

# An Investigation of Concurrent Validity between Two Optimism/Pessimism Questionnaires: The Life Orientation Test-Revised and the Optimism/Pessimism Scale

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The purpose of this investigation was to investigate the concurrent validity of the Life Orientation Test-Revised (LOT-R) (Scheier et al., 1994) and Optimism/Pessimism Scale (OPS) (Dember et al., 1989) by administering each questionnaire to the same group of participants. The 154 participants (84 men and 70 women) were volunteer university students enrolled in physical activity classes at a southeastern university. The questionnaires were counterbalanced to reduce possible bias due to taking one questionnaire before taking the other. Due to recent suggestions concerning scoring mechanisms for the LOT-R (Dember et al., 1989; Hummer, Dember, Melton & Scheff, 1992; Lightsey, 1996; Marshall and Lang, 1990) the instrument was scored to produce a unidimensional score and two subscale scores. The analysis suggested that the LOT-R and OPS may not be measuring similar constructs. The results revealed that the LOT-R may be measuring "trait" optimism and pessimism, while the OPS may be measuring "state" optimism and pessimism. It was also suggested that future research investigate racial differences on these constructs.

Optimism and pessimism may be described as psychological dimensions in which optimism represents a bias in perceptions and expectations in favor of positive features in life and pessimism represents a negative bias (Peterson and Bossio, 1991). Optimism can be defined as a set of beliefs that leads people to approach the world in an active manner (Peterson and Bossio, 1991). Optimistic individuals believe that the future holds positive opportunities with successful outcomes. People that hold an optimistic outlook on life have demonstrated higher levels of motivation, persistence, and performance (Carver et al., 1979; Taylor and Brown, 1988). On the other hand, pessimistic individuals tend to look at the world and future experiences in a negative fashion. Pessimistic people view the world as a place of bad experiences and events.

Recently, optimism and pessimism have been associated with several points of interest within clinical and health psychology (Lewis et al., 1995). Natail-Aleman (1991) found optimism to be positively associated with adaptive coping skills, while Weintraub, Carver, and Scheier (1986) have found pessimism to be associated with

maladaptive coping strategies. Optimism and pessimism have also been shown to relate to different patterns of preferred defense mechanisms (Dember et al., 1989).

However, people may not be only optimistic or only pessimistic. Depending on the situation, many people possess characteristics of being an optimist and a pessimist (Peterson and Bossio, 1991). An example to illustrate this belief may be found in a person who may be optimistic toward his/her marriage relationship, but pessimistic toward his/her career.

Currently two views exist concerning the measurement of optimism and pessimism. The bipolar view looks at optimism and pessimism lying on separate poles of a single bipolar continuum. The separate dimensional view states that optimism and pessimism can both exist within a person.

The bipolar dimensional view has two measures: the Scheier and Carver (1985) Life Orientation Test (LOT) and Seligman et al. (1975) Attributional Style Questionnaire. The LOT is the most commonly used instrument to measure dispositional optimism. Dispositional optimism is a generalized belief that good things will happen (Kavussanu and McAuley 1995). Questions are answered using a five-point scale. A revised edition of the LOT-R was created (Scheier et al., 1994) by removing two coping items from the original LOT. This scale focused more on expectations of good versus bad outcomes. Internal consistency and test-retest reliability remained high (Scheier et al., 1994).

The Optimism and Pessimism Scale (OPS) (Dember et al., 1989) was created to analyze the individual differences in conformity to the Pollyanna principle, which is the ability to accentuate the positive (Matlin and Stang, 1978). The scale has been shown to be reliable, with alpha coefficients of .84 and .86 for optimism and pessimism (Dember et al., 1989). Test-retest reliability over a two week period was  $r=.75$  for optimism and  $r=.84$  for pessimism (Dember and Brooks, 1989). Dember and Penwell (1980) believed that individuals conforming to the Pollyanna principle would score high on a test of optimism. However, as test construction continued, optimism and pessimism showed signs that they may not be bipolar (Dember et al., 1989). From the initial evaluation of the psychometric constructs of the scale, two scales were found to be working at the same time (Hummer et al., 1992). When the two scales were correlated, results indicated that the scales were correlated at a lower value ( $r=.52$ ) than the values of internal consistency. This partial independence of optimism and pessimism has been shown in other studies (Dember and Brooks, 1989).

Chang, D'Zurilla, and Maydeu-Olivaries (1994) assessed the dimensionality of three instruments designed to measure optimism and pessimism: Life Orientation Test (LOT), the Hopelessness Scale (HS), and the Optimism and Pessimism Scale (OPS). Subjects were 389 undergraduates asked to complete each of the three measures. Results showed that the LOT was found to be bidimensional, the HS was unidimensional, and the OPS was multidimensional. These results provide evidence that individuals can be both optimistic and pessimistic.

Terezis's study (as cited in Lewis et al., 1995) attempted to influence optimism and pessimism scores by using a mood-inducing procedure. Subjects were placed into

three groups, hearing either heightening, depressing, or neutral music before completing the OPS. Results of the study found that neither versions of music had any effect on optimism or pessimism. These findings showed that optimism and pessimism may be stable traits that are not affected by current mood states.

