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Attitudes Toward Psychological Test Use in Indonesia

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Psychological tests in Indonesia have been evolving very slowly. Most psychological practice is still using outdated versions of tests. Psychometric properties such as validity, reliability, and even norms are often based on outdated data or entirely omitted in the manual. Thus, the ability of the tests to yield valid data for various purposes is highly questionable. Most test users, including the psychological community, seem to be indifferent to this situation as they keep using these tests despite the risk of error in the test results which could have legal implications. In this study, we did a survey about test users' attitudes towards psychological tests. We recruited 149 participants, of which 71.8% were female. The age ranged from 22 to 71 years old (M = 29.4; SD = 7.32). The survey assessed participants' opinion toward legal properties of psychological test on a five-point scale. All participants had an undergraduate or higher degree in Psychology. The results were interesting. Participants acknowledge that they should use reputable test even though they perceived the price is too expensive. Also, they are willing to pay if those tests are up to date and provide adequate psychometric properties. The results indicate that there is a big opportunity for psychologists and psychometricians to gather forces to fulfill these needs and make more contribution to the society.

Keywords: psychological test, survey, legal test, test use

Tes psikologi di Indonesia berkembang sangat lambat. Kebanyakan praktik psikologis masih menggunakan versi awal dari suatu tes psikologis. Pengujian psikometrik seperti validitas, reliabilitas, dan norma-norma bahkan seringkali didasarkan pada data yang sudah uzur atau seluruhnya dihilangkan dalam manual. Dengan demikian, kemampuan tes untuk menghasilkan data yang sahih untuk berbagai keperluan sangat dipertanyakan. Sebagian besar pengguna tes, termasuk komunitas psikologi, tampaknya acuh tak acuh terhadap situasi ini karena mereka tetap menggunakan tes ini meskipun risiko kesalahan dalam hasil tes yang bisa memiliki dampak hukum. Dalam studi ini, kami melakukan survei tentang sikap pengguna tes terhadap tes psikologi. Kami merekrut 149 peserta yang memiliki gelar sarjana atau lebih tinggi di bidang Psikologi. Sebesar 71.8% partisipan adalah perempuan dengan usia antara 22-71 tahun (M = 29.4; SD = 7.32). Hasilnya partisipan mengakui bahwa mereka harus menggunakan tes yang diperoleh secara legal meskipun mereka menganggap harga tes terlalu mahal. Namun, mereka bersedia membayar jika mereka bisa memperoleh tes terkini secara legal dengan keterangan karakteristik psikometrik yang memadai. Hal ini menunjukkan bahwa ada peluang besar untuk psikolog dan ahli psikometrika (*psychometricians*) untuk bekerja sama, memenuhi kebutuhan tersebut, dan memberikan kontribusi lebih kepada masyarakat.

Kata kunci: tes psikologi, survei, tes legal, penggunaan tes

The expansion of professional and scientific psychology in Indonesia has also expanded the use of psychological tests in many settings. Psychological tests have been widely used for decision making in an industrial setting (e.g. applicant selection), clinical diagnosis, and even for behavioral prediction. However, as psychological tests become more widely used, the quality of the tests and the procedures of test use also become more crucial. Evers et al. (2012) suggest that the quality of test use rests on the adequacy of the tests' psychometric properties and the whole procedure where the tests are used. In this case, we need

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to know if the test developers and users adhere to standards of test use and the legal consequences for any malpractice that result from faulty tests and testing. Currently, there are no laws that provide an explicit standard for the development and use of psychological tests in Indonesia. However, some aspects of the practice of psychology are governed by the newly enacted Mental Health Law (Indonesian: Undang-Undang Nomor 18 Tahun 2014 Tentang Kesehatan Jiwa) (Pemerintah Republik Indonesia, 2014). Article 36 of the law briefly mentions the types of resources in mental health services.

> "Resources in mental health services are composed of: a. Human resources in mental health; b. Service facilities in mental health; c. Mental health equipment; d. Mental health technology and its products; and e. mental health funding."

> "*Sumber daya dalam Upaya Kesehatan Jiwa terdiri atas: a. sumber daya manusia di bidang Kesehatan Jiwa; b. fasilitas pelayanan di bidang Kesehatan Jiwa; c. perbekalan Kesehatan Jiwa; d. teknologi dan produk teknologi Kesehatan Jiwa; dan e. pendanaan Kesehatan Jiwa*."

