ORIGNAL ARTICLE

Reliability and validity of the Ukrainian version of the young schema questionnaire-short form 3 (YSQ-S3)

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OBJECTIVE: This study aims to investigated the reliability and validity of the Ukrainian version of third version of the Young Schema Questionnaire [YSQ-S3; Young, 2005] and provide expected scores for nonclinical samples.

METHOD: The latest version of the questionnaire, the YSQ-S3, has received little attention, and its Ukrainian adaptation has yet to be validated. The participants were 1200 nonclinical persons of gender, male [55%] and female [45%]. The majority of participants had a bachelor's degree, which includes 31% of the statistical sample. The Young Schema Questionnaire assesses early maladaptive schemas [EMSs] and schema domains. This study performed reliability analysis, confirmatory factor analysis, and second and third-order confirmatory factor analysis. TheYSQ-S3 proved to be reliable and corresponded to the theoretically proposed 18-dimensional structure.

RESULTS: Schema scores were positively associated with measures of psychopathology and personality disorder, indicating convergent validity. The results of the study showed that due to the Cronbach's alpha that is higher than 0.7, the reliability of all variables is desirable. Confirmatory factor analyses support the schema domains. We conclude that the YSQ-S3 is a psychometrically sound instrument that can be used Ukraine in research on early maladaptive schemas. Further research is necessary particularly in larger clinical samples.

CONCLUSION: The results of the study showed that due to the Cronbach's alpha that is higher than 0.7, the reliability of all variables is desirable. Confirmatory factor analyses support the schema domains. We conclude that the YSQ-S3 is a psychometrically sound instrument that can be used Ukraine in research on early maladaptive schemas.

Key Words: *Early maladaptive schema; Young schema questionnaire; Reliability; Validity*

Schema therapy is a psychotherapy approach combining traditional cognitive-behavioral therapy with elements of psychodynamic approaches, Gestalt therapy, and humanistic therapies (1). It recently gained increased attention, since outcome studies demonstrated its efficacy and effectiveness in patients with personality disorders, mainly borderline personality disorder (2-6). Central to schema therapy is the concept of early maladaptive schemas [EMS], thought to develop in childhood when essential needs of the child remain unmet.

Schemas are patterns which when they are triggered make the person feel intense emotions. This includes memories, physical sensations and cognition. According to Young's theory, a combination of the four can cause early maladaptive schemas. According to Young, there are types of early childhood experiences that can cause a child to have schemas. These are the following:

- The child who does not get his/her core needs met. The child needed affection, empathy and guidance but didn't get it etc.
- The child who is traumatized or victimized by a very domineering, abusive or highly critical parent.

- The child who learns primarily by internalizing the parent's voice. Every child internalizes or identifies with both parents and absorbs.

- Certain characteristics of both parents, so when the child internalizes the punitive punishing voice of the parent and absorbs the characteristics they become schemas.
- The child who receives too much of a good thing. The child who is overprotected, over indulged or given an excessive degree of freedom and autonomy without any limits being set.

EMS is usually assessed with self-report questionnaires, mainly the Young Schema Questionnaire [YSQ]. The original version of this instrument was developed by Young to assess 16 schemas (7). It consists of 205 items, and it was shown to be reliable and valid in large clinical and student samples. Based on the findings of Schmidt et al. (8), Young and Brown developed a short form of the YSQ comprising five items for each of the 16 EMS. The short form of the YSQ has been revised repeatedly. In its latest form, the YSQ-S3, it comprises 90 items and there are five domains or themes in which the 18 schemas fall under (9). The first domain is disconnection and rejection which includes the following schemas: mistrust/abuse, abandonment/instability, defectiveness/shame and social isolation/alienation. These are results

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of abusive or traumatic childhood experiences. The child usually comes from an unstable family (10). The second domain is impaired autonomy and performance, which includes dependence or incompetence, vulnerability to harm, enmeshment and failure. Impaired autonomy and performance is a result of over protectiveness or neglect of the parents which results in the child feeling incompetent or dependent (10). The third domain is impaired limits, which includes entitlement and insufficient self-control/self-discipline. In this, the internal self-control of the child was not developed because the family sets no boundaries on children. As the child did not have rules he then feels a sense of entitlement, and/or will not develop self-control (10). The fourth is other directedness which includes subjugation, self-sacrifice and approval seeking or recognition seeking. In this, the child experiences conditional love or that the family is concerned with self-image. The parents may also be too involved with themselves that the child then continuously seeks approval and recognition (10). The fifth is over-vigilance and inhibition, which includes negativity, emotional inhibition, unrelenting standards/hypocriticalness and punitiveness. Here the parents are strict and controlling. The child then becomes emotionally inhibited, pessimistic and extremely critical (10).