Lewis et al. (1995) conducted a similar study to analyze the effects of a mood-inducing procedure and its relationship to scores on the OPS. Subjects were placed into one of six groups: elating music, depressing music, elating video conditions, depressing video conditions, elating Velten conditions, and depressing Velten conditions. This study showed a substantial amount of influence on optimism/pessimism with relationship to the music tapes. Those individuals listening to the elating music tapes were found to score higher on the OPS. Thus, showing the possibility of optimism and pessimism being influenced by temporary mood states.

Hummer (1989) hypothesized that the reason for the partial independence of optimism and pessimism may be the result of individual biases: defensive pessimism and the Pollyanna Principle. Defensive pessimism is believed to be an individual's defense mechanism whereby the individual states low expectations for a challenging situation to prepare oneself for a negative outcome (Dember et al., 1989).

Schwab's study (as cited in Hummer et al., 1992) examined the possible relationship between optimism and pessimism and the Pollyanna response. Subjects ranged from normal to mildly depressed individuals. Results found that subjects repeatedly overestimated their ability to attain success. Schwab (1984) found that mildly depressed individuals, may at times, answer some of the optimism items in much the same manner as more optimistic people. This occasion may be a cause of the low correlation between the optimism and pessimism subscales (Hummer et al., 1992).

Hummer et al. (1992) examined the possibility that the OPS may be susceptible to the response biases of defensive pessimists and followers of Pollyannism. The results of the study did not produce evidence that these biases exist. By proving that this scale is vulnerable to response sets, it may be concluded that optimism and pessimism are not polar opposites, but partially independent outlooks (Hummer et al., 1992). Results from this study support the belief that optimism and pessimism can coexist within the same person (Hummer et al., 1992).

The purpose of the present study was to investigate the concurrent validity of the LOT-R and the OPS by administering each to the same group of participants.

## METHODS

### *Instrumentation*

One measure of optimism and pessimism was performed using the Optimism/Pessimism Scale (OPS) (Dember et al., 1989). The OPS consists of 18 items measuring optimism, 18 items measuring pessimism, and 20 filler items. Individuals respond to a 4-point Likert scale from strongly agree to strongly disagree. Items in each subscale are then added together to provide a single score for each subscale. The scale has been

shown to be reliable, with alpha coefficients of .84 and .86 for optimism and pessimism (Dember et al., 1989). Test-retest reliability over a two week period were  $r = .75$  for optimism and  $r = .84$  for pessimism (Dember and Brooks, 1989).

The Life Orientation Test-Revised (LOT-R) (Scheier et al., 1994) was utilized to measure optimism and pessimism. The LOT-R consists of 10 coded items, 3 statements described in a positive manner, 3 statements described in a negative manner, and 4 non-scored items. Subjects responded to the statements by indicating the extent of their agreement along a 5-point Likert scale, ranging from "strongly agree" to "strongly disagree." Factor analyses indicate that the LOT-R can be construed as unidimensional, with one score representing whether a person is an optimist or pessimist (Scheier and Carver, 1987). Scheier et al. (1994) originally developed the LOT-R to be unidimensional. To date however, factor analytic research of scores on the LOT reveal that optimism and pessimism may not be bipolar, but independent of one another (Hummer et al., 1992; Marshall and Lang, 1990). More recently, Lightsey (1996) stated in a review of the optimism and pessimism literature, that the LOT-R should analyze an overall scale score and two subscale scores. This was especially advisable in the light of the same evidence that optimism and pessimism are separate dimensions that predict unique variances in outcomes. Scheier and Carver's own original factor analysis incorporated two factors which corresponded to the positive and negative items on the Life Orientation Test. The internal reliability (Cronbach's  $\alpha = .78$ ) and test-retest reliability ( $r = .68$  over a four-week interval,  $r = .60$  over twelve months,  $r = .56$  over twenty-four months, and  $r = .79$  over twenty-eight months) for the unidimensional use of the LOT-R has been shown to be adequate. Evidence of convergent validity is demonstrated by the significant correlations in the expected directions with other constructs, e.g., depression, hopelessness, self-esteem, perceived stress, and locus of control (Scheier et al., 1994). The finding that the correlations between the LOT and related measures are not too strong is offered as support for discriminant validity. Further construct validity comes from studies showing that the scores are strongly correlated with physical and psychological well-being and relatively unrelated to measures of social desirability (Scheier and Carver, 1992).

### ***Participants and Procedures***

The participants were 84 men and 70 women volunteer university students enrolled in physical activity classes at a southeastern university. The average age of the subjects was  $20.21 \pm 1.77$  years.

The participants were asked to sign a consent form and administered the LOT-R and OPS. The questionnaires were counterbalanced to reduce possible bias due to taking one questionnaire before the other. The LOT-R was scored to produce a unidimensional score and two subscale scores.

