

## Use of the Rasch Model in the Abnormal Psychology Achievement Test

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The purpose of this study was to determine the unidimensionality and item characteristic of Abnormal Psychology Achievement Test (APAT) for psychology undergraduates using Rasch based analysis. Abnormal psychology was identified as one of the content area for the licensure examination for psychometrician, for which, psychology graduates shall be qualified to take. This study was an initial attempt to construct items for all the content areas indicated in the Philippine Psychology Act of 2009, which will eventually be administered to psychology undergraduates as Psychometrician Licensure Readiness Test. APAT was administered to 39 psychology students from two different schools. Result supported the unidimensionality of the test, which obtained a unidimensionality value of .98. Thirty-three out of the 35 items achieved an acceptable goodness of fit indices, with MNSQ INFIT and OUTFIT values <1.5. The item map revealed that psychology students' ability was higher than the items of APAT. This result suggests that more items on abnormal psychology need to be formulated since there were observed gaps on the item map.

**Keywords:** Abnormal Psychology, Achievement Test, Rasch Analysis

**P** sychology as a profession has the ethical obligation to do no less than its best to ensure that its members are competent and to offer evidence of competence through proper assessment procedures such as licensures (Roberts, Borden, Christiansen, & Lopez, 2005). With the enactment of the Philippine Psychology Act of 2009 to regulate and ensure qualified delivery of psychological services, psychology students need to be prepared and should possess the competencies needed to qualify as practitioners. Licensure examinations are considered as a summative assessment of knowledge and skills learned in schooling and training. However, in assessing competencies, both

formative and summative assessment are valuable in providing information as to the progress made by a student and in providing intervention programs to implement to ensure that necessary competencies are learned and demonstrated. To prepare psychology graduates for the licensure examination, student competencies in the various areas that will be covered may be assessed through an achievement test designed specifically for this purpose. Achievement test results are being utilized for various purposes and decisions related to learning. However, test scores may not provide an accurate information if interpretation is limited only to one's total score relative to how many items and the population for which it was used. This does not give accurate information about the person's ability relative to the items of a given test. Thus, statistical techniques that would provide information on both the items of the test and the person's ability would be valuable indeed if information obtained will be used as a basis to assess readiness of examinees in crucial competencies expected of the students, such as in licensure examinations.

#### **RA 10029**

The Philippine Psychology Act of 2009 was approved in the Senate and House of Representatives on December 2009 on and was enacted on March 16, 2010. It acknowledges the role of psychologist and psychometrician in nation building and development. It seeks to ensure that the practice of psychology in the Philippines is regulated and that specific services inherent in the profession are delivered by qualified, trained and globally competitive individuals through administration of credible licensure examinations (Republic Act 10029, 2009).

Parts of the exam are four of the major subjects in psychology, which are taken between second to fourth year college. The subject descriptions based on CHED Memorandum Order are as follows: (a) Theories of Personality-a survey of the major theories or personality and the theoretical and practical issues involved in the scientific study and understanding of personality formation and dynamics; (b) Abnormal Psychology-an introduction to the nature, causes, and possible interventions of psychological disorders. The students are expected to be familiar with the nomenclature and classifications of mental disorders. Indigenous concepts of abnormality and abnormal behavior will also be discussed. Ethical considerations in abnormal psychology/clinical psychology are also discussed; (c) Industrial Psychology-a course providing an overview of psychological concepts, theories and research findings for effective human interactions and performance in the workplace. Topics include organizational structures and systems, organizational communication processes, leadership, motivation, conflict resolution, problem solving and decision making, team dynamics, efforts in human resource development and management, and organizational change and development; and, (d) Psychological Assessment-orientation into the rudiments of psychological testing. The principles, methods and uses of psychological testing are tackled. Emphasis is placed on issues of

item analysis, reliability, and validity in test construction. The administration, scoring, and interpretation of objective cognitive and affective tests used in various applied fields of psychology, particularly the educational, industrial, and government settings are covered. Ethical considerations as well as current trends and issues in psychological testing in the Philippine setting are discussed. Since the competency areas were identified for the upcoming licensure examination for psychology graduates, particularly, the licensure examination for psychometrician, an achievement test that would adequately represent the content domains of each area would allow for an accurate assessment of students' capabilities once the test's strength is established.

