Compulsive Buying Scale: Validity, Reliability and Its Psychometric Characteristics in Our Society

Zorlantılı Satınalma Ölçeği: Geçerlik, Güvenilirlik, Toplumumuzda Psikometrik Özellikleri

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ABSTRACT

Objective: The aim of this study is to search the validity and reliability of compulsive buying scale belonging to Valence, d'Astous and Fortier on our language.

Method: 10 cases diagnosed with impulse control disorder not otherwise specified (compulsive buying) and 100 cases diagnosed with bipolar disorder, which are in 8 weeks remission period, are taken into this study according to DSM-IV. Healthy individuals from our hospital staff are taken into this study. These healthy individuals do not have any psychiatric symphtoms and psychiatric treatment according to SCID-NP. This staffs are similiar to cases with bipolar disorder in terms of age and gender. Scale validity, internal consistency and reliability are stated by factor analysis and correlations. Susceptibility, specificity, prevalence and cut off point are determined by ROC curve.

Results: The average point of compulsive buying scale in cases diagnosed with bipolar disorder and compulsive buying is higher than healthy individuals. Internal consistency of the scale is calculated as 0.80. This test disintegrates into 3 dimensions in factor analysis. Tendency to spend corresponds 22.5 % of the variance, reactive aspect corresponds 53 % of the variance and guilty correspondes 24.5 % of the variance. There found a strong relation between Compulsive Buying Scale and Baratt Impulsivity Inventory. There found a moderate relation between Compulsive Buying Scale and Beck Depression Inventory, Beck Anxiety Inventory. There exists a strong reverse correlation between Compulsive Buyins Scale and Rosenberg Self Esteem Scale. Scale sensitivity is determined as 0.790 and specificity is determined as 0.955 in ROC curve. According to this prevelance is determined as 9.6 % and cut off point is calculated as 42 and more in 95 % confidence interval.

Conclusion: It is stated that compulsive buying scale distinguishes the cases diagnosed with bipolar disorder and compulsive buying from healthy individuals. Turkish forms of compulsive buying scale are acceptable. These forms are also short, simple, based on self report and easy to apply.

Key Words: Compulsive buying, validity, reliability

ÖZET

Amaç: Bu çalışmanın amacı, Valence, d'Astous ve Fortier'e ait olan zorlantılı satınalma ölçeğinin dilimizdeki geçerlik ve güvenilirliğini araştırmaktır.

Yöntem: Bu amaçla, ayaktan hasta birimimizce izlenen ve bilgilendirilmiş onam veren, DSM-IV'e göre Dürtü kontrol bozukluğu, başka türlü adlandırılamayan (zorlantılı satınalma) tanılı ve eştanısı bulunmayan 10, iki uçlu bozukluk tanılı ve en az 8 haftadır düzelme döneminde olan 100 olgu ardışık olarak ölçeklerle değerlendirilmiştir. Sağlıklı bireyler SCID-NP ölçütlerince daha önce psikiyatrik yakınması, başvurusu ve tedavi öyküsü olmayan, yaş ve cinsiyet olarak iki uçlu bozukluk olguları ile benzer hastanemiz çalışanlarıdır. Ölçek güvenilirliği, iç tutarlılık, geçerliği faktör analizi ve test bağıntıları ile ortaya konmuştur. Duyarlılık, özgüllük, yaygınlık ve kesme noktası ROC eğrisi ile saptanmıştır.

Bulgular: Hasta grubunda zorlantılı satınalma ölçeği puan ortalaması iki uçlu bozukluk ve zorlantılı satınalma tanılı olgularda sağlıklı bireylerden yüksektir (p= 0.018 ve p< 0.001). Ölçeğin iç tutarlılığı 0.80 olarak hesaplanmıştır. Faktör analizinde ayrışan üç alt boyuttan harcama eğilimi, varyansın % 22.5'ini, reaktif satınalma varyansın % 53'ünü ve suçluluk alt boyutu varyansın % 24.5'ini karşılamaktadır. Zorlantılı satınalma ölçeği ile Baratt Dürtüsellik Ölçeği arasında güçlü, zorlantılı satınalma ölçeği ile Beck Depresyon Ölçeği ve Beck Anksiyete Ölçeği arasında ise orta derecede bir bağıntı gösterilmiştir. Zorlantılı satınalma ölçeği ile Rosenberg Benlik Saygısı Ölçeği arasında güçlü bir ters bağıntı vardır. ROC eğrisinde ölçek duyarlılığı 0.790, özgüllüğü 0.955 olarak saptanmıştır. Buna göre % 95 güven aralığında yaygınlık % 9.6, kesme noktası 42 ve üzeri olarak hesaplanmıştır.