METHODS

Demographic information

Results of demographic study indicated that out of 1200 people as statistical sample, 55 percent were male and 45 percent were female. Respondent's average age was 19-54 years old. Most of them including 31 percent had bachelor degree. The YSQ-S3 is a self-report instrument (11). People are asked to describe themselves by rating descriptive statements through a 6-step Likert-type response format ranging from completely untrue of me to describe me perfectly. Higher values indicate a stronger presence of the respective schema. The YSQ-S3 assesses 18 EMS (Table 1) with five items perscale, resulting in a total of 90 items.

TABLE 1
Schemas, schema domains, and associated needs

Schema domains	Associated needs	Schemas
Disconnection	Safe attachment, acceptance, nurturing, protection	Emotional deprivation Abandonment/Instability Mistrust/Abuse Social isolation/Alienation Defectiveness/Shame Impaired autonomy and achievement
Impaired autonomy and achievement	Autonomy, competency, identity	Failure to achieve Dependence/Incompetence Vulnerability to harm or illness Enmeshment/Undeveloped self
Impaired limits	Realistic limits and self-control	Entitlement/Grandiosity Insufficient self-control
Other-directedness	Free expression of needs and emotions	Subjugation Self-sacrifice Approval-seeking
Exaggerated vigilance and inhibition	Spontaneity and play	Emotional inhibition Unrelenting standards Negativity/Pessimism Punitiveness

Studying reliability of tools

In order to study reliability of tools Cronbach alpha was used. Results of the study indicated that tools are reliable because Cronbach alpha is bigger than 0/7 (Table 2).

TABLE 2
Reliability of the tools

Variables	Abbreviations	Mean	Standard Deviation	Cronbach's Alpha
Abandonment/Instability	A.I	2.1503	1.13599	0.845
Mistrust/Abuse	M.A	2.9947	1.30025	0.911
Emotional Deprivation	ED	2.7778	1.23123	0.877
Defectiveness/Shame	D.S	2.5668	1.17324	0.902
Social Isolation/Alienation	S.A	2.0715	1.05169	0.915
Dependence/Incompetence	D.I	2.3427	1.16801	0.888
Vulnerability to Harm or Illness	VH	2.1632	1.06396	0.779
Enmeshment/Undeveloped	E.U	2.354	1.15917	0.794
Failure	FA	2.307	1.15149	0.902
Entitlement/Grandiosity	E.G	2.4498	1.14882	0.945
Insufficient Self-Control/Self-Discipline	I.S	3.6278	1.19138	0.977
Subjugation	SU	2.8837	1.33939	0.815
Self-Sacrifice	SS	3.5342	1.33953	0.854
Approval-Seeking/Recognition-Seeking	A.R	3.1458	1.27485	0.872
Negativity/Pessimism	N.P	3.0278	1.29797	0.914
Emotional Inhibition	EI	3.4488	1.35062	0.798
Unrelenting Standards/Hypercriticalness	U.H	2.9552	1.33346	0.827
Punitiveness	PU	3.0975	1.20194	0.941

Validity of the tools

In order to approve validity, structural equation approach was used by AMOS software. First, for investigating validity of the structure, first and second order Confirmatory Factor Analysis was used. Finally, for studying final model fitting, model fit indices were used. The model is as Figure 1. In this model, 24 latent variables are observed, explained and measure by 90 variables.
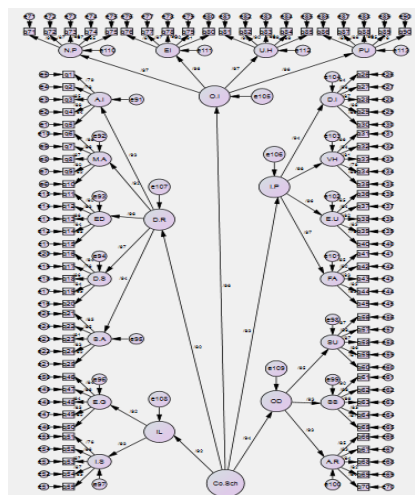