### **Assessment of Competence**

There has been difficulty encountered in the definition and measurement of competencies in professional psychology (Roberts, Borden, Christiansen, & Lopez, 2005). Professional competency has been defined as "the habitual and judicious use of communication, knowledge, technical skills...in daily practice for the benefit of the individual and the community being served" (Epstein & Hundert, 2002, p.227). Roberts and colleagues (2005) proposed that competencies related to psychology, as a profession needs to be assessed utilizing methods that would ensure crucial psychometric properties of instruments and acceptable and maximum levels of skills and knowledge should also be established. In the assessment of competencies in professional psychology, formative and summative assessment techniques are needed (Lamb, 2010; Scriven, 1967). Formative assessment involves a continuous process of assessing by providing feedback for progress made toward a specified learning goal.

### **Licensure Exam in Psychology**

The core assumption and dominant argument for the implementation of licensure is that it serves to protect the public (Hess, 1977). In the United States, licensure laws were enacted to ensure that psychological services might only be administered and conducted by qualified psychology practitioners (Hess, 1977; Danish & Smyer, 1981; Reaves, 1995; Bickman, 1999). Rehm & DeMers' (2006) article briefly discussed the history of psychology licensure in the United States. Licensure examinations for psychology may be traced back during the period after the World War II. It was during this time that national efforts were directed toward increasing the availability of mental health services in the United States. In 1965, the Examination for the Professional Practice of Psychology (EPPP) was formulated and administered by the American Association of State Psychology Boards (AASPPB), now called Association of State and Provincial Psychology Boards (ASPPB). There were 150 multiple-choice items from the original version of EPPP and every two years, a new test is formulated. Since 2003, EPPP is administered via computer, and it now consists of 225 items

(25 items not scored; used for test development), which have undergone calibration using item response theory statistics (p. 250).

The EPPS assesses if candidates have “a sufficient base of knowledge regarding psychology ... the exam is more analogous to an achievement test, measuring knowledge acquired...” (Erikson, Cornish & Smith, 2009, p.341). Similarly, Sharpless & Barber (2009) identified EPPP as a “high-stakes examination”, meaning, it is a consequence of performance, and even likened to the Scholastic Aptitude Test. It is a summative assessment, which not only determines accumulated knowledge about psychology, but also how to apply knowledge in several content areas (ASPPB, 2009). Moreover, EPPS was not designed to predict professional performance (ASPPB, 2009) but was created to “establish, nationwide, a minimum standard for certification or licensure” (Reeves, 2006, p. 24). Sharpless and Barber (2009) and Erikson Cornish & Smith (2009) examined the strengths and weaknesses of the EPPS. Content validity is referred to as the degree to which a test represents to content domain it seeks to cover. This type of validity is considered as the primary consideration in licensure examinations. The content validity of EPPP was established through information gained about crucial competencies from thousands of psychology practitioner. The criterion validity of the EPPP was difficult to establish since there was no standardized measure against which it may be assessed (Erickson, Cornish, & Smith, 2009). Reasons for failure rates were also looked into by the authors. Sharper and Barber (2009) attributed low passing rates of applicants to problems in EPPP’s validity and examiners’ lack of preparation for the examination. Though Erickson, Cornish, and Smith (2009). Agreed on the aspect of unprepared examinees, they argued that failure in the licensure exams might be due to examiners inability to successfully integrate and apply all knowledge they learned and test anxiety. Regardless of some controversies encountered by the EPPS, it still remained as the “best standardized measures of the broad knowledge base needed to ensure minimal competence for entry-level practice and licensure” (Erickson, Cornish, & Smith, 2009).

### **Rasch Analysis**

The study sought to construct and validate initial items for Abnormal Psychology using the Rasch model of analysis. Item Response Theory (IRT) is also known as Latent Trait Theory, Strong True Score Theory, or Model Mental Test Theory. IRT provides an estimate of a latent trait—referred to as a characteristic or ability of an individual that is not directly observed nor absolutely determined yet may be inferred from an aspect of an individual’s performance or presentation (Baylor et. al., 2011). One-Parameter Logistic or the Rasch Model is considered as applicable for dichotomous test items, or those items with either right or wrong answer. In this model, each item has its own characteristic curve, which describes the probability of answering the items given the ability of the examinee (Kaplan & Sacuzzo, 1997). Due to the inherent characteristic of latent traits, measurements used in estimation need to be carefully examined as regards its validity and reliability in capturing the

