, Jennings, Baron, Erdur, & Shankar, 2002).

2.2.2. The Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1990, 1994, 1999)

The authors developed the CISS in response to the psychometric weaknesses associated with other coping measures. The development of the inventory was based on the interindividual or dispositional approach to coping, which conceptualizes coping styles as preferred strategies for managing a variety of stressful situations. Both rational and empirical methods guided scale development and item selection. After several modifications, the final inventory consisted of 48 items, 16 for each of its three major scales (task-, emotion-, and avoidance-oriented coping). Task-oriented coping refers to strategies undertaken by an individual to directly manage or resolve the stressful situation. Emotion-oriented coping refers to coping reactions that involve self-absorption, emotional distress, self-deprecation, and daydreaming. Avoidance-oriented coping involves strategies to avoid the stressful situation altogether. The avoidance scale is further broken down into two subscales: Distraction (diverting attention from the problem by turning to other activities) and Social Diversion (diverting attention from the problem by becoming involved with other people). Although Endler and Parker did not intend for the Social Diversion subscale to measure social support, scores on this scale were moderately correlated with an index of social support. Examinees respond to each item using a five-point Likert scale that ranges from 1 (Not at All) to 5 (Very Much). Raw scale scores can be converted to linear T scores, allowing comparisons by gender and psychiatric status (normal vs. inpatients). In our study, we converted participants’ raw scores to T scores using the normal population tables by gender.

The CISS possesses adequate reliability and validity. The CISS has been shown to possess a clear factor structure across various samples. In addition, the CISS scales have been found to be internally consistent, and scale scores have been demonstrated to be relatively stable over time. In our sample, the internally consistency (coefficient $\alpha$) of Task, Emotion, and Avoidance-oriented coping was found to be 0.90, 0.90, and 0.78, respectively. Convergent and discriminant validity for the CISS have been evaluated by comparing the CISS to other coping inventories, personality inventories, and measures of psychopathology. Specifically, the CISS has been compared to the Ways of Coping Questionnaire, Beck Depression Inventory, MMPI-2, and the Eysenck Personality Inventory, among others. In general, the relationships between these other measures and the
CISS were in the expected directions. For example, the CISS scales were reasonably associated with the corresponding scales on the Ways of Coping Questionnaire. The CISS Emotion-oriented scale has been found to be positively associated with neuroticism, somatization, and various measures of psychopathology, such as the MMPI-2 content scales; on the other hand, Task-oriented coping and Social Diversion have exhibited negative to negligible correlations with psychopathology. The interested reader is referred to the most recent CISS manual (Endler & Parker, 1999) for more information about the inventory’s psychometric properties.

2.2.3. Life Orientation Test-Revised (LOT-R; Scheier et al., 1994)
Scheier and Carver (1985) developed the original LOT to provide an index of dispositional optimism. Subsequent to its development, numerous researchers used the LOT to study the construct of optimism. In an effort to improve the internal characteristics of the LOT, Scheier et al. (1994) developed the Life Orientation Test-Revised. The new inventory contains 10 items; however, only six of the items are used in scoring. Three of these items are worded in a positive direction, and the other three items are worded in a negative direction. The three negative items must be reverse-scored before calculating the overall score. The remaining four items are filler items intended to conceal the purpose of the inventory. Examinees respond to the 10 items using a five-point Likert scale that ranges from 0 (strongly disagree) to 4 (strongly agree).

The LOT and LOT-R have been demonstrated to possess adequate psychometric characteristics. Correlations between scores obtained on the original and revised LOT were very high, suggesting that research involving the revised LOT should be comparable to studies that used the original version. Scheier et al. conducted several analyses to evaluate the factor structure of the revised LOT. They discovered that both a one-factor and two-factor model matched responses to the new inventory. As a result, they suggested using the total LOT-R score as a general index of dispositional optimism, while the scores from the positively and negatively worded items could be used to measure optimism and pessimism, respectively. Because of past controversies over the factor structure of the LOT, we reevaluated the factor structure of the revised LOT using the participants in our sample. We conducted a principal components analysis of our data set and decided to retain any components with eigenvalues greater than 1.0. After reverse-scoring the negative items, the six scored-items on the LOT-R generated a single component (eigenvalue = 3.75) that accounted for 62.4% of the variance. The six items loaded from 0.68 to 0.84 on this single component. Coefficient $\alpha$ for the six items was 0.88. Even though our results suggested a single factor, we decided to include all three scores in our subsequent analyses based on the findings obtained by Scheier et al. and others (e.g., Mroczek et al., 1993). The overall LOT-R score provided a general index of dispositional optimism. A summation of the positively worded items provided a more specific index of optimism, and a summation of the negatively worded items provided a specific index of pessimism.