The field of psychological tests would be closest to point d, mental health technology, and its products. This is supported by Article 65, verse 2 which further defined the concept of mental health technology as follows:

> "Mental health technology and its products as mentioned in verse (1) comprise all methods and devices that are used to detect, prevent, alleviate, cure, and rehabilitate mental disorders."

> *"Teknologi dan produk teknologi kesehatan jiwa sebagaimana dimaksud pada ayat (1) mencakup segala metode dan alat yang digunakan untuk mendeteksi, mencegah terjadinya, meringankan penderitaan akibat, menyembuhkan, dan memulihkan diri dari gangguan jiwa."*

The main standard for test use is provided by the Indonesian Psychological Association (Himpunan Psikologi Indonesia, or HIMPSI). The last iteration of the ethical code (HIMPSI, 2010a) contains a chapter that describes and regulates the basics of psychological assessment, its usage, informed consent, interpretation, dissemination of data and results, and finally the protection of instruments, data and results. It is worth noting that the code is partially modeled after the APA ethical code (APA, 2010), and several similarities exist. The HIMPSI ethical code divides psychological tests into four different categories, each with its competency requirement for usage.

> "Test categories in psychodiagnostics: a. Category A: tests that are not clinical and do not require an expertise in its administration and interpretation; b. Category B: tests that are not clinical but require expertise in its administration and interpretation; c. Category C: tests that require some knowledge about test construction and procedures for its use and supported by knowledge and psychological education such as statistics, individual differences, and counseling; d. Category D: tests that require some knowledge of test construction and procedures for its use and supported by knowledge and psychological education such as statistics, individual differences. These tests also require an understanding of testing and supported by psychologist-level psychological education with one-year psychologist-supervised experience in using the test (Article 63, verse 3)."

> *"Kategori alat tes dalam psikodiagnostik: a. Kategori A: tes yang tidak bersifat klinis dan tidak membutuhkan keahlian dalam melakukan administrasi dan interpretasi; b. Kategori B: tes yang tidak bersifat klinis tetapi membutuhkan pengetahuan dan keahlian dalam administrasi dan interpretasi; c. Kategori C: tes yang membutuhkan beberapa pengetahuan tentang konstruksi tes dan prosedur tes untuk penggunaannya dan didukung oleh pengetahuan dan pendidikan psikologi seperti statistik, perbedaan individu dan bimbingan konseling; d. kategori D: tes yang membutuhkan beberapa pengetahuan tentang konstruksi tes dan prosedur tes untuk penggunaannya dan didukung oleh pengetahuan dan pendidikan psikologi seperti statistik, perbedaan individu. Tes ini juga membutuhkan pemahaman tentang testing dan didukung dengan pendidikan psikologi standar psikolog dengan pengalaman satu tahun disupervisi oleh psikolog dalam menggunakan alat tersebut (Pasal 63, ayat 3)."*

The code also states that psychological assessments must be done by psychologists licensed by HIMPSI. Several other relevant regulations will be mentioned as we discuss the actual practices in Indonesia.

The current formulation of HIMPSI ethical code (2010b) has been active for around five years, but we can still find many examples of test use that are unsound or even in direct violation of the regulations. Based on a brief review of a couple of psychological test catalogs published in Indonesia, we

found that some of the tests on sale are not accompanied by a proper manual. In the first catalog by LPSP3 (2015), we observed that from 47 titles of psychological tests offered; only 12 have a manual sold separately. Upon closer inspections, we found tests that are not equipped with any information other than the test items itself, such as the Indonesian manual for Standard Progressive Matrices (LPSP3, 1989). In the second catalog by PERSONA (2015), we observed that they offer 25 titles of psychological tests, but not a single manual. They only have several guides for administration, scoring, and norms available for some of the tests they offer. These documents are inadequate when compared to international standards for test manuals, such as the Standards for Educational and Psychological Testing (AERA, APA, & NCME, 1999; Plake & Wise, 2014).

