

Emotional Intelligence As Mediator Between Insecure Attachment, Social Support And Subjective Well-Being Among Women With Infertility

Dr. Anila Sadaf¹, Prof. Dr Syeda Shahida Batool²

¹Assistant Professor Department of Applied Psychology, National University of Modern Languages Islamabad, Pakistan.

² Professor Department of Psychology, GC University, Lahore Pakistan.

Abstract

Purpose: The present study was to find the role of emotional intelligence as mediator between insecure attachment, social support and three components of subjective well-being i.e., depression, satisfaction with life and happiness in women with primary infertility in Pakistan.

Method: The sample consisted of 231 women with infertility recruited from different government and private hospitals and clinics of major cities of Pakistan through purposive sampling. The research was approved from the Advanced Selection and Research Board of GC University, Lahore. Written permission from the authors of all the questionnaires used in this study were sought: Meditational analysis was carried out using AMOS 21.0 through Structural Equation Modeling. Emotional intelligence partially mediated the relationship between insecure attachment and depression, whereas, fully mediated the relationship between insecure attachment, happiness and satisfaction with life. Emotional intelligence also partially mediated the relationship between social support, depression, happiness and satisfaction with life.

Conclusion: The study highlights the significant role of emotional intelligence as mediator between insecure attachment, social support and subjective well-being in the life of women with primary infertility in Pakistan.

keywords: Emotional Intelligence, insecure attachment, social support, subjective well-being, women with infertility

Introduction

Primary infertility is a major health condition that negatively affects the person's subjective wellbeing (Hasanpoor-Azghady, Simbar & Vedahir, 2014; Hussain, 2010; Raque-Bogdan & Hoffman, 2015). For women it is the worst experience of their lives (Edelmann & Connolly, 2000; Batool & de Visser, 2016) as they experienced more depression than men diagnosed with infertility (Leanza, Palunbo, Leanza & Leanza, 2015). Women trying to cope with infertility were at a higher level of risk of self depreciation and social isolation, also, they experienced higher levels of distress and reduced subjective wellbeing (Matsubayashi, Hosaka, Suzuki & Makino, 2001; Batool & de Visser, 2016). Several researches (Batool & de Visser, 2014; Lopes, Salovey & Strauss, 2003; Sultan & Tahir, 2011) have shown that infertility creates negative emotions that results in depression, anxiety, aggression, higher somatic symptoms, low self-esteem, marital dissatisfaction, sexual dissatisfaction. The pressure exerted by family especially husbands on their wives to have a child brings depression and insecurity in women regarding their marital relations (Batool & de Visser, 2014). If these negative emotions are not managed properly, the results could be devastating affecting social and personal relations of women with infertility. Pattern of depressive symptoms in women can be described as an emotional wavering between buoyancy and hope on one side and distress and misery episodes on other (Mindes, Ingram & Kliwer, 2003). Further, in women there is a hope of conceiving a baby on every menstrual period, however with failure to conceive, despair and hopelessness arise in the women (Dembińska, 2014). Having said so, it seems essential to find out the role of emotional intelligence towards the subjective well being of women with infertility.

Infertility has affected 10 to 15 percent couples globally (Inhorn & vanBalen, 2002) with more prevalence of primary infertility as compared to secondary infertility (vanBalen & Bos, 2011). Further, it is found more in the residents of developing countries (Fathallah, 1992). In Pakistan, infertility is on continuous rise (Jalil & Muazzam, 2013) with 21.9 percent prevalence (Hakim, Sultan & Faatehuddin, 2001; Tahir et al., 2004; Khan, 2010; Khalid & Qureshi, 2012). Infertility is considered as a "disease" of women in Pakistan and men were not investigated or blamed for infertility (Bhatti, Fikree & Khan, 1999; Rahim & Majid, 2011; Sami & Ali, 2012). The women with infertility in Pakistan bears the social burden to bear child, especially, son for the continuation of family lineage and honor of the family (Mubashir & Batool, 2018), irrespective of the fact that which partner is responsible for infertility (Sami & Ali, 2006). Women with infertility are labeled as "barren", "bad-luck" and a "curse" on a family (Ahmed, Chu & Hewison, 2005). A wide range of such social stigmas are attached to infertility and contributes to impairment in the emotional capabilities of infertile couples that leads to strains in their social and personal relations (Alden, 1998; Johansson, 1998; Klinger, 1996).

There are sufficient research evidence that advocates the fact that psychological responses to infertility are also determined by attachment styles. Insecure attachment styles contributes to the negative psychological consequences of infertility like disturbed emotions

stress, depression and reduced well-being . Secure attachment was predictive of better coping and better emotional and psychological wellbeing (Peterson, Pirritano, Christensen & Schmidt, 2008). Men and women who had been brought up with secure attachment styles provide more positive psychological and social support to their partners during different circumstances including infertility (Hazan & Zeifman, 1999). Moreover, women who had secure attachment styles with their partners and who received effective social support from healthcare providers showed better psychological adjustment (Brucker & McKenry, 2004).