2.2.4. Counseling outcome
We used four different variables to evaluate the outcome of counseling. First, at the conclusion of counseling, each psychologist rated his or her participants’ level of improvement using a five-point Likert scale: 0 = No Improvement, 1 = Minimal Improvement, 2 = Some Improvement, 3 = Moderate Improvement, and 4 = Substantial Improvement. Second, psychologists were instructed to re-administer the OQ-45 at the conclusion of counseling to evaluate changes in clients’
reported level of symptoms. Third, each psychologist evaluated whether his or her clients terminated counseling prematurely. Following the recommendation made by Pekarik (1985), termination classifications were based on therapist judgment. To determine these classifications, clinicians responded with either a yes or no to the following statement: “In your opinion, did the participant terminate counseling prematurely?” Fourth, counseling duration was operationally defined as the number of counseling sessions completed, including the intake appointment.

2.3. Procedure

Participants completed the OQ-45, LOT-R, and CISS during an initial appointment. The first author, who did not provide counseling services to clients at the center, scored the inventories and entered the data into a computer file for subsequent analyses. As a result of this procedure, the psychologists working directly with the clients at the center were not involved in scoring or data entry. The psychologists had access to their clients’ scores on these inventories, and they were allowed to share these results with clients if requested. However, very few clients indicated any interest in receiving information on the assessment inventories. The psychologists were instructed to provide counseling services as they would under normal circumstances. At the conclusion of counseling, the psychologists were instructed to complete the following steps: rate the level of improvement exhibited by their participants using the therapist rating scale, determine termination (premature or planned) status, and re-administer the OQ-45. The second author collected the data and reviewed the participants’ charts at the center to ensure fidelity with the research design.

3. Results

We screened the dataset and evaluated whether the variables met the assumptions required for the statistical analyses. An evaluation of the scatterplots confirmed that the variables exhibited linear relationships with each other. Two problems were encountered with the variable, counseling duration. Counseling duration was positively skewed (skewness = 1.71). To improve the normality of the distribution, counseling duration was logarithmically transformed, resulting in an improved distribution (skewness = 0.30). Two of the participants, who attended an unusually high number of sessions (z scores > 3), were classified as outliers and deleted from the analyses involving counseling outcome. In addition to this problem, 14 of the participants were referred to the counseling center for alcohol-related violations on campus. These students were required to attend only 1–2 counseling sessions. Because of the nature of these encounters, the psychologists did not feel confident providing ratings of improvement for these participants. Finally, only 28 of the participants completed the OQ-45 at the conclusion of counseling. This low response rate occurred because of the high premature termination rate (48.8%) and the failure of the psychologists to administer the inventory to every participant at the end of counseling. Given the large amount of missing data for this variable, we excluded the post-OQ-45 scores from the analyses.

Prior to examining the main objectives, we present a few descriptive statistics. Table 1 presents the means and standard deviations for each test variable divided by gender; there were no significant differences between males and females on any of these variables (z > 0.05). Table 1 also presents the internal consistency (coefficient α) for all of the scales.
3.1. Correlations among optimism, coping styles, and psychopathology

Table 2 presents the zero-order correlations among optimism, coping styles, and psychopathology. As mentioned previously, we used all three potential scores derived from the LOT-R (Total Score, Positive Items, Negative Items). Correlations among the three LOT-R scores were substantial. The shared variance among these scales ranged from a low of 52% (Positive vs. Negative Items) to a high of 88% (Total Score vs. Negative Items). Optimism, as measured by the LOT-R Total and Positive Items, was negatively correlated with psychopathology, emotion-oriented coping, and the avoidance-distraction subscale from the CISS. On the other hand, optimism was positively correlated with task-oriented coping and the avoidance-social diversion subscale from the CISS. Pessimism, as measured by the LOT-R Negative Items, exhibited the opposite associations with these same variables. Because optimism has been accused of being indistinguishable from other variables (e.g., Smith et al., 1989), we conducted additional analyses to

Table 1
Means and standard deviations on the assessment inventories; internal consistency of test scales