Sonuç: Zorlantılı satınalma ölçeğinin, iki uçlu bozukluk ve zorlantılı satınalma tanılı olguları sağlıklı bireylerden ayırt ettiği gösterilmiştir. Zorlantılı satınalma ölçeği Türkçe formu, kabul edilebilir geçerlik ve güvenilirlik test sonuçları ile kısa ve basit, kişinin geri bildirimine dayalı ve uygulama kolaylığı olan bir ölçüm aracıdır.

Anahtar Kelimeler: Zorlantılı satınalma, geçerlik, güvenilirlik.

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INTRODUCTION

Cases of compulsive buying were first reported in the literature in 1992 (1). Compulsive buying may be defined as spending money excessively and irrationally or excessive buying of things which are not needed. According to ICD-10 and DSM-IV, compulsive buying is defined as "not otherwise specified impulse control disorder" (2). It was established to be the most common of impulse control disorders by Grant and colleques (3). In some reports, it is evaluated among "obsessive compulsive spectrum disorders" and in some others among "behavioral dependencies" (4-7). Mood irregularity, tendency to being dependent and lack of cognitive control are presented as components of compulsive buying in both models (8). When it is linked to daily life events and positive affect, it is stated that after buying action, this positive affect decreases and disappears and meanwhile the urge to buy arises again (9). Based upon the fact that, the frequency of buying behavior does not prevent the decrease in mood, the impulsive nature of the action was stressed.

The most important comorbid diagnoses of compulsive buying are mood and anxiety disorders, obsesssive compulsive disorder (OCD), binge eating, substance use disorder (SUD), personality disorder and impulse control disorders (10). It has been reported that especially comorbid diagnosis of mood disorder increases the severity of compulsive buying. (11, 12). It has been suggested that compulsive buying has a familial component and mood disorder and SUD was fould to be more common in the familieis of these people (13). In another recent study, bahavioral dependences including compulsive buying were investigated among cases diagnosed with bipolar disorder (BD) and found to be more common than healthy controls (14). In the same study, in bipolar cases with behavioral dependence, impulsivity scores were found to be higher than those in other BD cases while their cooperativeness scores were lower.

Valence et al's defined four dimensions of compulsive buying behavior (15). The first one is a state of strong emotional arousal and increased inner. This componets was termed "tendency to spend". Second dimension termed "reactive aspect" refers to the knowledge that buying will decrease this tension and not being able to cope with this tension Third one is the post purchase guilt at cognitive level. Fourth dimension, char-

acteristics of the family environment of these individuals were described. However, this dimension, including the nature of intra family relations, was excluded from the scale as its coefficient of inner consistency was found to be low.

Individuals who suffer from compulsive buying can not evaluate their condition as a disease and do not attempt to seek treatment unless other psychiatric complaints are also present. In addition, if compulsive buying is not mentioned as special condition or is not the subject of an investigation, it is not questioned much by physicians or psychiatrists. However, they incur marked material losses. These material losses are followed by difficulties and losses experienced in interpersonal relations in family, and with friends and business associates. Therefore, compulsive buying is a phenomenon that should be questioned, defined and treated in clinical practice.

However, there is no measurment tool whose reliability and validity has been demonstrated in our country. Compulsive buying scale developed by Valence et al's was used in many studies (16-18). Its translation and reliability of translation were made by Kesebir et al's in our country (18). It is a measurement tool which is short, simple and easy to administer based upon self report. The aim of the present study is to investigate the reliability and validity of compulsive buying scale developed by Valence, d'Astous and Fortier in our language and secondarily to examine the psychometric characteristics of compulsive buying in our society.

METHODS

Sample

For this aim, 10 cases diagnosed with impulse control disorder not otherwise specified (compulsive buying) and 100 cases diagnosed with bipolar disorder, which are in 8 weeks remission period, are taken into this study according to DSMIV. Healthy individuals groups was composed of the staff of our hosptial who did not have any psychiatric referral, compliant and treatment history bebefore according to SCID-NP criteria, and who were similar to BD cases in terms of age and gender. Gender ratios (female/male) were 58/49 in patients group and 55/45 in healthy individuals. Mean of age were 34.05±6.8 and 32.74±9.1 respectively. As feedback from 3 cases

in BD group was not found to be reliable, the data of overall 207 individuals were evaluated.

