

Psychometric Properties of Thinking Style Inventory in Nigeria: A Preliminary Investigations

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Abstract

The present study was on the investigations of the psychometric properties of Sternberg Thinking Style Inventory (TSI) in Nigeria. Eight hundred and seventy eight (878) adult participants recruited from 3 cardinal regions representing 3 major ethnic groups in Nigeria were involved in the study. They included 587 males and 291 females from diverse occupations including teaching, civil service, military, police, clergy and university undergraduates. TSI by Sternberg and Wagner (1991) was administered to the participants to determine the construct validity of the 13 different subscales of the instrument in Nigerian participants. Exploratory factor analysis, reliability statistics and 2 WAY MANOVA statistics were used for data analysis. The result of the study showed one factor extraction using the Principal Component Analysis (PCA) at eigen value greater than 1. However when the method of percentile of variance extracted was used (Pett, Lackey & Sullivan, 2003) 6 components were extracted. Conversely moderate positive correlations existed among the various subscale of the TSI. On the other hand significant occupation differences were found among various occupations on TSI suggesting good level of discriminatory validity based on occupation. However, TSI did not correlate with measure of cognitive mental task called puzzle game. Overall, TSI showed to be a promising inventory for Nigeria population but more research works are needed to position the inventory for Nigerian use.

Key words: Psychometric, Validation, TSI, Nigeria.

Introduction

A style of thought is a preference for using abilities in certain ways. It is not ability itself but the way one likes to utilize abilities. Styles of thought sometimes

referred to as intellectual styles is a super ordinate term encompassing such constructs as learning styles, cognitive styles and thinking styles (Zhang & Sternberg, 2005). Intellectual style has been very useful in

understanding human performances in both education and social settings including career areas. This is so because personality and intellectual abilities cannot fully explain for variances found in performances both in school and job (Sternberg, 2000). Consequently investigators have assumed that styles may be a possible way to account for additional variations (Briggs, 1988; Entwistle, 1981). Findings have shown that thinking styles have incremental validity in explaining human performance and outcome beyond personality and intelligence (Grigorenko & Sternberg, 1997; Zhang 2001, 2006; Roodenburg, Roodenburg & Rayner, 2012).

There are many styles of thinking developed to explain preference for abilities including the Brigg's learning approach and the MBTI thinking style. The present study was on assessment of the psychometric properties of Sternberg (1997) thinking style. The rationale behind the study of Sternberg Thinking Style also known as Thinking Style Inventory (TSI) among others was that unlike other thinking styles, the Sternberg theory provides a comprehensive repertoire of styles by proposing thirteen thinking styles and has much wider applications in academic and non academic settings (Fan, 2016). Similarly, Sternberg theory of thinking was also the starting point for the establishment of the threefold model of intellectual styles (Zhang & Sternberg, 2005). The TSI is further referred to as the theory of mental self government (MSG). This theory holds that styles can be understood in terms of constructs from human notions of government (Grigorenko & Sternberg, 1995; Sternberg & Zhang, 2001).

According to this theory, people can be understood in terms of functions, forms, levels, scopes and leanings of government. Based on these five areas of governance, the

TSI was further categorized into thirteen styles of thinking (See the instrument subsection of method section). TSI has been demonstrated to show both internal and external validity as well as reliability (Zhang, 2002). The usefulness of TSI as thinking style in teaching (Grigorenko & Sternberg, 1999) has also been assessed in education settings in such cultures as the United States, Hong Kong, mainland China and Philippines (Zhang, 2002). Researchers have further examined the validity of TSI by comparing it with a number of constructs that are believed to be associated with it (Zhang, 2002). Some of the constructs were TSI against learning approaches as proposed by Briggs (1987, 1992), TSI and personality styles as proposed by Holland (1973, 1994) and TSI and self esteem as measured by the Self Esteem Inventory Adult Form (Cooper-Smith, 1981). Students rated as high in type I thinking styles tend to take a deep approach to learning, whereas students rated in type II thinking styles tend to take a surface approach (Zhang, 2000b; Zhang & Sternberg, 2000). Second factor analyses of the thinking styles defined in Sternberg's theory and the six personality types defined in Holland's theory resulted in two factors that each contained certain thinking styles and certain personality types suggesting an overlap between the two constructs (Zhang, 2002). One of the factors was loaded with scales that indicate that people approach the outer world by interacting with others and by evaluating different ideas and situations but not by working alone. The other factor was loaded with scales that suggest that people prefer carrying out detailed and routine tasks with given instructions and dislike working under unstructured situations (Zhang, 2000a). Similarly, Zhang (2001c) in a study of university students found that students who preferred to use Type 1 thinking styles appeared to have

significantly higher self esteem than students who preferred to use type II thinking styles.

Furthermore, researches on TSI particularly in educational context have yielded many outstanding findings. Zhang (2002) summarized these findings on the following points: Students' thinking styles vary as a function of their personal characteristics and their learning environment. Similarly teacher's thinking styles differ depending on their personal characteristics, their teaching experiences and school environment. Third, students tend to achieve better academic results when their thinking styles match the thinking styles of their teachers. Finally students' thinking styles contribute to their academic achievement beyond what can be explained by their abilities as assessed by both self rating and performance tests (See Grigorenko & Sternberg, 1997; Sternberg & Grigorenko, 1995; Zhang, 1999b, 2001a, 2001b; Zhang & Sternberg, 1998).

However the problem with the TSI was that the 3 typological classifications and its subscales intercorrelations (Zhang, 2000, 2001, Zhang & Sternberg, 2000; Zhang & Positglione, 2001,) have not been fully established and even more so in Africa. It is truly accepted that styles of thinking is an added advantage to assessment and classification of human performance both in education and social world, it is however sufficient enough to establish its utility particularly in areas where it has not been used in assessment and practice. In addition such instruments like the TSI are of necessity in the present Nigeria where corruption and negative public performance are the most social problems. Psychological

knowledge of the thinking styles of Nigerians could not at this point be neglected. Furthermore proper career choice and education are of importance in Nigeria. Application of thinking styles in educational sector will be of greater valence to educational development. In all these, appropriate valid and reliable instruments are needed. Hence the present study was on the preliminary investigations into the Sternberg Thinking Style Inventory (TSI) in Nigeria sample. In line with this, the following were hypothesized:

- i. TSI subscales will not yield to 3 typological scales as proposed.
- ii. There will be moderate positive correlations among the subscales in Nigeria samples
- iii. TSI subscales will show significant differences among various occupations of the participants sampled.

Method

Participants

Eight hundred and seventy eight (878) adult participants were recruited for the study. The participants were 587 males and 291 females sampled from 3 regions of Nigeria (North: Plateau state; South West: Lagos state and South East: Anambra State). The idea of such cluster sampling was to get a true representative of Nigeria population. In addition, the sample population were recruited from various professional occupations including teaching (60 Primary school teachers, 80 Secondary school teachers, 192 University lecturers), civil service: 62, military: 152, police: 153, clergy: 18 and undergraduate students: 161.

Table 1: Descriptive Statistics of the Sample Population on TSI

	Occupation	Sex	Mean	Std. Deviation	N
Legislative	Primary School Teacher	Male	34.9310	6.12332	29
		Female	38.8710	7.02254	31
		Total	36.9667	6.84196	60
	Secondary School Teacher	Male	37.4286	6.63745	42
		Female	37.2895	7.22573	38
		Total	37.3625	6.87914	80
	University Lecturer	Male	39.0275	6.98604	109
		Female	41.1928	5.87981	83
		Total	39.9635	6.60269	192
	Civil servants	Male	29.9444	6.91972	36
		Female	30.0769	8.41391	26
		Total	30.0000	7.51610	62
	Clergy	Male	29.4118	6.91971	17
		Female	20.0000	.	1
		Total	28.8889	7.07014	18
	police	Male	35.6942	6.25945	121
		Female	33.8125	8.23226	32
		Total	35.3007	6.73374	153
	military	Male	34.8028	6.72799	142
		Female	35.5000	3.43996	10
Total		34.8487	6.55770	152	
Undergraduate Students	Male	35.5934	8.02908	91	
	Female	38.1857	6.74868	70	
	Total	36.7205	7.58717	161	
Total	Male	35.6337	7.24772	587	
	Female	37.6392	7.61104	291	
	Total	36.2984	7.42609	878	
Executive	Primary School Teachers	Male	34.6897	7.88354	29
		Female	37.1935	7.36849	31
		Total	35.9833	7.66124	60
	Secondary School Teachers	Male	36.9048	7.58628	42
		Female	35.2895	8.39855	38
		Total	36.1375	7.97265	80
	University Lecturers	Male	38.8073	7.06383	109
		Female	40.0964	6.51567	83
		Total	39.3646	6.84476	192
	Civil servants	Male	29.5833	7.48093	36
		Female	28.4231	7.80858	26
		Total	29.0968	7.57846	62
	Clergy	Male	29.2353	7.26747	17
		Female	29.0000	.	1
		Total	29.2222	7.05070	18
	police	Male	34.4298	5.68599	121

		Female	33.1563	5.74237	32
		Total	34.1634	5.70256	153
		Male	33.8944	6.32086	142
	military	Female	32.0000	5.55778	10
		Total	33.7697	6.27459	152
		Male	37.3956	7.61706	91
	Undergraduate Teachers	Female	38.6143	6.56361	70
		Total	37.9255	7.18205	161
		Male	35.3152	7.28043	587
	Total	Female	36.6804	7.71860	291
		Total	35.7677	7.45191	878
		Male	36.0345	5.20633	29
	Primary School Teachers	Female	37.8065	6.46745	31
		Total	36.9500	5.91013	60
		Male	37.2857	6.33721	42
	Secondary School Teachers	Female	37.6579	5.56668	38
		Total	37.4625	5.94903	80
		Male	38.0275	6.28558	109
	University Lecturers	Female	40.0723	5.42304	83
		Total	38.9115	5.99978	192
		Male	30.3333	8.76682	36
	Civil servants	Female	29.1538	7.81123	26
		Total	29.8387	8.33360	62
		Male	26.2353	5.47185	17
Judiciary	Clergy	Female	27.0000	.	1
		Total	26.2778	5.31154	18
		Male	32.1157	5.49422	121
	police	Female	32.4375	5.00282	32
		Total	32.1830	5.38081	153
		Male	33.3451	7.36009	142
	military	Female	33.7000	6.37791	10
		Total	33.3684	7.28119	152
		Male	34.6484	7.35810	91
	Undergraduate Students	Female	36.8286	7.73093	70
		Total	35.5963	7.57659	161
		Male	34.1874	7.19468	587
	Total	Female	36.6564	7.16015	291
		Total	35.0057	7.27274	878
		Male	36.2759	6.68632	29
	Primary School Teachers	Female	36.8387	6.18653	31
		Total	36.5667	6.38421	60
		Male	35.6667	5.95375	42
	Secondary School Teachers	Female	36.2895	5.84441	38
		Total	35.9625	5.87301	80
		Male	37.0550	6.14461	109
Global	University Lecturers	Female	38.5422	5.60336	83
		Total	37.6979	5.94762	192
		Male	30.1389	7.17596	36
	Civil servants	Female	29.3462	7.49903	26
		Total	29.8065	7.26284	62

