

The computerized version of the Pictorial Thai Self - Esteem Scales

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Abstract

Objective : research aimed to develop the Pictorial Thai Self-esteem Scales (PTSS) computerized version. The internal consistency reliability, parallel reliability and level satisfaction after using the PTSS computerized version were examined.

Method : After the computerized version of the PTSS was developed, tested and all errors of the program found were corrected. Later on, the process of subjects' recruitment began. The subjects who participated in this study were 145 students studying at Matthayomsuksa 5 of Sriboonyanon School, Nonthaburi, Thailand. The subjects were divided in to 2 groups equally. The first group was administered the paper-and-pencil version first (PF) while the second one did the computerized version first (CF). After completing the first process, each group will switch to the other test in order to decrease bias and error due to sequence of testing. Finally, all participants are required to complete the User Satisfaction Survey of Using the Computerized Version of the PTSS. Finally, the data was analyzed with Pearson Correlation coefficients.

Results : results indicated that the PTSS computerized version had high internal consistency, $r = 0.85$ and the PTSS computerized version was positively correlated with the PTSS paper and pencil version at a statistically significant level of .01 ($r = 0.94$). Regarding the level of satisfaction, it was found that the subjects were most satisfied with the easy-to-understand method of the computerized version. Moreover, they are very satisfied with the entire presentation design of this version, and prefer the computerized version over than the paper-and-pencil version.

Conclusion : conclusion, the results in this study revealed that the computerized version of the PTSS an efficient psychological health instrument that can be used as a practical alternative to the traditional version.

Keywords : Computerized version / The Pictorial Thai Self - Esteem Scales / PTSS

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แบบประเมินการเห็นคุณค่าในตนเองสำหรับคนไทย แบบรูปภาพ รูปแบบคอมพิวเตอร์

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บทคัดย่อ

วัตถุประสงค์ การศึกษาวิจัยในครั้งนี้มีวัตถุประสงค์เพื่อพัฒนาแบบประเมินการเห็นคุณค่าในตนเองแบบรูปภาพสำหรับคนไทย (The Pictorial Thai Self-esteem Scales) รูปแบบคอมพิวเตอร์ โดยได้ศึกษาคำความเชื่อมั่นเชิงความสอดคล้องภายใน ค่าความเชื่อมั่นแบบคู่ขนาน และระดับความพึงพอใจต่อการใช้แบบวัด The Pictorial Thai Self-esteem Scales (PTSS) รูปแบบคอมพิวเตอร์

วิธีการศึกษา ผู้วิจัยพัฒนา ทดสอบ และปรับเปลี่ยนแก้ไขข้อบกพร่องที่พบหลังการทดลองใช้แบบประเมินการเห็นคุณค่าในตนเองแบบรูปภาพสำหรับคนไทย (The Pictorial Thai Self-esteem Scales) รูปแบบคอมพิวเตอร์ หลังจากนั้นดำเนินการคัดเลือกกลุ่มตัวอย่าง ซึ่งในการวิจัยครั้งนี้คือนักเรียนชั้นมัธยมศึกษาปีที่ 5 โรงเรียนศรีบุญญานนท์ จังหวัดนนทบุรี ประเทศไทย จำนวน 145 คน กลุ่มตัวอย่างถูกแบ่งเป็น 2 กลุ่มๆละเท่าๆ กัน ดำเนินการเก็บข้อมูลโดยกลุ่มที่หนึ่งทำแบบประเมินการเห็นคุณค่าในตนเองแบบรูปภาพสำหรับคนไทยรูปแบบที่ใช้การตอบลงกระดาษก่อน แล้วจึงทำรูปแบบคอมพิวเตอร์ ในขณะที่กลุ่มที่สองทำแบบประเมินการเห็นคุณค่าในตนเองแบบรูปภาพสำหรับคนไทยรูปแบบคอมพิวเตอร์ก่อน แล้วจึงทำรูปแบบการตอบลงกระดาษ ทั้งนี้เพื่อเป็นการลดอคติของการทำลำดับก่อนหลัง และทั้งสองกลุ่มจะได้ประเมินความพึงพอใจด้วยแบบประเมิน User Satisfaction Survey of Using the Computerized Version of the PTSS ข้อมูลที่ได้จะทำการวิเคราะห์ด้วยค่าสหสัมพันธ์เพียร์สัน (Pearson Correlation coefficients).

