Developing an Indigenous Irrational Romantic Belief Scale for University Students

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Irrational beliefs cause people to experience problems in their relationships (Addis & Bernard, 2002; Hamamcı, 2015), so the present study focused on the development of an indigenous scale on irrational romantic beliefs among university students. The phenomenology of irrational romantic beliefs was explored through 20 in depth semi structured interviews and from the 51verbatim of interviews, a list of 42 items was extracted. The resultant scale was then administered on 500 university students to establish the psychometric properties. Principal Component Analysis with Varimax Rotation showed three factors with KMO of .92 (p<.01) while the association among the factors and the aptness for factor analysis was depicted by Bartlett's test of sphericity (6669.19). Entitled factors were Over Dependence, Over Demandingness and Awufulizing. Irrational Romantic Belief Scale occurred to be highly reliable scale with the split half reliability (.84), alpha coefficient (.92), and Spearman-Brown Coefficient (.84). The Concurrent validity with respect to Romantic Relationships Beliefs Inventory (RRBI; Kalkan, 2006) was moderately high (r= .49, p<.01).Findings show that IRBS is an effective measure with excellent psychometric properties. The results are discussed in the cultural context of irrational romantic beliefs.
Key words: irrational beliefs, romantic relationships, university students.

Among all other important aspects of development, relationships are another highlighting feature of young peoples' life. These relationships can be with family, peer and romantic partners and significantly effects the personal, social and emotional development (Sardoğan, 2014). One big important part of human life is romantic relationships. This topic has been covered in the research arena in an elaborative fashion (Sternberg, 1986; Collins, 2003).Individuals having a satisfying romantic relationship are found to be more adjusted both at physical, psychological and social levels (Proulx, Helms, & Buehler, 2007; Wikrama, Lorenz, Conger & Elder, 1997). Various studies have emphasized the importance of romantic relations in adolescents' life in predicting the health and quality of future romantic relationships in adulthood (Ponzetti& Cate, 1988; Furman, 2002; Mosher &Danoff-Burg, 2007).

Having said that positive experiences in romantic relationships help in personal growth of youngsters, negative experiences can create many problems (La Greca, & Harrison, 2005). Romantic relations have a developmental course to follow, ranging from liking, to attachment to intimate companionship (Meier & Allen, 2009). Since this is a long road to travel upon, maintaining the satisfaction and compatibility over time becomes a hard job. Therefore in addition to their personal developmental struggles, young adults have to cope with these relationship difficulties, and eventually after failing to cope effectively (because of lack of skills and knowledge)end up having a negative perception of their relationships (Kaygusuz, 2013). There has been ample evidence suggesting relationship problems as one of the leading cause of college/university students, consulting university counseling centers (Aluede, Imhonde & Eguvoen, 2006; Creasy, Kershaw & Boston, 1999; Erkan, Cihangir-Cankaya and Terzi, Ozbay, 2011).

It is very important how romantic relationships are perceived and what are the cognitions and beliefs one holds about them. Relationship beliefs are considered as promoting healthy relationship and development if they are rational and close to reality (Ellis, 1993; Sullivan & Scwebel, 1995). People in their romantic relationships have higher expectations from their partners than other significant ones. Some expectations are explicit that can be communicated to the other partner while most of them are implicit, are not communicated and largely gauge the relationship satisfaction. Implicit expectations are a medium of fulfilling the unfulfilled desires may be from the childhood or some other deprivations from the unconscious of a person (Knee & Canevello, 2006). These expectations are extremely shaped and when the partner is unable to fulfill these irrational demands, the usual result is dissatisfaction and conflict in the relationship (Dixon, Gordon, Frousakis, & Schumm, 2012; Vannier & O'Sullivan, 2017).

Researches have postulated that people with irrational beliefs have higher chances of having various psychiatric symptoms and disorders (Alden & Safran, 1978; Bernard, 1998; David, Schnur, &Belloiu, 2002; Ellis, 2003; Greene, 2006; Jones, 1968;Kücük, Gür, Sener, Boyacioğlu, & Cetindağ, 2016;Macavei, 2005; McDermut, Haaga, & Bilek, 1997; Visla et al., 2016). Moreover irrational beliefs are found to be a significant cause of distress in college students (DiLorenzo, David, & Montgomery, 2007), lower self-confidence (Al-Salameh, 2011) and are also negatively related to social, emotional and academic adjustment of adolescents (Hamidi & Hosseini, 2010). In the light of the above mentioned literature it becomes important to study the cognitive aspect of romantic involvements in young people.