Tools

Structured Clinical Interview for DSM-IV -Axis I Disorders (SCID-I): Turkish version of structured clinical interview for DSM-IV axis I disorders (19).

Structured Clinical Interview for DSM-IIIR -nonpatients (SCID-NP): Turkish version of structured clinical interview for DSM-IIIR –nonpatients (20).

Compulsive buying scale (CBS): This scale has 12 items and is a likert type scale in which each item is rated between 1 and 5 (15). Faber and O'Guinn's version, rating was changed to "never" and "always" thinking that its semantic correspondence would be better (21). This version was preferred in the present study. In the reliability and validity testing of the translation, in test-retest administration with 20 healthy individuals, temporal consistency was found to be 0.94 (18).

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Barratt Impulsivity scale (BIS): This scale was developed by Barratt et al's to measure impulsivity and has 30 items filled by the patients and its validity and reliability study in turkish was carried out by Güleç et al (22).

Beck Depression Inventory (BDI): It includes 21 items regarding depressive symptoms. In each item, there is a self report statement of four likert type. Its validity and reliability study in Turkish was carried out by Hisli (23).

Beck Anxiety Inventory (BAI): It is a 4 Likert type self evaluation scale developed by Beck. Its validity and reliability study in Turkish was carried out by Ulusoy et al (24).

Rosenberg self esteem scale (RSES): It was developed by Morris Rosenberg in 1965 and includes overall 63 items, with 12 subscales. Subscale of self esteem includes 10 items and is of four Likert type. It was adapted into Turkish by Çuhadaroğlu (25).

Statistical analysis

Whether the sample size was adequate was tested using Kaiser Meyer Olkin measurement. Group comparisons were made with t test and variance analyis and, posthoc Bonferroni correction was made. For the reliability of the scale, cronbach alpha coefficient was calculated for inner consistency and item analysis was made. Structural validity was tested with factor analysis (Varimax PCA rotation). Confirmatory factor analysis was also made. In the evaluation of correlation with other scales for nomologic validity, Pearson correlation test was used. ROC curve was used in the determination of cutoff point.

RESULTS

KMO was calculated as 0.712 (p= 0.005, ds= 153, x2= 621.155) for he size of the sample. No difference was found between patient and control groups matched for age (35.4±10.6 and 34.1±6.5) and gender (F/M: 57/50 and 57/43) in terms of BDI and BAI scores. RSES and BIS scores were found to be higher in patient groups (p= 0.009 and 0.035), while RSES score was higher in healthy individuals. (p= 0.050), (table-1).

In patient group, mean CBS score was 39.61±9.45 in BD cases and 51.47±5.34 in CB cases, being higher in both groups than healthy individuals (p= 0.018 and p< 0.001).

Internal consistency and Item Analysis
Internal consistency value of the scale was calculated to be 0.80. Variance value of each item and scale corelation is demonstrated in table-2.

Structure validity
In factor analysis, three dimensions were differentiated (table-3). Tendency to spend accounts for 22.5% of variance, reactive aspect for 53% of variance and guilt for 24.5% of variance (table-4).

Table 1: Comparing of CBS, BIS, BDI, BAI and RSES scores

	Patient n= 107	Control n= 100	Analysis t/ p	
CBS	45.6±4.44	28.3±8.12	3.33	0.009
BIS	32.14±11.12	23.44±12.32	2.23	0.035
BDI	8.51±3.72	7.18±4.03	1.16	0.180
BAI	10.34±5.51	9.52±5.73	0.70	0.395
RSES	17.13±4.91	19.72±4.85	1.70	0.050

CBS: Compulsive buying scale
BIS: Barratt impulsivity scale
BDI: Beck depression inventory
BAI: Beck anxiety inventory
RSES: Rosenberg self-esteem scale
F= 25.949, p= 0.001
Posthoc (Bonferroni) for CBS: BD=CB>HC (p= 0.018 ve p< 0.001)

Table 2: Item Analysis

Item number	Mean of item	Variance of item-scale	Correlation of item-scale	Cronbach alpha
1	3.41	63.51	0.78	0.83
2	3.43	63.55	0.79	0.84
3	3.16	53.43	0.48	0.71
4	3.01	53.34	0.55	0.74
5	3.44	53.36	0.61	0.75
6	4.35	74.45	0.81	0.89
7	3.12	63.23	0.67	0.70
8	3.78	64.28	0.68	0.75
9	3.91	64.44	0.69	0.76
10	4.16	75.51	0.89	0.87
11	3.45	73.86	0.86	0.83
12	3.69	74.17	0.88	0.85

