

# Infertility Stress: The Role of Coping Strategies, Personality Trait, and Social Support

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Received November 2011; Revised and accepted December 2011

## Abstract

**Objective:** The aim of our study was to investigate the effect of coping strategies, personality trait and social support as the main social and psychological factors on infertility stress.

**Materials and methods:** This study was conducted on 201 infertile Iranian women referred to the Vali-e-Asr Reproductive health Research Center, and completed the following questionnaires: The fertility problem inventory, measuring perceived infertility related stress (Newton CR, 1999), big five factor personality questionnaire (Farahani, 2009), multidimensional scale of perceived social support MSPS (Zimmet 1988), and multidimensional assessment of coping (Endler, 1990). The results were then analyzed using the Pearson Correlation and stepwise regression.

**Results:** Infertility stress has negative and significant relation with emotion-oriented coping method, perceived social support and being extrovert. It has a positive, significant relation with emotion-oriented coping method, obsessive compulsive disorder (OCD). The results of the stepwise regression showed that emotion-oriented coping method, OCD and being extrovert are suitable predictors of infertility stress.

**Conclusion:** About 22% of the infertility stress variance was explained by coping strategies and personality trait. Therefore our result demonstrates the importance of social and psychological factors on experiencing the infertility stress.

**Keywords:** Infertility, Infertility stress, Stress coping strategies, Personalities, Social support

## Introduction

Infertility also known as infertility crisis is accompanied by physical, economical, psychological and social stress which could affect all aspects of one's life (1). The relationship between stress and infertility forms a vicious circle in which they intensify each other. Infertile couples, who know they are the cause of infertility, blame themselves. This

guilty feeling might increase the stress and make the problem worse (2). By development of infertility treatments and more complicated methods, stress will increase and may affect the results of treatment. Many similar studies have shown a significant relation between stress and the treatment results. Stress as a psychological factor during infertility treatment, has been the center of attention in some researches. Inflexible infertility treatment programs (for sexual relation and reproduction sake and not for sexual pleasure), long and time-consuming treatments, expenses and painful treatments (especially when they fail), all cause an intense stress in couples (3). In addition to psychological aspect, infertility could also affect other aspects of one's life

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including social and economic ones (4).

Stress due to infertility is different from other types. The infertile couple suffers from chronic stress each month if fertilization does not happen (5).

Psychological health experts believe that the reaction of people in the stressful situations and also the level of stress that each event causes are influenced by different social and personal factors. Some characteristics of almost tough people in stressful situations are as follows: toughness, hopefulness, optimism, consistency, creative thinking and advantage of social support (6). Studies have often considered each variable in stress separately and noted mutual relations. There are many evidences (7- 9) which show that personal coping methods, level of support, level of hope and resilience are important factors influencing the infertility stress.

According to the theory of Dahlquist (1995) many researches have argued that the effectiveness of a coping strategy is related to the duration and nature of the stressful situation (10). Avoiding strategies are more effective as a primary reaction to the cause of stress when the emotional arousal is high and the situation is out of control. In chronic cases, when alertness or taking action is needed, approaching strategies can be more effective. In a meta-analysis done by Jordan and Ronson (1999), it has been shown that women use more emotion-focused coping method in case of their infertility (11).

Apart from minor skills such as the ability of coping or problem solving other specific vulnerable factors such as personality traits; OCD, inflexibility and impatience cause stress (12, 13). Evidences show that personality is related to both stress and method of coping with stress for example, regarding the coping method, it is clear that people with different personality traits show different coping methods (passive in contrast with active) and different levels of vulnerability in experiencing a stressful situation (14,15).

Lazarys and Folkman (1984, quoted from Semmer, 2006) emphasized that personality predicts the emotional reaction to stressful experiences by affecting the perception of threat or loss and the accompanying emotional and psychological reactions (16, 17). Personality predicts the stressful experiences of a person in different situations by means of a relation with the important collection of coping and evaluation (18, 19).