Local	Clergy	Male	31.2353	8.15881	17
		Female	20.0000	.	1
		Total	30.6111	8.34646	18
	police	Male	32.1570	6.13190	121
		Female	33.4688	5.91872	32
		Total	32.4314	6.09223	153
	military	Male	31.8944	5.55272	142
		Female	30.0000	4.80740	10
		Total	31.7697	5.51274	152
	Undergraduate Students	Male	34.1648	6.67876	91
		Female	35.1000	7.35862	70
		Total	34.5714	6.97560	161
	Total	Male	33.6184	6.58788	587
		Female	35.5017	6.93336	291
		Total	34.2426	6.75886	878
	Primary School Teachers	Male	38.2759	7.34797	29
		Female	39.4516	7.50928	31
		Total	38.8833	7.39237	60
	Secondary School Teachers	Male	37.5714	6.62274	42
		Female	36.6316	5.70643	38
Total		37.1250	6.18363	80	
University Lecturers	Male	38.9450	6.00283	109	
	Female	39.7470	4.98985	83	
	Total	39.2917	5.58779	192	
Civil servants	Male	29.4444	7.91543	36	
	Female	28.6154	6.94018	26	
	Total	29.0968	7.47391	62	
Progressive	Clergy	Male	28.7647	8.54788	17
		Female	21.0000	.	1
		Total	28.3333	8.49221	18
	police	Male	32.8512	6.82356	121
		Female	30.5625	4.75827	32
		Total	32.3725	6.49988	153
	military	Male	34.2465	6.73004	142
		Female	31.5000	4.37798	10
		Total	34.0658	6.62593	152
	Undergraduate Students	Male	38.0000	6.12100	91
		Female	39.1714	5.57419	70
		Total	38.5093	5.90034	161
	Total	Male	35.3969	7.31221	587
		Female	36.8179	6.95090	291
		Total	35.8679	7.22158	878
	Primary School Teachers	Male	36.9655	7.81246	29
		Female	37.8710	5.70813	31
		Total	37.4333	6.76323	60
	Secondary School Teachers	Male	37.0238	5.50604	42
		Female	36.9211	5.51353	38
Total		36.9750	5.47486	80	
University Lecturers	Male	38.3486	5.81406	109	
	Female	39.3855	5.20045	83	

	Total	38.7969	5.56686	192
	Male	30.2222	7.30210	36
Civil servants	Female	28.8462	8.49326	26
	Total	29.6452	7.78628	62
	Male	28.4706	8.10954	17
Clergy	Female	33.0000	.	1
	Total	28.7222	7.93952	18
	Male	31.8347	5.95588	121
Police	Female	31.1563	5.31650	32
	Total	31.6928	5.81771	153
	Male	33.2676	6.01525	142
Military	Female	33.7000	6.36047	10
	Total	33.2961	6.01746	152
	Male	35.5495	6.69040	91
Undergraduate Students	Female	36.5000	6.36965	70
	Total	35.9627	6.54970	161
	Male	34.3952	6.83949	587
Total	Female	36.1443	6.80009	291
	Total	34.9749	6.87214	878
	Male	37.6552	6.85188	29
Primary School Teachers	Female	37.4194	6.43829	31
	Total	37.5333	6.58572	60
	Male	37.1667	6.98052	42
Secondary School Teachers	Female	36.6053	7.34678	38
	Total	36.9000	7.11675	80
	Male	38.1009	5.69916	109
University Lecturers	Female	40.1205	5.07360	83
	Total	38.9740	5.51574	192
	Male	29.4167	7.23237	36
Civil servants	Female	28.6923	6.63186	26
	Total	29.1129	6.94027	62
	Male	31.6471	7.11461	17
Constructive Clergy	Female	31.0000	.	1
	Total	31.6111	6.90387	18
	Male	31.5785	5.68881	121
police	Female	32.1250	6.05219	32
	Total	31.6928	5.75061	153
	Male	32.5634	5.26256	142
military	Female	30.2000	6.39097	10
	Total	32.4079	5.35168	152
	Male	36.1538	6.62977	91
Undergraduate Students	Female	34.8857	6.62350	70
	Total	35.6025	6.63634	161
	Male	34.3066	6.66953	587
Total	Female	35.8419	7.13822	291
	Total	34.8155	6.86256	878
	Male	38.1379	6.41273	29
Hierachich Primary School Teachers	Female	36.9677	4.77831	31
	Total	37.5333	5.61012	60
Secondary School	Male	37.3810	6.33593	42

Monarchich	Teachers	Female	36.2895	5.35703	38
		Total	36.8625	5.88012	80
		Male	39.7064	5.62287	109
	University Lecturers	Female	38.8795	5.25774	83
		Total	39.3490	5.46939	192
		Male	28.4444	7.14920	36
	Civil servants	Female	26.7692	8.09596	26
		Total	27.7419	7.54209	62
		Male	28.0000	7.68115	17
	Clergy	Female	29.0000	.	1
		Total	28.0556	7.45553	18
		Male	32.3967	5.59833	121
	police	Female	29.3438	4.41120	32
		Total	31.7582	5.50123	153
		Male	34.4577	32.47642	142
	military	Female	30.8000	5.95912	10
		Total	34.2171	31.42950	152
		Male	39.4615	8.10666	91
	Undergraduate Students	Female	40.0000	7.20105	70
		Total	39.6957	7.70717	161
		Male	35.6184	17.28611	587
	Total	Female	36.1649	7.41343	291
		Total	35.7995	14.76145	878
		Male	37.0345	5.96108	29
	Primary School Teachers	Female	37.6129	5.33340	31
		Total	37.3333	5.60468	60
		Male	37.4286	6.24751	42
	Secondary School Teachers	Female	37.7368	5.33567	38
		Total	37.5750	5.79781	80
		Male	38.8624	5.54688	109
University Lecturers	Female	38.8916	5.66334	83	
	Total	38.8750	5.58279	192	
	Male	26.2778	6.85612	36	
Civil servants	Female	32.8846	7.30111	26	
	Total	29.0484	7.72144	62	
	Male	27.3529	7.87354	17	
Clergy	Female	27.0000	.	1	
	Total	27.3333	7.63891	18	
	Male	31.8595	5.70571	121	
police	Female	30.8438	5.41866	32	
	Total	31.6471	5.64460	153	
	Male	32.5070	6.34889	142	
military	Female	32.2000	5.45283	10	
	Total	32.4868	6.27830	152	
	Male	36.8462	5.76758	91	
Undergraduate Students	Female	36.3000	6.68624	70	
	Total	36.6087	6.16966	161	
	Male	34.2709	7.02749	587	
Total	Female	36.2887	6.52099	291	
	Total	34.9396	6.92555	878	
	Male				

Oligarchich	Primary School Teachers	Male	36.9310	6.16981	29
		Female	36.8710	6.22223	31
		Total	36.9000	6.14431	60
	Secondary School Teachers	Male	38.0238	5.21951	42
		Female	37.3947	5.34000	38
		Total	37.7250	5.25303	80
	University Lecturers	Male	37.6055	5.70253	109
		Female	38.5181	5.02763	83
		Total	38.0000	5.42633	192
	Civil servants	Male	26.0833	7.78781	36
		Female	27.4615	8.10546	26
		Total	26.6613	7.88637	62
	Clergy	Male	27.7059	8.15295	17
		Female	26.0000	.	1
		Total	27.6111	7.91974	18
	police	Male	28.1488	6.03830	121
		Female	25.0625	3.94263	32
		Total	27.5033	5.79147	153
	military	Male	29.7676	5.63130	142
		Female	32.9000	6.53962	10
Total		29.9737	5.72429	152	
Undergraduate Students	Male	35.9451	6.37070	91	
	Female	36.1143	5.67104	70	
	Total	36.0186	6.05854	161	
Total	Male	32.5060	7.43306	587	
	Female	34.9141	7.24423	291	
	Total	33.3041	7.45368	878	
Anarchich	Primary School Teachers	Male	37.3448	5.80810	29
		Female	37.5484	5.37177	31
		Total	37.4500	5.54007	60
	Secondary School Teachers	Male	38.2857	6.54920	42
		Female	38.7368	6.96588	38
		Total	38.5000	6.71103	80
	University Lecturers	Male	39.2569	5.61645	109
		Female	39.8916	5.38746	83
		Total	39.5313	5.51334	192
	Civil servants	Male	27.3611	7.01082	36
		Female	29.5385	5.85307	26
		Total	28.2742	6.58904	62
	Clergy	Male	27.3529	7.71315	17
		Female	30.0000	.	1
		Total	27.5000	7.50882	18
	police	Male	28.6694	5.18393	121
		Female	25.2500	4.17365	32
		Total	27.9542	5.16866	153
	military	Male	29.9859	6.25236	142
		Female	31.9000	3.78447	10
Total		30.1118	6.13053	152	
Undergraduate Lecturers	Male	36.3077	5.53713	91	
	Female	35.9143	6.12844	70	

	Total	36.1366	5.78630	161	
	Male	33.1363	7.44686	587	
Total	Female	35.6907	7.36585	291	
	Total	33.9829	7.51287	878	
	Male	38.5862	7.17892	29	
Primary School	Female	38.0000	4.93288	31	
Teachers	Total	38.2833	6.07605	60	
	Male	36.8333	6.72062	42	
Secondary School	Female	38.3158	5.65258	38	
Teachers	Total	37.5375	6.24184	80	
	Male	38.8165	6.20956	109	
University Lecturers	Female	39.8795	5.90452	83	
	Total	39.2760	6.08679	192	
	Male	30.5556	6.77577	36	
Civil servants	Female	25.8077	8.02506	26	
	Total	28.5645	7.63645	62	
	Male	26.2353	8.61343	17	
Internal	Clergy	Female	33.0000	.	1
	Total	26.6111	8.50701	18	
	Male	25.5455	4.29729	121	
police	Female	33.3125	40.43269	32	
	Total	27.1699	18.92186	153	
	Male	29.9296	6.52616	142	
military	Female	33.5000	5.46199	10	
	Total	30.1645	6.50669	152	
	Male	33.2637	6.82941	91	
Undergraduate	Female	35.7286	6.66142	70	
Students	Total	34.3354	6.84648	161	
	Male	32.0460	7.88243	587	
Total	Female	36.2543	14.96630	291	
	Total	33.4408	10.93218	878	
	Male	40.2414	5.66729	29	
Primary School	Female	39.4839	6.14747	31	
Teachers	Total	39.8500	5.88254	60	
	Male	38.0476	5.99981	42	
Secondary School	Female	37.9211	6.97634	38	
Teachers	Total	37.9875	6.44056	80	
	Male	38.2569	6.54387	109	
External	University Lecturers	Female	39.2410	6.23638	83
	Total	38.6823	6.41481	192	
	Male	27.8611	5.87563	36	
Civil servants	Female	29.7308	6.37218	26	
	Total	28.6452	6.10857	62	
	Male	29.1176	7.27910	17	
Clergy	Female	23.0000	.	1	
	Total	28.7778	7.20748	18	
police	Male	29.7273	5.86373	121	

