

Running Head: OPTIMISM/PESSIMISM, FUTURE ORIENTATION, DEPRESSION AND
SUICIDE BEHAVIOR

Optimism/Pessimism and Future Orientation in Predicting Depressive Symptoms and Suicide
Behavior in Primary Care Adults: Is There Evidence for an Interactive Model?

Elizabeth A. Yu¹

¹ University of Michigan

Abstract

In the present study, we examine the role of optimism-pessimism as a unique predictor of suicide risk, measured by depressive symptoms and suicidal behavior. To gain a better contextual understanding of the relationship of optimism-pessimism and maladjustment, we also included future orientation in our analyses to examine its role as an additive predictor of suicide risk. An interactive model was also utilized to examine the possibility of pessimism being less maladaptive than optimism. Results of hierarchical regression analyses indicated that optimism-pessimism is a significant unique predictor of suicide risk. Furthermore, the inclusion of future orientation in the analyses showed that future orientation plays an additive role in predicting suicide risk above and beyond optimism-pessimism. Finally, the interaction of optimism-pessimism and future orientation accounted for additional variance in both depressive symptoms and suicidal behavior above and beyond the two factors alone. In other words, future orientation was found to moderate the relationship of optimism-pessimism and maladjustment. Implications of the present findings in understanding the relationship between optimism-pessimism and suicide risk in primary care patients are discussed.

Optimism-Pessimism, Future Orientation and Suicide Risk

Decades of research and numerous studies have shown and supported the notion that optimism represents an important and adaptive construct whereas pessimism represents a maladaptive construct (Carver, Scheier, & Segerstrom, 2010; Scheier & Carver, 1985; Scheier, Carver, and Bridges, 2001). Some investigators have described optimism-pessimism as related to a positive or negative view on life (Dember et al., 1989). The most accepted description of optimism-pessimism comes from researchers Scheier and Carver (1985) whose definition of optimism-pessimism specifically targets outcome expectancies. According to their model of generalized outcome expectancies, *optimism* corresponds to an attitude of expecting positive consequences and for more good events to occur than bad ones. *Pessimism*, on the other hand, corresponds to an attitude of expecting negative consequences and for more bad events to occur than good ones. Studies have related optimism to fewer negative outcomes such as greater life satisfaction and less negative affect, and pessimism has been related to more negative outcomes such as less life satisfaction and greater negative affect (Bailey, Eng, Frisch, Snyder, 2007; Chang & Sanna, 2001). Additionally, Carver, Scheier, and Segerstrom (2010) reported that the different coping patterns of optimists compared to pessimists pave the way for less harmful health behaviors. Taken together, according to this model of generalized outcome expectancies, being optimistic is always good, whereas being pessimistic is always bad.

In concordance with this concept, optimism has been related to less psychological maladjustment and pessimism has been related to more psychological maladjustment (Chang, 2001). Specifically, depression and suicide are two important adjustment outcomes to consider with relations to optimism-pessimism. Depression has been estimated to have a lifetime prevalence of 19.4%-22.7% in older adults (Kessler, Birnbaum, Bromet, Hwang, Sampson, &

Shahly, 2010), and the level of depressive symptoms as well as the diagnoses of depression has carried an upward trend over the years (Blanco et al., 2008). Suicide is estimated to cause 32,600 deaths in a year, and it is the 11th leading cause of death in the United States (Mukamal, Wee, & Miller, 2009). Primary care clinics are important catchment sites for suicide risk (Bryan, Corso, Neal-Walden, & Rudd, 2009). According to Luoma, Martin, and Pearson (2002), 45% of individuals who die by suicide contact a primary care provider within a month prior to their death. Thus, it would be important to have a better understanding of how to reduce suicide risk in primary care patients. In particular, it would be important to focus on predictive variables, such as optimism-pessimism. This would allow us to identify those at high risk and to mitigate that risk. When researchers such as Carver and Gaines (1987) studied optimism-pessimism as related to depression and suicide in women before and after childbirth, optimism was found to be a protective factor whereas pessimism was found to be a risk factor in predicting depression and suicide. This continues to support the belief that optimism is good and pessimism is bad.