Besides attachment styles, social support was another important construct that plays an important role in both western and Asian societies, in enhancing the psychological well-being among adults (Kane & Penrod,1995) especially the support of family as well as friends can make significant contribution to adults' wellbeing (Sherman & Lansford, 2000). Furthermore , social support exerts positive influence on dealing with physical illness as it boost recovery from illness, improve positive immune response and reduce the risk of mortality (Cohen & Syme, 1985). Numerous researches has pointed towards the fact that women with infertility had more negative feelings, low self-esteem, poor social support, less freedom and less number of opportunities as compared to normal women (Joshi et al., 2009; Gourounti et al., 2012). Moreover, women with infertility scores low on general health questionnaire who reported o have less social support both in Pakistan and Britain (Batool & De Visser, 2014). In Pakistani population, perceived social support is inversely related with depression and directly with self-esteem (Rizwan & Aftab, 2009). Social support seems to effect the emotions and wellbeing of women with infertility and needs further exploration.

A strong correlation between consequences of infertility and emotional intelligence has been shown by researchers conducted in west as well as in eastern countries like Pakistan and India (Bastian, Burns & Nettelbeck, 2005; Cordova, Gee & Warren, 2005; Ganth, Thiyagarajan & Nigesh, 2013; Jalil & Muazzam, 2013; Smith, Heaven & Ciarrochi, 2008; Soleimani et al., 2015). For stable marital relationship, husband and wife should be emotionally strong and intelligent to manage their problems in an effective manner (Jalil & Muazzam, 2013). Higher emotional intelligence , strengthening the emotional bonding between partners along with seeking greater social support during times of infertility can be quite beneficial for the couple to cope up with stressful situations. Managing emotions and seeking social support is central in limiting the negative psychological repercussions of infertility (Gong, 2002;Higgins, 1990; Shuster, 1991;Stanton, Parsa & Austenfeld, 2002). Furthermore, better marital adjustment and increased level of sexual satisfaction can be achieved in couples with infertility when they are provided with therapies for better management of emotions to eliminate negative emotions and debilitating psychological consequences of infertility (Flowers, 2003).

Detailed review of the literature showed emotional intelligence and social support determine components of subjective well-being (depression, happiness, and satisfaction with life (Diener,1984; Gallagher & Vella-Brodrick, 2008) and greater social support is correlated with

higher emotional intelligence (De Fabio & Kenny, 2012; Toyama & Mauno, 2017), whereas, low social support is linked to increased psychological distress in Pakistani women with primary infertility (Qadir, Khalid & Medhin, 2015). Numerous studies were conducted in which emotional intelligence was studied as a mediator between predictor and outcome variables like age and subjective well-being, emotional intelligence and life satisfaction (mediating role of self esteem and social support), autonomic functioning and psychopathological relationships (Chen, Peng & Fang, 2017; Kong, Zhao & You, 2012; Ling, Raine & Schug, 2018) but so far no study is available in which emotional intelligence is taken as mediator between insecure attachment, social support and three components of subjective well-being. However, literature showed partial mediation of social support between emotional intelligence and components of subjective well-being especially satisfaction with life (Kong, Zhao & You, 2012; Ruvalcaba-Romero, Fernandez-Berrocal, Salazar-Estrada & Gallegos-Guajardo, 2017).

Keeping in view the above discussion, there is need to explore the mediating role of emotional intelligence between insecure attachment, social support and three components of subjective well-being (depression, happiness and satisfaction with life). The present study attempts to address this gap in the existing literature so that based on the results of the current study, interventions can be designed to enhance the emotional intelligence and social support of the women with infertility as Batool and de Visser (2014; 2016) suggested that psychological dimension of infertility should be dealt as part of a holistic approach to provide better care facilities to women with infertility. Social support and emotional intelligence intervention could improve psychological well-being of women with infertility.

Objective of the study

To test the mediating role of emotional intelligence between insecure attachment, social support and subjective wellbeing (viz., depression, subjective happiness and satisfaction with life) among women with infertility in Pakistan.

Hypotheses of the study

1. Emotional intelligence significantly mediates the relationship between insecure attachment and three components of subjective well-being (viz., depression, happiness and satisfaction with life) among women with primary infertility.
2. Emotional intelligence significantly mediates the relationship between social support and three components of subjective well-being (viz., depression, happiness and satisfaction with life) among women with primary infertility.

Methods

Sample

The final sample of the current study comprised of 231 out of 240 women approached with 96.25% response rate diagnosed with primary infertility who belonged to different income groups, recruited from private and government hospitals and clinics of major cities of Pakistan through purposive sampling. The age range of the participants was 20-45 years, ($M_{age} = 32.23$ and $SD = 5.44$).

Inclusion criteria. Women of reproductive age diagnosed with primary infertility who could read and comprehend the questionnaires of the research in Urdu language were recruited in the study. Women who were living with their husbands were involved in the study.

Exclusion Criteria. The women diagnosed with secondary infertility who cannot read or comprehend the research questions and with language barrier were excluded from the study. Women with the history of psychiatric illness were not included in the study. Women who were living away from their husband were not included in the study.

Instruments

In the present study insecure attachment was assessed by self-report Urdu translated version of the Relationship Structure Questionnaire (ECR-RS: Fraley, Hafferman, Vicary & Brumbagh, 2011; Urdu translated version, Bano & Kauser, 2014). Social support was assessed by 12 items, self-report Urdu translated version of Multi-dimensional Scale for Perceived Social Support (MSPSS: Zimet, Dahlem, Zimet, & Farley, 1988; Urdu translated version, Zafar & Kausar, 2013). Emotional intelligence was assessed by 56 items indigenously developed Scale of Emotional Intelligence (SEI- Batool & Khalid, 2011), whereas, depression was assessed by a 36 items, self-report measure developed by Saddiqui and Shah (1997) in Urdu language to identify the intensity of depressive symptoms. It has 12 items each to measure the cognitive, affective and behavioral aspects of depression. Further, Urdu translation version of Satisfaction with Life Scale - SWLS (Diener, Emmons, Larsen, & Griffin, 1985; Urdu translated version, Butt, Ghani & Khan, 2014) was used to assess satisfaction with life among women with primary infertility. Happiness was assessed by 4 items Subjective Happiness Scale (Lyubomirsky & Lepper, 1999; Urdu Translation, Mubashir & Batool, 2019). All the scales have sound psychometric properties with good reliability and validity.

