The Effectiveness of Progressive Relaxation Training on Daily Hassles: Moderating Role of Hardiness and Self esteem

Mohtaram Nemat Tavousi a *

aIslamic Azad University-South Tehran Branch, Tehran, Iran

Abstract

The effectiveness of Progressive Relaxation Training in evaluating the stress of daily life events was examined. One hundred and twenty female students of Islamic Azad University completed the Personal Views Survey (PVS; Hardiness Institute, 1985), Self-esteem Inventory (Coopersmith, 1967), and Cattell Anxiety Scale (Cattell, 1958). After random assignment of participants to a control and an experiment group, the experimental group received 10 weekly sessions of Progressive Relaxation Training (Jacobson, 1934). Next, the Hassles and Uplifts Scale (Delongis et al., 1982) was administered to both groups. Data showed that by controlling the levels of self-esteem, hardiness and tension, the experimental group, after receiving the relaxation training, appraised the daily life events as less stressful than did the control group that did not receive the training. It can be concluded that the appraisal of stressful circumstances were influenced on individual resources.

Keywords: progressive relaxation training; stress; life events; hardiness; self esteem

1. Introduction

Changing patterns of illness in developed countries have fuels the increased interest of many researchers; Just a century ago, the leading causes of death were infectious diseases, today none of these diseases are among the major causes of death. For example, 7 of the 10 leading causes of death in The United States today are related to personal habits and lifestyles. The evidence shows that the major causes of death now are some diseases (such as heart...
disease, cancer, diabetes) and events (such as accident) which health behaviors often play key roles in them, are major contributors to disability and death (Santrick, 2004; Taylor, 2003).

Revealing the important of biological, psychological and social factors as causes of illness or health have induced to develop two relatively new fields- health psychology and behavioral medicine. While, health psychologist emphasize psychology’s role in promoting and maintaining health and preventing and treating illness, behavioral medicine experts are focus on developing and integrating behavioral and biomedical knowledge to promote health and reduce illness. They seek to find effective ways of managing the environment to help people cope more effectively and successfully with stress. One of the main areas of research in health psychology and behavioral medicine is to examine the link between stress and illness. Researchers have showed the relation between psychological and physical and how we cope well-being with stress (Cohen, Doyle, Turner, Alper & Skoner, 2004; Cohen & Hamrick, 2003; Feldman, Cohen, Hamrick & Lepore, 2004; Ge & Conger, 2003; Hackett, Hamer, Endrighi, Brydon & Steptoe, 2012; Jaremka, et al., 2014; McGuire, Kiecolt-Glaser & Glaser, 2002; Miller, et al., 2004; Nemat Tavousi, 2004; Umana-Taylor & Updegraff, 2007). In fact, the immune system plays a critical role in the relationship between stress and disease (Godbout & Glaser, 2006; Holt-Lunstad, Smith & Layton, 2010; Jaremka, Glaser, Malarkey & Kiecolt-Glaser, 2013; Kiecolt-Glaser, 2009; Rohleder, Marin, Ma & Miller, 2009).

A number of studies which have provided evidence due to relation between stress-illness and psychological characteristic revealed that environmental resources and certain personality predispositions may help people cope more effectively with stress and less vulnerability to illness. Some factors such as lack of social support networks, poor coping strategies, anxiety and pessimism induce to decreasing resistance individuals to stress and increasing vulnerability to stressor. By contrast, effective coping strategies, social support and personality factors such as self-efficacy, optimism, psychological control, hardness, self esteem and etc. as individual or environmental resources by decreasing the appraisal of threat, decrease the level of undesirable event (Cohen, 2002; Cohen, Doyle, Turner, Alper & Skoner, 2003; Lakey & Cohen, 2000; Pengilly & Dowd, 2000; Taylor & Aspinwall, 1996). For example, a number of studies suggests the stress-buffering effects of hardiness and shows the basically role of the hardiness in developing diseases. Hardiness seems so important in resiliency under stressful circumstances. Researchers have revealed that hardy individuals may appraise potentially stressful events more positively and controllably than those low in hardiness. Hardy individuals also appear to use effective coping skills. Thus, hardiness may moderate the impact of stress on psychological and physical health protectively by transforming stressful events into ones that are less so, and reactively by enabling a person to enlist successful coping health habits for dealing with stress (da Silval et al., 2014; Kobosa, Maddi & Zola, 1983; Maddi, 2002; Maddi & Harvey, 2006; Maddi, Harvey, Khoshabaa, Fazela & Resurrecciona, 2009; Stinson et al., 2008; Vohs et al., 2008).