Although much research has supported that optimism is good and pessimism is bad, some researchers have questioned whether this model holds true under all circumstances. The reality is that a positive outcome does not always occur. Tennen and Affleck (1987) examined potential pitfalls of being optimistic, predicting that optimists may be more vulnerable when faced with negative events. They found that optimistic mothers expected a low risk of delivering an infant in need of intensive care even after having experienced the situation before. Due to their positive outcome expectancies, the concern would be if these mothers do not learn preventative measures. Indeed, other researchers have found that being optimistic is not adaptive under particular circumstances. For example, Chang and Sanna (2003) found that optimists who experienced high negative life stress experienced greater depressive symptoms, physical symptoms, and

vulnerability to illness. Another example of optimism being maladaptive is the hazard of unrealistic optimism (Davidson & Prkachin, 1997). According to Davidson and Prkachin (1997), *unrealistic optimism* is the belief that an individual is less likely than others to experience negative outcomes. This often leads to the hazards of not taking preventative health measures or participating in more high-risk behaviors. Taken together, researchers have acknowledged the need to have a better contextual understanding of the link between optimism-pessimism and adjustment.

In order to have yet an even better understanding of the relations of optimism-pessimism and maladjustment, we asked a slightly different question in this study. Instead of investigating circumstances where being optimistic may be maladaptive, we wanted to examine whether there are some instances in which being pessimistic may be less maladaptive than being optimistic. In particular, we were interested in the relations of optimism-pessimism and suicide risk which we measured through depressive symptoms and suicidal behavior in primary care patients. Factors have been identified that may moderate the relationship of optimism-pessimism and adjustment. Some of these factors include social support, socioeconomic disparities, stress appraisal, gender, and age (Chang, 2002; Robb, Simon, & Wardle, 2009; Sha, 2006; Shelby, Crespino, Wells-Di Gregorio, Lamdan, Siegel, & Taylor, 2008; Palgi, Shrira, Ben-Ezra, Cohen-Fridel, & Bodner, 2011). In this study, we aimed to examine the role of future orientation as a potential moderator of the optimism-pessimism and maladjustment relationship. Hirsch et al. (2006) describes future orientation as a combination of an individual's ability to think about and develop a positive outlook/mood about the future, to develop ways to achieve goals, and to have reasons for living. In this way, the future orientation scale is similar to the third part of Beck's Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974) in that it focuses on one's outlook of, or one's hope

in, the future. Some studies have examined the interaction of future oriented cognitions and optimism/pessimism in predicting hopelessness and dysphoria and found evidence for the moderating role of future oriented cognitions (O'Connor, & Cassidy, 2007). According to Szanto et al. (2001), suicide risk could be mitigated by changing negative cognitions. Thus, by changing future orientation, which is a cognitive variable, suicide risk may be reduced. An individual that has a positive approach in their view of the future may be less likely to consider suicide while, on the contrary, those who have a negative approach (e.g., those who are high in hopelessness) may be more inclined to consider suicide (Hirsch, Wolford, LaLonde, Brunk, & Morris, 2007). Since both optimism-pessimism and future orientation target cognitions about the future, it would be interesting to examine an interactive model to see whether future orientation may moderate the relationship between optimism-pessimism and suicide risk. Namely, it would be important to examine whether those who are pessimistic but have high future orientation may experience fewer depressive symptoms and suicidal behavior than optimists.

Purpose

Given the previous research that constructs our understanding of predictors of suicide risk in primary care adults, we examined the utility of optimism-pessimism and future orientation as additive and interactive predictors of suicide risk in a large sample of primary care adults. We had four specific objectives: 1) to examine the relations between optimism-pessimism, future orientation and suicide risk (viz., depressive symptoms and suicidal behavior) in primary care adults; 2) to determine if optimism-pessimism accounts for significant variance in suicide risk in primary care adults; 3) to determine if the inclusion of future orientation would significantly add to the prediction of additional unique variance, beyond what may be accounted for by optimism-pessimism, in predicting suicide risk in primary care adults; and 4) to determine if the interaction

of optimism-pessimism X future orientation would add significant variance to the prediction of suicide risk above and beyond optimism-pessimism and future orientation.