Table 3: Factor matrix

		1.	2.	3.
1.	When I have money, I cannot help but spend part or all of it (Param olduğunda tamamını ya da bir kısmını harcamadan duramam)	0.68		
2.	I am often impulsive in my buying behavior (Bir şey satın alırken, çoğunlukla ani ve düşüncesizce davranırım)	0.75		
3.	As soon as I enter a shopping center or mall, I have an irresistible urge to go into a shop and buy something (Alışveriş merkezine girer girmez, bir şey satınalmak için karşı konulmaz bir istek duyarım)	0.61		
4.	I am one of those people who often respond to direct mail offers (Pek çok ürünün, tanıtım, reklam ya da indirim çağrısına, çoğunlukla uyan insanlardan biriyim)	0.44		
5.	I have often bought a product that I did not need, while knowing that I have very little money left (Çok az param kaldığında bile, ihtiyacım olmayan ürünleri satınalmak sık sık yaptığım bir şeydir)	0.60		
6.	For me, shopping is a way of facing the stress of my daily life and relaxing (Benim için alışveriş, gevşeme ve günlük hayatın stresinden kurtulma yoludur)		0.80	
7.	I sometimes feel that something inside pushed me to go shopping (Bazı zamanlar, içimden bir şeyin beni alışveriş yapmaya ittiğini hissederim)		0.85	
8.	There are times when I have a strong urge to buy (Bir şey satınalmak için karşı konulmaz bir istek duyduğum zamanlar olur)		0.82	
9.	I often have an unexplainable urge, a sudden and spontaneous desire, to go and buy something (Çoğu kez, gidip bir şey satınalmak için açıklanamaz bir istek, ani ve kendiliğinden gelen bir arzu duyarım)		0.78	
10.	At times, I have felt somewhat guilty after buying a product, because it seemed unreasonable (Zaman zaman, bir şey satın aldıktan sonra kendimi suçlu gibi hissederim, çünkü bunu mantıksız bulurum)			0.83
11.	There are some things I buy that I do not show to anybody for fear of being perceived as irrational in my buying behavior (Satınalma davranışımın mantıklı olmadığının algılanmasından çekindiğim için, satın alıp kimseye göstermediğim şeyler vardır)			0.72
12.	I have sometimes thought "If I had to do it over again, I would..." and felt sorry for something I have done or said (Bazı zamanlar, "bunu bir daha yaparsam .... " diye düşünsem de sonrasında bunu yaptığıma ya da söylediğime pişman olurum)			0.65

x^2 (53 df): 144.87
GFI: 0.95
AGFI: 0.89
RMSQR: 0.07

Table 4: Factor values and rates of accounting for variance			
Factor	Value	Rate of account for variance	Composit reliability
1: Tendency to spend	3.479	22.5	0.72
2: Reaktive aspect	3.935	53.0	0.93
3: Guilt	3.842	24.5	0.81

Table 5: Correlation analysis	
	CBS
BIS	r= 0.68, p< 0.001
BDI	r= 0.52, p= 0.002
BAI	r= 0.43, p= 0.010
RSES	r= -.65, p< 0.001

CBS: Compulsive buying scale
BIS: Barratt impulsivity scale
BDI: Beck depression inventory
BAI: Beck anxiety inventory
RSES: Rosenberg self-esteem scale

Nominal validity

A strong positive correlation was shown between CBS and BIS and moderate correlation was shown between CBS ile BDI and BAI (table-5). There was also a strong negative correlation between CBS and RSES.

Prevalance, sensitivity and specifity

Scale sensitivity is determined as 0.790 and specificity is determined as 0.955 in ROC curve, according to this prevelance is determined as 9.6 % and cut off point is calculated as 42 and more in 95 % confidence interval (table-6).

Table 6: Prevalance, specifity and sensitivity according to ROC curve		
	Estimated value	CI %95
Prevalance	0.096	0.063-0.157
Sensitivity	0.790	0.751-0.869
Specifity	0.955	0.842-0.978

DISCUSSION

In the present study, it was shown that compulsive buying scale differentiated BD and compulsive buying disorder cases matched for age and gender form healthy individuals. In the present study, mean scores of CBS was found to be higher in cases diagnosed with BD and CB (compulsive buying) than those in healy individuals. Other variables that were different in patient groups than healthy individuals were impulsivity and self esteem. It was observed that these components were strongly associated with compulsive buying. The fact that one of the variables with which compulsive buying is associated with self esteem was previously demonstrated (16, 26). Another characteristics observed in individuals with compulsive buying is the increase in purposeful activity (18). It was proposed that this is related to impulsivity. It was also stated in previous studies that increased need for activity in individuals with compulsive buying is at a higher rate than general community, which may be explained as a means of escape form depressive and anxious emotions (27).