	Female	29.6250	5.86818	32
	Total	29.7059	5.84547	153
	Male	31.4789	6.36671	142
military	Female	32.7000	6.75031	10
	Total	31.5592	6.37642	152
	Male	37.2088	7.36284	91
Undergraduate	Female	36.5857	6.81536	70
Lecturers	Total	36.9379	7.11485	161
	Male	33.8773	7.54635	587
Total	Female	36.2680	7.38430	291
	Total	34.6697	7.57300	878

Introduction

TSI measures 13 different styles of thinking. It was developed by Sternberg and Wagner (1991) based on Robert J. Sternberg's (1988) theory of Mental Self Government (MSG). The theory of Mental Self Government holds that government has many aspects such as function, form, level, scope, and leaning. Sternberg's theory posits that thinking styles are analogous to the aspects of government. According to MSG the 13 aspects of thinking styles are classified based on the various aspects of government. They are classified thus: Function (legislative, executive and judicial), Forms (monarchic, hierarchic, oligarchic and anarchic), Level (global and local), Scope (internal/introversion, external/extraversion) and leaning (conservative and progressive). For a comprehensive account of mental self government theory see Sternberg (1988).

The followings are the behavior descriptions of the TSI subscales:

- i. Legislative: Predilection for tasks, projects, and situations that require creation, formulation, and planning of ideas, strategies, products and the like.
- ii. Executive: Predilection for tasks, projects, and situations that provide structure, procedure, or rules to work with, and, that although modifiable, can serve as guidelines to measure progress.
- iii. Judicial: Predilection for tasks, projects, and situation that require evaluation, analysis, comparison-contrast, and judgement of existing ideas, strategies, projects, and the like.
- iv. Global: Predilection for tasks, projects, and situations that require engagement with large, global, abstract details.
- v. Local: Predilection for tasks, projects, and situations that require engagement with specific, concrete details.
- vi. Progressive: Predilection for tasks, projects, and situations that involve unfamiliarity and ambiguity, and that also require going beyond existing rules and procedures and allow maximization of change.
- vii. Conservative: Predilection for tasks, projects, and situations that require adherence to existing rules and procedures.
- viii. Hierarchic: Predilection for tasks, projects, and situations that allow creation of a hierarchy of goals to fulfill.
- ix. Monarchic: Predilection for tasks, projects, and situations that allow focusing fully on one thing or aspect

at a time and staying with that aspect until it is complete.

- x. Oligarchic: Predilection for tasks, projects, and situations that allow working with competing approaches, with multiple aspects or goals that are equally important.
- xi. Anarchic: Predilection for tasks, projects, and situations that lend themselves to great flexibility of approaches, to trying anything one wishes as one pleases.
- xii. Internal: Predilection for tasks, projects, and situations that require activities that allows one to work as a unit, independently from others.
- xiii. External: Predilection for tasks, projects, and situations that require activities that allows working with others in a group or interacting with others at different stages of progress.

Sternberg and Wagner (1991) provided individual subscales reliabilities (Coefficient alpha) for TSI ranging from 0.35 – 0.86 in wide ranging samples including high schools, college (undergraduates) and lay people. They further provided correlation co-efficient of TSI with other styles of measurement that ranges between 0.03 – 0.35 as well as TSI subscales with ability measures that ranges between 0.03 – 0.31.

Procedure

The Survey was done in 3 regions of the country. The regions included the Northern region represented by plateau state, the South West region represented by Lagos state and South East region represented by Anambra State. The cluster sampling was done to get the relative representative of the Nigeria population. Over 1500 copies of the TSI questionnaires were distributed in equal numbers through the regions. However only

878 were fully recovered and properly completed.

Design and Statistics

Cluster sampling method of survey research was used for the study. Exploratory factor analysis, reliability statistics and 2 WAY MANOVA were used for data analysis.

Results

Exploratory factor analysis of Thinking Style Inventory subscales based upon principal component analysis (PCA) varimax rotation method with Kaiser Normalization at Eigen value greater than 1 showed only one component extraction. However using extraction method based on the percentage of variance extracted, six (6) components were extracted based on 5% criteria of PCA and principal axis factoring respectively (Pett, Lackey & Sullivan, 2003) accounting for 72.5 percent of cumulative variance. For this, the rotated component matrix was distributed in the following (see table 2).

Table 2: Six Principal Component Factors Extracted for TSI Classification Based on 5% Criteria Assumptions

Factors	Components	New Subscales
1.	Monarchic External Oligarchic Anarchic	Group/goal oriented behaviours
2	Executive Local Legislative	Innovation/rule directed behaviours
3	Judiciary Global	Integration (putting parts into whole) behaviour
4	Progressive Conservative	Adventurous/conser vative behaviours
5.	Internal	Introversion behaviour
6	Hierarchic	Hierarchy/order behaviour

The interscale correlation showed moderate positive correlations among the subscales except the hierarchic and introversion subscales that showed positive but weak relationships to other subscales.

Table 3: Table of Inter subscale correlations of Thinking Style Inventory

	Leg	Executive	Judiciary	Global	Local	Progressive	Constructive	Hierarchic	Monarchic	Olig	Anarch	Introversion	Extroversion
Legislative	1.000	.474	.399	.398	.383	.352	.383	.185	.421	.361	.422	.291	.366
Executive	.474	1.000	.424	.395	.464	.333	.391	.266	.397	.361	.413	.272	.425
Judiciary	.399	.424	1.000	.419	.351	.369	.424	.176	.351	.404	.377	.274	.373
Global	.398	.395	.419	1.000	.343	.324	.389	.156	.296	.344	.367	.298	.298
Local	.383	.464	.351	.343	1.000	.401	.410	.223	.408	.435	.431	.278	.385
Progressive	.352	.333	.369	.324	.401	1.000	.484	.183	.348	.439	.454	.297	.339
Conservative	.383	.391	.424	.389	.410	.484	1.000	.225	.431	.427	.466	.297	.391
Hierarchic	.185	.266	.176	.156	.223	.183	.225	1.000	.284	.203	.259	.124	.219
Monarchic	.421	.397	.351	.296	.408	.348	.431	.284	1.000	.505	.497	.260	.425
Oligarchic	.361	.361	.404	.344	.435	.439	.427	.203	.505	1.000	.524	.354	.480
Anarchic	.422	.413	.377	.367	.431	.454	.466	.259	.497	.524	1.000	.401	.524
Internal	.291	.272	.274	.298	.278	.297	.297	.124	.260	.354	.401	1.000	.361
External	.366	.425	.373	.298	.385	.339	.391	.219	.425	.480	.524	.361	1.000

Furthermore the item total statistics showed the Cronbach Alpha is likely to improve further although slightly if hierarchic subscale is deleted from the overall subscales. This was further seen in the corrected item-total correlation and squared multiple correlations for hierarchic and internal subscales of Thinking Style Inventory (see table 4 for details).

Table 4: Table of Item-Total Statistics of TSI

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Legislative	416.8109	3741.068	.562	.362	.841
Executive	417.3417	3710.966	.595	.403	.840
Judiciary	418.1036	3764.939	.548	.345	.842
Global	418.8667	3835.393	.509	.306	.845
Local	417.2415	3745.055	.577	.362	.841
Progressive	418.1344	3795.478	.548	.355	.843
Conservative	418.2938	3752.723	.603	.402	.840
Hierarchic	417.3098	3541.539	.312	.122	.878
Monarchic	418.1697	3751.017	.599	.406	.840
Oligarchic	419.8052	3690.266	.620	.443	.838
Anarchic	419.1264	3643.819	.669	.484	.835
Internal	419.6686	3612.600	.438	.231	.852
External	418.4396	3703.674	.592	.394	.840

Conversely, concurrent validation did not exist between the subscales of the Sternberg style of Thinking Inventory and problems solving tasks (see Table 7 for the summary of the result). On the other hand significant occupation differences existed among the subscales of the Sternberg thinking Inventory. (See table 5 for the summary.)

Table 5: Summary Table of 2 Way Multiple Analysis of Variance of Sex and Occupation on TSI