Available external sources (social support) function as barriers for people in stress processes. Some studies reported that a lack of social support

can be a source of stress (20). Psychological factors are important in coping with chronic diseases and their outcomes especially the concept of the patient from his own disease, his coping method and external source of support, like social support, are very important (21). Social support is defined as the level of receiving kindness and companionship and attention of family members, friends and others (22). In mid 1970s, there was an increasing interest in studying the role of social support as an external coping source. Perceived social support as an effective source in stress process means that one can receive others' help if he/she needs it (23). Social support is consisted of those social sources which a person has perceived or been suggested (24). Perceived social support is one of the most common scales used for social support which is the perception of the person of the availability of others' support such as family and friends. Perceived social support signifies the cognitive evaluation of the availability and adequacy of support (25). The main function of the perceived social support is that mental evaluation and expecting support help the person to believe that he is respected and is part of a network of mutual duties (25). In coping with infertility, seeking social support is an important coping mechanism used by couple treated for infertility. In the process of seeking social support from friends and family, infertile couple sometimes has to reveal some confidential information of their life (26).

Regarding the stated background for the importance of psycho-social factors in infertility stress, the present study intended to assess the relation of personality traits, coping methods and perceived social support with infertility stress in infertile women. It is also going to determine the share of each of these variables as the predicting variables in infertility stress as the criterion variable.

## Methods & Materials

The present study is a descriptive / experimental research. Two hundred and one infertile women aged 17 to 54 years, who referred to Vali-asr Reproduction Research Center were chosen according to available sampling during 4 months (from July 2010 to the end of September 2010). Totally 46.3 % of participants had high school diploma. Among them were people with primary infertility and some with secondary infertility. In order to persuade participants to cooperate, the goals of the research were explained and the questionnaire was presented personally. The

questionnaire included personal information, list of infertility stress, personality traits, coping methods and perceived social support rating.

The questionnaires were to be filled out within 20 minutes. The researcher presented and received the questionnaire, answered the questions of the participants, and thanked them for their cooperation. Results of the research were analyzed using Pearson Correlation and stepwise regression, using SPSS-15 statistics software.

Contents of questionnaire were patients' profiles (age, sex, education level, and occupation), information about length of matrimony, time of being diagnosed as infertile, type of infertility and time of infertility treatment.

The infertility stress list of Newton (1999) is a multidimensional tool specified for evaluating infertility stress (27). The primary questionnaire was formed into the present 46-question form by Newton, Sherrod (27, 28) after a period of evaluation and vast performance regarding the infertility literature which evaluates the viewpoints and beliefs of infertile people. It was standardized on people between 27-40 years of age, being treated for infertility. The fertility problem inventory (FPI) questionnaire consists of 5 subscales: social concerns (first 10 questions), sexual concerns (second 8 questions), relationship concerns (third 10 questions), rejection of childfree lifestyle (fourth 8 questions) and need for parenthood (last 10 questions). All 5 scales showed high validity. Based on Cronbach's alpha coefficient, the internal consistency of 0.87, 0.77, 0.82, 0.80, 0.84 and 0.93 were reported for social concern, sexual concern, relationship concern, rejection of childfree lifestyle, need for parenthood and general stress, respectively. Alidade's research has reported 0.78, 0.77, 0.78, 0.75, 0.84 and 0.91 stability for social concerns, equal concerns, relationship concerns, rejection of childfree lifestyle, need for parenthood and general stress, respectively.

In the present study, the content validity of the questionnaire was evaluated by 35 infertile women in Vali-asr fertility research center. A test of the questionnaire for internal consistency identified a good Cronbach's alpha correlation coefficient,  $r = 0.899$ .

In the next step, regarding the experts' ideas and the researcher's observations, those questions which were more obscure, abstract, or overlapping were omitted from the list and the number of questions was reduced to 25. Of the remaining questions, first 5 evaluated social concerns, second 5 sexual concerns, third five relationship concerns, fourth 4 rejection of

childfree lifestyle and the last 6 need for parenthood.

Gordon's five factor personality questionnaires (Farrakhan, et al, 1388) was employed by Garousi et al (29), for the Iranian society. The Cronbach's alpha coefficients for men were between 0.73-0.88 and for women between 0.64-0.86 which are desirable. The questionnaire is a short form and consists of 50 questions of which each 10 questions evaluate one factor. The questionnaire is Liker type scaling ranging from '1' strongly disagree to '5' strongly agree. The highest score for a factor is 50 and the lowest is 10. In the present study, in each factor, 5 traits which were more influential were chosen others were omitted. The questionnaire included 25 questions and each 5 traits evaluate one factor.