In the present study, it may be though that the relation between impulsivity and self esteem and compulsive buying is relatively independent of mood. BD group was evaluated in remission period, in CB group comorbidity was exluded, and the remainders of the groups are healthy individuals. In addition, in the present study, moderate relation was shown between subthreshold depressive and anxious symptoms and compulsive buying although the relation was weaker than the relation with impulsivity and self esteem. Based upon these findings, it was thought that the relation between compulsive buying scale scores and impulsivity, depression, anxiety and self esteem scale scores provides evidence for the structural validity of compulsive buying scale.

In factor analysis, three dimensions were differentiated in parallel to original validity reliability study. In german society, factor structure differentiated in reactive aspect buying and guilt dimensions, while tendency to spend did not do so (16). This finding is an indication of the presence of cultural differences in compulsive buying patterns. In the present study, tendency to spend accounts for 22.5 of variance, reactive buying for 53 and guilt 24.5%. For dimensions, composite reliability was found to be respectively 0.72, 0.93 and 0.82. Accordingly, its being reactive is the most significant dimension of compulsive buying and and cor-

responds to 50% of variance by itself. Together with, confirmatory factor analysis, these results is an indication of the structural validity of the scale.

In the present study, cronbach alpha value of CBS was found to be 0.80. This value is within acceptable limits, demonstrating the reliability of the scale. This figure was reported to be 0.82 in the original study (15), 0.78 in a study on adolescents (28), and 0.92 in vailidity and reliability study in German (16). Internal consistency value for each of the 12 items is between 0.71 and 0.89.

The sensitivity of the scale was found to 0.790 and its specifity 0.955. Accordingly, cut off point of the scale is 42 and over. Similarly, in the study of Monahan et al's cut off point was also found to be 42 (29). In view of these findings, teh prevalance of compulsive buying was calculated to be 9.6% (n= 20). There are 8 cases with compulsive buying in BD group (8.2%), and 2 cases in healthy control group. (2%) point prevalance of compulsive buying in general community was reported to be 3.1% in Europe (30), while this rate was found to be 5.8% in USA (31).

The most impoprtant limitation of this study is that compulsive buying groups is smaller than BD and healthy groups, which is associated with low rates of seeking for medical attention among individuals with compulsive buying without any other comorbid psychiatric disorder This validity and reliability study offers a clinical measurment tool for compulsive buying and and a means for future epidemiological studies. According to our findings, CBS Turkish version is short and simple and easily applicable measurment tool bases upon feedback from the person with its acceptable validity and reliability results.

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Kompulsif Satınalma Ölçeği

	Hiçbir zaman 1	Nadiren 2	Bazen 3	Çoğunlukla 4	Her zaman 5
1. Param olduğunda tamamını ya da bir kısmını harcamadan duramam.					
2. Bir şey satın alırken, çoğunlukla ani ve düşüncesizce davranırım.					
3. Alışveriş merkezine girer girmez, bir şey satınalmak için karşı konulmaz bir istek duyarım.					
4. Pek çok ürünün, tanıtım, reklam ya da indirim çağrısına, çoğunlukla uyan insanlardan biriyim.					
5. Çok az param kaldığında bile, ihtiyacım olmayan ürünleri satın almak sık sık yaptığım bir şeydir.					
6. Benim için alışveriş, gevşeme ve günlük hayatın stresinden kurtulma yoludur.					
7. Bazı zamanlar, içimden bir şeyin beni alışveriş yapmaya ittiğini hissederim.					
8. Bir şey satınalmak için karşı konulmaz bir istek duyduğum zamanlar olur.					
9. Çoğu kez, gidip bir şey satınalmak için açıklanamaz bir istek, ani ve kendiliğinden gelen bir arzu duyarım.					
10. Zaman zaman, bir şey satın aldıktan sonra kendimi suçlu gibi hissederim, çünkü bunu mantıksız bulurum.					
11. Satınalma davranışımın mantıklı olmadığının algılanmasından çekindiğim için, satın alıp kimseye göstermediğim şeyler vardır.					
12. Bazı zamanlar, "bunu bir daha yaparsam …" diye düşünsem de sonrasında bunu yaptığıma ya da söylediğime pişman olurum.					

Kesme noktası 42 ve üzeri olarak hesaplanmıştır.