Figure 1) *Designed model in the software*

RESULTS

Descriptive statistics

Results of descriptive statistic indicated that Abandonment/Instability with 2.1503 mean, Mistrust/Abuse with 2.9947 mean, Emotional Deprivation with 2.7778 mean, Defectiveness/Shame with 2.5668 mean, Social Isolation/Alienation with 2.0715 mean, Dependence/Incompetence with 2.3427 mean, Vulnerability to Harm or Illness with 2.1632 mean, Enmeshment/Undeveloped with 2.3540 mean, Failure with 2.3070 mean, Entitlement/Grandiosity with 2.4498 mean, Insufficient Self-Control/Self-Discipline with 3.6278 mean, Subjugation with 2.8837 mean, Self-Sacrifice with 3.5342 mean, Approval Seeking/Recognition-Seeking with 3.1458 mean, Negativity/Pessimism with 3.0278 mean, Emotional In ibition 0068 with 3.4488 mean, Unrelenting standards/hyper criticalness with 2.9552 mean and punitiveness with 3.0975 mean are reported.

Results of Confirmatory Factor Analysis in Table 3 are reported.

TABLE 3
First order confirmatory factor analysis

				Estimate	S.E.	C.R.	P					Estimate	S.E.	C.R.	P
q5	< -- -	A	.I	/836				q50	< -- -	E . G	/823			
q4	< -- -	A	.I	/880	2	38/93	* * *	q49	< -- -	E . G	/824	2	35/34	* * *
q3	< -- -	A	.I	/853	2 7	36/94 9	* * *	q48	< -- -	E . G	/836 8	3 2 6	34/71 5	* * *
q2	< -- -	A	.I	/876	2 3	31/92 4	* * *	q47	< -- -	E . G	/857 7	2 4	36/10 8	* * *
q1	< -- -	A	.I	/795	2 5	33/07 5	* * *	q46	< -- -	E . G	/844	2 4	35/23 9	* * *
q10	< -- -	M . A	/818				q55	< -- -	I. S	/85			
q9	< -- -	M . A	/804	0 3 0	32/64 7	* * *	q54	< -- -	I. S	/867 7	2 7	39/56 1	* * *
q8	< -- -	M . A	/870	7 0 0	36/80 3	* * *	q53	< -- -	I. S	/873 0	2 5	39/75 4	* * *
q7	< -- -	M . A	/855	5 0	35/82 4	* * *	q52	< -- -	I. S	/858 8	2 5	38/84 5	* * *
q6	< -- -	M . A	/858 9	5 2 9	36/01 9	* * *	q51	< -- -	I. S	/863	/6 3	31/93 5	* * *
q15	< -- -	E . D	/855				q56	< -- -	S . U	/875			
q14	< -- -	E . D	/842	2 6	37/95 2	* * *	q57	< -- -	S . U	/876	2 4	42/78 5	* * *
q13	< -- -	E . D	/857	2 4	39/10 4	* * *	q55	< -- -	S . U	/871	2 2	42/20 5	* * *
q12	< -- -	E . D	/829 4	2 4	36/86 4	* * *	q59	< -- -	S . U	/899 9	2 3	41/10 9	* * *
q11	< -- -	E . D	/805 5	2 5	35/08 1	* * *	q60	< -- -	S . U	/861 4	2 4	37/05 5	* * *
q20	< -- -	D . S	/846				q61	< -- -	S . S	/899 5			
q19	< -- -	D . S	/893 4	2	37/13	* * *	q62	< -- -	S . S	/888 2	2 4	45/91 5	* * *