Another personality factor that has been linked to resistance to stress is self-esteem. High self-esteem is believed to moderate the stress-illness relationship, as well as the relation between daily hassles and negative mood (Taylor & Aspinwall, 1996). In the face of characteristic low self-esteem, threats to self-evaluation exacerbate of self-feelings in ways that may be personality dysfunctional and socially objectionable. Characteristic low self-esteem that exacerbates the effects of the self-threatening experiences is itself the outcome of a lifetime of self-evaluating experiences of rejection and failure and the inability to forestall such experiences or to assuage the degree of the distress that accompanies the experiences. Characteristic low self-esteem or high levels of self-derogation may sensitize the individuals to the persistence of threats in environment and imagination that event constitute threats when others with higher levels of self-esteem might not define the circumstances as threatening (Baumeister, Cambell, Krueger & Vohs, 2003; Kaplan, 1996).

In a sense everyone is continually under stress. The environment makes constant demands on individuals that they are expected to fill and expect themselves to fulfill. That the significance of these demands varies, and that the resources available to fulfill the demands vary is unquestionable. In other word, stress as a main part of the life is inevitable because stressors can range in severity from microstressors- the daily hassles and everyday annoyances we encounter at school, on the job, and in our family relations- to very severe stressors. Catastrophic events often occur unexpectedly and typically affect large numbers of people. They include such events as natural disasters and acts of war. Major negative events such as being the victim of a major crime or sexual abuse, the death or loss of a loved one, an academic or career failure, or a major illness, also require major adaptation.
2. Method

This study utilized an experimental design of pretest-posttest with a control group. First, the participants were selected randomly and evaluated their levels of hardiness, self-esteem and tension and then, they were assigned randomly to a control and an experiment group equally (n=60). After training the experiment group, how appraisal of the stressful events in both groups were examined in order to determine the effectiveness of the independent variable (relaxation training).

All subjects who participated in this study were selected of Azad Islamic University south of branch in 2013. Among the population who included 387 students of consulting, 120 female students, based on systematic sampling method, were selected randomly and evaluated their levels of hardiness, self-esteem and tension and then, participants were assigned randomly to a control and an experiment group equally (n=60).

The levels of self-esteem were assessed by Self-esteem Inventory (Coopersmith, 1967), the degree of hardiness were determined by Personal Views Survey (PVS; Hardiness Institute, 1985), the levels of tension (Q4) were measured by Cattell Anxiety Scale (Cattell, 1958), and the appraisal of daily stressful events were evaluated by Hassles and Uplifts Scale (Delongis, Coyne, Dakof, Folkman & Lazarus, 1982). In addition, for producing skills for coping to stress, experimental group received 10 weekly sessions of Progressive Relaxation Training (Jackobson, 1934).

The Coopersmith self-esteem Inventory (Coopersmith, 1967) contained 58 items. The items were selected in terms of their face validity to measure four aspects of self-esteem: peers, parents, school and personal interests. Subsequently two twenty-five-item versions were produced both children and adults which consisted of the items having the highest correlation with the total score (Kline, 2000). In this research was utilized the original full scale. This inventory based on five scales including General scale, Family scale, Social scale, School scale, Moral scale, describes feelings and believes of the people. A number of studies have showed Validity and reliability; For long and short versions alphas of beyond .8. Test-retest reliabilities are also high. In the latest manual was reported reliabilities over three years of .64 which are not significantly different from earlier coefficients of .7 over three years. Although there are substantial correlations with other scales of self-esteem, factor analyses of the SEI indicate that it is not unidimensional and that there are variable numbers of factors found by different researchers. For example, Gibbs and Norwich (1985) found ten factors in their twenty-five-item version, while Ahmed, Valliant and Swindle (1985) found four. Kokenes (1978) claimed nine factors accounted for the long version of the test (Kline, 2000).