Irrational beliefs have been widely measured across the world since 1980s. There are many tools assessing the interpersonal irrational beliefs across the globe. Some of them are Interpersonal Cognitive Distortion Scale (ICDS; Hamamci & Büyüköztürk, 2004) which measures the dysfunctional beliefs in interpersonal relationships, The Relationship Belief Inventory (Eidelson & Epstein, 1982), Romantic Relationships Beliefs Inventory (Kalkan, 2006), and "The Irrational Romantic Relationship Belief Inventory" (Sari & Korkut-Owen, 2015).These scales are based on Western or European cultures which measures irrational beliefs in interpersonal relationships, therefore due to differences in constructs and language barriers these cannot be used in Pakistani culture. Despite their best

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psychometric properties, the above mentioned instruments are criticized for not being able to meet the test development standards. Some lack content validity while others are reported to be short of construct validity (Smith, 1982; Terjesen, Salhany, &Sciutto, 2009). Either these scales are contaminated with the emotional symptoms (Shorkey& Whiteman, 1977) or behavioral outcomes (Jones, 1968). Furthermore culture has an undeniable role to play in the development of beliefs of an individual (Ardilla, 2005). Cultural differences in the manifestation of beliefs calls for an instrument that can truly reflect the indigenous mind set. Evidence suggests a difference in how irrational beliefs are experienced and exhibited across the globe (Divers, Heimission, Madrid, 1998, Vandervort, 2011). Therefore it becomes even more important to have an indigenous scale for the assessment of irrational romantic beliefs especially when none is available indigenously. Further because of importance of romantic issues in young peoples' life, there is a need to have proper assessment and consequently better treatment strategies for the future. Therefore we aim to develop a scale on irrational romantic beliefs of university students with local underpinnings.

Method

The present study was conducted in two phases. Phase I was about exploring the phenomenology of irrational romantic beliefs. Phase II was about empirical validation and establishing psychometric properties of the indigenously developed scale.

Phase I: Exploring Phenomenology. This phase was about exploring the phenomenology of irrational romantic beliefs of university students for generating the items for the indigenous scale and consisted of five steps i.e. literature review, interviews of experts, review of referred case studies, in depth semi structured interviews of referred university students and pilot testing.

Step I: Literature review. For the better theoretical understanding of the construct of irrational romantic beliefs, literature was reviewed thoroughly. The database used for the purpose was digital libraryof Government College University that included data bases like Cambridge University Press, Springer Link, Taylor and Francis, Jstor, Chicago Journals, Wiley Inter Sciences and Science Direct. The number of articles reviewed was 51. Most of the articles were based in Western culture. These articles were thoroughly studied for an in depth understanding of romantic irrational beliefs and their manifestation.

Step II: Review of referred case studies. *Participants.* Twenty case studies of B.A/B.ScHons program from Government College University. Cases included 12 female and 8 male students. The data for this part of the study was drawn from the counseling center of the university.

Procedure. For better understanding of the construct, case studies from last five years were reviewed. Twenty cases with romantic issues were reviewed in detail to collect the actual expression of the irrational romantic beliefs.

Step III: In depth semi structured interviews. *Participants.* Participants of this phase of the study were 20 university students referred to university counseling center with the problems in romantic relationships. The technique used for withdrawing the sample was purposive sampling.

Procedure. In depth semi structured interviews were carried out to interview the participants. This interview included questions about expectations in romantic relationships i.e.

1. What do you expect from your mate to behave like in an intimate relationship?
2. What are your expectations from your partner?
3. How should be a romantic relationship?
4. How do you perceive a conflict in a romantic relationship?
5. What are your ideas about the breakup of a romantic relationship?

Students described various aspects of irrational romantic beliefs in detail until the saturation point reached. After that through content analysis a list of items was generated to make the basic item pool for romantic irrational beliefs. These items were scrutinized for repetition and grammatical errors to make a refined list of 51 items.

Step IV: Expert review. *Participant.* Participants for this phase of study were five clinical psychologists with minimum three years of experience.

Procedure. A list of 51 items was given to five experts and they were requested to answer the items on a five point Likert scale; 0 (never), 1 (somewhat relevant), 2(considerably relevant), 3(very much relevant), and (completely relevant) to indicate the relevance of the items to the construct of irrational romantic beliefs. After getting the valued feedback from the experts, items with 80% of agreement were retained and rest of them were excluded to make a final list of 42 items.

Step V: Pilot testing *Participant.* Participants for this part of the study were ten university students (five male, five female) from B.A/B.ScHons programs.