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Corrected Model	Leg	7542.603 ^a	15	502.840	10.618	.000	.156	159.273	1.000
	Exec	8156.152 ^b	15	543.743	11.560	.000	.167	173.405	1.000
	Jud	8807.979 ^c	15	587.199	13.469	.000	.190	202.040	1.000
	Glob	6116.442 ^d	15	407.763	10.354	.000	.153	155.312	1.000
	Locl	10666.604 ^e	15	711.107	17.479	.000	.233	262.178	1.000
	Prog	8346.132 ^f	15	556.409	14.503	.000	.202	217.541	1.000
	Cons	9115.775 ^g	15	607.718	16.276	.000	.221	244.135	1.000
	Hier	13610.039 ^h	15	907.336	4.407	.000	.071	66.099	1.000
	Monarch	10792.638 ⁱ	15	719.509	19.834	.000	.257	297.503	1.000
	Olig	18325.664 ^j	15	1221.711	34.644	.000	.376	519.661	1.000
	Anarch	20064.575 ^k	15	1337.638	39.171	.000	.405	587.565	1.000
	Intro	21750.046 ^l	15	1450.003	15.048	.000	.208	225.716	1.000
	Extro	14698.265 ^m	15	979.884	23.728	.000	.292	355.917	1.000
Intercept	Leg	212156.840	1	212156.840	4480.004	.000	.839	4480.004	1.000
	Exec	209818.591	1	209818.591	4460.873	.000	.838	4460.873	1.000
	Jud	205231.557	1	205231.557	4707.673	.000	.845	4707.673	1.000
	Glob	194404.383	1	194404.383	4936.435	.000	.851	4936.435	1.000
	Locl	206820.391	1	206820.391	5083.514	.000	.855	5083.514	1.000
	Prog	210085.860	1	210085.860	5475.863	.000	.864	5475.863	1.000
	Cons	207239.527	1	207239.527	5550.196	.000	.866	5550.196	1.000
	Hier	207775.786	1	207775.786	1009.094	.000	.539	1009.094	1.000
	Monarch	204443.062	1	204443.062	5635.541	.000	.867	5635.541	1.000
	Olig	188820.848	1	188820.848	5354.392	.000	.861	5354.392	1.000
	Anarch	198229.447	1	198229.447	5804.892	.000	.871	5804.892	1.000
	Intro	201188.289	1	201188.289	2087.880	.000	.708	2087.880	1.000
	Extro	203378.832	1	203378.832	4924.794	.000	.851	4924.794	1.000
Occupation	Leg	5951.829	7	850.261	17.955	.000	.127	125.682	1.000
	Exec	6809.186	7	972.741	20.681	.000	.144	144.767	1.000
	Jud	6271.430	7	895.919	20.551	.000	.143	143.856	1.000
	Glob	4808.501	7	686.929	17.443	.000	.124	122.100	1.000
	Locl	9270.431	7	1324.347	32.552	.000	.209	227.861	1.000
	Prog	6572.120	7	938.874	24.472	.000	.166	171.302	1.000
	Cons	7414.892	7	1059.270	28.369	.000	.187	198.582	1.000
	Hier	11949.125	7	1707.018	8.290	.000	.063	58.033	1.000
	Monarch	7331.296	7	1047.328	28.870	.000	.190	202.090	1.000
	Olig	14424.678	7	2060.668	58.434	.000	.322	409.041	1.000
	Anarch	15373.468	7	2196.210	64.313	.000	.343	450.192	1.000
	Intro	11243.412	7	1606.202	16.669	.000	.119	116.681	1.000
	Extro	10823.828	7	1546.261	37.443	.000	.233	262.098	1.000
Sex	Leg	2.530	1	2.530	.053	.817	.000	.053	.056
	Exec	.949	1	.949	.020	.887	.000	.020	.052
	Jud	30.642	1	30.642	.703	.402	.001	.703	.133
	Glob	56.481	1	56.481	1.434	.231	.002	1.434	.223
	Locl	90.878	1	90.878	2.234	.135	.003	2.234	.321
	Prog	22.621	1	22.621	.590	.443	.001	.590	.120
	Cons	7.289	1	7.289	.195	.659	.000	.195	.073
	Hier	68.798	1	68.798	.334	.563	.000	.334	.089
	Monarch	19.581	1	19.581	.540	.463	.001	.540	.114
	Olig	.009	1	.009	.000	.988	.000	.000	.050
	Anarch	12.381	1	12.381	.363	.547	.000	.363	.092
	Intro	220.261	1	220.261	2.286	.131	.003	2.286	.327
	Extro	9.295	1	9.295	.225	.635	.000	.225	.076
Occupation *	Leg	634.904	7	90.701	1.915	.064	.015	13.407	.763
Sex	Exec	365.398	7	52.200	1.110	.355	.009	7.769	.484

	Jud	201.959	7	28.851	.662	.705	.005	4.633	.289
	Glob	272.308	7	38.901	.988	.439	.008	6.915	.432
	Locl	390.872	7	55.839	1.372	.214	.011	9.607	.589
	Prog	133.146	7	19.021	.496	.838	.004	3.470	.218
	Cons	330.354	7	47.193	1.264	.265	.010	8.847	.547
	Hier	276.543	7	39.506	.192	.987	.002	1.343	.105
	Monarch	680.003	7	97.143	2.678	.010	.021	18.745	.906
	Olig	412.208	7	58.887	1.670	.113	.013	11.689	.692
	Anarch	437.829	7	62.547	1.832	.078	.015	12.821	.740
	Intro	1728.278	7	246.897	2.562	.013	.020	17.936	.890
	Extro	163.346	7	23.335	.565	.785	.005	3.955	.247
Error	Leg	40821.215	862	47.356					
	Exec	40544.450	862	47.035					
	Jud	37578.992	862	43.595					
	Glob	33946.885	862	39.382					
	Locl	35070.070	862	40.685					
	Prog	33071.317	862	38.366					
	Cons	32186.334	862	37.339					
	Hier	177488.681	862	205.903					
	Monarch	31271.162	862	36.277					
	Olig	30398.141	862	35.265					
	Anarch	29436.169	862	34.149					
	Intro	83062.374	862	96.360					
	Extro	35597.949	862	41.297					

Table 5 shows that no significant differences were found on the various subscales of TSI between gender as well as on the interaction effects. However, significant differences were found on the subscales among various occupation studied. Table 7 shows the summary of the pairwise comparisons of the various occupation. Conversely, no significant relationships were found between the TSI subscales and word puzzle problem task respectively (see table 8)

Table 6: Pairwise Comparison of TSI Effects on Occupation

Dependent Variable	(I) Occupation	(J) Occupation	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference	
						Lower Bound	Upper Bound
Legislative		Secondary	-.458	1.176	.697	-2.767	1.851
		University	-3.209*	1.020	.002	-5.212	-1.206
		Civil servants	6.890*	1.255	.000	4.428	9.353
	Primary	Clergy	12.195	3.650	.001	5.030	19.360
		police	2.148	1.122	.056	-.054	4.349
		military	1.750	1.434	.223	-1.066	4.565
		undergrad	.011	1.044	.991	-2.037	2.060
		Primary	.458	1.176	.697	-1.851	2.767
		University	-2.751*	.919	.003	-4.555	-.947
	Secondary	Civil servants	7.348*	1.174	.000	5.045	9.652
		Clergy	12.653*	3.623	.001	5.541	19.765
		police	2.606*	1.030	.012	.584	4.628
		military	2.208	1.364	.106	-.470	4.885
		undergrad	.469	.945	.619	-1.385	2.324
		Primary	3.209*	1.020	.002	1.206	5.212
	University	Secondary	2.751*	.919	.003	.947	4.555
		Civil servants	10.099*	1.018	.000	8.102	12.097

	Clergy	15.404*	3.576	.000	8.386	22.423
	police	5.357*	.848	.000	3.692	7.021
	military	4.959*	1.232	.000	2.540	7.377
	undergrad	3.221*	.742	.000	1.764	4.677
	Primary	-6.890*	1.255	.000	-9.353	-4.428
	Secondary	-7.348*	1.174	.000	-9.652	-5.045
	University	-10.099*	1.018	.000	-12.097	-8.102
Civil servants	Clergy	5.305	3.650	.146	-1.858	12.468
	police	-4.743*	1.119	.000	-6.939	-2.547
	military	-5.141*	1.432	.000	-7.952	-2.330
	undergrad	-6.879*	1.041	.000	-8.922	-4.836
	Primary	-12.195*	3.650	.001	-19.360	-5.030
	Secondary	-12.653*	3.623	.001	-19.765	-5.541
	University	-15.404*	3.576	.000	-22.423	-8.386
Clergy	Civil servants	-5.305	3.650	.146	-12.468	1.858
	police	-10.047*	3.606	.005	-17.125	-2.970
	military	-10.446*	3.715	.005	-17.737	-3.154
	undergrad	-12.184*	3.583	.001	-19.215	-5.152
	Primary	-2.148	1.122	.056	-4.349	.054
	Secondary	-2.606*	1.030	.012	-4.628	-.584
	University	-5.357*	.848	.000	-7.021	-3.692
police	Civil servants	4.743*	1.119	.000	2.547	6.939
	Clergy	10.047*	3.606	.005	2.970	17.125
	military	-.398	1.317	.763	-2.983	2.187
	undergrad	-2.136*	.876	.015	-3.855	-.417
	Primary	-1.750	1.434	.223	-4.565	1.066
	Secondary	-2.208	1.364	.106	-4.885	.470
	University	-4.959*	1.232	.000	-7.377	-2.540
military	Civil servants	5.141*	1.432	.000	2.330	7.952
	Clergy	10.446*	3.715	.005	3.154	17.737
	police	.398	1.317	.763	-2.187	2.983
	undergrad	-1.738	1.252	.165	-4.195	.718
	Primary	-.011	1.044	.991	-2.060	2.037
	Secondary	-.469	.945	.619	-2.324	1.385
	University	-3.221*	.742	.000	-4.677	-1.764
undergrad	Civil servants	6.879*	1.041	.000	4.836	8.922
	Clergy	12.184*	3.583	.001	5.152	19.215
	police	2.136*	.876	.015	.417	3.855
	military	1.738	1.252	.165	-.718	4.195
	Secondary	-.156	1.172	.894	-2.456	2.145
	University	-3.510*	1.017	.001	-5.506	-1.514
Primary	Civil servants	6.938*	1.250	.000	4.484	9.393
	Clergy	6.824	3.638	.061	-.316	13.964
	police	2.149	1.118	.055	-.045	4.342
	military	2.994*	1.430	.036	.189	5.800
	undergrad	-2.063*	1.040	.048	-4.105	-.022
	Primary	.156	1.172	.894	-2.145	2.456
	University	-3.355*	.916	.000	-5.153	-1.557
Secondary	Civil servants	7.094*	1.170	.000	4.798	9.390
	Clergy	6.979	3.611	.054	-.108	14.067
	police	2.304*	1.027	.025	.289	4.319
	military	3.150*	1.359	.021	.482	5.818
	undergrad	-1.908*	.942	.043	-3.756	-.060
	Primary	3.510*	1.017	.001	1.514	5.506
	Secondary	3.355*	.916	.000	1.557	5.153
University	Civil servants	10.449*	1.014	.000	8.458	12.439
	Clergy	10.334*	3.564	.004	3.340	17.329
	police	5.659*	.845	.000	4.000	7.318
	military	6.505*	1.228	.000	4.094	8.915