Procedure

The research was approved from the Advanced Selection and Research Board of GC University, Lahore. Written permission from the authors of all the questionnaires used in this study were sought. For administration of scales written permissions from the authorities of the hospital, clinics and fertility centers were sought. Participants were recruited from private and government clinics and hospitals of major cities of Pakistan through purposive sampling. Participants were informed about the purpose of study. Informed consent was taken from each participants before administering the scales. Participants were assured for the confidentiality of their responses and it was maintained. Most of the participants took 15 to 20 minutes to fill the questionnaires given

to participants and ten minutes break is given to each participant while filling the questionnaires to cater the fatigue factor. De briefing of the participants was done after they filled the questionnaires. A sample of 240 women with primary infertility were recruited on individual basis, but data of 231 participants were included in the study as data of five participants were found incomplete and four left the study incomplete.

Results

Structure Equation Modeling was used to assess the role of emotional intelligence as mediators between insecure attachment, social support and three components of subjective well-being among (viz., depression, happiness and satisfaction with life) Pakistani women with primary infertility through AMOS 21.0

Mediation Analysis

Figure 1. Initial Model

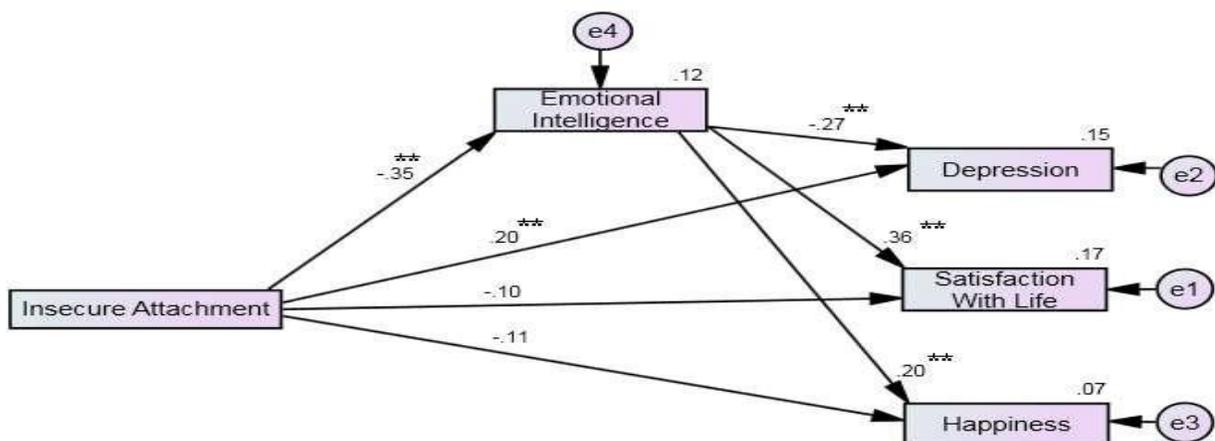


Figure 1. Initial Mediation model, emotional intelligence as mediator between the relationship of insecure attachment and depression, satisfaction with life, and happiness (N = 231). ** $p < .01$.

Figure 2. Final Model

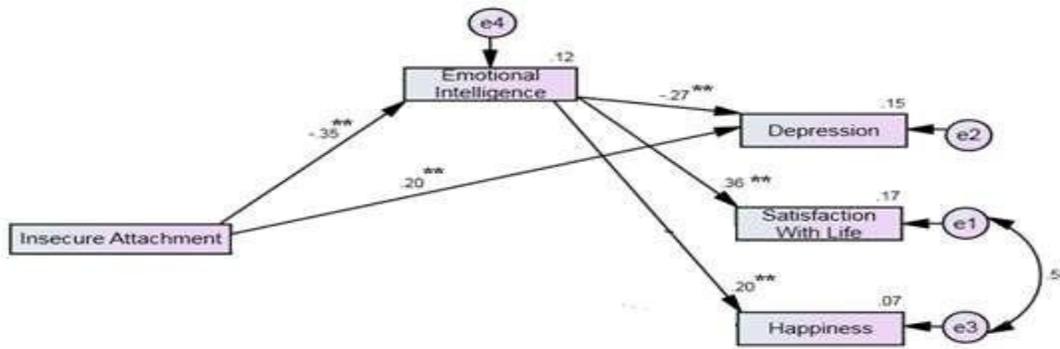


Figure 2. Final Mediation model, emotional intelligence as mediator between the relationship of insecure attachment and depression, satisfaction with life, and happiness (N = 231). ** p < .01.