q18	< -- -	S . S	/857 6	7 0	38/8	* * *	q63	< -- -	S . S	/871 6	2 0	42/90 9	* * *
q17	-	S	/731 5 7	7 1	31/45 7	* * *	q64	-	S	/841 4 2	2 9	41/90 9	* * *
q16	-	S	/836 6 4	7	36/89 9	* * *	q65	-	S	/844 6 9	2 1	44/16 0	* * *
q25	< -- -	S . A	/817				q66	< -- -	A . R	/84 8			
q24	< -- -	S . A	/896 1	2	34/18	* * *	q67	< -- -	A . R	/835 6 1	2 2	35/85 1	* * *
q23	< -- -	S . A	/835 3	2 1	33/20 3	* * *	q68	-	R	/836 8 9	2 8	36/72 9	* * *
q22	< -- -	S . A	/854	2 2	35/40	* * *	q69	< -- -	A . R	/80 9	1 2	35/33 8	* * *
q21	-	A	/827 6	7	35/6	* * *	q70	-	R	/826 9 6	2 6	37/06 7	* * *
q26	< -- -	. I	/838				q71	< -- -	N . P	/89 9			
q25	< -- -	D . I	/839 8 0	/0 3 8	39/90 8	* * *	q72	< -- -	N . P	/847 9 4	/0 7 9	45/60 3	* * *
q28	< -- -	. I	/838 5 1	/0 4	38/90 1	* * *	q73	< -- -	N . P	/875 0	/0 7 2	45/41 2	* * *
q29	-	. I	/840 0 2	/0 8 8	39/67 2	* * *	q74	-	P	/82 0	/0 2 0	42/2	* * *
q30	< -- -	D . I	/835 0	3 0	40/06 2	* * *	q75	< -- -	N . P	/855 8 4	/0 5 1	42/91	* * *
q31	< -- -	V H	/836 5				q76	< -- -	E I	/828 6 8			
q32	< -- -	V H	/844 6 1	2	39/02	* * *	q77	-	E I	/847 2 3	2 9	42/18 9	* * *
q33	< -- -	V H	/810 0 8	2 2	36/28 2	* * *	q78	-	E I	/903 3	2 3	45/48 9	* * *
q34	< -- -	V H	/782 2 1	2 2	34/19 2	* * *	q79	-	E I	/896 6	2 3	44/73 6	* * *
q35	< -- -	V H	/858 3	2 3 8	40/32	* * *	q80	-	E I	/851 0	/0 3	46/18 8	* * *
q36	< -- -	E . U	/849 9				q81	-	H U	/90 4			
q37	-	E . U	/845 6 7	/0 3 2	37/63 7	* * *	q82	-	H U	/927 9 7	/0 1 2	50/21 7	* * *
q38	-	U	/841 9 3 3	2 2	35/69 6	* * *	q83	-	H U	/832 6	/0 2 1	47/36	* * *
q39	-	U	/834 8 4	2 8 7	36/79 4	* * *	q84	-	H U	/829 4	/0 1 6	48/65 1	* * *
q40	-	U	/845 6	/0 2 6 6	34/00 6	* * *	q85	-	H U	/882 9 0	/0 9 0	48/27	* * *
q41	-	F A	/845				q86	-	P U	/88 6			
q42	-	F A	/820	3 0 9	34/89	* * *	q87	-	P U	/882 3 7	/0 2	44/78	* * *
q43	-	F A	/834 4 6	2 6 3	37/22 3	* * *	q88	-	P U	/862 2 7	2 2	42/60 7	* * *
q44	-	F A	/834 5	3 6 5	37/33 5	* * *	q89	-	P U	/842 9 8	2 3 2	41/18 7	* * *
q45	-	F A	/832 2 3	2 3 5	37/11 5	* * *	q90	-	P U	/79 7 9	/0 1 9 8	33/32 8	* * *

Since CR rate is higher than 1/96 and considering that level of significance is lower than 0/05, all questionnaire items explain and measure significantly their latent variables. Results of second order Confirmatory Factor Analysis are in Table 4.