Consistent with previous findings associated with optimism-pessimism, future orientation, and suicide risk (Hirsch et al., 2006; Scheier, Carver & Bridges, 2001), we predicted that optimism-pessimism and future orientation would be related to depressive symptoms and suicidal behavior. In particular, we expected optimism-pessimism and future orientation to be negatively associated with depressive symptoms and suicidal behavior. In addition, we predicted that optimism-pessimism would account for significant amounts of variance in depressive symptoms and suicidal behavior. We also expected future orientation to add significant incremental validity, beyond what is accounted for by optimism-pessimism, in the prediction of suicide risk. Finally, we expect to find future orientation to play a moderating role in the relationship between optimism-pessimism and suicide risk; the interaction will account for additional variance above and beyond the two factors of optimism-pessimism and future orientation alone.

Method

Participants

A total of 101 patients receiving care from a rural Southeastern primary care clinic participated in the present study. This clinic serves as a “catchment site” for the detection and prevention of suicidal behavior. Patients included in this study were, by definition, an individual who is employed but lacks health insurance, or a member of their family. Further, because of the availability of state insurance (TennCare), for children and adolescents, and federal insurance (Medicare), for older adults, our sample excluded individuals younger than 18 and older than 65 years of age. The mean age of participants was 42.18 ($SD = 1.31$) years. The majority of the participants in the study identified with a Caucasian ethnicity (93%).

Measures

Future Orientation (FO). To assess the participant’s expectations and the degree to which one was thoughtful and hopeful about their future, we used the Future Orientation Scale (Hirsch et al., 2006). This scale examines specific reasons that people have for not giving up when experiencing negativity or stress in their life. The Future Orientation scale is a 6-item Likert measure that includes items like “Tomorrow I may feel better,” “I believe I can learn to adjust or cope with my problems,” and “I have future plans I am looking forward to carrying out.” These items were rated from 1 (*extremely unimportant*) to 6 (*extremely important*) to the participant for not giving up on life. Evidence for the construct validity of the Future Orientation scale has been reported in Hirsch et al. (2006). In general, higher scores on the scale indicate a greater importance for individuals to deal with the stressors in their life and continue to have hope for the future.

Optimism/Pessimism (LOT-R). Optimism and pessimism was assessed by the Life Orientation Test-Revised (Scheier, Carver, & Bridges, 1994). This scale assesses individual differences in generalized optimism versus generalized pessimism. The Life Orientation Test-Revised consists of 10 items with four of the items serving as filler items. Some of these items include “In uncertain times, I usually expect the best,” “If something can go wrong for me, it will,” and “I don’t get upset too easily.” Participants record how much they agree with the items using a 5-point Likert-type scale, ranging from 0 (*strongly disagree*) to 4 (*strongly agree*). Evidence for the construct validity of the CESD has been reported in Scheier, Carver, & Bridges (1994). Higher overall scores on the scale typically indicate greater levels of optimism and lower levels of pessimism.

Depressive Symptoms (CES-D). Depressive symptoms were assessed by the Center for Epidemiologic Studies Depression Scale (Radloff, 1977). The scale consists of 20 items and assesses for depressive behaviors and feelings the participant may have had during the past week. Some of these items are “I was bothered by things that usually don’t bother me,” “I did not feel like eating; my appetite was poor,” and “My sleep was restless.” Participants rate the statements on the frequency with which they experience these feelings using a 4-point Likert-type scale, ranging from 1 (*rarely or none of the time – less than one day*) to 4 (*most or all of the time – five to seven days*). Evidence for the construct validity of the CESD has been reported in Radloff (1997). In general, higher overall scores on the scale typically indicate greater levels of depressive symptoms and a greater likelihood of a depression diagnosis.