The standard has clearly delineated the required information to be included in a manual, which include, among others: the rationale of the test, recommended use and user, copyright and publication data, the target population of the test, item pool, scale development procedure, and the psychometric properties. The documents we found mostly provide basic information about the tests, administration and scoring guidelines, and sometimes a sample of the items. Essential statistical information, such as the tests' psychometric properties are not included. Methods and results of test development, validation, and reliability measures are all missing.

Furthermore, the manuals contain no information regarding the development of the test norms. Characteristics of the sample, sampling method, size, period of data collection, statistical methods and analysis, and the population it is supposed to represent are not known. Finally, as with most psychological tests used in Indonesia, these tests are adaptations from tests previously published in another language. While important, the process of adapting these tests is not reported in their respective manuals. The licensing, translation, data gathering, analysis, and dissemination are largely unknown.

The lack of information regarding tests and the lack of a comprehensive and enforceable standard means good practice rests on the attitude of the psychology community toward psychological tests around them. They have already learned the basics of the tests and used them in their practice. This present study assesses about their attitude towards psychological tests. This study is important because the results could help us understand the problems in test use and also find how good practice could be done in Indonesia. On the other hand, we may also find concerns of the test users in Indonesia and hopefully understand the reason that psychological tests in Indonesia have been painfully slow to evolve.

Methods

Participants

The participants at least had an undergraduate degree in psychology. We used convenience sampling method. Recruitment of participants was performed mostly in universities and through emails to potential participants who work in private sector. We got 149 participants: 42 males (28.2%) and 107 females (71.8%). Participants' ages varied between 22 and 71 years (M = 29.4; SD = 7.32). All participants had obtained an undergraduate degree (BA, BSc) in psychology; 41.6% graduated from government universities and 58.4% from private universities. Most participants were pursuing a profession as a psychologist (39.6%), whereas 36.9% were psychologists (had completed the professional education in Psychology) and the rest had completed undergraduate study in Psychology (23.5%). The participants came from various area of work; most of them was from graduate students (40.3%), lecturer (22.1%), private sector employee (20.8%), consultant (6.7%), school psychologist (3.4%), others like researcher, housewife, government employee (6.7%). Around 34.9% of the participants were studying to be or worked as an adult clinical psychologist, 27.5% as an industrial and organizational psychologist, and 16.1% as an educational psychologist.

Instruments

The Attitudes Towards Test Copyright Q-Sort (D. Iliescu, personal communication, September 29, 2014). The first author obtained the survey from personal communication through email after D. Iliescu presented at a panel session about "Copyright: How can we balance the needs of authors, publishers, users, researchers and clients" at the 9th Conference of the International Test Commission, San Sebastian, Spain 2014. This survey contained 27 items. The items in the survey addressed about copyright issues and whether the test user has the knowledge and consequences of about legal test use (like the law consequences and psychometric properties of the

test). Then, the items can capture the participants' awareness about the test use in Indonesia. In the survey, participants were asked to express their opinion toward legal properties of psychological test in five points of scale from strongly disagree (1) until strongly agree (5).

Procedure

We developed the survey and made it in two forms, online and offline. We approached potential participants personally, through alumni in group chatting application and through social media. Then, we explain the purpose and procedure of this research. If consent obtained, we proceed with the survey. Some of them were followed up by email. If they agreed, we sent them the link to the survey.

Statistical Analysis

We used the Cronbach's alpha coefficient to calculate the reliability of the survey. We also performed the corrected item-total correlation among 27 items. Then, to test whether the scale is unidimensional, we used exploratory factor analysis. We used principal component analysis as extraction method and varimax with Kaiser normalization as rotation method. Then we confirmed it with confirmatory factor analysis with single factor model. To determine the model of fit, Hu and Bentler (1999) suggest the TLI and CFI values be equal or above .95 and RMSEA values less than or equal to .06. The AIC is comparing between models; smaller AIC values indicate a better fit after accounting for model complexity (Akaike, 1987). Finally, to know the participant's attitudes towards psychological tests, we calculated the participants' responses to each point scale per item in percentage.