Multidimensional scale of perceived social support (MSPSS, designed by Zimet et al (30) measures the adequacy of perception of social support in three sources of family, friends and other important individuals. The highest score for a scale is 20 and the lowest is 4. Using MSPSS is strongly advised because it is easy and convenient to use. This scale consists of 12 questions in Liker scale ranging from '1' strongly disagree to '5' strongly agree. The results of studies by Zimet, et al (1988), with the goal of psychometric analysis of the scale, showed that it was an accepted and stable tool for studying perceived social support. The results of the study by Bruwer (2008) in evaluating the psychometric characteristics of multidimensional scale of perceived social support- using confirmatory factor analysis showed that the structure of the three factors in MSPSS have an acceptable fitting with the data. In the present research, some questions were omitted by the expert due to overlapping of some of them in the three sources of family, friends and important others. The used questionnaire had 6 questions (31).

Andler (1990) designed Coping inventory for stressful situations (CISS-SF with the goal of evaluating different types of coping methods of people in stressful situations including problem-oriented, emotion-oriented and avoiding coping methods(32). It is notable that each person's method is determined according to his/her score in each of the three types of coping. In other words, any of the behaviors which get a higher score in the scale will be chosen as the preferred coping method of the person. In the study by Cohen, et al (2006), the Cronbach's alpha correlation coefficient resulted from test-retest of the subscales showed that CISS-SF has high validity (33). Andler and Parker (1990), got the

stability of problem-oriented, emotion-oriented and avoiding coping methods for boys 0.92, 0.82, 0.85 and for girls 0.90, 0.85, 0.82 respectively. The list is short, containing 21 questions and each 7 questions evaluate one method. In this study the questions with higher alpha were kept and those with lower alpha were omitted. With regard to the fact that avoiding coping method is a temporary way to solve the problem and is a sort of emotional one, the questions related to this method were omitted from the questionnaire. The questionnaire being used had 8 questions and each 4 of them evaluated either problem-oriented or emotion-oriented coping method.

## Results

The indices of conformity in confronting the problematic and exciting methods, comprehensive social support and five personality factors (extroversion, psychoneurosis, compromise, dehiscence and conscience) with infertility stress are represented in Table 1.

There is a significant negative relation between the infertility stress and problematic confrontation and comprehensive supporting ( $P=0.05$ ), a significant positive relation between it and exciting confrontation, a significant negative relation with extroversion, and a significant positive relation with psychoneurosis ( $P=0.01$ ). There is no significant relation with compromise, conscience and dehiscence (Table1).

The results of the step by step regression analysis have been shown in table 2. These results show that among 10 predicting variants including three comprehensive social supporting subscales, two confronting methods and five personality features, only exciting confrontation method, psychoneurosis

and extroversion entered the regression equation respectively.

Exciting confrontation explicates 16% of the infertility stress variant single-handedly. The statistical factor F in the level of 0.001 is equal to 38.22 meaningfully for the conformity variant. In second step of regression, exciting confrontation and psychoneurosis predict 20% of the infertility stress variant together. The statistical factor F in the level of 0.001 is equal to 25.09 significantly. The pure percent of psychoneurosis in predicting the stress level is equal to 4 percent. In last step of regression, after adding the extroversion to exciting confrontation and psychoneurosis, they predict 22% of the variant altogether. The statistical factor (F) in the level of 0.001 is equal to 18.83 significantly for the conformity variant. The pure percent of extroversion in predicting the stress level is equal to 2%. The rest of the variants were not proper predictors for infertility stress. The added variants in the equation explicate 22% of the infertility stress variant altogether.

## Discussion

The results of this study showed that there is a negative relationship between problematic confrontation and infertility stress as well as positive relationship between exciting confrontation and infertility stress. The factor of stress plays an important role in determining the confronting responses. Infertility as a major stressor is unorganized and happens unexpectedly. Thus people do not need skill in order to handle their stress, so they try every confrontation strategy to control their lives (Peterson et al. 2008). When people face such a condition and cannot evaluate it, they find themselves

**Table 1:** The indices of conformity in confronting the problematic and exciting methods, comprehensive support, dehiscence, psychoneurosis, extroversion, conscience and compromise with infertility stress

	compromise	Conscience	Extroversion	psychoneurosis	Dehiscence	Comprehensive social support	Exciting confrontation	Problematic confrontation
infertility stress	0.10	0.03	-0.22 **	0.34 **	-0.14	-0.15*	0.40 **	-0.15 *

**Table 2:** Represents the step by step regression analysis to predict the infertility stress by subscales of comprehensive support, confrontation and personality features