construct of interest. As compared with Classical Test Theory, which considers the person's total score as the true score or assumed to represent the actual latent trait including the corresponding measurement error (Crocker & Algina, 1986), IRT models considers both model and item-based measurement. Model based measurement provides information about the relationship between the latent trait measured and the person's responses to the items in a test and item-based measurement because relationship between the instrument (and corresponding per item parameters or characteristics) and the latent trait are also determined (Baylor et. al., 2011). Moreover, one of the advantage of IRT is the use of logit scales which approximates an equal-interval scale, that allows for determining a person's ability or trait level independent of any normative or comparison group (Baylor et. al., 2011). One-item parameter logistics uses item difficulty to determine the relationship between the item, the latent trait, and the person response (Baylor et. al., 2011). One advantage of the IRT models is that it has parameters for both items and person ability while Classical Test Theory is sample dependent (Hambleton, 2000).

### **Unidimensionality Coefficient**

One of the key assumptions in most IRT models is unidimensionality, which means that all of the items in an instrument represent a single underlying construct or latent trait (Baylor et. al., 2011). It is imperative that unidimensionality be quantitatively determined in the early stages of test development and to use result as basis for removal or modification of items which represent a different trait or construct (Baylor et. al., 2011). To determine unidimensionality coefficient in a Rasch model, the ratio of model standard error to real standard error for person separation reliability was determined. According to Wright (1999), model standard error considers model misfit as random variation while real standard error regards misfit as a true departure from the unidimensional model. The closer the coefficient value to 1.00, the closer the data approximates unidimensionality.

The information on both the person ability and test characteristic on the Abnormal Psychology Achievement Test through Rasch analysis would be valuable in assessing licensure readiness not only to ensure that chances of passing the licensure would eventually be determined but also in enhancing classroom instruction and student achievement.

It is the goal of every educational institution to develop the crucial and relevant competencies of students in their respective field of specialization. With the approval of RA 10029, necessary knowledge and competencies among psychology graduates need to be ensured. The present study is an initial attempt to come up with an instrument that would measure psychology students' readiness for the licensure examination on the abnormal psychology content area.

## Purpose of the Study

1. To construct a psychometrically sound abnormal psychology achievement test for college students.
2. To determine psychology student's ability and item performance on the Abnormal Psychology Achievement Test
3. To determine the unidimensionality and item fit statistics of the Abnormal Psychology Achievement Test using Rasch analysis.

## Method

### Participants

There were 39 psychology students from the Philippines who completed the Abnormal Psychology Achievement Test. Only those students who finished taking up the subject were included in the study. There was a limited access to psychology students, thus convenience sampling was used.

### Measure

The Abnormal Psychology Achievement Test is comprised of 35 items in multiple-choice format, which was reviewed by an expert in test construction. Items were constructed based on the major topics, specifically, on definition of abnormality and basic assessment of psychopathology, different psychological disorders, and interventions. Moreover, items were constructed to measure levels of comprehension and analysis of relevant concepts and principles relevant to abnormal psychology. Table 1 shows the table of specification for APAT.

Table 1  
*Table of Specification*

Content Areas		Comprehension	Analysis	Items
Definition of abnormality	13%	1-5	0	5
Major Psychological Disorders	74%	6-26	27-30	26
Interventions	13%		31-35	5
Weight	100%	74%	26%	35

### Procedure

A request was made to the Department Chairperson of the two schools regarding the administration of the 35-items Abnormal Psychology Achievement Test. There was a total of 39-psychology student who took the test. APAT items was checked and encoded "1" for correct answers and "0" for wrong answers. Data analysis was performed using Winsteps Statistical Package (Linacre, 1991).



Descriptive statistics was computed using the Statistical Package for the Social Science version 11.0.

### Data Analysis

Means, standard deviations, maximum and minimum statistic, kurtosis, skewness and reliability estimates were obtained using SPSS version 11. Unidimensionality, item fit, test characteristic curves, item-scale correlations, item difficulty, person ability mean and item mean were also computed using Winsteps (Linacre, 1991). Unidimensionality index determines if APAT measures a single dominant construct, as hypothesized.