Results

Scale Analysis

The reliability of the survey for 27 items is .74 (M = 93.68; SD = 9.79). Based on Kaplan and Saccuzzo (2013), the survey was reliable. The item-total correlation range is between - .096 until .476. The negative items are item number four (- .096) and seven (- .008). The reliability of the survey will be .77 (M = 86.93; SD = 9.79) if those two items removed. Since the content of those items is valuable information for this study, we decided to retain those items for the description purpose of participant's opinions. However, for factor analysis studies, we removed those two items due to very small and negative corrected item total correlation. The Kaiser-Meyer-Olkin measure of sampling adequacy was .66 and Bartlett's test of sphericity was significant (χ^2 (300) = 878.21, $p < .05$). From the exploratory factor analysis, we configured that the test is not unidimensional. We found nine factors with eigen value more than one. Since several factors only contained one or two items, we analyzed qualitatively; then we asked the program to provide six factors. The initial eigen values showed that the first factor explained 16.06% of the variance, the second factor 9.64% of the variance, and a third factor 8.88% of the variance. The fourth factor 6.02% of the variance, the fifth factor 5.42% of the variance, and the sixth factor 4.79% of the variance. We named the six factors as test accessibility, awareness towards test author, concern towards test circulation, awareness towards legal implication of testing practices, moral implication of the test's legal aspect, and concern towards test quality. More detailed results for the exploratory factor analysis can refer to Table 1.

The unidimensional of the survey is also not supported by single factor model with confirmatory factor analysis (χ^2/df = 3.95, $RMSEA$ = .14, CFI = .46, TLI = .41, AIC = 1186.93). The TLI and CFI values are less than .95 and RMSEA value more than .06. Then, the scale is not unidimensional. For the six-factor model, we got χ^2/df = 2.61, $RMSEA$ = .11, CFI = .61, TLI = .57, and AIC = 894.21. The six-factor model also did not fit the data. However, from the goodness of fit indexes, the six-factor model fit the data better than the unidimensional model. Smaller AIC index for the six-factor model supported that this survey is not unidimensional. The correlation between factors described in Table 2.

Descriptive Statistics

We have calculated each response of participants. Participants respond to each item's point of scale from strongly disagree until strongly agree (five point-scale). For the readability and comprehension of each item statement, we joined the "strongly disagree" and "disagree" into "disagree" category; the "In between" is the percentage of participant who choose in the middle of disagree and agree; we joined the "strongly agree" and "agree" into "agree" ca-

Table 1
The Exploratory Factor Analysis of the Survey

Item statement	Loading plots					
	F1	F2	F3	F4	F5	F6
1. Legal tests are too expensive for me.	.41					
13. Research usage should be free, no matter if the test is copyrighted or not.	.68					
14. When using a test for a scientific project I expect to receive the test for free from the publisher.	.67					
15. A test is a test – I believe that tests on the internet or in magazines are as valid as those used by "professional" psychologists.	.41					
16. If I find the items and scoring on the internet, I always assume that I have the right to use the test.	.51					
24. Tests should not be copyrighted - they are scientific instruments and their usage should not be limited.	.37					
19. Test authors are rich enough anyway, why continue paying?		.65				
21. Test authors have a right to be paid for their work		.81				
22. Paying for tests encourages creativity and the development of new tests		.67				
27. A test is protected by law: I do not care if this is perceived as fair or not by some - it is what it is.		.48				
5. A test is a test, and the legality of its usage does not impact its worthiness.			.43			
17. Selling the test administration by administration is an abuse on part of the publishers.			.75			
18. Test publishing is an industry, concerned only with making money.			.80			
20. The fact that test publishing is an industry, leads to better and new tests.			.42			
23. I cannot accept to pay for a test where the author is already dead - that money just goes into the pocket of someone, without encouraging new revisions for that test.			.54			
3. It does not bother me that the test used for psychological assessment would be illegal, if it's cheaper this way.				.45		
10. Even if I buy a test legally, I sometimes also copy its answer sheets.				.79		
11. If I have bought a test once, I consider that I have the right to use any of its materials as I want, and that includes copying materials or modifying items.				.59		
12. I use mainly legal materials for testing (such as copies of answer sheets).				.52		
2. I often use cheap or free tests in my practice, because I cannot afford to buy copyrighted tests.					.48	
6. If I use a test illegally, I am afraid to report the results because I fear being caught.					.68	
26. I am afraid to use a copyrighted test without paying, because of the potential scandal I would face if it would be known.					.66	
8. I like the fact that a legally bought test gives me also access to better norms and materials.						.41
9. The quality of the testing materials is seen as important by those I work with.						.60
25. Copyrighted tests are better than public domain tests because someone is actually taking care of them.						.53
Reliability (Cronbach's Alpha)	.57	.63	.64	.65	.48	.38

Note. Number 4 and 7 are not included in the factor analysis due to negative item-total correlation.
*corrected item-total correlation coefficient; F1 = test accessibility, F2 = awareness towards test author, F3 = concern towards test circulation, F4 = awareness towards legal implication of testing practices, F5 = moral implication of the test's legal aspect, and F6 = concern towards test quality.

tegory. The descriptive statistic for participants' response is presented in Table 3.