Suicide Behavior (SBQ-R). To assess for suicide ideation, the present study used the Suicide Behavior Questionnaire-Revised (Osman et al., 1999). This four-item scale measures four different dimensions of suicidality: lifetime ideation and/or suicide attempt, the frequency of

suicidal ideation over the past twelve months, the threat of suicide attempt, and a self-reported likelihood of suicidal behavior in the future. Examples of items in the measure include “Have you ever thought about or attempted to kill yourself?” and “Have you ever told someone that you were going to commit suicide or that you might do it?” The responses for each item are given total points, and are measured on a six-point Likert-type scale. The total score of the items should range from 3-18. Evidence for the construct validity of the SBQ has been reported in Osman et al. (1999). Higher overall scores on the scale indicated a greater amount of suicide ideation and a greater likelihood of suicidal behavior.

Procedure

Participants in this IRB-approved study were recruited from a rural, primary care clinic that serves only working and uninsured patients. Patients responded to advertisements displayed throughout the clinic, including posters, flyers and brochures, and were compensated \$15.00 for completion of the one-hour survey battery. All patients who were able to provide written, informed consent were eligible to participate, and had the option of completing the survey in-person, at the clinic, or electronically, via a secure data server, on the internet.

Results

Relations Between Optimism-Pessimism, Future Orientation, and Suicide Risk in Primary Care Adults

Correlations, means, and standard deviations for all study measures are presented in **Table 1**. As the table shows, optimism-pessimism was significantly and negatively correlated with both depressive symptoms and suicidal behavior ($r_s = -.40$ to $-.67$). Future orientation was also found to be significantly and negatively correlated with depressive symptoms and suicidal behavior ($r_s = -.34$ to $-.48$). Finally, optimism-pessimism and future orientation were significantly and positively correlated ($r = .52$).

Optimism-pessimism and Future Orientation as Unique Predictors of Suicide Risk in Primary Care Adults

To examine the predictive utility of optimism-pessimism (as measured by the LOT-R) and future orientation (as measured by the FO) in accounting for variance in scores on depressive symptoms (as measured by CES-D) and suicide behavior (as measured by SBQ-R), we conducted a series of hierarchical regression analyses. For each equation, scores from the optimism-pessimism scale were entered in the first step, followed by scores of the future orientation scale in the second step. Finally, to test for an interaction model, the scores from the interaction of optimism-pessimism X future orientation were entered in the third step. Results of these analyses for predicting unique variance in depressive symptoms and suicidal behavior are presented in **Table 2**. To determine if scores reflecting optimism-pessimism and future orientation accounted for a small, medium, or large amount of the variance in functioning, we used Cohen's (1977) convention for small ($f^2 = .02$), medium ($f^2 = .15$), and large effects ($f^2 = .35$).

As the table shows, optimism-pessimism scores were found to account for a large ($f^2 = .82$) 45% of significant variance in depressive symptoms scores, $F(1, 93) = 76.156, p \leq .001$. Optimism-pessimism was found to be a significant and unique predictor of depressive symptoms ($\beta = -.67$). When future orientation scores were entered in the next step, they were found to account for a small ($f^2 = .02$), but significant 2% of additional variance in depressive symptoms scores, $F(1, 92) = 3.935, p \leq .05$. Future orientation was found to be a significant additive predictor ($\beta = -.18$) of depressive symptoms. In predicting suicidal behavior, optimism-pessimism scores were found to account for a medium ($f^2 = .19$), but significant 16% of the variance in suicidal behaviors scores, $F(1, 99) = 18.900, p \leq .001$. Optimism-pessimism was found to be a significant predictor ($\beta = -.40$) of suicidal behavior. Future orientation was not found to be a significant additive predictor of suicide behavior. However, more importantly, when the interaction term was added in the third step, for predicting both depressive symptoms and suicidal behavior, the interaction of optimism-pessimism accounted for additional variance above and beyond the two factors alone. For depressive symptoms, the interaction of optimism-pessimism X future orientation was found to account for a small ($f^2 = .04$) but significant 4% of additional variance above and beyond the two factors alone. For suicide behavior, the interaction of optimism-pessimism X future orientation was found to account for a small ($f^2 = .09$) but significant 8% of additional variance above and beyond the two factors alone. Overall, the present regression results not only indicate the importance of optimism-pessimism, but they also indicate the importance of future orientation and the interaction of the two variables, as unique, additive, and interactive predictors of suicide risk in primary care adults.