### Results

APAT was pilot-tested to 39 psychology students who finished the subject in abnormal psychology. The mean scores of psychology students on APAT is 19.82 (SD=6.77). Minimum score is 7 while maximum score on the test is 33. Cronbach's alpha is .86. The skewness value of .12 means that the distribution of scores approximates the normal curve; it is within the acceptable range of +1.0 to -1.0. Moreover, kurtosis value of -.54 signifies that it is platykurtic.

Table 2  
*Separation Table*

	n	M	SD	Model Error	S.E.	Real RMSE				Model RMSE			
						RMSE	True SD	Separation	Reliability	RMSE	True SD	Separation	Reliability
Person	39	19.8	6.7	.43	.19	.46	1.09	2.37	.85	.45	1.10	2.45	.86
Item	34	22.7	6.2	.38	.15	.39	.75	1.92	.79	.38	.76	1.98	.80

The person ability estimate mean of +.50 indicates that the psychology students who took APAT finds the test as generally average in difficulty since a value closer to 0 signifies a well matched test (Bond & Fox, 2001). The reliability and separation index provide information about the hierarchy of items and persons on a particular test; the higher the values denote the replicability of item placement across other samples and order of persons on similar test (Bond & Fox, 2001). As shown on table 2, reliability of person ability estimate value of .85 and person separation index value of 2.37 as compared with item reliability value of .79 and item separation value of 1.92, signify that in the current analysis, better information about person ability is derived.

Item fit statistics were derived to determine if observed item characteristics is consistent with the Rasch model. For a multiple-choice test,

items with mean square indices greater than 1.2 or less than 0.8 are considered misfit items (Linacre & Wright, 1994).

All the items of APAT were included in the analysis since no item was correctly answered by all psychology students nor was there an item that was not correctly answered by all. This signifies that all the 35 items may provide information as to the ability of the psychology students who took the test. Table 2 shows the index of reliability of test scores and the ability of psychology students in the Abnormal Psychology Achievement Test (APAT), as follows: psychology student (person) reliability was .85 with an RMSE of .46, and APAT reliability was .79 with an RMSE of .39. Standard error was also satisfactory since it is near the value of "0" (.15 for items and .19 for person). The more the standard error is near "0", the better.

It can be noted on the item polarity result (See Appendix) that item-scale correlation (pt.- correlation column) has positive values ranging from .20 to .68. This means that items are performing well together because all values are positive. As shown in the item map (figure 1) and item polarity (table 2), most of the items are within easy to average difficulty level with few difficult items. This is based on logit values ranging from -.01 to 1.48. The positive and higher the logit value, the more difficult the item and the negative and lower the logit value, the easier the item. Item map (figure 1) also shows satisfactory clustering of all the items, which are within the -1.96 to + 1.96 logit values.

Information gleaned using the Rasch analysis on the Abnormal Psychology Achievement Test showed that majority of the items formulated was good. However, since most of the items range from easy to average, this may explain why the mean for person ability was much higher and not equal to the item mean. This signifies that the students who took the test have high ability levels but the items generated did not include many items, which are high in difficulty level to match ability. Item map provides an overview on how the items and the persons are performing on a particular measure. Ideally, the mean of both items and ability should be equal or near in value and that the items should be spread out in such a way that ability levels are also matched to the items, with no gaps as much as possible. With this finding, new items may be generated to enhance the Abnormal Psychology Achievement Test characteristics

### Examination of Fit

The average INFIT MNSQ value was 1.00 (SD=.15), and the mean OUTFIT MNSQ value was .99 (SD=.29), which indicated that data for the items showed goodness of fit with values <1.5 except for items 3 and 28 (OUTFIT MNSQ value of 1.89 and 1.56, respectively).

For APAT, the ratio of model standard error is .45 and the real standard error is .46, yielding a coefficient value of .98. This implies that the test is unidimensional. The person reliability is .85 and the item reliability is .79. The sample produced a person separation of 2.37. To determine the number of distinct ability strata, the strata formula was used ( $HP=[4GP+1]/3$ ), which yielded a value of 3.49. This means that ability may be separated into three



distinct groups. Using the same formula for the item separation value of 1.92, the result is 2.89, which denotes that the test items of APAT may also be categorized into three subgroups. This result is consistent with the sub categories of APAT, which are: (a) definition of abnormality and basic assessment of psychopathology, (b) different psychological disorders, and (c) interventions.