	undergrad	1.447	.739	.051	-.004	2.898
	Primary	-6.938*	1.250	.000	-9.393	-4.484
	Secondary	-7.094*	1.170	.000	-9.390	-4.798
	University	-10.449*	1.014	.000	-12.439	-8.458
Civil servants	Clergy	-.114	3.637	.975	-7.253	7.024
	police	-4.790*	1.115	.000	-6.979	-2.601
	military	-3.944*	1.427	.006	-6.746	-1.142
	undergrad	-9.002*	1.037	.000	-11.038	-6.966
	Primary	-6.824	3.638	.061	-13.964	.316
	Secondary	-6.979	3.611	.054	-14.067	.108
	University	-10.334*	3.564	.004	-17.329	-3.340
Clergy	Civil servants	.114	3.637	.975	-7.024	7.253
	police	-4.675	3.594	.194	-11.729	2.378
	military	-3.830	3.703	.301	-11.097	3.438
	undergrad	-8.887*	3.570	.013	-15.895	-1.880
	Primary	-2.149	1.118	.055	-4.342	.045
	Secondary	-2.304*	1.027	.025	-4.319	-.289
	University	-5.659*	.845	.000	-7.318	-4.000
police	Civil servants	4.790*	1.115	.000	2.601	6.979
	Clergy	4.675	3.594	.194	-2.378	11.729
	military	.846	1.313	.520	-1.731	3.422
	undergrad	-4.212*	.873	.000	-5.925	-2.499
	Primary	-2.994*	1.430	.036	-5.800	-.189
	Secondary	-3.150*	1.359	.021	-5.818	-.482
	University	-6.505*	1.228	.000	-8.915	-4.094
military	Civil servants	3.944*	1.427	.006	1.142	6.746
	Clergy	3.830	3.703	.301	-3.438	11.097
	police	-.846	1.313	.520	-3.422	1.731
	undergrad	-5.058*	1.247	.000	-7.506	-2.610
	Primary	2.063*	1.040	.048	.022	4.105
	Secondary	1.908*	.942	.043	.060	3.756
	University	-1.447	.739	.051	-2.898	.004
undergrad	Civil servants	9.002*	1.037	.000	6.966	11.038
	Clergy	8.887*	3.570	.013	1.880	15.895
	police	4.212*	.873	.000	2.499	5.925
	military	5.058*	1.247	.000	2.610	7.506
	Secondary	-.551	1.129	.625	-2.766	1.664
	University	-2.129*	.979	.030	-4.051	-.208
Primary	Civil servants	7.177*	1.204	.000	4.814	9.540
	Clergy	10.303*	3.502	.003	3.428	17.177
	police	4.644*	1.076	.000	2.532	6.756
	military	3.398*	1.376	.014	.697	6.099
	undergrad	1.182	1.001	.238	-.784	3.148
	Primary	.551	1.129	.625	-1.664	2.766
	University	-1.578	.882	.074	-3.309	.153
Secondary	Civil servants	7.728*	1.126	.000	5.518	9.939
	Clergy	10.854*	3.477	.002	4.031	17.678
	police	5.195*	.988	.000	3.255	7.135
	military	3.949*	1.309	.003	1.380	6.518
	undergrad	1.733	.907	.056	-.046	3.513
	Primary	2.129*	.979	.030	.208	4.051
	Secondary	1.578	.882	.074	-.153	3.309
	University	9.306*	.976	.000	7.390	11.223
University	Clergy	12.432*	3.431	.000	5.698	19.166
	police	6.773*	.814	.000	5.176	8.370
	military	5.527*	1.182	.000	3.207	7.848
	undergrad	3.311*	.712	.000	1.914	4.709
Civil servants	Primary	-7.177*	1.204	.000	-9.540	-4.814
	Secondary	-7.728*	1.126	.000	-9.939	-5.518

	University	-9.306*	.976	.000	-11.223	-7.390
	Clergy	3.126	3.502	.372	-3.747	9.999
	police	-2.533*	1.074	.019	-4.640	-4.426
	military	-3.779*	1.374	.006	-6.476	-1.082
	undergrad	-5.995*	.999	.000	-7.955	-4.035
	Primary	-10.303*	3.502	.003	-17.177	-3.428
	Secondary	-10.854*	3.477	.002	-17.678	-4.031
	University	-12.432*	3.431	.000	-19.166	-5.698
Clergy	Civil servants	-3.126	3.502	.372	-9.999	3.747
	police	-5.659	3.460	.102	-12.450	1.132
	military	-6.905	3.565	.053	-13.901	.091
	undergrad	-9.121*	3.437	.008	-15.867	-2.374
	Primary	-4.644*	1.076	.000	-6.756	-2.532
	Secondary	-5.195*	.988	.000	-7.135	-3.255
	University	-6.773*	.814	.000	-8.370	-5.176
police	Civil servants	2.533*	1.074	.019	.426	4.640
	Clergy	5.659	3.460	.102	-1.132	12.450
	military	-1.246	1.264	.324	-3.726	1.235
	undergrad	-3.462*	.840	.000	-5.111	-1.813
	Primary	-3.398*	1.376	.014	-6.099	-.697
	Secondary	-3.949*	1.309	.003	-6.518	-1.380
	University	-5.527*	1.182	.000	-7.848	-3.207
military	Civil servants	3.779*	1.374	.006	1.082	6.476
	Clergy	6.905	3.565	.053	-.091	13.901
	police	1.246	1.264	.324	-1.235	3.726
	undergrad	-2.216	1.201	.065	-4.573	.141
	Primary	-1.182	1.001	.238	-3.148	.784
	Secondary	-1.733	.907	.056	-3.513	.046
	University	-3.311*	.712	.000	-4.709	-1.914
undergrad	Civil servants	5.995*	.999	.000	4.035	7.955
	Clergy	9.121*	3.437	.008	2.374	15.867
	police	3.462*	.840	.000	1.813	5.111
	military	2.216	1.201	.065	-.141	4.573
	Secondary	.579	1.073	.589	-1.526	2.685
	University	-1.241	.931	.183	-3.068	.585
	Civil servants	6.815*	1.144	.000	4.569	9.061
Primary	Clergy	10.940*	3.329	.001	4.406	17.473
	police	3.744*	1.023	.000	1.737	5.752
	military	5.610*	1.308	.000	3.043	8.177
	undergrad	1.925*	.952	.043	.057	3.793
	Primary	-.579	1.073	.589	-2.685	1.526
	University	-1.821*	.838	.030	-3.466	-.176
	Civil servants	6.236*	1.070	.000	4.135	8.336
Secondary	Clergy	10.360*	3.304	.002	3.875	16.846
	police	3.165*	.939	.001	1.321	5.009
	military	5.031*	1.244	.000	2.589	7.472
	undergrad	1.346	.862	.119	-.345	3.037
	Primary	1.241	.931	.183	-.585	3.068
	Secondary	1.821*	.838	.030	.176	3.466
	Civil servants	8.056*	.928	.000	6.235	9.877
University	Clergy	12.181*	3.261	.000	5.781	18.581
	police	4.986*	.773	.000	3.468	6.503
	military	6.851*	1.124	.000	4.646	9.057
	undergrad	3.166*	.677	.000	1.838	4.494
	Primary	-6.815*	1.144	.000	-9.061	-4.569
	Secondary	-6.236*	1.070	.000	-8.336	-4.135
Civil servants	University	-8.056*	.928	.000	-9.877	-6.235
	Clergy	4.125	3.328	.216	-2.407	10.657
	police	-3.070*	1.020	.003	-5.073	-1.068

	military	-1.205	1.306	.357	-3.768	1.359
	undergrad	-4.890*	.949	.000	-6.753	-3.027
	Primary	-10.940*	3.329	.001	-17.473	-4.406
	Secondary	-10.360*	3.304	.002	-16.846	-3.875
	University	-12.181*	3.261	.000	-18.581	-5.781
Clergy	Civil servants	-4.125	3.328	.216	-10.657	2.407
	police	-7.195*	3.288	.029	-13.649	-.741
	military	-5.330	3.388	.116	-11.979	1.320
	undergrad	-9.015*	3.267	.006	-15.427	-2.603
	Primary	-3.744*	1.023	.000	-5.752	-1.737
	Secondary	-3.165*	.939	.001	-5.009	-1.321
	University	-4.986*	.773	.000	-6.503	-3.468
police	Civil servants	3.070*	1.020	.003	1.068	5.073
	Clergy	7.195*	3.288	.029	.741	13.649
	military	1.866	1.201	.121	-.492	4.223
	undergrad	-1.820*	.799	.023	-3.387	-.252
	Primary	-5.610*	1.308	.000	-8.177	-3.043
	Secondary	-5.031*	1.244	.000	-7.472	-2.589
	University	-6.851*	1.124	.000	-9.057	-4.646
military	Civil servants	1.205	1.306	.357	-1.359	3.768
	Clergy	5.330	3.388	.116	-1.320	11.979
	police	-1.866	1.201	.121	-4.223	.492
	undergrad	-3.685*	1.141	.001	-5.925	-1.445
	Primary	-1.925*	.952	.043	-3.793	-.057
	Secondary	-1.346	.862	.119	-3.037	.345
	University	-3.166*	.677	.000	-4.494	-1.838
undergrad	Civil servants	4.890*	.949	.000	3.027	6.753
	Clergy	9.015*	3.267	.006	2.603	15.427
	police	1.820*	.799	.023	.252	3.387
	military	3.685*	1.141	.001	1.445	5.925
	Secondary	1.762	1.090	.106	-.378	3.902
	University	-.482	.946	.610	-2.339	1.374
	Civil servants	9.834*	1.163	.000	7.551	12.116
Primary	Clergy	13.981*	3.384	.000	7.340	20.622
	police	7.157*	1.040	.000	5.116	9.197
	military	5.990*	1.330	.000	3.381	8.600
	undergrad	.278	.967	.774	-1.621	2.177
	Primary	-1.762	1.090	.106	-3.902	.378
	University	-2.244*	.852	.009	-3.916	-.572
	Civil servants	8.072*	1.088	.000	5.936	10.207
Secondary	Clergy	12.219*	3.358	.000	5.627	18.811
	police	5.395*	.955	.000	3.521	7.269
	military	4.228*	1.264	.001	1.747	6.710
	undergrad	-1.484	.876	.090	-3.203	.235
	Primary	.482	.946	.610	-1.374	2.339
	Secondary	2.244*	.852	.009	.572	3.916
	Civil servants	10.316*	.943	.000	8.465	12.167
University	Clergy	14.464*	3.314	.000	7.958	20.969
	police	7.639*	.786	.000	6.096	9.182
	military	6.473*	1.142	.000	4.231	8.715
	undergrad	.760	.688	.269	-.590	2.110
	Primary	-9.834*	1.163	.000	-12.116	-7.551
	Secondary	-8.072*	1.088	.000	-10.207	-5.936
	University	-10.316*	.943	.000	-12.167	-8.465
Civil servants	Clergy	4.148	3.383	.221	-2.492	10.787
	police	-2.677*	1.037	.010	-4.713	-.641
	military	-3.843*	1.328	.004	-6.449	-1.238
	undergrad	-9.556*	.965	.000	-11.449	-7.662
Clergy	Primary	-13.981*	3.384	.000	-20.622	-7.340