Discussion

We conducted the present study to examine the utility of an additive and interactive model of optimism-pessimism and future orientation in predicting suicide risk in primary care adults. Consistent with past research findings (e.g., Scheier & Carver, 1985; Scheier & Carver, 1992; Hirsch, 2006), we found optimism-pessimism and future orientation to be significantly associated with greater depressive symptoms and suicidal behavior. Additionally, we found optimism-pessimism and future orientation to be related, but not redundant with one another. Specifically, greater optimism was associated with greater future orientation.

To examine whether optimism-pessimism is an important predictor of suicide risk in primary care adults, we conducted a series of regression analyses. Findings from these analyses indicated that optimism-pessimism accounted for a medium to large amount of variance in suicide risk. Specifically, lower optimism (greater pessimism) was found to be a unique predictor of greater depressive symptoms and suicide risk in primary care adults. Taken together, these findings expand on past studies linking optimism to less psychological maladjustment (Carver, Scheier, & Segerstrom, 2010) and pessimism to greater psychological maladjustment (Chang, 2002). This further supports the notion of optimism representing an adaptive construct and pessimism representing a maladaptive construct.

We extended our regression analyses to include future orientation to determine if it would add, beyond optimism-pessimism, to the prediction of suicide risk in primary care adults. Consistent with past findings (e.g., Hirsch et al., 2006), and our expectation of finding support for an additive model, we found future orientation to account for a small, but significant, amount of additional variance in depressive symptoms, but no significant additional variance was found for suicidal behavior. These results still supported our prediction of future orientation playing an

additive role in predicting suicide risk as depression has been linked to greater suicide risk (Davidson, Wingate, Grant, Judah, & Mills, 2011).

However, more importantly, when the interaction of optimism-pessimism X future orientation was included in the final step of the hierarchical regression analyses, it was found to account for a small, but significant, amount of variance in both depressive symptoms and suicidal behavior. Upon plotting the interactions, it is evident that future orientation had a greater effect on pessimists than on optimists. Pessimists who were low in future orientation had the highest levels of both depressive symptoms and suicidal behavior, but pessimists who were high in future orientation had dramatically fewer depressive symptoms and suicide behavior than pessimists with low future orientation and optimists as well. This addresses our original question in that it shows evidence for a situation in which being pessimistic is not as bad as being optimistic. This idea of a less maladaptive pessimism is similar to past studies on *defensive pessimism*, a strategy of lowering expectations in order to help anxious individuals meet goals. Despite having a negative outlook, this use of pessimism has shown to be adaptive (Norem, 2008). Norem also acknowledged that those who utilize defensive pessimism tend to be at lower risk for depression.

Thus, our findings indicate that beyond optimism-pessimism, cognitions focused on the future should also be considered when treating adults with suicide risk. Similar to past findings (Hirsch, et al., 2006) our results show that pessimists who do not believe the future is changeable as those who have the highest risk for suicide. Relatedly, our results also point to the potential value of developing interventions that incorporate assessments of optimism-pessimism and future orientation to develop strategies for reducing depressive symptoms and suicide behavior in primary care adults. Indeed, given that the interaction of optimism-pessimism X future