Rasch analysis has two assumptions (a) the higher the ability of a person, the higher the probability that difficult items will be answered correctly, and (b) the easier the items, the greater the chance that it will be answered correctly. Rasch analysis reflects the matching of person's ability with the difficulty of the item. As seen in Figure 1, the mean of the items is in the 0.0 logit value while the person mean is .5 higher than the item mean. This means that the ability of the psychology students was higher than the difficult items of APAT. As observed in the figure, items within the mean are item numbers: 12 (*"Which alter is the most common manifestation for Dissociative Identity Disorder?"*), 30 (*"Arnel knows that every time he sneezes, an earthquake happens in other places. What type of delusion is being referred?"*), and 31 (*The therapist helps Therese to recall her childhood experiences and uncover unconscious motives by encouraging her to talk spontaneously about past recollections, dreams, and other related experiences. Which psychological therapy is described?*). As shown in figure 1, items and person's ability were plotted against each other. The higher the items are from the item mean (logit=0.0) the more difficult the item becomes and the higher the ability that is required for a person to answer the item correctly. When there is a match between item and person ability, there is a 50% chance that the person may answer the item correctly or incorrectly.

In terms of the item map (See Appendix), the person mean is .5 logit which is .5 higher than the item mean. This signifies that psychology students' ability exceeds the difficulty of the items. There were potential item gaps observed, which were not significant since it was < 1.00 logit value. As the person means value (.5 logit) exceeds item mean value (0.0 logit), it may be an indication that psychology students are more likely to give correct answers than incorrect ones.

There are 14 items that fall below item mean (logit value of 0.0) as follows: 3, 5, 8, 9, 15, 17, 18, 20, 22, 23, 24, 26, 33, and 34. There are 17 items above the item mean, these are: 1, 2, 4, 6, 10, 11, 13, 14, 16, 19, 21, 25, 27, 28, 29, 32, and 35. As regards person ability, the figure shows that psychology students' ability exceeded the difficult items of APAT.

## Discussions

The present study generally provides support for the construct and content validity of the Abnormal Psychology Achievement Test. All the items were included in the analysis since no item was answered correctly nor was not answered by all psychology students who took the test. Acceptable fit of 33 out of 35 of the APAT items was evident on the INFIT and OUTFIT MNSQ values <1.5.

Moreover, Rasch unidimensionality coefficient of .98 supported the hypothesis that APAT measures a unidimensional construct. The clustering of items were satisfactory since all were within the logit value of -1.96 to + 1.96, which means that these were good items.

The present study provides valuable information on how to construct test items that would fully capture the target construct under study. The use of Rasch model in analysis was deemed appropriate and provided valuable information. Results revealed that more items are needed to be able to represent the range of abilities of examinees. Moreover, majority of the items to be added may to be formulated to tap into higher-level cognitive skills such as evaluation and synthesis.

Aforementioned findings of the study revealed the advantages of using the Rasch model in analyzing test questions, particularly, Abnormal Psychology Achievement Test (APAT). The purpose for which the test was constructed is to be able to formulate a psychometrically sound assessment measure that will provide useful information regarding the readiness of psychology students in a specific content area, which is abnormal psychology. Though Classical Test Theory has its own strengths, information derived would just be limited to item characteristics such as discrimination and difficulty and said characteristics would be sample dependent. For an assessment measure that would be comparable to high stakes testing such as licensure examinations, more information about the test needs to be determined and established. The use of Rasch analysis in determining the psychometric characteristic of APAT has its advantages. Firstly, the characteristics of the items are independent of the group to which it was administered, thus, similar trend may be observed if APAT will be administered to a different sample. Second, the scores which describe the abilities of psychology students who took the test is not dependent on APAT, which signifies that students' capabilities were best identified and it may also be expected that student's level of performance may also be observed in other assessment measures. And lastly, there is a correct estimation in determining how a person with a particular ability will answer a test of varied difficulty level. Use of Rasch analysis results in estimating ability and test characteristic for the Abnormal Psychology Achievement Test would allow for an informed decision in various areas such as psychology students' school achievement and curriculum content. Moreover, information gleaned on this initial attempt in constructing a test for psychometrician licensure readiness, particularly in abnormal psychology, would also direct efforts on how to enhance the existing APAT items and in formulating items for the other 3 content areas to best approximate the domains to be measured.