Step	Predicting variant	Beta	B	F	df	R <sup>2</sup>	R	Sig	t
1	Exciting confrontation	0.40	2.74	38.22 *	(199 , 1)	0.16	0.40	0.000	6.18
2	Exciting confrontation - Psychoneurosis	0.32	2.18	25.09 *	(199 , 2)	0.02	0.45	0.000	4.66
		0.22	1.02						
3	Exciting confrontation – Psychoneurosis – Extroversion	0.29	2.02	18.83 *	(199 , 3)	0.22	0.47	0.000	4.33
		0.21	0.99						
		-0.15	-0.95						



incapable of overcoming it, neither according to their skills nor abilities; they may choose some methods to avoid direct confrontation with the main problem (34).

The results of analyzing the effect of personality on infertility stress represented that there is a negative significant relation between extroversion and infertility stress, and also a positive significant relation between psychoneurosis and mentioned stress. Our results confirmed the researches done by Mozark (35). Those people who suffer from psychoneurosis look at the world realities via a negative viewpoint and find no security in it. When such people face a stressful condition, they get along with it with a negative evaluation. As far as such people possess less self-esteem (17, 36), they estimate the danger more than their own abilities, therefore they suffer more stress.

There was a negative significant relationship between social supports and infertility stress. It confirms the results of previous researches. Social supporting is a confronting mechanism against the problem of infertility (37). In such social relations, diseased people can share their distressing, disturbing and disagreeable information with their reliable acquaintances like friends or relatives. It works as a mental purification (38, 39) and as a result of that, the person refers to proper confrontation methods instead of useless confrontation ones. Active participation in solving the problems in a group, creates a sort of self-confidence and reduces the self-blaming in such people. So the situation seems less threatening and they can overcome their mental stress by the sense of belonging to the group.

Social supporting plays an important role in reducing the negative effects of the diseases, disturbing experiences and the effects of negative incidences as well as increasing the sense of control, self-confidence and life quality too (40). When an infertile woman feels that she can control the existing condition, she evaluates the situation less stressful. So according to the effecting model and preventing hypothesis (41), she will be protected against the negative evaluation and evaluates herself in a positive aspect. This improved self-confidence is a proper background to cure the negative viewpoints completely. Thus she confronts the situation actively and it reduces the negative effects of the stress. So supporting is an obstacle to prevent the penetration of stress.

On the contrary, interpersonal disturbing struggles reduce the capability of people in confrontation and their valuable senses and increase the threatening sense

of life incidences. Therefore this lack of assurance and self-values leads to self-blaming and lack of self-confidence and inability to control the situation, so the level of stress and disturbance grows up. And people appeal to anger, crying and avoiding others instead of an effective confrontation. This result confirms all other researches done in this field (34, 42- 46).

In the rest of the evaluation of research results, it was found that exciting confrontation, psychoneurosis and extroversion explicate 22% of the infertility stress variant. In Shokri's research (2008), it was cleared that confronting methods are better predictors of stress than social supports. This idea supports the results of our research (47).

Several researches have reported that in confrontation with life stresses, women use concentrated confrontation on excitement more than men (48). Solving the problem of concentrated confrontation on excitement is less effective and weaker in mental health outcomes in comparison with concentrated confrontation on the problem. Women are sociable in a way that their excitement would be more sensitive and there would be a relation between their inner senses and their representation (48). When the infertility threatens the life as a stress, such people rely on every exciting confrontation methods in order to overcome the situation, but since this confronting method is reliable only at the time of uncontrollable situations, it causes reverse outcomes after a long time and increases the stress. Furthermore, choosing this method (exciting confrontation), may be a reaction either for an escape from the reality of an existing situation or for an avoidance of interpersonal focusing on the infertility (48). Infertile women avoid social counteractions, because it may remind them of their problem; including counteracting with children or avoidance of pregnant women. Such social concerns lead to more stress and it may make the situation worse, because supporting may be reduced.

Extroversion and psychoneurosis are two important stress predictors and confrontation methods (49). The results of the presented study confirm it, too. An infertile person should get along with the existing condition. Psychoneurosis affects predicting the negative senses of anxiety, depression and comprehensive stress (35). Korotco (2008) emphasized that the people who have higher exciting stability, suffer from less annihilation at the time of facing a stressful condition, because they possess some features like good temper and intellectuality and also they usually use more useful and healthier

methods in order to overcome their problems (50). On the contrary, those people who suffer from psychoneurosis use more threatening methods to solve their negative excitements (47,51,52). Shokri's research (2008) represented that 76% of stress variant is explicated by psychoneurosis and mentioned that psychoneurosis predicts higher levels of stress meaningfully (47).

