

A Comparison of International Child Care and US Child Care Using the Child Care Aware – NACCRRA (National Association of Child Care Resource and Referral Agencies) Child Care Benchmarks

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This is a first of its kind study comparing the USA to other world countries utilizing the Child Care Aware – NACCRRA Child Care Benchmarks related to health and safety rules and regulations. A team of researchers analyzed the child care/early care & education rules and regulations from the USA and a selected group of countries to do a comparative analysis using the Child Care Aware – NACCRRA benchmarking scoring protocol. The results from the analyses were somewhat unexpected in that the scores between the USA and the other countries were not as statistically significant in the overall scores. However, when more specific benchmarks were compared statistically significant differences did appear in the health & safety and professional development areas.

Key words: Child Care Quality, Comparisons of USA and International Child Care, Child Care Regulations.

Introduction

The purpose of this paper is to compare several countries (N =20) and the United States on the Child Care Aware – formerly NACCRRA (National Association of Child Care Resource and Referral Agencies) Child Care Benchmarks

that have used extensively in the USA to compare state regulatory and monitoring policy and implementation. The use of these benchmarks has been very useful in comparing states in the USA on an agreed upon series of child care benchmarks that have a great deal of support in the research literature (AAP/APHA, 2012, 2013; NACCRRA 2007, 2009, 2011). Previous research (OCED, 2006) has focused on early care and education policies in other countries which was a very important

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first step in making comparisons across countries. This paper will expand upon this comparison in order to begin applying the NACCRRA benchmarks to other countries and establish a baseline between the USA and other countries related to regulatory review and analysis. This study is important because it provides a common rubric for making comparisons between the USA and other countries that is reliable and valid (NACCRRA 2007, 2009, 2011)

related to regulatory analysis. As far as the author can determine from his extensive review of the literature, similar studies of this type have not been attempted utilizing a standardized rubric created by a major national child care organization. There have been other studies completed in which comparisons were made of other countries, the OCED (2006) Starting Strong II study and report is an excellent example of this type of

DIFFERENTIAL MONITORING LOGIC MODEL & ALGORITHM (DMLMA©) (Fiene, 2012): A 4th Generation ECPQIM – Early Childhood Program Quality Indicator Model

$$CI \times PQ \Rightarrow RA + KI \Rightarrow DM$$

Definitions of Key Elements:

CI = Comprehensive Licensing Tool (Health and Safety)(*Caring for Our Children*)

PQ = *ECERS-R, FDCRS-R, CLASS, CDPEs* (Caregiver/Child Interactions/Classroom Environment)

RA = Risk Assessment, (High Risk Rules)(*Stepping Stones*)

KI = **Key Indicators (Predictor Rules)**(*13 Key Indicators of Quality Child Care*)(NACCRRA Benchmarks)

DM = Differential Monitoring (How often to visit and what to review)

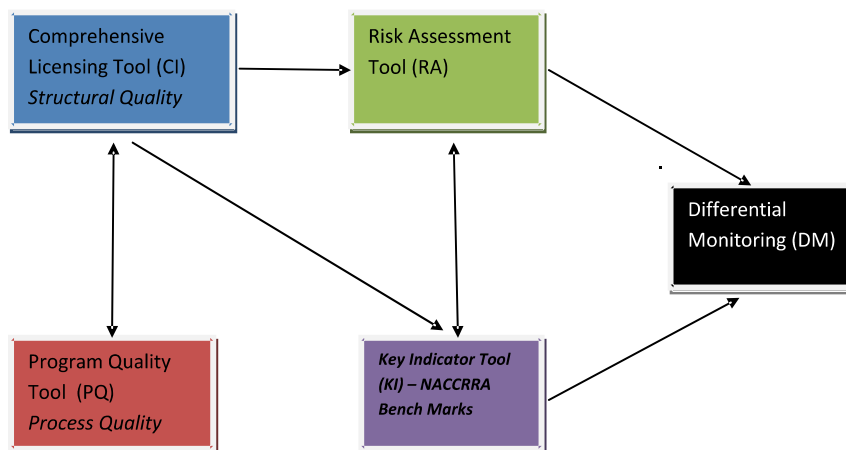


Figure 1.

analysis and is recommended reading for anyone interested in reviewing public policy analyses.