TABLE 4
Second order confirmatory factor analysis

			Estimate	S.E.	C.R.	P
N.P	<---	O.I	/968	/028	39/627	***
EI	<---	O.I	/959			
U.H	<---	O.I	/965	/026	39/783	***
PU	<---	O.I	/959	/026	38/037	***
A.I	<---	D.R	/928	/028	32/415	***
M.A	<---	D.R	/917	/029	31/114	***
ED	<---	D.R	/961			
D.S	<---	D.R	/974	/027	35/000	***
S.A	<---	D.R	/941	/028	31/949	***
E.G	<---	IL	/920			
I.S	<---	IL	/926	/033	29/062	***
D.I	<---	I.P	/942	/024	32/917	***
VH	<---	I.P	/979	/026	36/016	***
E.U	<---	I.P	/960			
FA	<---	I.P	/966	/028	34/755	***
SU	<---	OD	/950	/028	36/010	***
SS	<---	OD	/927			
A.R	<---	OD	/935	/027	33/651	***

Since CR rate is higher than 1/96 and considering that level of significance is lower than 0/05, 18 variables under study explain and measure significantly 5 latent variables including Disconnection and Rejection 'Impaired Autonomy and Performance' 'Impaired Limits' Other-Directedness, and Over vigilance and Inhibition. Results of third order Confirmatory Factor Analysis are in Table 5.

TABLE 5
Third order confirmatory factor analysis

			Estimate	S.E.	C.R.	P
IL	<---	Co.Sch	/921	/036	28/520	***
OD	<---	Co.Sch	/944	/037	32/972	***
I.P	<---	Co.Sch	/829	/034	28/143	***
D.R	<---	Co.Sch	/795	/035	27/113	***
O.I	<---	Co.Sch	/963	/035	34/052	***

Since CR rate is higher than 1/96 and considering that level of significance is lower than 0/05, 5 variables including Disconnection and Rejection 'Impaired Autonomy and Performance Impaired Limits. Other-Directedness and Over vigilance and Inhibition explain and measure significantly Co.Sch as latent variables. Mentioned variables explain Co.Sch variable with factorial loads including 0.921, 0.944, 0.829, 0.795 and 0.963 respectively. Results of model fit are in Table 6.

TABLE 6
Indices of model fitting

Model	CMIN/DF	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	2/131	/915	/872	/953	/928	/952

The relative chi-square divided by the degrees of freedom is good standard for the model and supporting data. Criterion for acceptance of this index ranges from 1to 5 which values near to 2 to 3 are explained as best values. Schumacker and Lomax defined 1-5 values for fit index while MCLV and Carmines believed values in 2-3 range are acceptable. Owlman in 2001 accepted 1-2 range as good value and Cline in 2005 assumed 1-3 as acceptable variables. In above Table 2/131 is reported as Chi square which can be considered as acceptable variable. NFI value or normed fit index of Bentler and Bount was obtained 0/915 which is considered as good value based on 0/9 standard value. Therefore, this model is approved and it is fit. RFI value of relative fit index is 0/872 which is considered as relative fit according to 0/90 as standard value. IFI value or incremental fit index is 0/953 which approves goodness of fit. TLI value of talkler- Louis was 0/928 which considering 0/90 as standard fit approved goodness of fit. CFI value or comparative fit index is 0/952 which is good fit considering standard value of 0/90.

DISCUSSION

The present study revealed strong empirical support for the psychometric soundness of the Ukrainian version of the YSQ-S3.The instrument proved to be reliable and showed acceptable factorial validity. Schema scores were positively associated with measures of psychopathology and personality disorder, indicating convergent validity. The YSQ-S3 differentiated between subgroups with different levels of health-care utilization, supporting discriminant validity. All YSQ-S3 scales are associated with self-rated general psychopathology, personality disorder severity, and health care utilization. Furthermore, YSQ-S3 scales are highly interrelated. These results raise questions regarding the specificity of the schema constructs, i.e., whether different schemas can indeed be regarded as different constructs (12), and/or whether they can be grouped in a hierarchical structure (13). Schema theory suggests five higher-order schema domains however; the validity of schema domains is currently being discussed (14-17). At first glance, global fit indexes are inconclusive in confirmatory factor analysis. The relative chi-square divided by the degrees of freedom is good standard for the model and supporting data. Criterion for acceptance of this index ranges from 1to 5 which values near to 2 to 3 are explained as best values. Schumacker and Lomax defined 1-5 values for fit index while MCLV and Carmines believed values in 2-3 range are acceptable. Owlman in 2001 accepted 1-2 range as good value and Cline in 2005 assumed 1-3 as acceptable variables (18,19). In above Table 2/131 is reported as Chi square which can be considered as acceptable variable.