Comparable to our results Lee, Brown and Haden and their coworkers have identified that social support is a stress predictor (53- 55). In order to clarify mentioned differences it should be claimed that: the effect of received data about the nature of a stressful condition or incidence on the process of stress and its outcomes depends on the sources that prepare such data. In other words, the importance of the similarity between a social viewpoint that prepares the support and a person who receives it, leads to this point that the data about familiar group members are considered more determining in comparison with the data about unfamiliar group members. Therefore positive effects of comprehensive social experiences are limited to those special social conditions in which both the source and the receiver are sharing a same salient social identity (56). Most of the times, supporting sources for infertile women are those people who never suffer from this disease. So an infertile woman looks at them as people who never understand her problem and it cannot relieve her pain. On the other hand when people receive such social supports, the advantage of these kinds of support depends on mental evaluation, choosing effective adaptation methods, sense of self confidence and individual skills. For instance, a comprehensive social support would be effective via strengthening the functional beliefs to overcome challenging demands and making wanted outcomes (57, 58). According to the strengthening hypothesis of Schwarzer (59), comprehensive social support via strengthening the functional beliefs play a role in predicting the people stressful experiences.

The experience of social support against conditional demands is not similar to a probable protecting factor (58). But it increases the support via increasing the coincident capabilities and abilities at the time of facing the challenges and overcoming the problems. Playing the role of a mother is the most important convincing role of a woman. Receiving social support from others cannot have a great effect on solving an infertile person's problem. And as far

as such a person has a low level of self-confidence and feels useless, it prevents her from having an effective support on the stress.

## Acknowledgment

This research is a part of an M. A. thesis in Psychology by one of the authors. The authors are grateful to people in charge of that, especially Ms. Ma'soomi and Ms. Baqeri.

## References

1. Gibson D M, Myers JE. The effect of social coping resources and growth-fostering relationships on infertility stress in women. *Journal of Mental Health Counseling*2002; 24, 68-80.
2. Erica M T. The stress of infertility. *Hum Ecol* 2002;95:12.
3. Farahani MN, Cooper M, Jin P. Is Locus of control unidimensional or multidimensional? Data from Persian translation of Rotter's I-E Scale and Levenson's I, P, and C Scales. *Psychol Res*1996;3:30-42.
4. Abbey A, Hallmant L., Antonia J. The role of perceived control, attributionas, and meaning in member's of infertile couples well- being. *J Soc Clin Psychol* 1998 ; 14:271-96.
5. Sreshthaputra O, Sreshthaputra R. A, Vutyavanich T. Gender differences in infertility-related stress and the relationship between stress and social support in Thai infertile couples. *J Med Assoc Thai* 2008;91:1769-73.
6. Lazarus RS. Coping theory and research: Past, present, and future. *Psychosomatic Medicine*1993;55: 234-47.
7. Litt MD, Tennen H, Affleck G, Klock S. Coping and cognitive factors in adaptation to *in vitro* fertilization failure. *Journal of Behavioral Medicine* 1992;15:171-87.
8. Lancastle D, Boivin J. Dispositional optimism, trait anxiety, and coping:unique or shared effects on biological response to fertility treatment? *Health Psychol* 2005;24:171-8.
9. Thorn P, Wischmann T. German guidelines for psychosocial counselling in thearea of gamete donation. *Hum Fertil (Camb)* 2009;12:73-80.
10. Dahlquist L M, Czyzewski D I, Jones C L. Parents of children with cancer: A longitudinal study of emotional distress, coping style, and marital adjustment two and twenty months afte rdiagnosis. *Journal of Pediatric Psychology*1996; 21:541-54.
11. Jordan C, Revenson TA. Gender differences in coping with infertility: A Meta analysis. *Journal of Behavior Medication*1999; 23: 341-53.
12. Randall AK, Bodenmann G. The role of stress on close relationships and marital satisfaction. *Clin Psychol Rev*2009;29:105-15.
13. Peterson C, Park N, Seligman M E P. Orientations to happiness and life satisfaction: The full life versus the