		Secondary	-12.219*	3.358	.000	-18.811	-5.627
		University	-14.464*	3.314	.000	-20.969	-7.958
		Civil servants	-4.148	3.383	.221	-10.787	2.492
		police	-6.825*	3.342	.041	-13.385	-.264
		military	-7.991*	3.444	.021	-14.750	-1.232
		undergrad	-13.703*	3.321	.000	-20.221	-7.186
		Primary	-7.157*	1.040	.000	-9.197	-5.116
		Secondary	-5.395*	.955	.000	-7.269	-3.521
	police	University	-7.639*	.786	.000	-9.182	-6.096
		Civil servants	2.677*	1.037	.010	.641	4.713
		Clergy	6.825*	3.342	.041	.264	13.385
		military	-1.166	1.221	.340	-3.563	1.230
		undergrad	-6.879*	.812	.000	-8.472	-5.286
		Primary	-5.990*	1.330	.000	-8.600	-3.381
		Secondary	-4.228*	1.264	.001	-6.710	-1.747
		University	-6.473*	1.142	.000	-8.715	-4.231
	military	Civil servants	3.843*	1.328	.004	1.238	6.449
		Clergy	7.991*	3.444	.021	1.232	14.750
		police	1.166	1.221	.340	-1.230	3.563
		undergrad	-5.712*	1.160	.000	-7.989	-3.436
		Primary	-.278	.967	.774	-2.177	1.621
		Secondary	1.484	.876	.090	-.235	3.203
		University	-.760	.688	.269	-2.110	.590
	undergrad	Civil servants	9.556*	.965	.000	7.662	11.449
		Clergy	13.703*	3.321	.000	7.186	20.221
		police	6.879*	.812	.000	5.286	8.472
		military	5.712*	1.160	.000	3.436	7.989
		Secondary	.446	1.059	.674	-1.632	2.524
		University	-1.449	.919	.115	-3.252	.354
		Civil servants	7.884*	1.129	.000	5.667	10.101
	Primary	Clergy	6.683*	3.286	.042	.234	13.132
		police	5.923*	1.010	.000	3.941	7.904
		military	3.934*	1.291	.002	1.400	6.468
		undergrad	1.394	.939	.138	-.450	3.237
		Primary	-.446	1.059	.674	-2.524	1.632
		University	-1.895*	.827	.022	-3.518	-.271
		Civil servants	7.438*	1.056	.000	5.365	9.512
	Secondary	Clergy	6.237	3.261	.056	-.164	12.638
		police	5.477*	.927	.000	3.657	7.297
		military	3.489*	1.228	.005	1.079	5.898
		undergrad	.948	.850	.265	-.721	2.617
		Primary	1.449	.919	.115	-.354	3.252
		Secondary	1.895*	.827	.022	.271	3.518
		Civil servants	9.333*	.916	.000	7.535	11.131
	University	Clergy	8.132*	3.219	.012	1.815	14.449
		police	7.372*	.763	.000	5.874	8.870
		military	5.383*	1.109	.000	3.206	7.560
		undergrad	2.842*	.668	.000	1.532	4.153
		Primary	-7.884*	1.129	.000	-10.101	-5.667
		Secondary	-7.438*	1.056	.000	-9.512	-5.365
		University	-9.333*	.916	.000	-11.131	-7.535
	Civil servants	Clergy	-1.201	3.285	.715	-7.649	5.246
		police	-1.961	1.007	.052	-3.938	.015
		military	-3.950*	1.289	.002	-6.480	-1.419
		undergrad	-6.491*	.937	.000	-8.329	-4.652
		Primary	-6.683*	3.286	.042	-13.132	-.234
		Secondary	-6.237	3.261	.056	-12.638	.164
	Clergy	University	-8.132*	3.219	.012	-14.449	-1.815
		Civil servants	1.201	3.285	.715	-5.246	7.649

	police	-.760	3.246	.815	-7.131	5.610
	military	-2.749	3.344	.411	-9.312	3.815
	undergraduate	-5.289	3.225	.101	-11.618	1.040
	Primary	-5.923*	1.010	.000	-7.904	-3.941
	Secondary	-5.477*	.927	.000	-7.297	-3.657
	University	-7.372*	.763	.000	-8.870	-5.874
police	Civil servants	1.961	1.007	.052	-.015	3.938
	Clergy	.760	3.246	.815	-5.610	7.131
	military	-1.988	1.186	.094	-4.315	.339
	undergrad	-4.529*	.788	.000	-6.076	-2.982
	Primary	-3.934*	1.291	.002	-6.468	-1.400
	Secondary	-3.489*	1.228	.005	-5.898	-1.079
	University	-5.383*	1.109	.000	-7.560	-3.206
military	Civil servants	3.950*	1.289	.002	1.419	6.480
	Clergy	2.749	3.344	.411	-3.815	9.312
	police	1.988	1.186	.094	-.339	4.315
	undergrad	-2.541*	1.127	.024	-4.752	-.330
	Primary	-1.394	.939	.138	-3.237	.450
	Secondary	-.948	.850	.265	-2.617	.721
	University	-2.842*	.668	.000	-4.153	-1.532
undergraduate	Civil servants	6.491*	.937	.000	4.652	8.329
	Clergy	5.289	3.225	.101	-1.040	11.618
	police	4.529*	.788	.000	2.982	6.076
	military	2.541*	1.127	.024	.330	4.752
	Secondary	.651	1.044	.533	-1.399	2.701
	University	-1.573	.906	.083	-3.352	.205
	Civil servants	8.483*	1.114	.000	6.296	10.670
Primary	Clergy	6.214	3.241	.056	-.148	12.576
	police	5.686*	.996	.000	3.731	7.640
	military	6.156*	1.274	.000	3.656	8.655
	undergrad	2.017*	.927	.030	.198	3.837
	Primary	-.651	1.044	.533	-2.701	1.399
	University	-2.225*	.816	.007	-3.827	-.623
	Civil servants	7.831*	1.042	.000	5.786	9.877
Secondary	Clergy	5.562	3.217	.084	-.752	11.877
	police	5.034*	.915	.000	3.239	6.830
	military	5.504*	1.211	.000	3.127	7.882
	undergrad	1.366	.839	.104	-.280	3.013
	Primary	1.573	.906	.083	-.205	3.352
	Secondary	2.225*	.816	.007	.623	3.827
	Civil servants	10.056*	.904	.000	8.283	11.830
Conservative	University	7.787*	3.175	.014	1.555	14.019
	police	7.259*	.753	.000	5.781	8.737
	military	7.729*	1.094	.000	5.581	9.877
	undergrad	3.591*	.659	.000	2.298	4.884
	Primary	-8.483*	1.114	.000	-10.670	-6.296
	Secondary	-7.831*	1.042	.000	-9.877	-5.786
	University	-10.056*	.904	.000	-11.830	-8.283
Civil servants	Clergy	-2.269	3.241	.484	-8.630	4.092
	police	-2.797*	.994	.005	-4.747	-.847
	military	-2.327	1.272	.068	-4.823	.169
	undergrad	-6.465*	.924	.000	-8.279	-4.651
	Primary	-6.214	3.241	.056	-12.576	.148
	Secondary	-5.562	3.217	.084	-11.877	.752
	University	-7.787*	3.175	.014	-14.019	-1.555
Clergy	Civil servants	2.269	3.241	.484	-4.092	8.630
	police	-.528	3.202	.869	-6.813	5.756
	military	-.058	3.299	.986	-6.533	6.417
	undergrad	-4.196	3.181	.187	-10.440	2.047

	Primary	-5.686*	.996	.000	-7.640	-3.731
	Secondary	-5.034*	.915	.000	-6.830	-3.239
	University	-7.259*	.753	.000	-8.737	-5.781
police	Civil servants	2.797*	.994	.005	.847	4.747
	Clergy	.528	3.202	.869	-5.756	6.813
	military	.470	1.170	.688	-1.826	2.766
	undergrad	-3.668*	.778	.000	-5.194	-2.142
	Primary	-6.156*	1.274	.000	-8.655	-3.656
	Secondary	-5.504*	1.211	.000	-7.882	-3.127
	University	-7.729*	1.094	.000	-9.877	-5.581
military	Civil servants	2.327	1.272	.068	-.169	4.823
	Clergy	.058	3.299	.986	-6.417	6.533
	police	-.470	1.170	.688	-2.766	1.826
	undergrad	-4.138*	1.111	.000	-6.319	-1.957
	Primary	-2.017*	.927	.030	-3.837	-.198
	Secondary	-1.366	.839	.104	-3.013	.280
	University	-3.591*	.659	.000	-4.884	-2.298
undergrad	Civil servants	6.465*	.924	.000	4.651	8.279
	Clergy	4.196	3.181	.187	-2.047	10.440
	police	3.668*	.778	.000	2.142	5.194
	military	4.138*	1.111	.000	1.957	6.319
	Secondary	.718	2.453	.770	-4.096	5.532
	University	-1.740	2.128	.414	-5.917	2.436
	Civil servants	9.946*	2.616	.000	4.811	15.081
Primary	Clergy	9.053	7.612	.235	-5.887	23.993
	police	6.683*	2.339	.004	2.092	11.273
	military	4.924	2.991	.100	-.946	10.794
	undergrad	-2.178	2.176	.317	-6.450	2.094
	Primary	-.718	2.453	.770	-5.532	4.096
	University	-2.458	1.916	.200	-6.219	1.304
	Civil servants	9.228*	2.447	.000	4.425	14.032
Secondary	Clergy	8.335	7.555	.270	-6.494	23.164
	police	5.965*	2.148	.006	1.749	10.181
	military	4.206	2.844	.140	-1.376	9.789
	undergrad	-2.896	1.970	.142	-6.762	.971
	Primary	1.740	2.128	.414	-2.436	5.917
	Secondary	2.458	1.916	.200	-1.304	6.219
	Civil servants	11.686*	2.122	.000	7.522	15.851
University	Clergy	10.793	7.456	.148	-3.842	25.428
	police	8.423*	1.768	.000	4.952	11.893
	military	6.664*	2.570	.010	1.621	11.707
	undergrad	-.438	1.547	.777	-3.474	2.599
	Primary	-9.946*	2.616	.000	-15.081	-4.811
	Secondary	-9.228*	2.447	.000	-14.032	-4.425
	University	-11.686*	2.122	.000	-15.851	-7.522
Civil servants	Clergy	-.893	7.610	.907	-15.830	14.043
	police	-3.263	2.333	.162	-7.843	1.316
	military	-5.022	2.987	.093	-10.884	.840
	undergrad	-12.124*	2.170	.000	-16.384	-7.864
	Primary	-9.053	7.612	.235	-23.993	5.887
	Secondary	-8.335	7.555	.270	-23.164	6.494
	University	-10.793	7.456	.148	-25.428	3.842
Clergy	Civil servants	.893	7.610	.907	-14.043	15.830
	police	-2.370	7.519	.753	-17.128	12.388
	military	-4.129	7.747	.594	-19.334	11.076
	undergrad	-11.231	7.470	.133	-25.893	3.431
	Primary	-6.683*	2.339	.004	-11.273	-2.092
police	Secondary	-5.965*	2.148	.006	-10.181	-1.749
	University	-8.423*	1.768	.000	-11.893	-4.952