orientation was found to account for additional variance in depressive symptoms (4.0%) and suicidal behavior (8.0%), our findings suggest a particular need to consider not just one's outcome expectancy, but also one's beliefs on the changeability of the future. It may not be pessimism alone that accounts for greater depressive symptoms and suicidal behavior, but rather, the coexistence of pessimism and a belief that the situation will never change that accounts for the greatest amount of depressive symptoms and suicidal behavior in primary care adults. Based on Beck's Theory of Cognitive Therapy for Depression (1979), possible interventions could be developed to change negative thoughts in order to decrease depression. As a part of this therapy, depression could be mitigated by first observing the individual's habitual negative thoughts and its connections to affect and behavior, then finding evidence for and against the negative cognitions, and finally, substituting more realistic cognitions for the negative cognitions. In this way, clinicians can aid pessimists with low future orientation to have greater future orientation in order to decrease suicide risk. Given these and other possibilities, more research is needed to build on the present findings.

Some Limitations of the Present Study

Beyond these considerations, it is worth noting some limitations of the present study. First, because the focus of our study was on primary care adults, it would be important to evaluate the generalizability of the present findings to other adult populations who do not experience as severe depressive symptoms or suicidal behaviors. Second, our study was limited to adults receiving primary care. It would be important to examine findings from an older and younger population to see if future orientation would play the same role in those populations. Third, our study consisted of a predominately white Caucasian American sample, and

researchers like Chang (1996) have found cultural differences in optimism-pessimism in predicting adjustment; the findings suggested that pessimism may not be as detrimental for Asian Americans as it is for European American in that it facilitates problem solving behaviors. It would be interesting to determine if our findings from this study would hold true for other cultural and racial groups. Finally, given the cross-sectional nature of the present study, it would be important in future studies to use longitudinal designs that can help clarify the causal associations involving optimism-pessimism, future orientation and suicide risk in primary care adults.

Concluding Thoughts

In summary, we examined for optimism-pessimism and future orientation as predictors of suicide risk in primary care adults. We found that both optimism-pessimism and future orientation were significant additive predictors of suicide risk. When we looked at the interaction of optimism-pessimism and future orientation, we found this to account for additional variance in both depressive symptoms and suicidal behavior. Thus, our findings not only go beyond those studies that have looked at suicide risk in primary care adults, but they also make very clear that when it comes to understanding suicide risk in primary care adults, future orientation does matter for those who are pessimists. Accordingly, researchers will need to develop and test different treatments for suicide risk in optimists and pessimists with varying levels of future orientation.

References

- Bailey, T. C., Eng, W., Frisch, M. B., & Snyder, C. R. (2007). Hope and optimism as related to life satisfaction. *The Journal of Positive Psychology, 2*, 168-175.
doi:10.1080/17439760701409546
- Beck, A. T., Weissman, A., Lester, D., & Trexler, L. (1974). The measurement of pessimism: The Hopelessness Scale. *Journal of Consulting And Clinical Psychology, 42*, 861-865.
doi:10.1037/h0037562
- Blanco, C., Okuda, M., Wright, C., Hasin, D. S., Grant, B. F., Liu, S., & Olfson, M. (2008). Mental health of college students and their non-college-attending peers: Results from the National Epidemiologic Study on Alcohol and Related Conditions. *Archives of General Psychiatry, 65*, 1429-1437. doi:10.1001/archpsyc.65.12.1429
- Bryan, C. J., Corso, K. A., Neal-Walden, T. A., & Rudd, M. (2009). Managing suicide risk in primary care: Practice recommendations for behavioral health consultants. *Professional Psychology: Research and Practice, 40*, 148-155. doi:10.1037/a0011141
- Carver, C. S., & Gaines, J. G. (1987). Optimism, pessimism, and postpartum depression. *Cognitive Therapy and Research, 11*, 449-462. doi:10.1007/BF01175355
- Carver, C. S., Scheier, M. F., & Segerstron, S. C. (2010). Optimism. *Clinical Psychology Review, 30*, 879-889. doi:10.1016/j.cpr.2010.01.006
- Chang, E. C. (1996). Evidence for the cultural specificity of pessimism in Asians vs Caucasians: A test of general negativity hypothesis. *Personality and Individual Differences, 21*, 819-822.
doi:10.1016/0191-8869(96)00110-9
- Chang, E. C. (2001). *Optimism & pessimism: Implications for theory, research, and practice*. Washington, DC US: American Psychological Association. doi:10.1037/10385-000