Table 1 Model Fit Indices (N=231)

Model	GFI	CFI	NFI	χ^2	df	χ^2/df
Initial Model	.86	.53	.53	107.91**	35.97	3
Final Model	.98	.95	.94	12.25**	6.12	2

Note. GFI = goodness of fit index, CFI = comparative fit index. NFI = Normed Fit Index, **p < .01

Table 2 Mediation Effect of EI Between Insecure Attachment and Depression, Satisfaction with Life, and Happiness (N = 231)

X to Y	Mediator	Indirect effect	SEB	Direct effect	95% CI	
					LL	UL
I A \square Dep	EI	-.27**	.13	.20**	.05	.16
I A \square SWL	EI	.36**	.04	-.10 ^{ns}	-.19	-.07
I A \square Hap	EI	.20**	.02	-.11 ^{ns}	-.13	-.03

Note. Bootstrap sample size = 5000. β = regression coefficient (standardized direct effect). IA = insecure attachment, Dep = depression, SWL = satisfaction with life, Hap = happiness, EI = emotional intelligence. 95% CI for Indirect effect (all significant at .01). ** p < .01, ns = non-significant

Results in Table 2 indicate significant indirect effect of emotional intelligence to depression ($\beta = -.27, p < .01$), satisfaction with life ($\beta = .36, p < .01$), and happiness ($\beta = .20, p < .01$). Direct effect of insecure attachment to depression ($\beta = .20, p < .01$), satisfaction with life ($\beta = -.10, p = ns$), and happiness ($\beta = -.11, p = ns$) is found. Therefore, results suggest partial mediation of emotional intelligence for depression. In contrast, full mediation is found for satisfaction with life and happiness (insecure attachment as independent variable).

Furthermore, to test the significance of indirect effects parametric bootstrapping is used. In bootstrapping, Monte Carlo method is used by using 95% bias-corrected confidence intervals. Findings in Table 40 suggest partial mediation of emotional intelligence for depression. In contrast, mediation is found for satisfaction with life and happiness .

Figure 3. Initial model

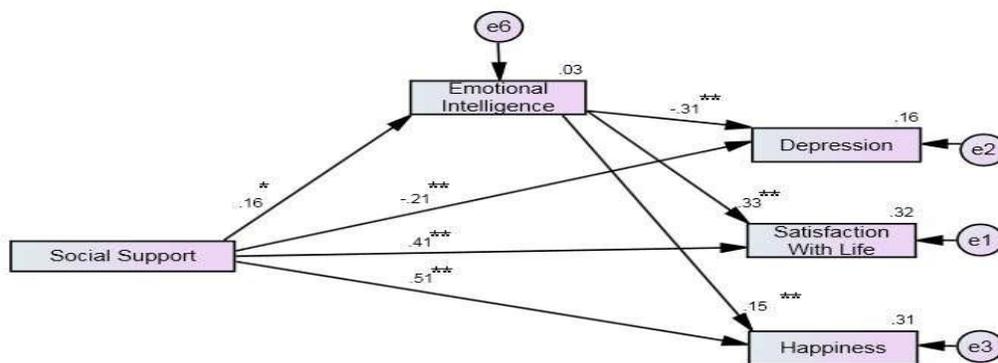


Figure 3.1 Initial Mediation model, emotional intelligence as mediator between the relationship of social support and depression, satisfaction with life, and happiness (N = 231). ** p < .01. p < .05.

Final Model 4

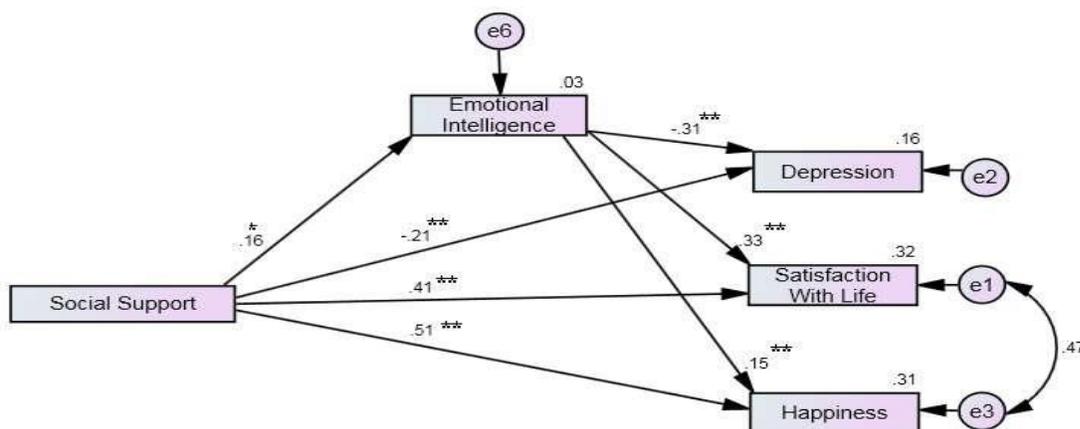


Figure 4. Final Mediation model, emotional intelligence as mediator between the relationship of social support and depression, satisfaction with life, and happiness (N = 231).** p < .01. p<.05.

Table 3 Model Fit Indices

Note. GFI = goodness of fit index, CFI = comparative fit index, ns = non-significant, N = 231.