**TABLE 1**  
**Means and Standard Deviations by Race and Gender**

	<i>n</i>	LOTTOT	LOTO	LOTP	OPS-O	OPS-P
Black Men	43	17.47 (2.61)	10.16 (1.57)	4.79 (2.28)	59.23 (5.69)	35.37 (5.64)
White Men	36	17.44 (4.13)	9.22 (2.07)	3.75 (2.58)	59.17 (5.79)	33.97 (8.14)
Black Women	30	17.10 (4.05)	9.47 (1.89)	4.37 (3.20)	57.53 (5.34)	36.53 (6.11)
White Women	38	16.61 (4.20)	8.89 (2.23)	4.26 (2.83)	57.26 (5.73)	35.26 (8.15)

## RESULTS AND DISCUSSION

The data were analyzed by gender and race. The variables were LOT-R total score (LOTTOT), LOT-R optimism score (LOTO), LOT-R pessimism score (LOTP), OPS optimism (OPS-O), and OPS pessimism (OPS-P). Descriptive values are located in Table 1. The only significant difference revealed using two-way ANOVA (Race X Gender) was a significant race effect for LOTO. Blacks ( $M=9.88 \pm 1.73$ ) scored significantly higher than whites ( $M=9.05 \pm 2.14$ ) ( $p=.02$ ). To examine the relationships among the variables, Pearson correlations were calculated and are presented in Table 2. When the LOT-R was scored as two separate dimensions as suggested by Chang and McBride-Chang (1996), the LOTO and OPS-O were moderately correlated at best. The shared variance between the two variables ranged from 17.6 percent (black women) to 37.2 percent (white men). This finding would suggest that the two scales are not measuring similar constructs. The LOTP and OPS-P were also moderately correlated with shared variance ranging from 13 percent (black women) to 53.3 percent (white men). Again, if the two were measuring similar constructs, the amount of shared variance would be higher.

According to Chang and McBride-Chang (1996), "optimism and pessimism are not bipolar indicators of a single trait continuum; they represent two correlated but distinct traits" (p. 328). Depending on the scale used, the data in the present study may or may not support this idea. For the OPS, the correlations indicate that optimism and pessimism are correlated. The coefficient of determination ranged from 23 percent (white men) to 49 percent (black women) ( $p < .001$  for all correlations). However, when examining the LOT-O and LOT-P, the correlations were lower. For both black men and black women, the amount of shared variance was less than 5 percent.

When scoring the LOT-R as a unidimensional scale, both the OPS-O and OPS-P were moderately related to the LOT-R. Interestingly, the OPS-P was more highly related than the OPS-O.

The relationship between the two scales may also be dependent on race. These data show that the relationship between the OPS-O and the LOT-O and OPS-P and LOT-P

**TABLE 2**  
**Pearson Correlations for All Subjects and by Race and Gender**

	LOTTOT	LOTO	LOTP	OPS-O	OPS-P
All Subjects (n = 154)					
LOTTOT	—	.74**	-.86**	.53**	-.71**
LOTO		—	-.30**	.58**	-.54**
LOTP			—	-.30**	.60**
OPS-O				—	-.62**
Black Men (n = 43)					
LOTTOT	—	.53**	-.77**	.49**	-.75**
LOTO		—	.08	.59**	-.36*
LOTP			—	-.10	.56**
OPS-O				—	-.59**
White Men (n = 36)					
LOTTOT	—	.85**	-.90**	.50**	-.76**
LOTO		—	-.54**	.61**	-.59**
LOTP			—	-.30	.73**
OPS-O				—	-.48**
Black Women (n = 30)					
LOTTOT	—	.64**	-.89**	.49**	-.54**
LOTO		—	-.22	.42*	-.54**
LOTP			—	-.37*	.36
OPS-O				—	-.70**
White Women (n = 38)					
LOTTOT	—	.79**	-.87**	.43**	-.68**
LOTO		—	-.39*	.50**	-.58**
LOTP			—	-.25	.57**
OPS-O				—	-.61**

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

were lowest for black women. Future studies need to further investigate this relationship between the races with larger samples.

In conclusion, these data suggest that the LOT-R and OPS do not share concurrent validity. Whether one may be measuring “trait” attributes and the other “state” attributes must be judged on the basis of the conditions under which their governing constructs were initially developed and operationalized. A plausible suggestion may be that optimism and pessimism may have state and trait components. In measurement of anxiety this has shown to be beneficial in the understanding of anxiety, especially in sports (Martens et al., 1990). In other words, although a person may be an optimistic person most of the time, she/he may go through certain brief or prolonged periods where pessimism is the prevalent outlook. The OPS scale asks responders to answer “how you feel about them right now.” Therefore, the OPS scale is probably measuring state optimism and state pessimism. An individual who is administered the OPS in the

morning of one day, may respond differently to the OPS during the evening of that same day. This is consistent with a state approach to a psychological variable. Although researchers (Dember and Brooks, 1989) have reported relatively consistent OPS test-retest reliability over a two-week period ( $r=.75$  for optimism and  $r=.84$  for pessimism), the LOT-R probably needs to specify for participants to answer either “how they are feeling right now” or “how they generally feel.” The LOT-R may be more of a measure of trait optimism and trait pessimism. This needs to be further clarified. Researchers need to be aware of this important distinction when considering future research that involves the use of these questionnaires.

## NOTE

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