In general, participants agreed that if they bought a test legally, they would gain access to further test materials and better norms (93.96%). This result is in line with their attitude that the test authors have a right to be paid for their work (96.65%). So, they showed their agreement as they are willing to pay for the tests to encourage creativity and the development of new tests (83.22%). Moreover, they support the test publishing company as an industry that can lead to better and new tests (61.75%).

The participants were aware that they are often using illegal tests for psychological assessment, due to it would be cheaper (26.84%). Most of them (63.09%) agreed that the legal tests are too expen-

Table 2
The Correlation Coefficients Between Factors

	F1	F2	F3	F4	F5	F6
F1	1					
F2	.20*	1				
F3	.31**	.30**	1			
F4	.41**	.16*	.24**	1		
F5	.40**	.07	.10	.41**	1	
F6	.10	.20*	.12	.16*	.23**	1

Note.
*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).
F1 = test accessibility, F2 = awareness towards test author, F3 = concern towards test circulation, F4 = awareness towards legal implication of testing practices, F5 = moral implication of the test's legal aspect, and F6 = concern towards test quality.

sive. Sometimes, even though they bought a test legally, they copied its answer sheets (63.75%). However, more than half of the participants (53.03%) use legal materials for testing, including the answer sheets. They also realized that the copyrighted tests are better than public domain tests (69.13%) and they mostly disagreed that test usage should not be limited (81.21%). This lead to the realization that they acknowledge the copyrighted tests guaranteed in quality, despite the cost, is high. They recognized that tests on the Internet or in the magazine could not be used by a professional psychologist (85.90%) because they are uncertain for its validity. Also, they were afraid of the potential scandal they might get if they used a copyrighted test without paying (63.09%) and get caught (51%). However, we still in open question whether they are aware that even though they have already bought a test once, they did not have right to modify and make copies of the test's materials.

In another context, like research, most of them (41.61%) agreed that the test should be free. Moreover, the participants hope that they can obtain the test for free from the publisher (78.52%). However, they will try working with another method, if they cannot afford a test (51.68%).

Discussion

The variety of problems in test use in Indonesia should be seen in the context of the different strategies employed, or lack thereof, to improve it. Evers et al. (2012) divide the actions to improve test use to strategies that are restrictive and informative.

Restrictive Action

Restrictive actions are intended to limit test use to qualified professionals while informative actions are directed toward the disseminations of information regarding test use to all relevant parties. As described in the introduction, restrictive strategies in Indonesia are lacking. The existence of HIMPSI ethical code is simply not enough, and it may be explained for several reasons.

First, HIMPSI's ethical code is not a legally binding document for all citizens of Indonesia. As a professional association, HIMPSI has an assembly that has the power to enforce the ethical code upon its members (HIMPSI, 2010a). While many psychologists actively doing practice are members of HIMPSI, it is very possible that some others are not. The statute of HIMPSI (HIMPSI, 2010b) only stated that all psychologists and psychological scientists that wish to provide psychological services such as testing in Indonesia must join and be licensed by HIMPSI. Still, the aforementioned lack of explicit law regarding this profession makes it possible for non-members to practice without any legal repercussions. Should there be any improper, unscientific, or even unethical practices, HIMPSI has no legal jurisdiction to act against them. Toward its members, the maximum penalty that can be dealt upon violations is expulsion from HIMPSI membership (HIMPSI, 2010a). However, expulsion does not necessarily terminate the psychologist's practice. The ethical code also does not list the types of violations and their corresponding penalties.