The Personal Views Survey (PVS; Hardiness Institute, 1985) is a self-report scale, consisting of 50 items, is used measure hardiness, a personality factor composed of three components: a sense of commitment is the tendency to involve oneself in what one encounters; control is the belief that one causes the events of one's life and can influence one's environment; and challenge is a willingness to undertake change and confront new activities, providing opportunities for growth. The Personal Views Survey (PVS) yields commitment, control, challenge, and total hardy attitudes scores. Internal consistency reliability of the PVS is high. The factor analyses of the scale suggest three factors relevant to this construct (Maddi, 1998). The PVS demonstrated adequate reliability and both convergent and discriminant validity (Maddi, 1998; Maddi & Harvey, 2006). In this study the PVS was administered to both groups in order to determine the extent of their agreement or disagreement with each statement.

The Hassles and Uplifts Scale (Delongis et al., 1982) with 53 items contained a series of daily life events including family duties, argument with the family, physical and psychological health of one member of the family, welfare, social or political problems, appearance, occupational problems, job security and... All of the subjects were asked to evaluate each daily event in term of its relative degrees of unpleasant of stressor on a four-point scale.

The Cattell Anxiety Scale (Cattell, 1958) contained five factors and 40 items that 10 items have been devoted to Q4 as one of the most component. According to Cattell, this component indicates the degree of anxiety which is produced by the pressure of the id. The reliability and validity of this scale have been reported satisfaction. For example, regarding to explore validation of the Cattell Anxiety Scale significant and positive correlations have been reported between this questionnaire and Spielberger State-Trait Anxiety Inventory as well as, Sheehan Patient-Rating Anxiety Scale (Nemat Tavousi, 2004).
The Progressive Relaxation Training (Jackobson, 1934) which is one of the most common technique for stress management, was developed by Jackobson (1934) for the first time. It is supposed that with relaxation training, people obtain skills in which by using them can manage their anxiety in stressful circumstances (Biggs, Kelly & Toney, 2003; Borkovec, Newman, Pincus & Lytle, 2002; Cheung, Molassiotis & Chang, 2003; Hanley, Stirling & Brown, 2003; Lolak, Connors, Sheridan & Wise, 2008; Richardson & Rothstein, 2008). In this study the progressive relaxation training in the type of sixteen groups muscles was used. This training contained 10 session and home weekly practices with CD.

As noted later, many studies have shown that some variables such as self-esteem, hardiness and tension may influence on perceived and appraisal of stressful life events (for example Baumeister et al., 2003; Cohen, 2002; Cohen et al., 2003; Lakey & Cohen, 2000; Taylor & Aspinwall, 1996), therefore, by controlling these variables, data were analyzed using covariate test to eliminate the impact of relaxation training on appraisal of daily stressors.

3. Results

The findings revealed that there is significant correlation between all of the variables. There is a positive and significant correlation between self-esteem and hardiness as well as their components. In addition, there is a negative and significant correlation between self-esteem, hardiness and tension (table1).

| variable      | M   | SD  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| self-esteem   | 37.81 | 7.738 |  | | | | | | | | | |
| general       | 19.92 | 4.150 | .904** | | | | | | | | | |
| family        | 5.61  | 2.206 | .741** | .518** | | | | | | | | |
| social        | 6.31  | 1.774 | .712** | .530** | .387** | | | | | | | |
| school        | 5.93  | 1.597 | .678** | .465** | .462** | .436** | | | | | | |
| moral         | 3.21  | 1.719 | .186 | .162 | .062 | .144 | .234 | | | | | |
| hardiness     | 26.05 | 4.461 | .603** | .552** | .492** | .467** | .291** | .106 | | | | |
| commitment    | .7448 | .1313 | .591** | .537** | .483** | .464** | .285** | -.108 | .988** | | | |
| control       | .7584 | .1030 | .462** | .472** | .272** | .295** | .330** | -.056 | .533** | .515** | | |
| challenge     | .4890 | .1201 | .416** | .367** | .382** | .257** | .234** | -.036 | .268** | .243** | .135 | |
| tension       | 9.72  | 4.365 | -.597** | -.574** | -.478** | -.346** | -.242** | -.342** | -.325** | -.331** | -.463** | |
| appraisal     | 12.57 | 73.22 | -.158 | -.211* | -.186* | .027 | .013 | .052 | -.163 | -.160 | -.081 | .074 | .084 |