ผลการวิจัย พบว่าแบบประเมินการเห็นคุณค่าในตนเองแบบรูปภาพสำหรับคนไทย (PTSS) รูปแบบคอมพิวเตอร์ มีค่าความเชื่อมั่นเชิงความสอดคล้องภายในรวมทั้งฉบับ เท่ากับ 0.85 ในขณะที่เดียวกันค่าความเชื่อมั่นแบบคู่ขนาน พบว่ามีความสัมพันธ์เชิงบวกในระดับสูง ($r = .94$) กับแบบประเมินการเห็นคุณค่าในตนเองแบบรูปภาพสำหรับคนไทย (PTSS) รูปแบบมาตรฐาน อย่างมีนัยสำคัญทางสถิติที่ระดับ 0.01 ส่วนระดับความพึงพอใจที่มีต่อการใช้แบบประเมินการเห็นคุณค่าในตนเองแบบรูปภาพสำหรับคนไทย รูปแบบคอมพิวเตอร์ พบว่ากลุ่มตัวอย่างมีความพึงพอใจมากที่สุดต่อความสะดวกในการใช้โปรแกรมและความพึงพอใจโดยรวมอยู่ในระดับมาก รวมทั้งมีความพึงพอใจต่อการใช้แบบวัดรูปแบบคอมพิวเตอร์มากกว่ารูปแบบมาตรฐาน จากผลการวิจัยแสดงให้เห็นว่าแบบประเมินการเห็นคุณค่าในตนเองแบบรูปภาพสำหรับคนไทย (PTSS) รูปแบบคอมพิวเตอร์มีประสิทธิภาพเพียงพอที่จะเป็นทางเลือกหนึ่งของเครื่องมือวัดด้านสุขภาพจิตที่สามารถนำมาใช้แทนรูปแบบมาตรฐานได้

คำสำคัญ : แบบประเมินการเห็นคุณค่าในตนเองแบบรูปภาพสำหรับคนไทยรูปแบบคอมพิวเตอร์/การเห็นคุณค่าในตนเอง



Introduction

Self-esteem is an important attribute relating to individual thinking, emotional, personality and behavioral expressions. According to Coopersmith (1967), self-esteem consists of internal and external components. Thus, change occurs with any components, whether the internal one like physical conditions, ability and ambition etc. or the external one. Comparing with other life stages, “adolescent” changes in many ways, for example body, personality and social relation. Also, it is regarded as a transition stage between childhood and adulthood. This leads to expectations from oneself and society that one must have maturity, in the forms of proper thinking, emotional, and behavioral expressions, which may lead to frustration, conflict, anxiety, maladjustment and problem in improving self-esteem.

At present, adolescent problems in terms of drugs, sex, or violence including depression and anxiety are rooted from decreasing self-esteem (Sucheera Phattharayuttawat et al., 2005). Thus we should pay attention to self-esteem development among adolescents in order to prevent undesirable behaviors. Cooperation and responsibilities from many agents are needed in finding ways to provide opportunities and experiences for adolescents to exhibit their abilities, interest, and esteem to benefit themselves and society later on. Mental health services in hospitals, communities or schools are essential agencies that promote and develop

adolescents for higher self-esteem. First, adolescents must be classified by levels of their self-esteem so that it will be easier to handle with them. Such screening process requires standardized tools for measurement and assessment, capacity to classify people, convenience for test administration and interpretation including appropriateness to Thai context. The Pictorial Thai Self-esteem Scale (PTSS) which is developed by Sucheera Phattharayuttawat, Thienchai Ngamthipwatthana and Bansa Pittayaworanan has all attributions. Its criterion validity related to the Rosenberg Self-Esteem Scale which is standardized and widely used. Besides, its internal consistency calculated by Cronbach's Alpha coefficient for 6 dimensions of self-esteem were between 0.82-0.89 and test-retest reliability are between 0.81-0.88. PTSS is also developed in Thai context and use pictures instead of words in order to reduce a language complexity which benefits those language-limited (Sucheera Phattharayuttawat et al. 2005). This may conclude that PTSS is good at both measurement and application.

Computer has impacted psychology field for almost 60 years in testing, scoring and interpreting processes. For test administration, assessment through the computerized version benefits in many ways. Participants can select testing date and time at their conveniences. It fulfils inadequate administrators and paper tests. Computer programs can be applied to each



individual's requirement, especially for those with reading problems by perceiving through multimedia such as sound or motion pictures. In addition, it is fairer to all testing and participants by decreasing bias due to test administrators or question presentations so participants can focus only on the test. For efficacy in interpretation, computer provides more accurate and rapid interpretation though the test may be complex. Finally, it can store large amount of information and it is easier to retrieve them so papers are no longer required. So the primary aim of this research is to develop the computerized version of the Pictorial Thai Self-Esteem Scale (PTSS) for equivalent efficacy to the paper-and-pencil version's including with the satisfactions of the users.

Research Tools

1. The computerized version of the Pictorial Thai Self-Esteem Scale developed from the Pictorial Thai Self-Esteem Scale paper-and-pencil version.

2. The Pictorial Thai Self-Esteem Scale by Sucheera Phattharayuttawat, Thienchai Ngamthipwatthana and Bansa Pittayaworanan which contains 28 picture items including a verbal label above each picture, measuring 6 dimensions of self-esteem namely Physical Attributes, General Capacity, Self value, Aspiration, Family Relation and Peer Group. Responses to items in 4 rating scale (extremely agree, agree, disagree and extremely disagree)

3. User satisfaction survey of the computerized version of the Pictorial Thai Self-Esteem Scale which is 5 rating scale considering presentation, test procedure, appropriateness of using multimedia and attractiveness.