Second, HIMPSI's ethical code has not been accompanied by a description of good practice in psychological services. An example is found in the chapter regarding assessment. The code states that tests used in assessments must have shown a good level of reliability and validity (HIMPSI, 2010a). However, the criteria of a valid and reliable test and how to achieve it are not explained. As an example, for construct validation, Brown (2010) described there are five sources of evidence. That evidence includes test content, response processes, internal structure, relations to other variable, and consequences of testing. The code also states that psychological assessments must be done by psychologists and or psychological scientists according to their level of education, category, and competency. Again, no further explanation was given about which level of education and which kinds of competency required for various types of tests.

Table 3
The Descriptive Statistic of Participant's Responses as They Response in the Survey

Item Statement	*M*	*SD*	Min	Max	Disagree* (%)	In Between* (%)	Agree * (%)
1. Legal tests are too expensive for me.	3.64	1.04	1	5	17.45	19.46	63.09
2. I often use cheap or free tests in my practice because I cannot afford to buy copyrighted tests.	2.72	1.16	1	5	47.66	25.5	26.84
3. It does not bother me that the test used for psychological assessment would be illegal, if it's cheaper this way	2.34	1.12	1	5	63.08	16.78	20.13
4. If I cannot afford a test, I try working with another method.	3.37	1.20	1	5	22.15	26.17	51.68
5. A test is a test, and the legality of its usage does not impact its worthiness.	2.44	1.18	1	5	59.73	17.45	22.82
6. If I use a test illegally, I am afraid to report the results because I fear being caught.	3.36	1.11	1	5	23.49	25.5	51
7. I do not have a problem with testing materials which are old or look shabby.	2.62	1.13	1	5	51.01	25.5	23.49
8. I like the fact that a legally bought test gives me also access to better norms and materials.	4.50	0.72	1	5	2.68	3.36	93.96
9. The quality of the testing materials is seen as important by those I work with.	4.06	0.88	2	5	7.38	13.42	79.2
10. Even if I buy a test legally, I sometimes also copy its answer sheets.	3.63	1.08	1	5	15.44	20.81	63.75
11. If I have bought a test once, I consider that I have the right to use any of its materials as I want, and that includes copying materials or modifying items.	2.40	1.08	1	5	60.41	20.13	19.46
12. I use mainly legal materials for testing (such as copies of answer sheets)	3.50	1.00	2	5	20.13	26.85	53.02
13. Research usage should be free, no matter if the test is copyrighted or not.	3.15	1.25	1	5	36.24	22.15	41.61
14. When using a test for a scientific project I expect to receive the test for free from the publisher.	4.09	0.96	2	5	10.07	11.41	78.52
15. A test is a test – I believe that tests on the internet or in magazines are as valid as those used by "professional" psychologists	1.54	0.77	1	4	85.9	12.75	1.34
16. If I find the items and scoring on the internet, I always assume that I have the right to use the test.	2.62	1.06	1	5	45.64	33.56	20.81
17. Selling the test administration by administration is an abuse on part of the publishers.	3.10	1.02	1	5	28.86	36.24	34.89
18. Test publishing is an industry, concerned only with making money.	3.04	1.08	1	5	30.2	37.58	32.22
19. Test authors are rich enough anyway, why continue paying?	2.23	0.95	1	5	63.76	25.5	10.74
20. The fact that test publishing is an industry, leads to better and new tests.	3.62	0.96	1	5	10.74	27.52	61.75
21. Test authors have a right to be paid for their work	4.52	0.61	2	5	1.34	2.01	96.65
22. Paying for tests encourages creativity and the development of new tests	4.14	0.79	2	5	4.03	12.75	83.22
23. I cannot accept to pay for a test where the author is already dead - that money just goes into the pocket of someone, without encouraging new revisions for that test.	3.05	1.06	1	5	32.22	37.58	30.2
24. Tests should not be copyrighted - they are scientific instruments and their usage should not be limited.	1.92	0.88	1	5	81.21	12.75	6.04
25. Copyrighted tests are better than public domain tests because someone is actually taking care of them.	3.82	1.05	1	5	11.41	19.46	69.13
26. I am afraid to use a copyrighted test without paying, because of the potential scandal I would face if it would be known.	3.70	0.94	1	5	9.39	27.52	63.09
27. A test is protected by law: I do not care if this is perceived as fair or not by some - it is what it is.	3.63	0.98	1	5	14.09	26.17	59.73

Note. *We presented the results as exactly as participants' response option in the item survey (no reversed scoring applied).