Model	GFI	CFI	RMSEA	χ^2	df	χ^2/df
Initial Model	.91	.78	.29	62.76**	20.92	3
Final Model	.99	.99	.09	5.68 ^{ns}	2.93	2

**p< .01

Table 4

Mediation Effect of Emotional Intelligence Between Social Support and Depression, Satisfaction

X to Y	Mediator	Indirect effect	SEB	Direct effect	95% CI	
					LL	UL
S Support \square Dep	EI	-.31**	.11	-.21**	-.11	-.01
S Support \square SWL	EI	.33**	.03	.41**	.01	.11
S Support \square Happ	EI	.15**	.01	.51**	.01	.06

with Life, and Happiness (N = 231)

Note. Bootstrap sample size = 2000. β = regression coefficient (standardized direct effect), S Support=social support, SWL = satisfaction with life, Dep= Depression, Happ- Happiness, EI = emotional intelligence, 95% CI for Indirect effect (all significant at .05). ** p < .01

Results in Table 4 indicate significant indirect effect of emotional intelligence to depression (β = -.31, p< .01), satisfaction with life (β = .33, p< .01), and happiness (β = .15, p< .01). Direct effect of social support to depression (β = -.21, p< .01),satisfaction with life (β = .41, p< .01), and happiness (β = .51, p< .01). Therefore, results suggest partial mediation of social support for depression, happiness and satisfaction with life .Furthermore, to test the significance of indirect effects parametric bootstrapping is used. In bootstrapping, Monte Carlo method by using 95%

bias corrected confidence intervals is examined. Findings suggest partial mediation of emotional intelligence for depression, satisfaction with life and happiness .

Discussion

The women diagnosed with infertility face lots of social, psychological problems and emotional setbacks world over and in our country as well . Dealing with this medical condition becomes more difficult with less social support and low emotional intelligence. Moreover, the subjective wellbeing of the women with infertility is also negatively affected without much social support and emotional intelligence (Epstein & Resenberg, 2005) which is in line with findings of the present study. The results of this study further adds on to the unique contribution as it showed that emotional intelligence partially mediated the relationship between insecure attachment and depression, whereas, emotional intelligence fully mediated the relationship between insecure attachment, satisfaction with life and happiness among women with infertility, thereby, accepting the first hypothesis of the study. These findings are consistent with findings of the study conducted by Marks, Horrocks and Schutte (2016) in which they found the mediating role of emotional intelligence between insecure attachment and subjective health outcomes. Insecure attachment was linked with deficits in emotional intelligence and is related to psychological dysfunction and negative emotions (Mikulincer & Shaver, 2007; Samadi, Kasaei, Mouhammad Pour, 2013) and insecure individuals experience more negative than positive emotions in their close relationships (Simpson, Collins, Tran & Metalsky, & 1992). Avoidant individuals maintained their autonomy and in trying to control their relationships face emotional distancing (Mikulincer & Shaver, 2007). Positive and negative affect has been reported to mediate the relationship between insecure attachment and subjective well-being specifically depression (Molero, Shaver, Fernandez, & Recip, 2017).

The second hypothesis of this study was also accepted as the current study showed that emotional intelligence partially mediated the relationship between social support and all the three dimensions of subjective well-being (viz., depression, subjective happiness and satisfaction with life) among women with infertility signifying the role of emotional intelligence and social support towards well-being of women with infertility which is another important and unique finding of this study as the role of emotional intelligence as mediator has not previously been explored with reference to social support and three components of subjective well-being among women with primary. These findings are consistent with the findings of study carried out by Batool and de Visser (2016) in which only one dimension of Subjective well being was explored i.e., depression and findings showed low social support and low emotional intelligence predicted depression in Pakistani women with infertility in a cross cultural study. Findings of the study point out towards the significance of secure attachment, social support along with emotional intelligence in determining the subjective wellbeing of women with infertility in Pakistan .

Limitations and Suggestions

Pakistani women from rural areas and those not seeking medical treatment were not the part of the study so, the future researches may include data from these women to increase the generalizability of the research. Furthermore, many researches indicated the significant connection between infertility and anxiety. In future the model could be enhanced by adding anxiety, insecure attachment predicting anxiety (Hankin et al. 2005; Lee & Hankin, 2009) besides depression which can also be explored in future research.

Implications of the Study

This study significantly adds into the existing literature about emotional intelligence as mediator between insecure attachment and social support with reference to two other dimensions of subjective well-being of Pakistani women with primary infertility. This research could be useful for developing mental health model and intervention programs for eliminating depression and enhancing positive subjective wellbeing in women with infertility using emotional intelligence. Insecure attachment patterns can be changed once identified into secure attachment patterns through awareness of one's own behavior, its causes, and its consequence which will help women with infertility issues overcome their fears by establishing secure attachment bonds with their counterparts and thereby, living more emotionally healthy and flourishing life.

Conclusion

Infertility though a general medical condition has deleterious impact on the subjective well-being of women diagnosed with primary infertility. It can be concluded that insecure attachment, low social support, low emotional intelligence, determines low subjective well-being(more depression, less happiness, less satisfaction with life) among women with primary infertility in Pakistan. Secure attachment style, high social support, high emotional intelligence, would help women with infertility to cope with different psychosocial circumstances effectively and help these women to think about the infertility related issues in a better cognitive style.

References

- Ahmed, M., Chu, C. E., Dye, L., Hewson, J. (2005). A comparative study of the psychosocial impact of infertility and its treatment on Pakistani and white couples in the UK. *Journal of Reproduction and Infant Psychology*. Vol.23:251-2.
- Alden, P. B. (1998). *Crossing the moon: a journey through infertility*. Penguin Group USA.
- Abbas, F., & Iqbal, Z. (2018). Language Attitude of the Pakistani Youth towards English, Urdu and Punjabi: A Comparative Study. *Pakistan Journal of Distance and Online Learning*, 4(1), 199-214.
- Bano, S., & Kauser, R. (2014). Translation and adaptation of Experience in Close Relationship: The Relationship Structures Questionnaire: ECR-RS: Unpublished PhD thesis. Department of Applied Psychology, University of Punjab, Lahore.