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	Civil servants	3.263	2.333	.162	-1.316	7.843
	Clergy	2.370	7.519	.753	-12.388	17.128
	military	-1.759	2.747	.522	-7.150	3.632
	undergrad	-8.861*	1.826	.000	-12.445	-5.276
	Primary	-4.924	2.991	.100	-10.794	.946
	Secondary	-4.206	2.844	.140	-9.789	1.376
	University	-6.664*	2.570	.010	-11.707	-1.621
military	Civil servants	5.022	2.987	.093	-.840	10.884
	Clergy	4.129	7.747	.594	-11.076	19.334
	police	1.759	2.747	.522	-3.632	7.150
	undergraduate	-7.102*	2.610	.007	-12.224	-1.980
	Primary	2.178	2.176	.317	-2.094	6.450
	Secondary	2.896	1.970	.142	-.971	6.762
	University	.438	1.547	.777	-2.599	3.474
undergraduate	Civil servants	12.124*	2.170	.000	7.864	16.384
	Clergy	11.231	7.470	.133	-3.431	25.893
	police	8.861*	1.826	.000	5.276	12.445
	military	7.102*	2.610	.007	1.980	12.224
	Secondary	-.259	1.030	.801	-2.280	1.762
	University	-1.553	.893	.082	-3.306	.200
Primary	Civil servants	7.742*	1.098	.000	5.587	9.898
	Clergy	10.147*	3.195	.002	3.876	16.418
	police	5.972*	.982	.000	4.045	7.899
	military	4.970*	1.255	.000	2.506	7.434
	undergrad	.751	.914	.411	-1.042	2.544
	Primary	.259	1.030	.801	-1.762	2.280
	University	-1.294	.804	.108	-2.873	.285
Secondary	Civil servants	8.002*	1.027	.000	5.985	10.018
	Clergy	10.406*	3.171	.001	4.182	16.631
	police	6.231*	.902	.000	4.461	8.001
	military	5.229*	1.194	.000	2.886	7.572
	undergrad	1.010	.827	.222	-.613	2.633
	Primary	1.553	.893	.082	-.200	3.306
	Secondary	1.294	.804	.108	-.285	2.873
University	Civil servants	9.296*	.891	.000	7.548	11.044
	Clergy	11.701*	3.130	.000	5.558	17.843
	police	7.525*	.742	.000	6.069	8.982
	military	6.523*	1.079	.000	4.407	8.640
	undergrad	2.304*	.649	.000	1.029	3.578
	Primary	-7.742*	1.098	.000	-9.898	-5.587
	Secondary	-8.002*	1.027	.000	-10.018	-5.985
	University	-9.296*	.891	.000	-11.044	-7.548
Civil servants	Clergy	2.405	3.194	.452	-3.865	8.674
	police	-1.770	.979	.071	-3.693	.152
	military	-2.772*	1.254	.027	-5.233	-.312
	undergrad	-6.992*	.911	.000	-8.780	-5.204
	Primary	-10.147*	3.195	.002	-16.418	-3.876
	Secondary	-10.406*	3.171	.001	-16.631	-4.182
	University	-11.701*	3.130	.000	-17.843	-5.558
Clergy	Civil servants	-2.405	3.194	.452	-8.674	3.865
	police	-4.175	3.156	.186	-10.370	2.019
	military	-5.177	3.252	.112	-11.559	1.205
	undergrad	-9.397*	3.136	.003	-15.551	-3.242
	Primary	-5.972*	.982	.000	-7.899	-4.045
	Secondary	-6.231*	.902	.000	-8.001	-4.461
	University	-7.525*	.742	.000	-8.982	-6.069
police	Civil servants	1.770	.979	.071	-.152	3.693
	Clergy	4.175	3.156	.186	-2.019	10.370
	military	-1.002	1.153	.385	-3.265	1.261

Monarchich

	undergrad	-5.221*	.767	.000	-6.726	-3.717
	Primary	-4.970*	1.255	.000	-7.434	-2.506
	Secondary	-5.229*	1.194	.000	-7.572	-2.886
	University	-6.523*	1.079	.000	-8.640	-4.407
military	Civil servants	2.772*	1.254	.027	.312	5.233
	Clergy	5.177	3.252	.112	-1.205	11.559
	police	1.002	1.153	.385	-1.261	3.265
	undergrad	-4.220*	1.095	.000	-6.370	-2.069
	Primary	-.751	.914	.411	-2.544	1.042
	Secondary	-1.010	.827	.222	-2.633	.613
	University	-2.304*	.649	.000	-3.578	-1.029
undergraduate	Civil servants	6.992*	.911	.000	5.204	8.780
	Clergy	9.397*	3.136	.003	3.242	15.551
	police	5.221*	.767	.000	3.717	6.726
	military	4.220*	1.095	.000	2.069	6.370
	Secondary	-.808	1.015	.426	-2.801	1.184
	University	-1.161	.881	.188	-2.889	.568
Primary	Civil servants	10.129*	1.083	.000	8.003	12.254
	Clergy	10.048*	3.150	.001	3.865	16.231
	police	10.295*	.968	.000	8.396	12.195
	military	5.567*	1.238	.000	3.138	7.997
	undergrad	.871	.901	.334	-.896	2.639
	Primary	.808	1.015	.426	-1.184	2.801
	University	-.353	.793	.657	-1.909	1.204
Secondary	Civil servants	10.937*	1.013	.000	8.949	12.925
	Clergy	10.856*	3.127	.001	4.719	16.993
	police	11.104*	.889	.000	9.359	12.848
	military	6.375*	1.177	.000	4.065	8.686
	undergrad	1.680*	.815	.040	.079	3.280
	Primary	1.161	.881	.188	-.568	2.889
	Secondary	.353	.793	.657	-1.204	1.909
University	Civil servants	11.289*	.878	.000	9.566	13.013
	Clergy	11.209*	3.086	.000	5.152	17.265
	police	11.456*	.732	.000	10.020	12.892
	military	6.728*	1.063	.000	4.641	8.815
	undergrad	2.032*	.640	.002	.775	3.289
Oligerchich	Primary	-10.129*	1.083	.000	-12.254	-8.003
	Secondary	-10.937*	1.013	.000	-12.925	-8.949
	University	-11.289*	.878	.000	-13.013	-9.566
Civil servants	Clergy	-.081	3.149	.980	-6.262	6.101
	police	.167	.966	.863	-1.728	2.062
	military	-4.561*	1.236	.000	-6.987	-2.135
	undergraduate	-9.257*	.898	.000	-11.020	-7.494
	Primary	-10.048*	3.150	.001	-16.231	-3.865
	Secondary	-10.856*	3.127	.001	-16.993	-4.719
	University	-11.209*	3.086	.000	-17.265	-5.152
Clergy	Civil servants	.081	3.149	.980	-6.101	6.262
	police	.247	3.112	.937	-5.860	6.355
	military	-4.481	3.206	.163	-10.773	1.812
	undergrad	-9.177*	3.092	.003	-15.245	-3.109
	Primary	-10.295*	.968	.000	-12.195	-8.396
	Secondary	-11.104*	.889	.000	-12.848	-9.359
	University	-11.456*	.732	.000	-12.892	-10.020
police	Civil servants	-.167	.966	.863	-2.062	1.728
	Clergy	-.247	3.112	.937	-6.355	5.860
	military	-4.728*	1.137	.000	-6.959	-2.497
	undergrad	-9.424*	.756	.000	-10.907	-7.941
military	Primary	-5.567*	1.238	.000	-7.997	-3.138
	Secondary	-6.375*	1.177	.000	-8.686	-4.065

		University	-6.728*	1.063	.000	-8.815	-4.641	
		Civil servants	4.561*	1.236	.000	2.135	6.987	
		Clergy	4.481	3.206	.163	-1.812	10.773	
		police	4.728*	1.137	.000	2.497	6.959	
		undergrad	-4.696*	1.080	.000	-6.816	-2.576	
		Primary	-.871	.901	.334	-2.639	.896	
		Secondary	-1.680*	.815	.040	-3.280	-.079	
		University	-2.032*	.640	.002	-3.289	-.775	
	undergrad	Civil servants	9.257*	.898	.000	7.494	11.020	
		Clergy	9.177*	3.092	.003	3.109	15.245	
		police	9.424*	.756	.000	7.941	10.907	
		military	4.696*	1.080	.000	2.576	6.816	
		Secondary	-1.065	.999	.287	-3.025	.896	
		University	-2.128*	.867	.014	-3.828	-.427	
		Civil servants	8.997*	1.065	.000	6.906	11.088	
	Primary	Clergy	8.770*	3.100	.005	2.686	14.854	
		police	10.487*	.952	.000	8.618	12.356	
		military	6.504*	1.218	.000	4.113	8.894	
		undergrad	1.336	.886	.132	-.404	3.075	
		Primary	1.065	.999	.287	-.896	3.025	
		University	-1.063	.780	.174	-2.595	.469	
		Civil servants	10.061*	.997	.000	8.105	12.018	
	Secondary	Clergy	9.835*	3.077	.001	3.796	15.874	
		police	11.552*	.875	.000	9.835	13.269	
		military	7.568*	1.158	.000	5.295	9.842	
		undergrad	2.400*	.802	.003	.826	3.975	
		Primary	2.128*	.867	.014	.427	3.828	
		Secondary	1.063	.780	.174	-.469	2.595	
		Civil servants	11.124*	.864	.000	9.428	12.820	
	University	Clergy	10.898*	3.037	.000	4.938	16.858	
		police	12.615*	.720	.000	11.201	14.028	
		military	8.631*	1.046	.000	6.577	10.685	
		undergrad	3.463*	.630	.000	2.227	4.700	
		Primary	-8.997*	1.065	.000	-11.088	-6.906	
		Secondary	-10.061*	.997	.000	-12.018	-8.105	
		University	-11.124*	.864	.000	-12.820	-9.428	
Anarchich		Civil servants	Clergy	-.227	3.099	.942	-6.309	5.856
		police	1.490	.950	.117	-.375	3.355	
		military	-2.493*	1.216	.041	-4.880	-.106	
		undergrad	-7.661*	.884	.000	-9.396	-5.926	
		Primary	-8.770*	3.100	.005	-14.854	-2.686	
		Secondary	-9.835*	3.077	.001	-15.874	-3.796	
		University	-10.898*	3.037	.000	-16.858	-4.938	
	Clergy	Civil servants	.227	3.099	.942	-5.856	6.309	
		police	1.717	3.062	.575	-4.293	7.727	
		military	-2.266	3.155	.473	-8.459	3.926	
		undergrad	-7.435*	3.042	.015	-13.406	-1.463	
		Primary	-10.487*	.952	.000	-12.356	-8.618	
		Secondary	-11.552*	.875	.000	-13.269	-9.835	
		University	-12.615*	.720	.000	-14.028	-11.201	
	police	Civil servants	-1.490	.950	.117	-3.355	.375	
		Clergy	-1.717	3.062	.575	-7.727	4.293	
		military	-3.983*	1.119	.000	-6.179	-1.788	
		undergraduate	-9.151*	.744	.000	-10.611	-7.692	
		Primary	-6.504*	1.218	.000	-8.894	-4.113	
		Secondary	-7.568*	1.158	.000	-9.842	-5.295	
	military	University	-8.631*	1.046	.000	-10.685	-6.577	
		Civil servants	2.493*	1.216	.041	.106	4.880	
		Clergy	2.266	3.155	.473	-3.926	8.459	