<table>
<thead>
<tr>
<th>Scale</th>
<th>Females M</th>
<th>Females SD</th>
<th>Males M</th>
<th>Males SD</th>
<th>Total M</th>
<th>Total SD</th>
<th>Internal consistency (coefficient $\alpha$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OQ-45</td>
<td>68.04</td>
<td>26.37</td>
<td>60.90</td>
<td>34.17</td>
<td>65.83</td>
<td>29.03</td>
<td>0.96</td>
</tr>
<tr>
<td>LOT-R</td>
<td>13.50</td>
<td>4.94</td>
<td>12.80</td>
<td>6.31</td>
<td>13.29</td>
<td>5.37</td>
<td>0.88</td>
</tr>
<tr>
<td>Positive Items</td>
<td>6.90</td>
<td>2.45</td>
<td>7.20</td>
<td>3.26</td>
<td>6.99</td>
<td>2.71</td>
<td>0.75</td>
</tr>
<tr>
<td>Negative Items</td>
<td>6.60</td>
<td>2.92</td>
<td>5.60</td>
<td>3.37</td>
<td>6.30</td>
<td>3.08</td>
<td>0.86</td>
</tr>
<tr>
<td>CISS Task</td>
<td>43.78</td>
<td>10.78</td>
<td>43.29</td>
<td>10.57</td>
<td>43.62</td>
<td>10.66</td>
<td>0.90</td>
</tr>
<tr>
<td>CISS Emotion</td>
<td>57.84</td>
<td>10.73</td>
<td>56.29</td>
<td>11.31</td>
<td>57.35</td>
<td>10.88</td>
<td>0.90</td>
</tr>
<tr>
<td>CISS Avoidance</td>
<td>55.30</td>
<td>8.73</td>
<td>59.26</td>
<td>11.58</td>
<td>56.55</td>
<td>9.84</td>
<td>0.78</td>
</tr>
<tr>
<td>Distraction</td>
<td>54.91</td>
<td>9.66</td>
<td>57.90</td>
<td>10.03</td>
<td>55.86</td>
<td>9.82</td>
<td>0.70</td>
</tr>
<tr>
<td>Social Diversion</td>
<td>52.76</td>
<td>9.36</td>
<td>56.71</td>
<td>11.91</td>
<td>54.01</td>
<td>10.34</td>
<td>0.77</td>
</tr>
</tbody>
</table>

Note: None of the gender differences reached statistical significance ($\alpha > 0.05$).

3.1. Correlations among optimism, coping styles, and psychopathology

Table 2
Intercorrelations among optimism, psychopathology, and coping styles

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. OQ-45</td>
<td></td>
<td>-0.72**</td>
<td>-0.59**</td>
<td>0.74**</td>
<td>-0.43**</td>
<td>0.76**</td>
<td>-0.22**</td>
<td>0.09</td>
<td>-0.45**</td>
</tr>
<tr>
<td>2. LOT-R Total</td>
<td></td>
<td></td>
<td>0.92**</td>
<td>-0.94**</td>
<td>0.54**</td>
<td>-0.58**</td>
<td>0.11</td>
<td>-0.20**</td>
<td>0.38**</td>
</tr>
<tr>
<td>3. Positive Items</td>
<td></td>
<td></td>
<td></td>
<td>-0.72**</td>
<td>0.53**</td>
<td>-0.48**</td>
<td>0.15</td>
<td>-0.16</td>
<td>0.38**</td>
</tr>
<tr>
<td>4. Negative Items</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.47**</td>
<td>0.58**</td>
<td>-0.06</td>
<td>0.21</td>
<td>-0.32**</td>
</tr>
<tr>
<td>5. Task</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.42**</td>
<td>0.08</td>
<td>-0.09</td>
<td>0.22**</td>
</tr>
<tr>
<td>6. Emotion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.02</td>
<td>0.21</td>
<td>-0.24**</td>
</tr>
<tr>
<td>7. Avoidance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.83**</td>
<td>0.78**</td>
</tr>
<tr>
<td>8. Avoidance-Distraction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.36**</td>
</tr>
<tr>
<td>9. Avoidance-Social Diversion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < 0.05.

**p < 0.01.
evaluate its discriminant validity. We calculated the partial correlation coefficients between optimism and the coping styles, partialling out psychopathology (see Table 3). After controlling for psychopathology, only the relationship between optimism (LOT-R Total, Positive Items, Negative Items) and task-oriented coping remained statistically significant. Examining the data from a different angle, we also evaluated the relationships between psychopathology and coping styles, partially out optimism (LOT-R). After making these adjustments, psychopathology continued to be associated with both emotion-oriented coping ($pr = 0.59$) as well as social diversion ($pr = -0.26$).