Procedure. The finalized list of 42 items was transformed to a five point scale from 0 (not at all), 1(rarely), 2(sometimes), to 3(most of the times), and 4(always). In order to check the comprehension and user friendliness of the developed scale, it was administered on10 B.A/B.ScHons students. This exercise revealed that the comprehension of the scale was good and there were no problems regarding administration of the scale.

Phase II: Establishing psychometric properties of indigenous scale. Finally, psychometrics of the indigenously developed scale were established.

Participants. The phase had 500 participants as university students from B.A/B.Sc program. Sampling technique employed was area probability sampling, where on the basis of the geographical location of the universities, five universities (three public and two private) were selected.

Table 1
Demographic Characteristics of University Students (N=500)

Demographics	f	(%)
Gender		
Male	226	45.2%
Female	274	54.8%
Age		
M(SD)	20.51(1.54)	
18-20	252	50.4%
21-23	248	49.6%
Class		
BS	426	85.2%
MSc	74	14.8%
Family System		
Nuclear	373	74.6%
Joint	127	25.4%

Table 1 shows the ratio of university students which indicates that there were more females than males. Most of the students fall in the

age from 18-20 years. And majority of the students in the sample were from BS program rather than M.Sc. The number of students belonging to nuclear family system was greater as compared to joint family system.

Inclusion criteria. University students enrolled in all four years of bachelors and masters programs with an age range of 19-22 years were included in the sample. Students with physical disabilities had no restriction for participating in the research but no disable student came across during data collection.

Measures

The research protocol included Consent Form, Demographic Questionnaire, Indigenous Irrational Romantic Belief Scale (Majeed, Ijaz, Naz& Tariq, 2017), Romantic Relationship Belief Inventory (Kalkan, 2006) for testing concurrent validity and Subjective Happiness Scale(Lyumbomirsky and Lepper, 1999) for finding divergent validity.

Irrational Romantic Beliefs Scale (IRBS). Irrational Romantic Beliefs Scale (IRBS) is an indigenously developed scale for university students. It measures the extent to which an individual has irrational romantic beliefs. It is a 40 items scale with Likert scale of five points ranging from "not at all" to "always". This scale constitutes of three subscales namely overdependence, overdemandingness, and awfulizing. Overdependence has 14 items and included items like "the beloved should be the center of one's life", "all the happinesses and sorrows are associated with one's beloved". Overdemandingness consisted of 15 items and included items like "when I am in pain my beloved should equally feel the same pain", "my beloved should pay me undivided attention", "my beloved should meet all my expectations". Awfulizing has 11 items and contains items like "disagreement is a total disaster for a relationship", "failure in love is a failure of whole life".

Romantic Relationship Belief Inventory. *(RBI; Kalkan, 2006).*Romantic Relationship Belief Inventory (RBI) by Kalkan (2006) was used to assess individual's irrational romantic expectations. The scale has got 20 items. The internal consistency reliability of the whole scale is .87 while the test re-test reliability is .74. This scale was employed to assess the convergent/concurrent validity of the newly developed indigenous scale.

Subjective Happiness Scale *(SHS; Lyumbomirsky & Lepper, 1999).*The Subject Happiness Scale (Lyumbomirsky and Lepper, 1999) is a 4 items scale and measures the universal subjective happiness of an individual. This scale emloys a Likert scale on 7 points. SHS has high internal consistency starting from 0.79 upto 0.94 across the samples. Similarly test retest reliability over the time period of three weeks was found to be from r=0.55 to r= 0.90 for different samples. SHS has also demonstrated good convergent validity r=0.52 to r=0.72. This scale was used to establish divergent validity of the newly developed scale.

Procedure

After taking the permission from the institutions data was collected. Research protocol was administered to the students in the group form. Clear instructions were given to the students and ambiguities if any were clarified. It was made sure that all the questions were answered. After administering the questionnaires, students were asked to provide the feedback and their queries were answered.

Ethical Consideration

Permission from the institutes was acquired for data collection. Moreover, participants were asked to give written as well as verbal consent before collecting the data. All the participants were ensured about the confidentiality of the data including their identity and personal information. Their right to ask question and leave the research at any point in time was also ensured. Participants were also debriefed after the administration of the scales.

Results

Item analysis. Item analysis was done using item total correlation. Results depicted that every item had a significant correlation (p<.01) with the total scores of the scale, demonstrating the high internal consistency of the scale ranging from .090*(p<.0.05) to 0.64** (p<0.01).