- Bastian, V. A., Burns, N. R., & Nettelbeck, T. (2005). Emotional intelligence predicts life skills, but not as well as personality and cognitive abilities. *Personality and Individual Differences*, 39(6), 1135-1145.
- Batool, S. S., & Khalid, R. (2011). Development of Indigenous Scale of Emotional Intelligence and Evaluation of its Psychometric properties. *Pakistan Journal of Social and Clinical Psychology*, Vol:9, 66-72.
- Batool, S.S., & de Visser, R.O. (2014). Psychosocial and Contextual Determinants of health among infertile women: A cross cultural study. *Psychology Health and Medicine*. 19(6). doi:10.1080/13548506.2014.880492. [Pub Med].
- Batool, S.S., & de Visser, R.O. (2016). Experiences of infertility in British and Pakistani Women: A Cross Cultural Qualitative Analysis. *Health Care Women International*. 19 (6). doi:10.1080/07399332.2014.980890. [Pub Med].
- Bhatti, A. M., Abas, F., & Rana, A. M. K. (2020). An Empirical study of learning styles used by undergraduate English learners in public sector colleges in Pakistan. *Elementary Education Online*, 19(3), 1864-1864.
- Bhatti, L.I., & Fikree, F.F. (1999). The quest of infertile women in squatter settlements of Karachi, Pakistan: a qualitative: *Social Science and Medicine*, 49(5), 637-649.
- Brucker, P. S., & McKenry, P. C. (2004). Support from health care providers and the psychological adjustment of individuals experiencing infertility. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 33(5), 597-603.
- Butt, Ghani & Khan (2014). Urdu translation of Satisfaction with Life Scale. Unpublished M.Phil. Thesis. Department of Psychology GC University, Lahore.
- Chen, Y., Peng, Y., & Fang, P (2017). Emotional Intelligence Mediates the Relationship between Age and Subjective Well-Being. *International Journal of Aging and human Development*, 83(2): 91-107. doi: 10.1177/0091415016648705.
- Cordova, J. V., Gee, C. B., & Warren, L. Z. (2005). Emotional skillfulness in marriage: Intimacy as a mediator of the relationship between emotional skillfulness and marital satisfaction. *Journal of Social and Clinical Psychology*, 24(2), 218-235.
- De Fabio, A., & Kenny, M. (2012). Emotional Intelligence and Perceived Social Support Among Italian High school students. *Journal of Career Development*. Vol. 39(5): 461-475. www.researchgate.net. doi:10.1177/0894845311421005.
- Diener, Ed. (1984). Subjective well-being. *Psychological Bulletin*. 95(3): 542-575. doi 10.1037/0033-2909.95.3.542. PMID 6399758.
- Diener, E., Emmons, R. A., Larsen, R. J. & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49, 71-75.
- Edelmann, R.J., Connolly, K.J. (2000). Gender differences in response to infertility

- and infertility investigation: Real or illusory. *British Journal of Health Psychology*, 5:365-375.
- Epstein, Y. M., & Rosenberg, H. S. (2005). Depression in primary versus secondary infertility egg recipients. *Fertility and sterility*, 83(6), 1882-1884.
- Fathallah, M, F. (1992). A global overview. *Early Human Development. Reproductive Health* 29: 35-42. doi: 10.1016/0378-3782(92)90055-L. Pub Med.
- Flowers, L. (2003). *Infertility: Finding God's Peace in the Journey*. Harvest House Publishers. focus editions, 154, 136-136. www.ncbi.nlm.nih.gov/pubmed/.
- Gallagher, E. N., & Vella-Brodrick, D. A. (2008). Social support and emotional intelligence as predictors of subjective well-being. *Personality and Individual Differences*, 44(7), 1551-1561.
- Ganth, D. B., & Thiagarajan, S. (2013). Role of infertility, emotional intelligence and resilience on marital satisfaction among Indian couples. *International Journal of Applied Psychology*, 3(3), 31-37.
- Gourounti, K., Anagnostopoulos, F., Potamianos, G., Lykeridou, K., Schmidt, L., & Vaslamatzis, G. (2012). Perception of control, coping and psychological stress of infertile women undergoing IVF. *Reproductive BioMedicine Online*, 24(6), 670-679.
- Fraley, R. C., Heffernan, M. E., Vicary, A. M., & Brumbaugh, C. C. (2011). The Experiences in Close Relationships-Relationship Structures questionnaire: A method for assessing attachment orientations across relationships. *Psychological Assessment*, 23, 615-625.
- Gong, L. (2002). Towards a theory of social intelligence for interface agents. In *Workshop on Virtual Conversational Characters: Applications, Methods, and Research Challenges Conjunction with the Human Factors Conference*, Melbourne, Australia.
- Hakim, A., Sultan, M., & Faatehuddin, S.M. (2001). Reproductive health and family planning survey. Preliminary report. National institute of population studies Islamabad, Pakistan.
- Hankin, B. L., Kassel, J. D., & Abela, J. R. Z. (2005). Adult attachment dimensions and specificity of emotional distress symptoms: Prospective investigations of cognitive risk and interpersonal stress generation as mediating mechanisms.
- Hasanpoor-Azghdy, S.B., Simbar, M., Vedadhir, A. (2014). The emotional psychological consequences of infertility among infertile women seeking treatment: Results of a qualitative study. *Iran Journal of Reproductive Medicine*, 12 (2): 131-8.
- Hazen, C., & Zeifman, D. (1999). Pair bonds as attachments: Evaluating the evidence. In J. Cassidy & P.R. Shaver (Eds.). *Handbook of Attachment: Theory Research and clinical applications* (pp.336-354). New York, NY, US: The Guildford Press.