3.2. Prediction of counseling outcome

We next examined the relationships between the assessment inventories and counseling outcome. We used multiple regression analyses to evaluate how well the assessment inventories predicted all three outcome variables. Although discriminant function analysis may have been used to predict premature termination (a dichotomous variable), we used standard (ordinary-least-squares) regression for predicting this outcome for two reasons. First, ordinary-least-square (OLS) regression will produce equivalent results to discriminant function analysis if the independent variables meet the assumptions required for OLS regression (Cohen, Cohen, West, & Aiken, 2003). Second, we wanted the analyses involving premature termination to be consistent with the other analyses, which used OLS regression.

The first set of analyses examined how well optimism predicted each outcome variable. Given that all three LOT-R indices were highly interrelated, we decided to use the Total LOT-R score for predicting each outcome variable. The LOT-R Total scores were useful for predicting therapist ratings of improvement, explaining 4.9% of the variance in this outcome variable [$F(1, 78) = 4.01$, $p = 0.05$]. The standardized beta coefficient ($\beta = 0.22$) indicated that higher levels of optimism were associated with better therapist ratings of improvement. Because one goal of our investigation was to compare the LOT-R to a measure of psychopathology, we ran a sequential (hierarchical) regression analysis to evaluate whether optimism enhanced the prediction of therapist ratings beyond that predictable from psychopathology (OQ-45 scores). The LOT-R remained a significant predictor of these subsequent ratings even after controlling for psychopathology in a

### Table 3

Partial correlations between variables after controlling for psychopathology (OQ-45)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. LOT-R</td>
<td></td>
<td>0.88**</td>
<td>-0.87**</td>
<td>0.36**</td>
<td>-0.09</td>
<td>-0.05</td>
<td>-0.18</td>
<td>0.10</td>
</tr>
<tr>
<td>2. Positive Items</td>
<td></td>
<td>-</td>
<td>-0.52**</td>
<td>0.38**</td>
<td>-0.09</td>
<td>0.03</td>
<td>-0.12</td>
<td>0.17</td>
</tr>
<tr>
<td>3. Negative Items</td>
<td></td>
<td>-</td>
<td>-0.25*</td>
<td>0.07</td>
<td>0.13</td>
<td>0.19</td>
<td>-0.01</td>
<td></td>
</tr>
<tr>
<td>4. Task</td>
<td></td>
<td>-</td>
<td>-0.16</td>
<td>-0.01</td>
<td></td>
<td>-0.05</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>5. Emotion</td>
<td></td>
<td>-</td>
<td>0.22*</td>
<td>0.21*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Avoidance</td>
<td></td>
<td>-</td>
<td></td>
<td>0.88**</td>
<td>0.78**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Distraction</td>
<td></td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Social Diversion</td>
<td></td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < 0.05.

**p < 0.01.
hierarchical regression analysis, $R^2$ change $= 0.03$, $F(1, 77) = 4.14$, $p = 0.05$. The hierarchical regression analysis also identified psychopathology as a potential suppressor variable in the equation. Specifically, the inclusion of both variables increased the standardized beta coefficient for psychopathology from $-0.08$ to $0.12$ and the LOT-R’s coefficient from $0.22$ to $0.30$. The next analysis examined how well the LOT-R predicted counseling duration. The LOT-R was not useful for predicting this criterion, $[F(1, 92) = 2.15, p = 0.15]$. The third regression analysis examined the utility of the LOT-R for predicting premature termination. The Total LOT-R scale explained $9.2\%$ of the variance in premature termination classifications $[F(1, 92) = 9.32, p < 0.01]$. The standardized regression coefficient obtained in this analysis ($\beta = -0.30$) revealed that lower scores on the LOT-R were associated with premature termination. We again used sequential regression to compare the LOT-R to a measure of psychopathology. Adding the Total LOT-R scores to the second step of the regression equation did not enhance the prediction of premature termination $[F(1, 91) = 2.50, p = 0.12]$, over that predictable from OQ-45 scores.