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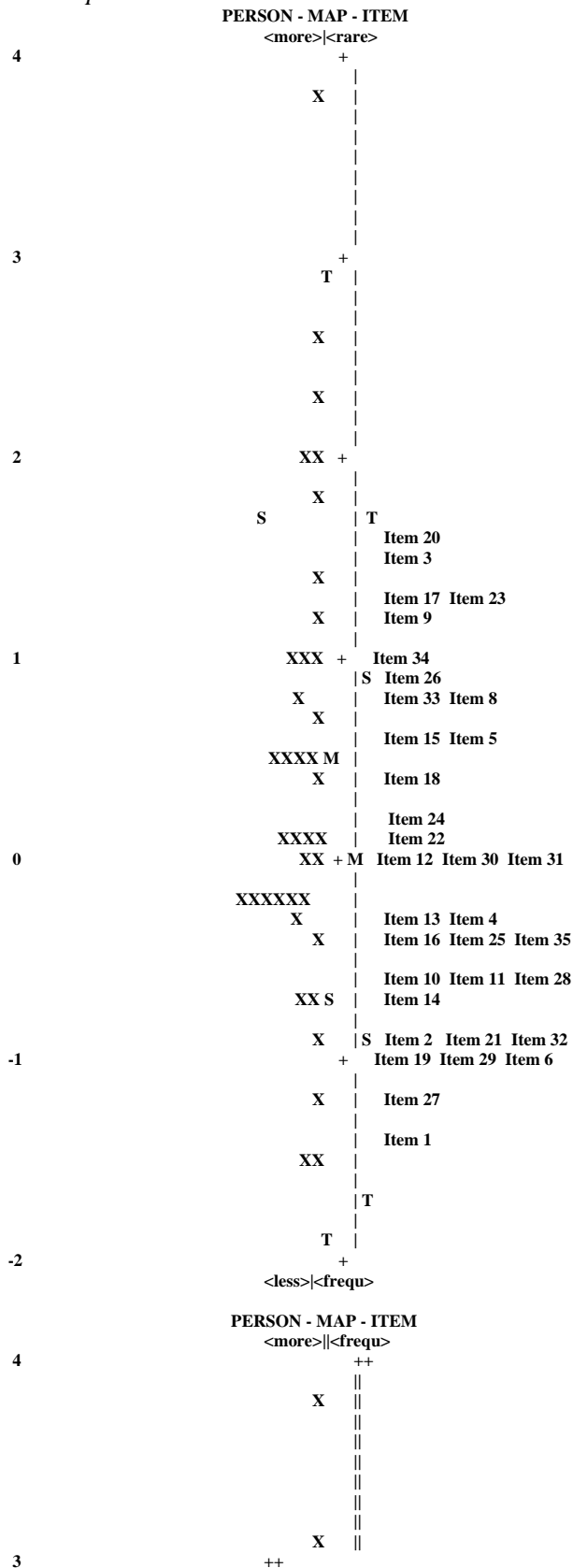
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## Appendix