Research Methods

First Develop the computerized version of the PTSS by gather and edit all information in order to prepare appropriate contents to be presented throughout the program. Then write a flowchart to determine the presentation and create multimedia for this program such as image and sound. Combine all multimedia according to flowchart by using action scripts. After Test the program and correct errors then submitted documents for getting permission from the school. Then, announced and informed interested people about the study for recruiting purpose. Collected signed consent letter, made appointments, and conducted the testing by explained the objectives of the study and instructed about program to participants before starting the testing process. Next divided sample into 2 groups equally. The first group was administered the paper-and-pencil version first (PF) while the second one did the computerized version first (CF). After completing the first process, each group will switch to the other test in order to decrease bias and error due to sequence of testing. Finally, all participants are required to complete the User Satisfaction Survey of Using the Computerized Version of the PTSS. Finally, the data was analyzed with Pearson Correlation coefficients.

**Results**

This research was conducted with 145 students (52 male, 93 female) of Mattayom 5 Sriboonyanon school.

Table 1 The internal consistency reliability of the Pictorial Thai Self-esteem Scales computerized (PTSS)

	Computerized Paper-and-Pencil	
	Version	Version
Computerized version	0.869	0.849
First group (n=78)		
Paper-and-pencil version	0.840	0.839
First group (n=82)		
Both group	0.856	0.847

From table showed that:

The reliability of the computerized version of the Pictorial Thai Self-esteem Scales (PTSS) is 0.856 while the reliability of the paper and pencil version is 0.847

Table 3 Level of the user's satisfaction of the Pictorial Thai Self-esteem Scales computerized version

Content	Mean±S.D.	Min	Max	Overall satisfaction
1. Alphabet format	3.39±0.529	2	4	Very satisfy
2. Alphabet Size	3.39±0.544	1	4	Very satisfy
3. The suitable color of the Alphabet	3.42±0.561	2	4	Very satisfy
4. Background picture	3.51±0.554	2	4	Most satisfy
5. Convenience in using program	3.54±0.540	2	4	Most satisfy
6. The design of entire program	3.48±0.541	2	4	Very satisfy
7. The interesting of the program	3.46±0.613	2	4	Very satisfy
8. Overall satisfaction of computerized version compare to paper-and-pencil version	3.43±0.587	1	4	Very satisfy

Table 2 The correlation coefficient between the Pictorial Thai Self-esteem Scales in the same group

	Pearson Correlation	P-value
Computerized version	0.954**	< 0.01
First group (CF)		
Paper-and-pencil version	0.934**	< 0.01
First group (PF)		
Both	0.941**	< 0.01

**Correlation is significant at level of 0.01

From the table, found that:

The correlation between computerized version and paper and pencil version of PTSS by using Pearson correlation in the CF group is 0.954, the PF group is 0.934 and overall is 0.941 (p=0.01)



The result showed that user's satisfaction of using the Pictorial Thai Self-esteem Scales computerized version are mostly all cases satisfaction with in all areas, especially with the design and interesting in using the program. Furthermore, mostly subjects satisfied in convenience in using program and background picture. For item 8 "Overall satisfaction of computerized version compare to paper-and-pencil version", the level of satisfaction is very satisfied, it showed that the users prefer computerized version more than paper-and-pencil version.

Conclusion and Discussion

This research found that the internal consistency of the computerized version of the PTSS was high 0.856 which was generally accepted since coefficient alpha of .7 or higher is indicated as high reliability (Fischer & Corcoran, 1995). Besides, the computerized version is highly correlated to the paper-and-pencil version ($r=0.941$), which is in accordance with the study of Vallejo (2007) on comparison between the online version and the paper-and-pencil version of the General Health Questionnaire-28 (GHQ-28) and the Symptoms Check-List-90-Revised (SCL-90-R) among 185 subjects, he found that their validities were high equivalent, GHQ-28's was .90 in both versions while the paper-and-pencil version of the SCL-90-R was .96 and the computerized version's was .97.

When considering users' satisfaction with the computerized version of PTSS, they were

very-to-most satisfied with the program in terms of picture, colors, font, font size, overall screen design and attractiveness, especially Item 5.- Convenience in using program-was the most satisfied. When comparing the computerized version to the paper-and-pencil version, users were most satisfied with the first one. The finding was in accordance with to many researches (Nintranon, 2007; Sanjamsai, 2007; Songsomboon, 2007) revealing that further to the highly correlation with the standardized, users were highly satisfied with the overall presentation of the computerized and convenience in using whilst felt most satisfied when comparing the standardized.

Although the samples were very satisfied with the computerized version assessment, interest and computer literacy including age of users may be limitation for other groups of sample and that may affect the result of studies in this topic. Therefore, further studies should provide preparation for those groups before administering the actual testing.

In summary, the results of this study revealed that the computerized version of the PTSS was capable to evaluate self-esteem and could be used as an alternative to the standardized one. Users were also very-to-most satisfied. Thus we may conclude that the computerized version of the PTSS were both sufficient and efficient in psychological assessment. It is more beneficial in terms of convenience, speed, and accuracy in scoring, interpretation, and result presentation together



with the attractiveness. So the Pictorial Thai self-esteem Scales computerized version would be used for benefit of psychological service in the future.

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