Third, due to Indonesia's large land and water mass and population, HIMPSI may not be able to supervise all psychological practice in the country actively. On the Internet, it is also fairly easy to find articles that explain how to answer psychological tests, even leaked psychological tests.

Informative Action

Informative actions are done mostly in educational settings. The current standard for psychological curriculum in higher education was published by the Asosiasi Penyelenggara Pendidikan Tinggi Indonesia (AP2TPI). AP2TPI has released two documents in the last five years with a complete roster of areas to be covered in a bachelor degree psychology program (AP2TPI, 2015). Both rosters contain several topics that are relevant to test use: test administration, test interpretation, psychometric theories and its application, and ethics. Test administration and interpretation are usually covered in lectures using various sources, including assessment textbooks and experienced practitioners. Psychometric theories are also taught, both in theory and practice. Thus, even a bachelor degree holder would have a basic knowledge to evaluate a test based on its published psychometric properties. Ethics is taught at several levels, first in general for the whole field of psychology and specifically in test use. The same topics, with greater depth, are also taught at graduate degrees. These means that the basics for proper test use are already part of a psychology student's knowledge and skills at all levels, which would be a good starting point for further efforts. As the change in restricting actions would take much more time and resources, supporting and increasing the strength of the informative actions that are already in practice would be a much more viable strategy in the short term.

Conclusion

The first conclusion for the attitudes towards psychological test that worth to notice is the desirability to use the test properly. They knew the ethics and the major rules, like using legal materials for testing and not copying materials. Although sometimes they also copy its answer sheets. They felt that the legal tests are too expensive. There are six major concerns from the survey, namely test accessibility, awareness towards test author, concern towards test circulation, awareness towards legal implication of testing practices, moral implication of the test's legal aspect, and concern towards test quality. Second, most of them agreed that test should be copyrighted, and their usage should be limited. Third, they were willing to use legal tests as long as the materials are up to date and provide adequate psychometric properties like validity.

Recommendations

The lack of an explicit law and the limitation of the professional association's ethical code come together to create an atmosphere where a variety of subpar practices of test use can survive, even thrive. However, a development in legalization or ethical regulation would take a long time, during which more problem, even harm could occur. That is why the personal attitudes in the individual level become a more promising foundation for good practice. That is why this study is aimed to assess the attitudes among psychology professionals about the proper development and use of psychological tests. An ideal recommendation would be to rapidly decrease usage of currently used tests and increase the production or adaptation of newer tests with proper methods. However, as these processes would require a massive amount of resources which are not always available, it would be very hard to persuade test users to stop using current tests. We thus recommend that any decisions based on test results must be made cautiously. Data acquired from test results must be used in conjunction with data acquired from other methods like observation and interview.

Another recommendation is to have a database for all types and all titles of psychological tests that are still in circulation and used in Indonesia. To do this, we certainly need cooperation and openness from all those associated with the use of psychological tests. This database could also serve as a tool to map the psychological tests that are still needed in our community. While this mapping finished, some psychological tests are often used, can be renewed, at least for the information about the psychometric properties of the test, especially the reliability and validity of these tests. This, of course, requires cooperation among psychologists, the test users, the owner of psychological services agencies, and of course psychometric experts to be able to cooperate and contribute their expertise and resources for updating the information of the test that is currently available.

To prevent further deviations from good practice, the authors also recommend increasing informative actions in Indonesia. The inclusion of test theory and ethics in the current psychological curriculum is a good starting point. With more emphasis, especially during student practice, a better understanding of good test use could be achieved in psychological students. Furthermore, informative actions should

not be limited to psychology students but include laypeople. Another aspect to be addressed here is the lack of clear psychometric properties and adaptation process in adapted tests. The professionals may interpret the test results with insufficient, or worse, misleading information. They use a test without a clear formulation of the construct and its domains. Also, without adequate information about the adaptation process, the cultural bias would occur easily. The quality of the adaptation process or the lack thereof is also unknown and could lead to usage of highly biased tests for Indonesian context. Even properly trained professionals could easily make mistakes. As these consequences would compromise the validity of interpretations and judgments in any assessment, providing more information about published tests should be promoted.