Table 2
Factor Loadings, Eigen values, Cumulative percentages, and variance of items of IRBS on three factors (N=500)

Item no	F1 Over dependence	F2 Over demandingness	F3 Awfulizing
3	**.42**	.03	.26
4	**.45**	.29	.19
5	**.52**	.16	-.04
6	**.56**	.21	.08
11	**.67**	.22	.04
12	**.67**	.05	.23
14	**.61**	.19	.21
15	**.75**	.14	.11
17	**.60**	.06	.27
19	**.53**	.30	.03
20	**.56**	.31	.13
22	**.35**	.30	.05
36	**.50**	.15	.38
39	**.55**	.16	.33
2	.22	**.45**	.19
7	.43	**.47**	.07
8	.37	**.37**	-.10
13	.29	**.49**	.01
18	.21	**.35**	.32
21	.33	**.35**	.18
24	.03	**.60**	.43
25	.03	**.68**	.23
26	.04	**.72**	.06
27	.05	**.55**	-.15
31	.17	**.42**	.14
32	.23	**.42**	.29
34	.26	**.50**	.05
37	.18	**.54**	.09
38	.28	**.48**	.20
9	.11	.02	**.39**
10	.39	.02	**.41**
16	.07	.09	**.52**

23	.27	.44	**.46**
28	.38	.03	**.56**
29	-.00	.32	**.47**
30	-.03	.38	**.52**
33	.37	.04	**.39**
35	.10	.09	**.61**
40	.26	.06	**.38**
42	.21	.17	**.42**
Eigen values	10.5	2.4	1.9
Variance	25.0	5.7	4.7
Cumulative Percentage	25.4	30.7	35.5

Scree Plot

Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett test of Sphericity for IRBS (N=500). The significance of the value (p<.01) of KMO (.92) specifies an adequate proportion of variance among the factors that could have been caused due to underlying factors. This greater value of KMO shows that the factor analysis for this data is useful to determine the factor structure. The effective value of Bartlett's test of sphericity (6669.19) (p<.01) is also demonstrating the interrelatedness of variables in different factors that ensures the aptness for factor analysis.

Factor analysis. Principle component analysis with varimax rotation was used to determine the factor structure of IRBS.

For establishing the factor structure of the scale, principle component analysis was used. After Exploratory factor analysis 40 items were retained out of 42 items. Items with loadings above .30 were selected. These 40 items converged into three factors which were labelled on the basis of their content. Factor 1 had 14 items that depicted dependability, possessiveness and lack of self reliance therefore was named as over dependence. Factor 2 included 15 items with themes of demandingness, lack of personal space of the loved one, perfectionism, and increased, hence named as over demandingness. Factor 3 integrated 11 items showing absolutism and egocentric thinking pattern therefore named as awfulizing.

Table 3
Correlations between Romantic Relationship Belief Scale and Irrational Romantic Belief Scale (N=500)

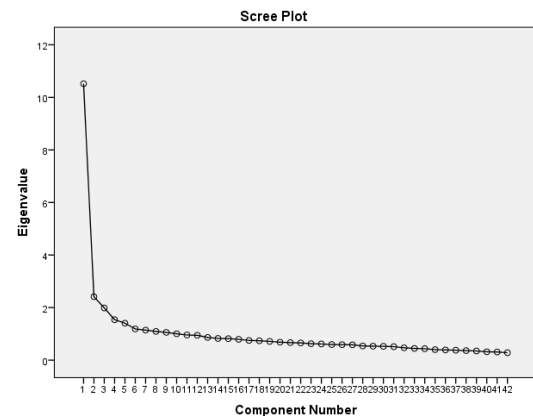| Scales	Items	Romantic Relationships Belief Scale	Irrational Romantic Beliefs Scale
Romantic Relationships Belief Scale	0	.49	-
Irrational Romantic Beliefs Scale	0	-	.49

Table 3 shows alpha coefficient (.92), split half reliability (.84) and spearman brown coefficient (.84) of IRBS. These values have high significance values (p< .01). Results indicate that IRBS is a reliable scale with very good internal consistency.

Overall results show that Irrational Romantic Belief Scale is a valid and reliable measure with a clear factor structure and impressive psychometric properties.

Reliability analysis. To establish the reliability of IRBS, alpha coefficient was computed.

Concurrent validity. Romantic Relationships Belief Inventory (Kalkan, 2006) was used to establish the concurrent validity of the newly developed scale IRBS.

Table 4
Correlation between Irrational Romantic Belief Scale and Subjective Happiness Scale (N=500)

Scales	Items	Irrational Romantic Beliefs Scale	Subjective Happiness Scale
Irrational Romantic Beliefs Scale	40	.01	-
Subjective Happiness Scale	4	-	.01

**p<0.01*

A positive correlation (r=.49, p<.01) was found between Romantic Relationship Belief Scale and Irrational Romantic Belief Scale after computing Pearson product moment correlation.