**P<.01 *P<.05

As shown in table 2, obtained data in order to determine the effect of progressive relaxation training on appraisal of daily hassles by controlling the levels of self-esteem, hardiness and tension of experimental and control groups revealed that the differences between 2 groups in evaluating of stressful life events was significant (F=7.262, P<.008).
Table 2. Covariate analyses for comparing appraisal of stressful life events in 2 groups

| Source     | SS        | df | MS        | F    | Sig. |
|------------|-----------|----|-----------|-----|------|
| self-esteem| 92.959    | 1  | 92.959    | .019| .892 |
| hardiness  | 9134.447  | 1  | 9134.447  | 1.819| .191 |
| tension    | 560.210   | 1  | 560.210   | .112| .739 |
| group      | 36467.069 | 1  | 36467.069 | 7.262| .008 |
| error      | 477085.462| 115| 5021.952  |     |      |
| corrected total | 530680.160 | 119|        |     |      |

Therefore, it can be concluded that the people who receiving progressive relaxation training (PRT) in comparison with ones do not, evaluate daily hassles less stressful (Fig.1).

![Fig.1. Appraisal of stressful life events after progressive training](image)

4. Discussion

As anticipated by hypothesis "stress management training influence on the appraisal of the stressful daily events", the finding highlighted the differences between experimental and control groups in the evaluating of daily hassles. In other word, relaxation training can provide the ability of stress management in daily stressful circumstances for experimental group. Such conclusions are compatible with other research findings about progressive relaxation training, anxiety and related phenomena (For example, Biggs et al., 2003; Borkovec et al., 2002; Cheung et al., 2003;Hanley et al., 2003;Lolak et al., 2008; Richardson & Rothstein, 2008).

Furthermore, in this study examined the role of self-esteem and hardiness as moderators variables. As a moderating variable, characteristic high self-esteem assuages the adverse influence of discrete or episodic threats to self-esteem on the immediate experience of negative self-feelings and on the need for maladaptive, subjectively undesirable, or socially disvalued responses to threats to self-esteem and concomitant negative self-feelings (Stinson et al., 2008; Vohs et al., 2008; Kaplan,1996). In fact self-esteem as a superordinate moderator of the relationship between putative stressors and the experience of stress may operate through other mechanisms as well. Characteristic low self-esteem or high levels of self-derogation may sensitize the individual to the presence of threats in the environment and the imagination that events constitute threats when others with higher levels of self-esteem (and therefore a lesser propensity to be sensitive to the presence of threat) might not define the circumstances...
as self-threatening. Thus chronic self-derogation may moderate the relationships between environmental circumstances and perceived threats to self-esteem.

Also, the physical and psychological benefits of hardiness may result from any of several factors. Hardy individuals may appraise potentially stressful events more favourably than those low in hardiness. Hardy individuals also appear to use effective coping strategies, such as problem-focused coping and seeking social support, and they are less likely to be avoidant copers. Hardy individuals may also practice better health habits. Thus, hardiness may moderate the impact of stress on psychological and physical health proactively by transforming stressful events into ones that are less so, and reactively by enabling a person to enlist successful coping strategies or health habits for dealing with stress.

References

Baumeister, R. F., Cambell, J. D., Krueger, J. I., & Vohs, K. D.(2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? Psychological Science in Public Interest, 4, 1-44.

Biggs, Q. M., Kelly, K. S., & Toney, J. D.(2003). The effects of deep diaphragmatic breathing and focused attention on dental anxiety in a private practice setting. Journal of Dental Hygiene, 77(2),105-113.

Borkovec, T. D., Newman, M. G., Pincus, A. L., & Lytle, R.(2002). A component analysis of cognitive-behavioral therapy for generalized anxiety disorder and the role of interpersonal problems. Journal of Consulting & Clinical Psychology, 70 (2), 288-298. 