Internal	undergraduate	police	3.983*	1.119	.000	1.788	6.179
		undergraduate	-5.168*	1.063	.000	-7.254	-3.082
		Primary	-1.336	.886	.132	-3.075	.404
		Secondary	-2.400*	.802	.003	-3.975	-.826
	undergraduate	University	-3.463*	.630	.000	-4.700	-2.227
		Civil servants	7.661*	.884	.000	5.926	9.396
		Clergy	7.435*	3.042	.015	1.463	13.406
		police	9.151*	.744	.000	7.692	10.611
	Primary	military	5.168*	1.063	.000	3.082	7.254
		Secondary	.719	1.678	.669	-2.575	4.012
		University	-1.055	1.456	.469	-3.912	1.802
		Civil servants	10.111*	1.790	.000	6.599	13.624
	Secondary	Clergy	8.675	5.207	.096	-1.545	18.896
		police	8.864*	1.600	.000	5.724	12.004
		military	6.578*	2.046	.001	2.562	10.594
		undergraduate	3.797*	1.489	.011	.875	6.719
	University	Primary	-.719	1.678	.669	-4.012	2.575
		University	-1.773	1.311	.176	-4.347	.800
		Civil servants	9.393*	1.674	.000	6.107	12.679
		Clergy	7.957	5.169	.124	-2.188	18.101
	Civil servants	police	8.146*	1.469	.000	5.261	11.030
		military	5.860*	1.946	.003	2.041	9.679
		undergraduate	3.078*	1.348	.023	.433	5.724
		Primary	1.055	1.456	.469	-1.802	3.912
	Clergy	Secondary	1.773	1.311	.176	-.800	4.347
		Civil servants	11.166*	1.452	.000	8.317	14.015
		Clergy	9.730	5.101	.057	-.281	19.742
		police	9.919*	1.210	.000	7.545	12.293
	police	military	7.633*	1.758	.000	4.183	11.083
		undergraduate	4.852*	1.058	.000	2.775	6.929
		Primary	-10.111*	1.790	.000	-13.624	-6.599
		Secondary	-9.393*	1.674	.000	-12.679	-6.107
	Clergy	University	-11.166*	1.452	.000	-14.015	-8.317
		Civil servants	-1.436	5.206	.783	-11.654	8.782
		police	-1.247	1.596	.435	-4.380	1.885
		military	-3.533	2.043	.084	-7.543	.477
	Clergy	undergraduate	-6.315*	1.485	.000	-9.229	-3.400
		Primary	-8.675	5.207	.096	-18.896	1.545
		Secondary	-7.957	5.169	.124	-18.101	2.188
		University	-9.730	5.101	.057	-19.742	.281
police	Civil servants	1.436	5.206	.783	-8.782	11.654	
	police	.189	5.144	.971	-9.907	10.285	
	military	-2.097	5.300	.692	-12.499	8.304	
	undergraduate	-4.879	5.110	.340	-14.909	5.152	
Clergy	Primary	-8.864*	1.600	.000	-12.004	-5.724	
	Secondary	-8.146*	1.469	.000	-11.030	-5.261	
	University	-9.919*	1.210	.000	-12.293	-7.545	
	Civil servants	1.247	1.596	.435	-1.885	4.380	
military	Clergy	-.189	5.144	.971	-10.285	9.907	
	military	-2.286	1.879	.224	-5.974	1.402	
	undergraduate	-5.067*	1.249	.000	-7.519	-2.615	
	Primary	-6.578*	2.046	.001	-10.594	-2.562	
undergraduate	Secondary	-5.860*	1.946	.003	-9.679	-2.041	
	University	-7.633*	1.758	.000	-11.083	-4.183	
	Civil servants	3.533	2.043	.084	-.477	7.543	
	Clergy	2.097	5.300	.692	-8.304	12.499	
undergraduate	police	2.286	1.879	.224	-1.402	5.974	
	undergraduate	-2.781	1.785	.120	-6.286	.723	
undergraduate	Primary	-3.797*	1.489	.011	-6.719	-.875	

External	Secondary	-3.078*	1.348	.023	-5.724	-.433	
	University	-4.852*	1.058	.000	-6.929	-2.775	
	Civil servants	6.315*	1.485	.000	3.400	9.229	
	Clergy	4.879	5.110	.340	-5.152	14.909	
	police	5.067*	1.249	.000	2.615	7.519	
	military	2.781	1.785	.120	-.723	6.286	
	Secondary	1.878	1.098	.088	-.278	4.034	
	University	1.114	.953	.243	-.757	2.984	
	Civil servants	11.067*	1.172	.000	8.767	13.366	
	Clergy	13.804*	3.409	.000	7.113	20.495	
	police	10.186*	1.047	.000	8.131	12.242	
	military	7.773*	1.339	.000	5.144	10.402	
	undergraduate	2.965*	.975	.002	1.052	4.878	
	Primary	-1.878	1.098	.088	-4.034	.278	
	University	-.765	.858	.373	-2.449	.920	
	Civil servants	9.188*	1.096	.000	7.037	11.340	
	Clergy	11.926*	3.384	.000	5.284	18.567	
	police	8.308*	.962	.000	6.420	10.196	
	military	5.895*	1.274	.000	3.395	8.395	
	undergraduate	1.087	.882	.218	-.645	2.819	
	Primary	-1.114	.953	.243	-2.984	.757	
	Secondary	.765	.858	.373	-.920	2.449	
	Civil servants	9.953*	.950	.000	8.088	11.818	
	Clergy	12.690*	3.339	.000	6.136	19.244	
	police	9.073*	.792	.000	7.519	10.627	
	military	6.659*	1.151	.000	4.401	8.918	
	undergraduate	1.852*	.693	.008	.492	3.212	
	Primary	-11.067*	1.172	.000	-13.366	-8.767	
	Secondary	-9.188*	1.096	.000	-11.340	-7.037	
	University	-9.953*	.950	.000	-11.818	-8.088	
	Civil servants	Clergy	2.737	3.408	.422	-3.952	9.426
	police	-8.80	1.045	.400	-2.931	1.171	
	military	-3.293*	1.338	.014	-5.919	-.668	
	undergraduate	-8.101*	.972	.000	-10.009	-6.194	
	Primary	-13.804*	3.409	.000	-20.495	-7.113	
	Secondary	-11.926*	3.384	.000	-18.567	-5.284	
	University	-12.690*	3.339	.000	-19.244	-6.136	
	Civil servants	Clergy	-2.737	3.408	.422	-9.426	3.952
	police	-3.617	3.367	.283	-10.227	2.992	
	military	-6.031	3.469	.083	-12.840	.779	
undergraduate	-10.838*	3.346	.001	-17.405	-4.272		
Primary	-10.186*	1.047	.000	-12.242	-8.131		
Secondary	-8.308*	.962	.000	-10.196	-6.420		
University	-9.073*	.792	.000	-10.627	-7.519		
Civil servants	.880	1.045	.400	-1.171	2.931		
Clergy	3.617	3.367	.283	-2.992	10.227		
military	-2.413	1.230	.050	-4.828	.001		
undergraduate	-7.221*	.818	.000	-8.826	-5.616		
Primary	-7.773*	1.339	.000	-10.402	-5.144		
Secondary	-5.895*	1.274	.000	-8.395	-3.395		
University	-6.659*	1.151	.000	-8.918	-4.401		
Civil servants	3.293*	1.338	.014	.668	5.919		

	Clergy	6.031	3.469	.083	-.779	12.840
	police	2.413	1.230	.050	-.001	4.828
	undergraduate	-4.808*	1.169	.000	-7.102	-2.514
	Primary	-2.965*	.975	.002	-4.878	-1.052
	Secondary	-1.087	.882	.218	-2.819	.645
	University	-1.852*	.693	.008	-3.212	-.492
undergrad	Civil servants	8.101*	.972	.000	6.194	10.009
	Clergy	10.838*	3.346	.001	4.272	17.405
	police	7.221*	.818	.000	5.616	8.826
	military	4.808*	1.169	.000	2.514	7.102

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

Discussion

The present study was on the psychometric properties of the Sternberg Thinking Style Inventory (TSI) subscales. An exploratory factor analysis showed that TSI yielded only one component in the Nigeria sample. When the analysis was constricted using percentage of variance, it yielded 6 subscales. The findings were in contrast with five factor model specified by mental self government (MSG) (Sternberg, 1988, 1997) having forms, function, level, scope and learning identified as latent variances.

Conversely, the present findings were also in contrast with the 3 factor type model of Zhang and Sternberg (2005). The present study yielded 6 subscales with introversion and oligarchic subscales standing alone as subscales. Thus, our study failed to provide statistical support for the STI subscales as proposed by Sternberg (1988, 1997) and Zhang and Sternberg (2005). However, the overall Cronbach alpha for TSI showed great promise for the internal consistency of the instrument and possibility of reduced error of measurement. However, introversion and hierarchic subscales showed weak inter subscale relationships. In other words the present study failed to promote support for statistical inter subscale

reliability of the hierarchical and introversion subscale of the TSI.

Black (2008) in a similar validity study of TSI found that both subscale and item level confirmatory factor analysis failed to confirm the theory proposed 5 factor structure as well as 3 other structural models identified in previous studies. Other studies of exploratory factor analysis of TSI have also suggested some similarities on items from different subscales of the inventory (Bernado *et al* 2002; Cano – Garcia & Hewith-Hughes, 2000; Fjell & Walhord, 2004; Sternberg & Grigorenko, 1993; Zhang & Sach, 1997).

On the other hand divergent validation of TSI and problem solving task was not fully established. Some studies have linked TSI as strong predictor of psychosocial development (Zhang & He, 2011; Zhang, 2010), cognitive performance, personality traits and other measures of styles (Zhang, 2002) as well as academic achievement (Bernado, Zhang & Callueng, 2002). Bernado *et al* (2002) showed correlation from 0.00 to 0.17 and only six scales were significantly correlated with grade point average (GPA). They included executive, judicial, conservative, hierarchic, anarchic and introversion in their other of correlation

with executive showing highest correlation (0.17, $P < 0.01$).

The present study however did not show any significant correlations between TSI and puzzle problem tasks. The findings may be explained on the nature of the problem task used. Previous studies utilized GPA, standardised cognitive tasks and personality inventories. The choice of puzzle which is a non language based performance requiring rules may have affected the outcome. The executive subscale has been shown to be related to rule conforming behaviours and was supposed to influenced the finding. Conversely significant differences were found on occupation on the various subscales of the STI. The university lecturers showed higher and significant manifestations of the styles of thinking than other forms of occupation. In other words STI has a significant discriminatory ability for occupations. The flow of the results appears that people on the academic line including lecturers and teachers show higher forms of styles of thinking than other occupation types.

Overall STI has shown to be a promising measure of thinking style, however further researches and possible standardizations may be needed to improve its utility in Nigeria sample.

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