- Chang, E. C. (2002). Optimism-pessimism and stress appraisal: Testing a cognitive interactive model of psychological adjustment in adults. *Cognitive Therapy and Research, 26*, 675-690. doi:10.1023/A:1020313427884
- Chang, E. C., & Sanna, L. J. (2001). Optimism, pessimism, and positive and negative affectivity in middle-aged adults: A test of a cognitive-affective model of psychological adjustment. *Psychology and Aging, 16*, 524-531. doi:10.1037/0882-7974.16.3.524
- Chang, E. C., & Sanna, L. J. (2003). Experience of life hassles and psychological adjustment among adolescents: Does it make a difference if one is optimistic or pessimistic?. *Personality and Individual Differences, 34*, 867-879. doi:10.1016/S01918869(02)00077-6
- Davidson, K., & Prkachin, K. (1997). Optimism and unrealistic optimism have an interacting impact on health-promoting behavior and knowledge changes. *Personality and Social Psychology Bulletin, 23*, 617-625. doi:10.1177/0146167297236005
- Davidson, C. L., Wingate, L. R., Grant, D. M., Judah, M. R., & Mills, A. C. (2011). Interpersonal suicide risk and ideation: The influence of depression and social anxiety. *Journal of Social and Clinical Psychology, 30*, 842-855. doi:10.1521/jscp.2011.30.8.842
- Dember, W. N., Martin, S. H., Hummer, M. K., & Howe, S. R. (1989). The measurement of optimism and pessimism. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues, 8*, 102-119. doi:10.1007/BF02686675
- Hirsch, J. K., Duberstein, P. R., Conner, K. R., Heisel, M. J., Beckman, A., Franus, N., & Conwell, Y. (2006). Future orientation and suicide ideation and attempts in depressed adults ages 50 and over. *American Journal of Geriatric Psychiatry, 14*, 752-757. doi:10.1097/01.JGP.0000209219.06017.62

- Hirsch, J. K., Wolford, K., LaLonde, S. M., Brunk, L., & Morris, A. (2007). Dispositional optimism as a moderator of the relationship between negative life events and suicide ideation and attempts. *Cognitive Therapy and Research, 31*, 533-546. doi:10.1007/s10608-007-9151-0
- Kessler, R. C., Birnbaum, H. H., Bromet, E. E., Hwang, I. I., Sampson, N. N., & Shahly, V. V. (2010). Age differences in major depression: Results from the National Comorbidity Survey Replication (NCS-R). *Psychological Medicine: A Journal of Research in Psychiatry and the Allied Sciences, 40*, 225-237. doi:10.1017/S0033291709990213
- Luoma, J. B., Martin, C. E., & Pearson, J. L. (2002). Contact with mental health and primary care providers before suicide: A review of the evidence. *The American Journal of Psychiatry, 159*, 909-916. doi:10.1176/appi.ajp.159.6.909
- Mukamal, K. J., Wee, C. C., & Miller, M. (2009). BMI and rates of suicide in the United States: An ecological analysis. *Obesity, 17*, 1946-1950. doi:10.1038/oby.2009.122
- Norem, J. K. (2008). Defensive pessimism, anxiety, and the complexity of evaluating self-regulation. *Social and Personality Psychology Compass, 2*, 121-134. doi:10.1111/j.1751-9004.2007.00053.x
- O'Connor, R. C., & Cassidy, C. (2007). Predicting hopelessness: The interaction between optimism/pessimism and specific future expectancies. *Cognition and Emotion, 21*, 596-613. doi:10.1080/02699930600813422
- Osman, A., Bagge, C. L., Gutierrez, P. M., Konick, L. C., Kopper, B. A., & Barrios, F. X. (2001). The Suicidal Behaviors Questionnaire-Revised (SBQ-R): Validation with clinical and nonclinical samples. *Assessment, 8*, 443-454. doi:10.1177/107319110100800409