- empty life. *Journal of Happiness Studies* 2005; 6: 25–41.
14. Roesch SC, Wee K, Vaughn AA. Relations between the Big Five personality traits and dispositional coping: Does acculturation matter? *International Journal of Psychology* 2006; 41:85-96.
  15. Vallrath M, Torgerson S. Personality types and coping. *Personality and Individual Difference* 1999; 26:367-78.
  16. Lazarus R, Folkman S. *Stress, Appraisal, and Coping*. New York: Springer, 1984.
  17. Semmer NK. Job stress interventions and the organization of work. *Scandinavian Journal of Work, Environment and Health* 2006; 32 : 515 – 27.
  18. Mischel W, Shoda Y. Reconciling processing dynamics and personality dispositions. *Annu Rev Psychol* 1998; 49:229-58.
  19. Smith T W, Spiro A. Personality, health, and aging: Prolegomenon for the next generation. *Journal of Personality* 2002; 36, 363–94.
  20. Luo Y, Wang H. Correlation research on psychological health impact on nursing students against stress, coping way and social support. *Nurse Educ Today* 2009; 29:5-8.
  21. Bambardier CH, Damico C. The relationship of appraisal and coping to chronic illness and adjustment. *Behavior Therapy and Research* 1991; 28, 267-304.
  22. Sarafino EP. *Health Psychology: Biopsychosocial interactions* (4th ed. New York: Wiley & Sons, 2002.
  23. Calvete E, Connor-Smith JK. Automatic Thoughts and Psychological Symptoms: A Cross-Cultural Comparison of American and Spanish Students. *Cognitive Therapy and Research* 2005; 29: 201–17.
  24. Cronkite RC, Moos RH. Life context, coping processes and depression. In E.E. Beckham & W.R. Leber (Eds.): *Handbook of depression* (pp. 569-90). New York: Guilford Press. Toits, 1995.
  25. Thoits PA. Stress, coping, and social support processes: where are we? What next? *J Health Soc Behav*. 1995; 53-79.
  26. Maillet MH. Infertility and Marital Adjustment: The Influence of Perception of Social Support, Privacy Preference and Level of Depression. Submitted to the Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the school of Social work, 2002.
  27. Newton C, Fitz-Henry J, Bogod D. The occupational exposure of midwives to nitrous oxide - a comparison between two labour suites. *Int J Obstet Anesth* 1999; 8:7-10.
  28. Newton CR, Sherrard MA, Glavac I. The fertility problem inventory: measuring perceived infertility-related stress. *Fertil Steril* 1999; 72:54–62.
  29. Garousi MT. Application of the NEO PIR test and analytic evaluation of its characteristics and factorial structure among Iranian university students. *Human Sci Alzahra Uni* 2001; 11: 30- 8.
  30. Zimet SG, Farley GK, Avitable N. Establishing a comprehensive data base in a day-treatment program for children. *Int J Partial Hosp* 1987; 4:1-15.
  31. Bruwer B, Emsley R, Kidd M, Lochner C, Seedat S. Psychometric properties of the Multidimensional Scale of Perceived Social Support in youth. *Comprehensive Psychiatry* 2008; 49: 195-201.
  32. Endler N S, Parker J D A. “Multidimensional Assessment of Coping: A Critical Evaluation.” *Journal of Personality and Social Psychology* 1990; 58: 844-54.
  33. Cohen J. The cost of dichotomization. *Applied Psychological Measurement* 1983; 7: 249–53.
  34. Peterson U, Bergström G, Samuelsson M, Asberg M, Nygren A. Reflecting peer-support groups in the prevention of stress and burnout: randomized controlled trial. *J Adv Nurs* 2008; 63:506-16.
  35. Mroczek DK, Almeida DM. The effect of daily stress, personality, and age on daily negative affect. *J Pers* 2004; 72:355-78
  36. Brockner J. The effects of work layoffs on survivors: Research, theory and practice. *Research in Organizational Behavior* 1988; 10:213–55.
  37. Calvete E, Connor-Smith JK. Perceived social support, coping, and symptoms of distress in American and Spanish students. *Anxiety, Stress & Coping* 2006; 19:47-65.
  38. Crockett LJ, Iturbide MI, Torres S, Rosalie A, McGinley M, Raffaelli M; Carlo G. Acculturative stress, social support, and coping: Relations to psychological adjustment among Mexican American college students. *Cultural Diversity and Ethnic Minority Psychology* 2007; 13: 347-55.
  39. Hayden BY, Parikh PC, Deane RO, Platt ML. Economic principles motivating social attention in humans. *Proc Biol Sci* 2007; 22:1751-6.
  40. Heidari M, Momtaz M, Madani M. Detection of the antibiotic resistance genes in *Staphylococcus aureus* isolated from human infections and bovine mastitis. *African Journal of Microbiology Research* 2011 ; 5: 5132- 6.
  41. Bakhshipour Roodsari M, Dejkam AH, Mehryar B. Structural Relationships between Dimensions of DSM-IV Anxiety and Depressive Disorders and Dimensions of Tripartite Model. *Iranian Psychiatry and Clinical Psychology* 2004; 4:63-76.
  42. Ehsanpour S, Ganji J, Kazemi A\*, Maqsudi J. Effects of exposure to cigarette smoke on the ovarian response to ovarian stimulation in infertile couples referred to the Isfahan Reproductive Fertility Center during 2007-2008. *IJNMR* 2009; 14:7-14.
  43. Lechner U, Brodkorb D, Geyer R, Hause G, Härtig C, Auling G, et al. *Aquicola tertiarycarbonis* gen. nov., sp. nov., a tertiary butyl moiety-degrading bacterium. *Int J Syst Evol Microbiol* 2007; 57:1295-303.