CONCLUSION

NFI value or normed fit index of Bentler and Bount was obtained 0/915 which is considered as good value based on 0/9 standard value. Therefore, this model is approved and it is fit. RFI value of relative fit index is 0/872 which is considered as relative fit according to 0/90 as standard value. IFI value or incremental fit index is 0/953 which approves goodness of fit. TLI value of talkler-Louis was 0/928 which considering 0/90 as standard fit approved goodness of fit (20). CFI value or comparative fit index is 0/952 which is good fit considering standard value of 0/90. The results of the study showed that due to the Cronbach's alpha that is higher than 0.7, the reliability of all variables is

desirable. Confirmatory factor analyses support the schema domains. We conclude that the YSQ-S3 is a psychometrically sound instrument that can be used Ukraine in research on early maladaptive schemas.

REFERENCES

1. Young JE, Klosko JS, Weishaar M. Schema therapy: A practitioner's guide. New York: Guilford 2003.
2. Farrell JM, Shaw IA, Webber MA. A schema-focused approach to group psychotherapy for outpatients with borderline personality disorder: A randomized controlled trial. J Beahv Ther Exp Psy 2009; 40:317-28.
3. Giessen-Bloo J, Van Dyck R, Spinhoven P, et al. Outpatient psychotherapy for borderline personality disorder: Randomized trial of schema-focused therapy vs. transference-focused psychotherapy. Archives of General Psychiatry 2006;63:649-58.
4. Gude T, Hoffart A. Change in inters personal problems after cognitive agoraphobia and schema-focused therapy versus psychodynamic treatment as usual of inpatients with agoraphobia and cluster C personality disorders. Scandinavian Journal of Psychology 2008;49:195-99.
5. Nadort M, Arntz A, Smit JH, et al. Implementation of outpatient schema therapy for borderline personality disorder with versus without crisis support by the therapist outside office hours: A randomized trial. Behavior Research and Therapy 2009;47:961-73.
6. Nordahl HM, Nysaeter TE. Schema therapy for patients with borderline personality disorder: A single case series. Journal of Behavior Therapy and Experimental Psychiatry 2005;36:254-264.
7. Young J. Cognitive therapy of schema-oriented personality disorders 1990.
8. Schmidt NB, Joiner TE, Young JE. The Schema Questionnaire: Investigation of psychometric properties and the hierarchical structure of maladaptive schemas. Cognitive Therapy and Research 1995;19:295-321.
9. Young JE. Young Schema Questionnaire-Short Form 3 (YSQ-S3). Cognitive Therapy Center, New York, NY, USA. 2005.
10. Beckley K. Shema therapy: Contemporary psychotherapy. 2007.
11. Young JE. Young Schema Questionnaire (German version, YSQS3, 2006.
12. Kriston L, Schafer J, Harter M, et al. All the same? Factorial structure of the Young Schema Questionnaire-Short Form 3 (YSQ-S3). Paper presented at the 4th Annual International Society of Schema Therapy Meeting, Berlin and Germany 2010.
13. Rijo D, Gouveia P. A confirmatory factor analysis study of the YSQ-S3 in a large Portuguese sample. Paper presented at the 3rd Annual International Society of Schema Therapy Meeting, Coimbra, Portugal. 2008.
14. http://www. isst-online.com/node/226
15. Young JE. Cognitive Therapy for personality disorders: A Schema Focused approach. Professional Recourse Press, Sarasota, FL, USA, 1999.
16. Young JE, Klosko JS, Weishaar ME. Schema therapy: A Practitioner's guide. Guilford Press, New York, USA. 2003.
17. Young JE, Lindemann M. An integrative schema-focused model for personality disorders. J Cognitive Psychotherapy 1992;6:1-22.
18. Cudeck R. Analysis of correlation matrices using covariance structure models. Bulletin 1989;105:317–27.
19. Derogatis LR (1992). The SCL-90-R, administration, scoring and procedures manual 2nd ed. Towson MD: Clinical Psychometric Research 1992.
20. Hair JF, Black WC, Babin BJ, et al. Multivariate data analysis 7th edn. Upper Saddle River, Prentice Hall, NJ, USA. 2009.