- Palgi, T., Shrira, A., Ben-Ezra, M., Cohen-Fridel, S., & Bodner, E. (2011). The relationship between daily optimism, daily pessimism, and affect differ in young and old age. *Personality and Individual Differences, 50*, 1294-1299. doi:10.1016/j.paid.2011.02.030
- Radloff, L. S. (1977). The CES-D Scale A Self-Report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385-401.
doi:10.1177/014662167700100306
- Robb, K. A., Simon, A. E., & Wardle, J. (2009). Socioeconomic disparities in optimism and pessimism. *International Journal of Behavioral Medicine, 16*, 331-338.
doi:10.1007/s12529-008-9018-0
- Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4*, 219-247.
doi:10.1037/0278-6133.4.3.219
- Scheier, M. F., & Carver, C. S. (1992). Effects of optimism on psychological and physical well-being: Theoretical overview and empirical update. *Cognitive Therapy and Research, 16*, 201-228. doi:10.1007/BF01173489
- 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*, 1063-1078.
doi:10.1037/0022-3514.67.6.1063
- Sha, T. (2006). Optimism, Pessimism and Depression; The Relations and Differences by Stress Level and Gender. *Acta Psychologica Sinica, 38*, 886-901
- Shelby, R. A., Crespin, T. R., Wells-Di Gregorio, S. M., Lamdan, R. M., Siegel, J. E., & Taylor, K. L. (2008). Optimism, social support, and adjustment in African American women with

breast cancer. *Journal of Behavioral Medicine*, 31, 433-444. doi:10.1007/s10865-008-9167-

2

Szanto, K., Mulsant, B. H., Houck, P. R., Miller, M. D., Mazumdar, S., & Reynolds, C. (2001).

Treatment outcome in suicidal vs. non-suicidal elderly patients. *The American Journal of Geriatric Psychiatry*, 9, 261-268. doi:10.1176/appi.ajgp.9.3.261

Tennen, H., & Affleck, G. (1987). The costs and benefits of optimistic explanations and

dispositional optimism. *Journal of Personality*, 55, 377-393. doi:10.1111/j.1467-

6494.1987.tb00443.x

Table 1

Correlations Between All Study Measures For Primary Care Adults

Measures	1	2	3	4
1. Optimism-Pessimism	--			
2. Future Orientation	.52**	--		
3. Depressive Symptoms	-.67**	-.48**	--	
4. Suicidal Behavior	-.40**	-.34**	.53**	--
<i>M</i>	3.30	4.81	15.40	4.90
<i>SD</i>	.90	1.01	11.79	2.48

** $p < .05$

Table 2

Results of Hierarchical Regression Analyses Showing Amount of Variance in Suicide Risk Accounted for by Optimism-Pessimism and Future Orientation Primary Care Adults

Outcome and Measure	β	R^2	ΔR^2	F	p
Depressive Symptoms					
Step 1: Optimism-Pessimism	-.67***	.45	--	76.16	≤.001
Step 2: Future Orientation	-.18*	.47	.02	3.94	≤.050
Step 3: Optimism-Pessimism X Future Orientation	1.47**	.51	.04	7.8	≤.010
Suicidal Behavior					
Step 1: Optimism-Pessimism	-.40***	.16	--	18.900	≤.001
Step 2: Future Orientation	-.18	.19	.03	2.981	>.050
Step 3: Optimism-Pessimism X Future Orientation	2.05***	.27	.08	10.729	≤.001

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Figure Captions

Figure 1. Interaction of Optimism-Pessimism X Future Orientation. Depressive Symptoms at High and Low Future Orientation for Optimists and Pessimists.

Figure 2. Interaction of Optimism-Pessimism X Future Orientation. Suicidal Behavior at High and Low Future orientation for Optimists and Pessimisms.