Divergent validity. Subjective Happiness Scale was used along with the Irrational Romantic Belief Inventory was used to establish the divergent validity of the scale.

A non-significant relationship(r=.01) between Irrational Romantic Belief Scale and Subjective Happiness Scale was found after computing Pearson product moment correlation showing that both scales measure entirely different constructs.

Table 5

Alpha Coefficient, Split-half reliability, and Spearman-Brown Coefficient of Irrational Romantic Beliefs Scale (N=500)

Scales	Items	M	SD	Alpha Coefficient	Split-half Reliability	Spearman Brown Coefficient
IRBS	0	96.0	21.0	.92	.84	.84
Half I	0	-	-		.87	
Half II	0	-	-		86	
Overdependence	4	32.8	9.0	.87		
Overdemandingness	5	34.7	8.3	.84		
Awfulizing	1	1.96	5.7	.77		

Discussion

Current study focused on the development of an assessment tool for studying irrational beliefs related to romantic relationships among university students. There is ample research evidence depicting the importance of intimate relationships in adolescents' life (Sternberg, 1986; Collins, 2003). Therefore it becomes extremely important to devise proper assessment methods for tapping the problems related to romantic relationships so that effective treatment plans can be offered for the students.

Factor analysis clearly elaborated the scale into three categories of irrational beliefs, i.e. over dependence, over demandingness, and awfulizing. Conceptually these factors are very much related to the irrational romantic beliefs like I can't stand it, absolustic should, musts, awfulizing and damning oneself and others proposed by Ellis and MacLaren (1998). Moreover factors from IRBS are also conceptually related to the factors from Romantic Relationship Belief Inventory by Kalkan (2006). For example 'awfulizing' (a subscale of IRBS) resembles to the items from RRBI (Kalkan, 2006) "I think our relationship is unsuccessful when my partner and I do not agree". Similarly "as long as my partner does not love me, I am nothing", "when things go wrong in my relationship, I blame myself", "I think my partner's love for me will finish and I will be dumped", "if I lose my partner's love life will have no meaning for me". Further there seems similarity in the 'over dependence' (a subscale of IRBS) to the following items "my happiness depends on my partner's love more than myself", "I always must be very important to my partner so that I can be happy"; "I need my partner's approval in order to be happy". Finally "overdemandingness" (a subscale of IRBS) also seems to attract similar items from RRBI (Kalkan, 2006), like "I always need my partner's support", "in a relationship, there are no secrets between man and woman", "in a happy relationship, partners feel each other's needs as if they could read minds", "my partner should be able to notice my needs without telling him/her". Though factors from RRBI are labeled differently but the content is very much similar to the items of IRBS.

Similarly overdemandingness (a subscale of IRBS) seems to match the factor of unrealistic relationship expectations from Interpersonal Cognitive Distortion Scale (ICDS) by (Hamamci & Büyüköztürk, 2004). Some of the items "My partner should be able to read my mind", "My partner should understand my needs without telling"; "Fight in a relationship is a complete disaster" from IRBS tend to match the factors of "mind reading" and "disagreement is destructive" from the RBI (Eidelson & et al., 1982). Likewise The Irrational Romantic Relationship Belief Inventory (Sari & et al., 2015) seems to be relevant to some item of IRBS in its factor of mind reading.

This similarity of the constructs of IRBS with other western based measures is sign of construct equivalence showing high construct validity. Since expressions of irrational beliefs is guided by cultural prototypes (Hall, 2006; Can, 2006 as cited in Sardoğan, 2014), few cultural differences are also seen. For example IRBS does not include any item related to sexual adequacy or sexual attraction, while western based tools have such items. Such differences justify the very reason of constructing a new measure indigenously.

Limitations and Future Directions

The data of the study were collected only from Lahore, for further research this scale can be used for collecting data from diversified sites. The sample of the study included only bachelors students, further its spectrum can be enhanced by including students form varied age ranges e.g. students from Intermediate, MPhil and PhD in order to see whether age and maturity make any difference with reference to irrational thinking. Furthermore in future, this toolcould be used in identifying the irrational romantic beliefs of married couples and comparison could be done among people of urban and rural areas.

Implications

This study has provided us with a tool to effectively measure irrational romantic beliefs in young adults. This will help in refined assessment of the problem and eventually experts will be able to offer efficient treatment plans.

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