44. Mindes EJ, Ingram KM, Kliewer W, James CA. Longitudinal analyses of the relationship between unsupportive social interactions and psychological adjustment among women with fertility problems. *Soc Sci Med* 2003;56:2165-80.
45. Hsu YL, Kuo BJ. Evaluations of emotional reactions and coping behaviors as well as correlated factors for infertile couples receiving assisted reproductive technologies. *J Nurs Res* 2002;10:291-302.
46. Brucker PS, McKenry PC. Support from health care providers and the psychological adjustment of individuals experiencing infertility. *J Obstet Gynecol Neonatal Nurs* 2004;33:597-603.
47. Shokri O. Gender difference in the cause relationship pattern of students in individualism and collectivism cultural paradigms. Dissertation for thesis: Tarbiat Moallem University, 2009-2010.
48. Jordan C, Revenson T A. Gender differences in coping with infertility: A Meta analysis. *Journal of Behavior Medication* 1999; 23: 341–53.
49. Jylhä P, Melartin T, Isometsä E. Relationships of neuroticism and extraversion with axis I and II comorbidity among patients with DSM-IV major depressive disorder. *J Affect Disord* 2009 ;114:110-21.
50. Korotkov D. Does personality moderate the relationship between stress and health behavior? Expanding the nomological network of the five-factor model. *Journal of Research in Personality* 2008;42:1418-26.
51. Hirokawa K, Yagi A, Miyata Y. Effects of stress coping strategies on psychological and physiological responses during speeches in Japanese and English. *Social Behavior and Personality: an international journal* 2002 ; 30: 203-12
52. Matsubayashi H, Hosaka T, Izumi S, Suzuki T, Kondo A, Makino T. Increased depression and anxiety in infertile Japanese women resulting from lack of husband's support and feelings of stress. *Gen Hosp Psychiatry* 2004 ;26:398-404.
53. Lee-Baggley D, Preece M, DeLongis A. Coping with interpersonal stress: role of big five traits. *J Pers* 2005;73:1141-80.
54. Bowman ML. *Coping Efforts and Marital Satisfaction: Measuring Marital Coping and Its Correlates*. *Journal of Marriage and Family* 1990;52:462-74.
55. Haden SC, Scarpa A, Jones RT, Ollendick TH. *Posttraumatic stress disorder symptoms and injury: The moderating role of perceived social support and coping for young adults,* published in *Personality and Individual Differences. Personality and Individual Differences* 2007;42:1187-98.
56. Haslam N, Bastian B, Bissett M. Essentialist beliefs about personality and their implications. *Personality and Social Psychology Bulletin* 2004; 30, 1661-73.
57. Klink J, Byars-Winston A, Bakken LL. The Relationship Between Coping efficacy and Perceived Family Support in Premedical Students. *Medical Education* 2008; 42:572-9.
58. Benight CC, Bandura A. Social cognitive theory of post traumatic recovery: the role of perceived self-efficacy. *Behav Res Ther* 2004;42:1129-48.
59. Schwarzer R, Knoll N. Functional roles of social support within the stress and coping process: A theoretical and empirical overview. *Int J of Psychology* 2007; 42 : 243–52.

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