Cheung, Y. L., Molassiotis, A., & Chang, A. M.(2003). The effect of progressive muscle relaxation training on anxiety and quality of life after stoma surgery in colorectal cancer patients. Psychooncology, 12(3), 254-266.

Cohen, S.(2002). Psychosocial stress, social networks, and susceptibility to infection. In H. G. Koenig, & H. J. Cohen (Eds.), The Link between Religion and Health: Psycho- neuroimmunology and the Faith Factor. NY: Oxford University Press.

Cohen, S., & Hamrick, N.(2003). Stable individual differences in physiological response to stressors: Implications for stress-elicited changes in immune related health. Brain, Behaviour and Immunity, 17, 407-414.

Cohen, S., Doyle, W. J., Turner, R. B., Alper, C. M., & Skoner, D. P.(2004). Emotional style and susceptibility to the common cold. Psychosomatic Medicine, 65, 652-657.

Cohen, S., Doyle, W. J., Turner, R. B., Alper, C. M., & Skoner, D. P.(2004). Childhood socioeconomic status and host resistance to infectious illness in adulthood. Psychosomatic Medicine, 66, 553-558.

Coopersmith, S.(1967). The antecedents of self-esteem. San Francisco: Freeman.

da Silva, R. M., Goulart, C. T., Dias Lopes, L. F., Serrano, P. M., Siqueira Costa, A. L., & de Azevedo Guido, L. (2014). Hardy personality and burnout syndrome among nursing students in three Brazilian universities an analytic study. BMC Nursing 2014 13:9. Available online at www.biomedcentral.com/1472-6955/13/9

Delongis, A. D., Coyne, J., Dakof, G., Folkman, S., & Lazarus, R. S.(1982). The relationship of hassles, uplifts and major life events to health status. Health psychology, 1, 119-136.

Feldman, P. J., Cohen, S., Hamrick, N., & Lepore, S. J.(2004). Psychological stress, appraisal, emotion and cardiovascular response. Psychology and Health, 19, 353-368.

Ge, X., & Conger, R. D.(2003). Pubertal transition, stressful life events, and the emergence of gender differences in adolescent depressive symptoms. Developmental Psychology, 37, 1-20.

Godbout, J. P., & Glaser, R. (2006). Stress-induced immune dysregulation: Implications for wound healing, infectious disease and cancer. Journal of Neuroimmune Pharmacology, 1,421-427.

Hackett, R.A., Hamer, M., Endrighi, R., Brydon, L., & Steptoe, A. (2012). Loneliness and stress-related inflammatory and neuroendocrine responses in older men and women. Psychoneuroendocrinology, 37, 1801-1809.

Hanley, J., Stirling, P., & Brown, C.(2003). Randomized controlled trial of therapeutic massage in the management of stress. British Journal of General Practice, 53(486), 20-25.

Hardiness Institute (1985). Personal Views Survey. Hardiness Institute, Arlington Heights, IL.

Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: a meta-analytic review. PLoS Medicine, 7(7). Available online at HYPERLINK http://www.plosmedicine.org/article/info www.plosmedicine.org/article/info

Jaremka, L. M., Andridge, R. R., Fagundes, C. P., Alfano, C. M., Povoski, S. P., Lipari, A. M., Agnese, D. M., Arnold, M.W., Farrar, W. B., Yee, L. D., Carson, W. E., Bekaii-Saab, T., Martin, E.W., Schmidt, C. R., & Kiecolt-Glaser, J. K. (2014). Pain, depression, and fatigue: Loneliness as a longitudinal risk factor. Journal of Health Psychology, 33, 948-57.

Jaremka, L. M., Glaser, R., Malarkey, W. B., & Kiecolt-Glaser, J. K. (2013). Marital distress prospectively predicts poorer cellular immune function. Available online at www.sciencedirect.com

Kaplan, H. B.(1996). Psychosocial stress from the perspective of self Theory. In H. B. Kaplan (Ed.), Psychosocial stress (pp.175-244). Academic Press.