Informative action should not be limited to psychology students and professionals. The diffusion of information needs to reach all parties that have a stake in test use, including institutions and society in general (Evers et al., 2012). Efforts in this area severely lack in Indonesia. Even the publication of the Mental Health Law has not accompanied with socialization to the general population. Many people or institutions that use services using psychological tests do so with little knowledge about the quality of the instruments, the competence of the test users, and the results they should get, further limiting control toward professionals. Some others participate in violations of the ethical code, such as buying leaked tests to prepare for assessments. This situation clearly shows the need for a broad approach to informative action. Without educated service users, unsound test use would be preserved.

Our last recommendation is for the professionals. The participants' knowledge of good test use and willingness to buy well-made tests presents a major opportunity for psychologists and psychometricians to fill the demand. This requires our professionals to develop more knowledge and skill in test development or adaptation. A good working alliance between psychologists and psychological researchers, especially psychometricians, is also important to build to increase the quantity and quality of our products. Lastly, financial support from governmental, educational, or other institutions must be available to assure the adequacy of resources to complete our projects. Administrative and bureaucratic difficulties may deter our efforts to access these kinds of support, but they are needed nonetheless.

References

Akaike, H. (1987). Factor analysis and AIC. *Psychometrika, 52,* 317-332.

AERA (American Educational Research Association), APA (American Psychological Association), & NCME (the National Council on Measurement in Education). (1999). *Standards for educational and psychological testing*. Washington, DC: AERA.

APA (American Psychological Association). (2010). *Ethical principles of psychologists and code of conduct.* Retrieved from http://www.apa.org/ethics/code/principles.pdf

Asosiasi Penyelenggara Perguruan Tinggi Psikologi Indonesia. (2015). *Keputusan asosiasi penyelenggara perguruan tinggi psikologi Indonesia (AP2TPI) Nomor: 01/Kep/AP2TPI/2015.* Retrieved from http://bit.ly/2aXA7fR

Brown, T. (2010). Construct validity: A unitary concept for occupational therapy assessment and measurement. *Hong Kong Journal of Occupational Theraphy, 20*(1), 30-42.

Evers, A., Muñiz, J., Bartram, D., Boben, D., Egeland, J., Fernandez-Hermida, J. R, ... Urba-nek, T. (2012). Testing practices in the 21st Century: Developments and European Psychologists' Opinions. *European Psychologist, 17*(4), 300-319.

HIMPSI (Himpunan Psikologi Indonesia). (2010a). *Anggaran Dasar Anggaran Rumah Tangga.* Jakarta: Pengurus Pusat Himpunan Psikologi Indonesia. Retrieved from http://himpsi.or.id/phocadownloadpap/ad-art-himpsi.pdf.

Himpunan Psikologi Indonesia (HIMPSI). (2010b). *Kode etik psikologi Indonesia*. Jakarta: Pengurus Pusat Himpunan Psikologi Indonesia. Retrieved from http://himpsi.or.id/phocadownloadpap/kode-etik-himpsi.pdf

Hu, L. T., & Bentler, P. M. (1999). Cut-off criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6,* 1-55.

Kaplan, R. M., & Saccuzzo, D. P. (2013). *Psychological testing: Principles, applications, and issues* (8th ed.). Belmont, CA: Thomson Wadsworth.

LPSP3 (Lembaga Pengembangan Sarana Pengukuran dan Pendidikan Psikologi). (2015). *Daftar Harga Alat Tes Psikologi*. Depok: LPSP3.

LPSP3 (Lembaga Pengembangan Sarana Pengukuran dan Pendidikan Psikologi). (1989). *The Standard Progressive Matrices*. Depok: LPSP3.

PERSONA (2015). *Daftar harga alat tes psikologi*.

Bandung: Biro Psikologi Persona.

Pemerintah Republik Indonesia. (2014). *Undang-Undang Nomor 18 Tahun 2014 Tentang Kesehatan Jiwa*. Retrieved from sinforeg.litbang.depkes.go.id/upload/regulasi/UU_No._18_Th_2014_ttg_Kesehatan_Jiwa_.pdf

Plake, B. S., & Wise, L. L. (2014). What is the role and importance of the revised AERA, APA, NCME standards for educational and psychological testing? *Educational Measurement: Issues and Practice, 33*(4), 4-12.