### Item Polarity

ENTRY MATCH  NUMBER	TOTAL SCORECOUNT		MEASURE	MODEL S.E. ITEM		INFIT MNSQ ZSTD		OUTFIT MNSQ ZSTD		PT-MEASURE		EXACT CORR. EXP.	
	OBS%	EXP%											
3	12	39	1.48	.40	1.27	1.3	1.89	2.5	.20	.47	76.9	77.0	Item 3
15	26	39	-.41	.37	1.26	1.7	1.18	.6	.21	.39	59.0	71.6	Item 16
27	27	39	-.56	.38	1.17	1.1	1.56	1.4	.21	.38	69.2	73.1	Item 28
17	20	39	.37	.36	1.26	1.9	1.37	1.5	.23	.44	56.4	68.8	Item 18
2	29	39	-.86	.40	1.06	.4	1.50	1.1	.26	.36	74.4	76.5	Item 2
9	27	39	-.56	.38	1.14	.9	1.32	.9	.26	.38	69.2	73.1	Item 10
24	26	39	-.41	.37	1.13	.9	.99	.1	.32	.39	64.1	71.6	Item 25
11	23	39	-.01	.36	1.14	1.1	1.04	.2	.34	.42	53.8	68.3	Item 12
29	23	39	-.01	.36	1.10	.8	1.21	.8	.34	.42	64.1	68.3	Item 30
10	27	39	-.56	.38	1.04	.3	1.11	.4	.34	.38	69.2	73.1	Item 11
1	32	39	-1.38	.44	.98	.0	.76	-.2	.35	.31	82.1	82.4	Item 1
26	31	39	-1.19	.43	.95	-.1	.86	-.1	.37	.33	84.6	80.4	Item 27
22	13	39	1.32	.39	1.11	.6	1.33	1.2	.37	.47	71.8	75.5	Item 23
8	14	39	1.18	.38	1.16	.9	1.03	.2	.38	.47	69.2	74.0	Item 9
23	21	39	.25	.36	1.05	.5	1.12	.6	.38	.44	69.2	68.5	Item 24
7	17	39	.77	.36	1.09	.6	1.16	.7	.39	.46	64.1	70.6	Item 8
28	30	39	-1.02	.41	.93	-.3	.79	-.3	.40	.35	79.5	78.4	Item 29
4	25	39	-.28	.37	1.01	.2	.90	-.2	.41	.40	69.2	70.1	Item 4
31	29	39	-.86	.40	.94	-.3	.82	-.3	.41	.36	79.5	76.5	Item 32
20	29	39	-.86	.40	.92	-.4	.74	-.5	.44	.36	74.4	76.5	Item 21
30	23	39	-.01	.36	.99	.0	.88	-.3	.44	.42	64.1	68.3	Item 31
34	26	39	-.41	.37	.94	-.4	.81	-.5	.45	.39	69.2	71.6	Item 35
5	18	39	.63	.36	.99	.0	.99	.0	.46	.46	69.2	69.7	Item 5
18	30	39	-1.02	.41	.80	-1.0	.69	-.5	.50	.35	84.6	78.4	Item 19
12	25	39	-.28	.37	.89	-.8	.76	-.7	.50	.40	74.4	70.	Item 13
19	11	39	1.64	.41	.94	-.2	.86	-.3	.52	.47	79.5	78.4	Item 20
6	30	39	-1.02	.41	.77	-1.1	.60	-.8	.53	.35	84.6	78.4	Item 6
14	18	39	.63	.36	.91	-.6	.81	-.8	.54	.46	69.2	69.7	Item 15
25	16	39	.90	.37	.91	-.5	.82	-.7	.54	.46	74.4	71.6	Item 26
16	13	39	1.32	.39	.88	-.6	.84	-.5	.56	.47	76.9	75.5	Item 17
32	17	39	.77	.36	.85	-1.0	.89	-.4	.56	.46	74.4	70.6	Item 33
13	28	39	-.70	.39	.75	-1.5	.60	-1.0	.57	.37	82.1	74.7	Item 14
33	15	39	1.04	.37	.83	-1.0	.81	-.7	.59	.47	79.5	72.	Item 34
21	22	39	.12	.36	.68	-2.8	.59	-1.8	.68	.43	87.2	68.1	Item 22
MEAN	22.7	39.0	.00	.38	1.00	.0	.99	.0			72.6	73.3	
S.D.	6.2	.0	.85	.0215	1.029	.8			8.1	3.9			

Item Map





		T		
		X		
		X		
2		XX	++	
		X		
		S	T	
		X		Item 1
		X		Item 27
1		XXX	++	Item 19 Item 29 Item 6
			S	Item 2 Item 21 Item 32
		X		
		X		Item 14
				Item 10 Item 11 Item 28
	XXXX	M		
		X		Item 16 Item 25 Item 35
				Item 13 Item 4
	XXXX			
0		XX	++ M	Item 12 Item 30 Item 31
				Item 22
	XXXXXX			Item 24
		X		
		X		Item 18
				Item 15 Item 5
		XX	S	
				Item 33 Item 8
		X	S	Item 26
-1			++	Item 34
		X		Item 9
				Item 17 Item 23
		XX		Item 3
				Item 20
	T			
		T		
-2			++	
		<less>	<rare>	