Kiecolt-Glaser, J. (2009). Psychoneuroimmunology: Psychology’s gateway to the biomedical future. Perspectives on Psychological Science,4(4), 367-369.

Kline, P.(2000). Psychological testing. London: Rutledge.

Kobosa, S. C., Maddi, S. R., & Zola, M.(1983). Type A and hardiness. Journal of Behavioral medicine, 6, 41-51.
Lakey, B., & Cohen, S. (2000). Social support theory and measurement. In S. Cohen, L. Underwood, & B. Gottlieb (Eds.), *Measuring and intervening in social support*. New York: Oxford University Press.

Lolak, S., Connors, G. L., Sheridan, M. J., & Wise, T. N. (2008). Effects of progressive muscle relaxation training on anxiety and depression in patients enrolled in an outpatient pulmonary rehabilitation program. *Psychotherapy and psychosomatics, 77*(2), 119-125.

Maddi, S. R., Harvey, R. H., Khoshabaa, D. M., Fazela, M., & Resurreccion, N. (2009). Hardiness training facilitates performance in college. *Journal of Positive Psychology, 4*, 566–577.

Maddi, S. R. (1998). Hardiness. In H. S. Friedman (Ed.), *Encyclopaedia of mental health (Vol.3)*. San Diego: American Press.

Maddi, S. R. (2002). The story of hardiness: Twenty years of theorizing, research, and practice. *Consulting Psychology Journal, 54*, 173-185.

Maddi, S. R., & Harvey, R. H. (2006). Hardiness considered across cultures. In P. T. P. Wong & L. C. G. Wong (Ed.), *Handbook of multicultural perspectives on stress and coping*. New York: Springer.

McGuire, L., Kiecolt-Glaser, J. K., & Glaser, R. (2002). Depressive symptoms and immune function in community dwelling older adults. *Journal of Abnormal psychology, 111*, 192-197.

Miller, G. E., Cohen, S., Pressman, S., Rabin, B. S., Barkin, A., & Treanor, J. (2004). Psychological stress and antibody response to influenza vaccination: When is the critical period for stress, and how does it get inside the body? *Psychosomatic Medicine, 66*, 207-214.

NematTavousi, M. (2004). Health and stress: Physiological and psychological consequences of stressful life events. *Journal of Iranian Physiologists, 1*, 31-45.

Pengilly, J. W., & Dowd, E. T. (2000). Hardiness and social support as moderator of stress. *Journal of Clinical Psychology, 56*, 813-820.

Richardson, K. M., & Rothstein, H. R. (2008). Effects of occupational stress management intervention programs: A meta-analysis. *Journal of Occupational Health Psychology, 13*(1), 69-93.

Rohleder, N., Marin, T. J., Ma, R., & Miller, G. E. (2009). Biologic cost of caring for a cancer patient: Dysregulation of pro-and anti-inflammatory signalling pathways. *Journal of Clinical Oncology, 27*, 2909-2915.

Santrick, J. W. (2004). *Psychology*. New York: McGraw Hill

Stinson, D. A., Logel, C., Zanna, M. P., Holmes, J. G., Cameron, J. J., Wood, J. V., & Spencer, S. J. (2008). The cost of lower self-esteem: Testing a self- and social-bonds model of health. *Journal of Personality and Social Psychology, 94*(3), 412-428.

Taylor, S. C., & Aspinwall, L. G. (1996). Mediating and moderating processes in psycho- logical stress. In H. B. Kaplan (Ed.), *Psychological stress* (pp.79-110). Academic Press.

Taylor, S. E. (2003). *Health psychology (5th ed)*. New York: McGraw-Hill.

Umana-Taylor, A. J., & Updegraff, K. A. (2007). Latino adolescents’ mental health: Exploring the interrelations among discrimination, ethnic identity, cultural, orientation, self-esteem, and depressive symptoms. *Journal of Adolescence, 30*(4), 549-567.

Vohs, K. D., Baumeister, R. F., Schmeichel, B. J., Twenge, J. M., Nelson, N. M., & Tice, D. M. (2008). Making choices impairs subsequent self-control: A limited-resource account of decision making, self-regulation, and active initiative. *Journal of Personality and Social psychology, 94*(5), 883-898.