The second set of analyses examined the utility of the CISS (task-, emotion-, and avoidance-oriented) scales for predicting the outcome variables. For each analysis, all three scales were entered as a set in a forced-entry regression equation. The CISS scales were not useful for predicting therapist ratings of improvement $[F(3, 76) = 1.54, p = 0.33]$, counseling duration $[F(3, 90) = 1.69, p = 0.18]$, or premature termination $[F(3, 90) = 1.65, p = 0.18]$. Finally, we examined the utility of psychopathology (OQ-45 scores) for predicting the same outcome variables. Although OQ-45 scores were not useful for predicting therapist ratings of improvement $[F(1, 80) = 0.86, p = 0.36]$, these scores were helpful for predicting the other two outcome variables. OQ-45 scores were useful for predicting counseling duration, explaining $5\%$ of the variance in this criterion, $[F(1, 94) = 4.94, p = 0.03]$. The standardized beta coefficient obtained in this analysis ($\beta = 0.22$) indicated that higher scores on the OQ-45 were associated with the completion of more counseling sessions. OQ-45 scores were also useful for predicting premature termination, explaining $5.6\%$ of the variance in this criterion $[F(1, 94) = 5.57, p = 0.02]$. The standardized beta coefficient in this regression equation ($\beta = 0.24$) revealed that higher scores on the OQ-45 were associated with premature termination from counseling.

4. Discussion

The first objective of this investigation was to examine the relationships among optimism, coping styles, and psychopathology. Consistent with previous studies, optimism was positively correlated with task-oriented coping and social diversion (related to social support), while it was negatively correlated with emotion-oriented coping and avoidance-distraction coping. We also evaluated the discriminant validity of the LOT-R by reexamining the relationships between optimism and coping styles, partialling out psychopathology. After controlling for psychopathology, only the relationship between optimism and task-oriented coping remained statistically significant. This finding is at variance with the results obtained by Scheier et al. (1994), who reported significant relationships between optimism and various coping styles even after statistically controlling for neuroticism and additional covariates.

We offer three explanations for the nonsignificant results obtained in our study. First, rather than controlling for neuroticism, we used a measure of psychopathology as the covariate. We
reasoned that a measure of psychopathology made for a more relevant covariate in a clinical study. Yet, this measure of psychopathology was highly correlated with all three optimism scores. For example, psychopathology shared about 52% of its variance with the Total Lot-R score. In contrast, LOT scores and measures of neuroticism have not been as closely associated, typically sharing 10–25% of their variance in common (e.g., Mroczek et al., 1993; Scheier et al., 1994). Furthermore, emotion-oriented coping and psychopathology were also substantially interrelated, sharing 58% of their variance in common. Given the great deal of overlap among these variables, it is not surprising that emotion-oriented coping was not significantly related to optimism after adjusting for psychopathology. Second, our analyses did not possess enough statistical power to detect smaller effect sizes. We agree with Cohen (1994) that the null or nil hypothesis is always false, and it will always be rejected with a large enough sample size. Had a larger sample size been available, we would have likely found significant relationships between optimism and the other coping styles. Though, our point estimates suggest these would likely be small effect sizes. In support of this assumption, consider the studies conducted by Smith et al. (1989) and Scheier et al. (1994). As already mentioned, Smith et al. discovered that the relationships between optimism and coping styles essentially disappeared after controlling for neuroticism. The study conducted by Scheier et al., using a larger sample, discovered significant associations between optimism and coping styles even after accounting for the influence of several covariates. Finally, the discrepant findings may be attributable to the coping instrument used in our study. We used the CISS to measure participants’ preferred coping styles. Nearly all of the previous studies in this area used either the COPE or WCC. Although the three coping inventories likely measure similar factors (e.g., problem-focused coping), the instruments are not interchangeable and likely measure slightly different constructs. As a result of their differences, one would not expect equivalent findings from one coping instrument to the next.

