Development of the Multidimensional Scale of Irrational Beliefs (MSIB)

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Abstract

The Multidimensional Scale of Irrational Beliefs (MSIB) is a brief and theoretically founded measure of irrational thinking as conceptualized by Albert Ellis in his most recent works on Rational Emotive Behavior Therapy (e.g., Ellis, 2003). With a total of 18 items, it captures demandingness, negative self-evaluation, and low frustration tolerance as the three core aspects of irrationality. Unlike previous irrationality instruments, it is a highly reliable, purely cognitive measure and avoids measuring aspects which are consequences or correlates of irrational thinking (e.g., emotions). Three studies (N = 757) are reported that repeatedly indicate high internal consistency of all subscales (Cronbach's alpha: .85-.90), factorial validity, and convergent validity with earlier measures.

Introduction

The theory of Rational-Emotive Behavior Therapy (REBT) by Albert Ellis (1962) proposes that the response to a certain event depends mainly on how this event is perceived and put in relation to individual goals and desires. Regarding this process, Ellis distinguishes between rational and irrational beliefs which lead to adaptive or maladaptive emotions which in turn define the behavior of a person. In his recent publication, Ellis (2003) postulated three main factors of irrationality which can be described as:

(1) demandingness (DEM) - the belief that one's wishes must be fulfilled,
(2) negative self-evaluation (NSE) - the belief that the value of oneself depends on the appreciation of other people or on own achievements, and
(3) low frustration tolerance (LFT) - the belief that frustration which occurs after personal failure cannot be endured and that life is insufferable.

Several measures of irrational beliefs have been developed over the past decades. However, none of them used this most recent factor structure. Moreover, most of them are not very economic, have poor internal consistencies, and/or contain emotional aspects which are to be seen not as irrational beliefs, but as their consequences. Therefore, the purpose of our studies was to develop a new measure which is economic, reliable, consists only of pure cognitive items, and is in accordance with the latest factor model of REBT by Ellis (2003). In study 1, items from existing measures were combined to form an 18-item scale on basis of content validity and psychometric properties. In study 2, this scale was further improved by replacing poor items by newly formulated ones. Finally, in study 3, the measure was validated using two of the existing irrationality measures.

Method

Participants

All three samples consisted of students predominantly.
Study 1: N = 357, aged 16 to 81 years (M = 26.0, SD = 9.0);
Study 2: N = 200, aged 17 to 98 years (M = 25.6, SD = 9.1);
Study 3: N = 200, aged 16 to 85 years (M = 31.3, SD = 11.9).

Measures

Study 1: An item pool (52 items) was created by selecting items with good psychometric properties and high content validity from the *Fragebogen irrationaler Einstellungen* (FIE, Irrational Beliefs Questionnaire) by Klages (1989), the *General Attitude and Belief Scale* by Bernard (1998), the *6IRBS* (Six Irrational Beliefs) by Försterling and Bühner (2003), and the *Selbstbewertungs-fragebogen* (Self Evaluation Questionnaire) by Morgenstern (2006).
Study 2: Addition of 26 items formulated by REBT experts to the 18 items obtained from study 1 resulted in a pool of 34 irrationality items which was used in study 2.
Study 3: In study 3, the final version of the *MSIB* (18 items) was used together with the *6IRBS* (Försterling & Bühner 2003), and the *FIE* by Klages (1989).

Results

Reliability: The total scale as well as each of the three subscales revealed high reliabilities

	Study 1	Study 2	Study 3
DEM	.74	**.82**	**.85**
NSE	.85	**.87**	**.90**
LFT	.72	**.81**	**.85**
TOTAL	.85	**.92**	**.94**

study 1: N = 357, study 2: N = 200, study 3: N = 200

Reliabilities (Cronbach's α) of the DEM and LFT subscales were not satisfactory in Study 1 (i.e., below .75). Addition of new items in Study 2 resulted in satisfactory to high reliabilities of all subscales (Study 2: .81 ≤ r ≤ .87 / Study 3: .85 ≤ r ≤ .90) and the total scale (r = .92/.94) in Studies 2 and 3.

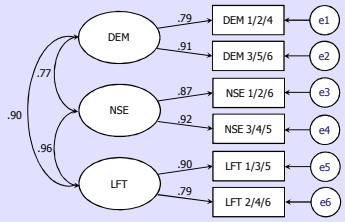
Correlations between subscales: The subscales were substantially correlated

	DEM	NSE	LFT
DEM	(.82/.85)	.59/.60	.66/.74
NSE	-	(.87/.90)	.75/.84
LFT	-	-	(.81/.85)

study 2 (N = 200) / study 3 (N = 200);
In brackets: reliabilities (Cronbach's α)

Correlations between subscales were all significant and high (highest between negative self-evaluation and low frustration tolerance).

Factor structure: The scale captures three distinct, but associated facets of irrationality



joint data from study 2 and 3 (N = 400)

A model with three distinct, but associated factors could be confirmed by confirmatory factor analysis with items parceled (p = .52; *CFI* = 1.00; *TLI* = 1.00; *RMSEA* = .01; *SRMR* = .01). Models with one single factor as well as different two-factorial models with two facets combined to one factor did not yield acceptable model fits.

Validity: Convergent validity with earlier measures of irrrationality is documented

Correlations with the FIE (Klages, 1989), and the 6IRBS (Försterling & Bühner, 2003) were medium to high and in the expected direction.

		MSIB			FIE				6IRBS
		DEM	NSE	LFT	NSE	DEC	IOF	IRR	
MSIB	DEM	**.85**	.60	.74	.46	.47	.55	.43	.47
	NSE	.68	**.90**	.84	.79	.63	.71	.57	.60
	LFT	.87	.96	**.85**	.74	.59	.68	.60	.66
FIE	NSE	.54	.90	.87	**.85**	.61	.72	.69	.63
	DEC	.56	.73	.72	.73	**.81**	.68	.64	.52
	IOF	.69	.87	.86	.90	.87	**.75**	.66	.57
	IRR	.56	.72	.78	.89	.85	.90	**.71**	.47
6IRBS		.64	.80	.91	.86	.73	.83	.71	**.63**

study 3 (N = 200)

Diagonal: Internal consistency (Cronbach's α). Right hand side: Pearson correlations. Left hand side: Correlations corrected for attenuation (double correction). MSIB: DEM – demandingness, NSE – negative self-evaluation, LFT – low frustration tolerance; FIE: NSE – negative self-evaluation, DEC – dependancy cognitions, IOF – internalization of failure, IRR – irritability.

Conclusion

Overall, the results indicate that an economic and reliable measure of irrationality has been developed. It assesses three distinct, though interconnected, facets of irrationality. Results show excellent reliability of the final version of the scale. Furthermore, convergent validity with earlier measures could be demonstrated. Although the facets are highly intercorrelated, model fit for three-factor solution was better than for alternative solutions. Further studies should investigate concurrent and predictive validity of the scale with respect to different outcomes as predicted by REBT theory in different context (e.g., maladaptive emotions in the workplace, see Spörrle, Welpe, & Försterling, 2006), as well as ensure discriminant validity with respect to conceptually distinct constructs (e.g., conscientiousness).

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