- Headey, B. (2010). The Set Point Theory of Well-Being has Serious Flaws: On the Eve of a Scientific Revolution? *Social Indicators Research*, 97(1), 7-21. doi: 10.1007/s11205-009-9559-x.
- Higgins, B. S. (1990). Couple infertility: From the perspective of the close-relationship model. *Family Relations*, 81-86
- Hussain, S. (2010). Psychiatric morbidity in Infertile Pakistani Women: A systematic review. *Journal of Pakistan Psychiatric Society*. Vol.7(2).
- Inhorn, M.C., & Van Balen, F. (2002). *Infertility around the globe: New thinking on childlessness, gender and reproductive technologies*. Berkeley: UCLA-press.
- Jalil, T., & Muazzam, A. (2013). Emotional intelligence as a predictor of marital adjustment to infertility. *International Journal of Research Studies in Psychology*, 2(3).
- Johansson, E. D. (1998). *Our Stolen Future: Are We Threatening Our Fertility, Intelligence and Survival-A Scientific Detective Story*. *Studies in Family Planning*, 29(1), 95-96.
- Joshi, S., & Thingujam, N. (2009). Perceived emotional intelligence and marital adjustment :Examining the mediating role of Personality and social desirability. *Journal of Indian academy of Applied Psychology*. Vol. 35. www. reserachgate.net.
- Kane, R. A., & Penrod, J. D. (1995). *Family caregiving in an aging society: Policy perspectives*. In Some of the chapters in this volume were presented at a working conference on family care giving policy, Morgantown, WV, Dec 1990. Sage Publications, Inc.
- Khan, A. (2010). Infertility rate increases in Pakistan. *The Nation*, p.10.
- Leanza,V., Palumbo,M., Leanza, G., & Leanza, A. (2015). Feelings if shame, depression and self-esteem among women experiencing infertility. *Obstetric and Gynecology*. Vol. 37(3):111-115.doi: 10.11138/giog/2015/37.3.11.
- Kumar, S. (2022). A quest for sustainium (sustainability Premium): review of sustainable bonds. *Academy of Accounting and Financial Studies Journal*, Vol. 26, no.2, pp. 1-18
- Allugunti V.R (2022). A machine learning model for skin disease classification using convolution neural network. *International Journal of Computing, Programming and Database Management* 3(1), 141-147
- Allugunti V.R (2022). Breast cancer detection based on thermographic images using machine learning and deep learning algorithms. *International Journal of Engineering in Computer Science* 4(1), 49-56
- Khalid, S.N. & Qureshi, I.Z. (2012). Perceptions of Infertile Couples Regarding Infertility and Intrauterine Insemination (IUI) in a Rural Population and Services at Government Hospitals in Punjab, Pakistan. *Human Reproduction*. Vol. 27(2).
- Klinger, E. (1996). Theories of thought flow: Points of kinship and fertile contrasts. *Advances in social cognition*, 9, 107-120.

- Kong, F., Zhao, J., & You, X. (2012). Social support mediates the impact of emotional intelligence on mental distress and life satisfaction in Chinese young adults. *Journal of Personality and Individual Differences*, 53(4): 513-517.
- Lee, A., & Hankin, B.L. (2009). Insecure Attachment, Dysfunctional Attitudes, and Low Self-Esteem Predicting Prospective Symptoms of Depression and Anxiety During Adolescence. *Journal of Clinical Child Adolescent Psychology*, 38(2): 219–231: doi/org/10.1080%2F15374410802698396
- Ling, S., Raine, A & Schug, R. (2018). The Mediating Role of Emotional Intelligence on the Autonomic Functioning – Psychopathy Relationship. *Biological Psychology*. Vol. 136; pp 136-<https://doi.org/10.1016/j.biopsycho.2018.05.012>
- Lopes, P. N., Salovey, P., & Straus, R. (2003). Emotional intelligence, personality, and the perceived quality of social relationships. *Personality and Individual Differences*, 35(3), 641-658.
- Lyubomirsky, S. & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research*, 46, 137-155.
- Marks, D.G., Horrocks, K.A., & Schutte, N.S. (2016). Emotional intelligence mediates the relationship between insecure attachment and subjective health outcomes. *Personality and Individual Differences*. Vol. 9
- Matsubayashi, H., Hosaka, T., Izumi, S-I, Suzuki, T., Makino, T. (2001). Emotional distress of infertile women in Japan. *Human Reproduction*; 16:966–969.
- Mikulincer, M., & Shaver, P. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York: Guilford.
- Molero, F., Shaver, P. R., Fernandez, I & Reci, P. (2017). Attachment insecurities, life satisfaction, and relationship satisfaction from a dyadic perspective: The role of positive and negative affect. *European Journal of Social Psychology*. www.onlinelibrary.wiley.com.[https:// doi.org/10.1002/ejsp.2276](https://doi.org/10.1002/ejsp.2276).
- Nazir, S., Abbas, F., & Naz, F. (2020). Historical development of orthography in English and impact of computer-mediated communication (CMC) on the emerging orthographic patterns in English. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 17(11), 162-175.
- Peterson, B. D., Pirritano, M., Christensen, U., & Schmidt, L. (2008). The impact of partner coping in couples experiencing infertility. *Human Reproduction*, 23(5),
- Qadir, F., Khalid, A., & Medhin, G. (2015). Social Support, Marital Adjustment, and Psychological Distress Among Women with Primary Infertility in Pakistan. *Journal Women and Health*. ol.55(4). doi.org/10.1080/036302242.2015.1022687.
- Raque- Bogdan, T. L., & Hoffman, M. A. (2015). The Relationship among infertility, self-compassion and well-being for women primary or secondary infertility. *Psychology of Women Quarterly*, 39(4). 484-496doi:10.1177/0361684315576208.