The second objective of our study was to examine how well the assessment inventories predicted counseling outcome. We were interested in ascertaining whether the assessment of either optimism or preferred coping styles would be useful for explaining variation in counseling outcome. In addition, we wanted to compare the information provided by the LOT-R and CISS to a commonly used measure of psychopathology (OQ-45) for predicting outcome. Optimism was useful for predicting two of the measures of counseling outcome. Lower scores on the LOT-R, representing lower levels of optimism, were associated with premature termination from counseling. The magnitude of this relationship \((r = -0.30)\) was similar in magnitude to the effect size obtained by Strack et al. (1987), who found a correlation of 0.29 between optimism and successful completion of an aftercare program. However, after controlling for the influence of psychopathology, this association failed to reach statistical significance. Greater levels of optimism were also associated with better therapist ratings at the conclusion of counseling. This relationship remained statistically significant even after partialling out psychopathology. More optimistic clients may have expected greater benefits from counseling, and consequently were more willing to persist and reach their goals. In addition to its value in predicting counseling outcome, these results offer additional support for the discriminant validity of this construct. We also found that knowledge of initial psychopathology (OQ-45 scores) was useful for predicting two of the three outcome variables. Higher scores on the OQ-45 predicted both counseling duration and premature termination from counseling. This finding was expected given that psychopathology has been identified as a robust predictor of treatment outcome (e.g., Luborsky et al., 1993). Finally, coping
styles, as measured by the CISS, were not useful for predicting any measure of counseling outcome.

Our conclusions should be interpreted in the context of the limitations associated with the study. First, our sample consisted of college students involved in counseling at a university counseling center. As such, the results may be specific to this sample and may not generalize very well to other populations. Second, we developed the five-point Likert scale that was used to measure therapist ratings of improvement. Although face valid, this procedure provided a rather crude index of clinical improvement. Such ratings may not have corresponded to other potential sources of information about outcome (e.g., self-report rating scales, ratings completed by other therapists, ratings completed by friends or family members). Third, we were unable to evaluate counseling outcome using post-OQ-45 scores. Because this data was available on a small percentage of the total sample, we excluded this variable from the analyses. Information from clients themselves and objective raters would have provided additional information on counseling outcome. While it is desirable to obtain estimates of outcome from multiple sources, this ideal is difficult to obtain in most clinical settings (Ogles, Lambert, & Fields, 2002). Fourth, unlike previous studies, we statistically controlled for the influence of psychopathology rather than neuroticism when evaluating the discriminative validity of the LOT-R. Although psychopathology and neuroticism are associated with one another, the constructs are not interchangeable. Had we included a measure of neuroticism, our results would have likely been different. Finally, we did not place any experimental controls on the provision of counseling services. Participating clinicians were simply instructed to provide counseling services as they would under regular circumstances. Variability in counselor skill or clinical interventions may have systematically biased our findings in an unknown direction.

What are the implications of these findings for clinicians? First, the assessment of optimism may be useful for predicting clients’ responses to psychotherapy. Accordingly, clinicians may be interested in assessing this construct as part of the treatment planning process. In contrast, none of the coping styles, as measured by the CISS, were significantly associated with counseling outcome. Although the CISS has reasonable psychometric properties, the inventory has been criticized for lacking any practical applications. Specifically, the CISS has been described as another measure of emotional distress that fails to provide the examiner with any helpful information (Dowd, 2001; Stanton, Danoff-Burg, Cameron, & Ellis, 1994; Stein, 2001). We had hoped our study would provide evidence to counter this criticism, but our results actually strengthen it. As of yet, there does not seem to be any practical value for including the CISS as part of a clinical assessment. The CISS, through the emotion-oriented coping scale, does provide an index of psychopathology, but such an estimate could be more easily obtained through administration of another inventory (e.g., OQ-45). Finally, our results combined with those of many others (e.g., Luborsky et al., 1993) demonstrate psychopathology to be consistent predictor of treatment outcomes. In addition to identifying target areas for treatment, an index of psychopathology will also be useful for reaching estimates about the likely effects of treatment.

Given large enough sample sizes, we expect that future researchers will continue to find support for the convergent and discriminant validity of the LOT-R. As practitioners involved in the delivery of mental health services, we are more concerned with how assessment of this construct might be useful to practitioners involved in direct client care. Future research might be directed at determining whether the early assessment and subsequent remediation of pessimistic thoughts
leads to better outcomes. Furthermore, research might ascertain whether optimists and pessimists respond differently to certain types of clinical interventions. Harkness and Lilienfeld (1997) advocate matching clinical interventions to clients’ unique personality characteristics. For example, optimists, who rely more on problem-focused coping strategies, might respond better to more active intervention strategies (e.g., problem-solving skills). On the other hand, pessimists, who report greater use of emotion-oriented coping, might respond better to more expressive and supportive therapeutic techniques. The potential benefits from matching optimists and pessimists to intervention strategies might be worth pursuing in future research. Finally, we recommend future researchers take advantage of all three scores derived from the LOT-R when investigating the construct of optimism.

References