- Rahim, R., & Majid, S. S. (2011). Aetiological factors of infertility. *JPMI*. Vol: 18(2).166-171.<http://jpmi.org.pk>.
- Rizwan, M., & Aftab, S. (2009). Psychometric properties of the multidimensional scale of perceived social support in Pakistani young adults. *Pakistan Journal of Psychology*, 40(1).
- Ruvalcaba- Romero, N.A., Fernnandez –Berracol, P., Guadalupe Salazar-Estrada, J., &Gallegos- Guajardo, J. (2017). Positive emotions, self-esteem, interpersonal relationships and social support as mediators between emotional intelligence and life satisfaction. *Journal of Health, Behavior and Social Issues*, 9(1):1-6.
- Saddiqui, S. (1997). Saddiqui Shah Depression Scale: Development & Validation. *Psychology and Developing Societies*, 9(2)245-262.
- Samadi, R.G., Kasaei, F., & Mouhammad Pour, E. (2013). Attachment Styles as a Predictor of Emotional Intelligence. *Procedia Social and Behavioral Sciences*, 84:1712-1715.
- Sami, N., & Ali, T. (2012). Perceptions and experiences of women in Karachi, Pakistan regarding secondary infertility: results from a community-based qualitative study. *Obstetrics and Gynecology International*. <http://dx.doi.org/10.1155/2012/108756>.
- Sami, N., & Ali, T. S. (2006). Psycho-Social consequences of Secondary Infertility in Karachi. *Journal of Pakistan Medical Association*, 56,19-22.
- Simpson, J. A., Rholes, W. S., & Nelligan, J. S. (1992). Support seeking and supportgiving within couples in an anxiety-provoking situation: The role of attachment styles. *Journal of Personality and Social Psychology*, 62, 434-446.
- Sherman, A. M., De Vries, B., & Lansford, J. E. (2000). Friendship in childhood and adulthood: Lessons across the life span. *The International Journal of Aging and Human Development*, 51(1):31-51.
- Shuster, E. (1991). Non-genetic surrogacy: no cure but problems for infertility? *Human Reproduction*, 6(8), 1176-1180.
- Smith, L., Heaven, P. C., & Ciarrochi, J. (2008). Trait emotional intelligence, conflict communication patterns, and relationship satisfaction. *Personality and Individual differences*, 44(6), 1314-1325.
- Soleimani, A. A., Najafi, M., Ahmadi, K., Javidi, N., Kamkar, E. H., &Mahboubi, M. (2015). The Effectiveness of Emotionally Focused Couples Therapy on Sexual Satisfaction and Marital Adjustment of Infertile Couples with Marital Conflicts. *International journal of fertility & sterility*, 9(3), 393.
- Stanton, A. L., ParsaVol., A., & Austenfeld, J. L. (2002). The adaptive potential of copin through emotional approach. *Handbook of positive psychology*, 148-158
- Sultan, S., & Tahir, A. (2011). Psychological Consequences of Infertility. *Hellenic Journal of Psychology*, 8: 229-247.www.pseve.org/journal/upload/soultan8b.pdf.

- Tarar, I. A., Khan Rana, A. M., & Abbas, F. (2020). Right to Education: Comparative Study of Constitutional Contours, Legislative Initiatives and Institutional Arrangements in India and Pakistan. *Ilkogretim Online*, 19(3), 3365-3371.
- Tahir, F., Shahab, M, Afzal, M., Subhan, F., Sultan, S., Kazi, B. M. & Dil, A.S.(2004). Male reproductive health: an important segment towards improving reproductive health of a couple. In: *population research and policy development in Pakistan* (eds. M.A. Chaudhry and M. Desousa), pp. 227-248.
- Toyama, H., & Mauno, S. (2017). Associations of Trait Emotional Intelligence with Social Support, Work Engagement, and Creativity in Japanese Eldercare. *Japanese Psychological Research* doi: 10.1111/jpr.12139 ,59(1), 14–25.
- Van Balen, F., & Bos, H.M.W. (2011). The social and cultural consequences of being childless in poor-resource areas. *FV&V in Ob Gyn.(Monograph):1–16*.
- Zafar, N & Kausar, R.(2013).Urdu translation The Multidimensional Scale of Perceived Social Support. Unpublished M.Phil Thesis. Institute of Applied Psychology. Punjab University, Lahore.
- Zimet, G. D., Dahlem, N. W., Zimet, S. G. & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment*, 52, 30-41.