The child care benchmarks¹ utilized in this study are based upon the following key indicators: prevention of child abuse, immunizations, staff child ratio, group size, staff qualifications and training, supervision/discipline, fire drills, medication administration, emergency plan/contact, outdoor playground, inaccessibility of toxic substances, and proper hand washing/ diapering (NACCRRA 2007, 2009, 2011). These benchmarks are more based upon the structural aspects of quality rather than on the process aspects of quality. This is an important distinction between the USA approach and the other countries approaches that becomes important in the explanation of results later in this paper.

This paper also supports and expands the development of an Early Childhood Program Quality Indicator Model (ECPQIM)(Fiene & Nixon, 1985) which is in a 4th generation (Fiene, 2013) as a differential monitoring logic model & algorithm helping to guide the program monitoring of child care/early care & education programs (see Figure 1).

Method

Data Collection Process

Data collection was done on a 100 point scale which is delineated in Appendix 1 as developed by the Child Care Aware - NACCRRA Research

Team. The same scoring protocol that was utilized in developing the 2007, 2009, and 2011 Reports and comparisons of states by Child Care Aware - NACCRRA was employed in this study in comparing the average scores of the states and the 20 countries. The 100 point scale consisted of 10 child care benchmarks each worth 10 points: ACR = Staff child ratios NAEYC Accreditation Standards met (R1); GS = Group size NAEYC Accreditation Standards met (R2); Director = Directors have bachelor's degree (R3); Teacher = Lead teacher has CDA or Associate degree (R4); Pre = Initial orientation training (R5); Inservice = 24 hours of ongoing training (R6); Clearance = Background check (R7); Devel = Six developmental domains (R8); Health = Health and safety recommendations (R9); and Parents = Parent Involvement (R10).

Data Scoring

The scoring protocol employed a total raw score approach of 100 points that was used to compare the countries on the 10 child care benchmarks in the aggregate. The scoring protocol also employed a standardized scoring approach (0 to 2 points) on each of the 10 child care benchmarks utilizing the following scale: 0.0 = Does not meet the Child Care Aware - NACCRRA Benchmarks; 0.5 = Marginally meets the Child Care Aware - NACCRRA Benchmarks; 1.0 = Partially meets the Child Care Aware - NACCRRA Benchmarks; 1.5 = Substantially meets the Child Care Aware - NACCRRA

Benchmarks; 2.0 = Fully meets the Child Care Aware – NACCRRA Benchmarks.

Data Collectors

A team of undergraduate and graduate research assistants² at the Pennsylvania State University were the data collectors in which each of them reviewed the child care/early childhood rules/regulations/standards from a specific country and scored the rules/regulations/standards on the Child Care Aware – NACCRRA 100 point raw score protocol and the standardized (0 – 2) scoring approach.

Data Sources

The child care regulations selected were for preschool age children only in child care center setting in the 20 countries. Geographically the governmental jurisdiction closest to the national capital was used if applicable national regulations could not be found. More than the final 20 countries selected were reviewed but several countries needed to be dropped because they did not meet the above criteria or the regulations could not be found in English. This was more a convenience sample rather than a stratified scientific sample, a limitation of this study.

Results

The results from this study and analysis were totally unexpected. The results indicated no statistically significant differences between the USA and the

other countries selected (Australia, Belgium, Norway, Finland, Sweden, Ireland, United Kingdom, Italy, France, New Zealand, Mexico, Greece, Canada, Austria, Portugal, Philippines, Turkey, Pakistan, Nigeria, Denmark, and Spain – these countries were selected because of their availability of child care/early care & education rules and regulations as described previously above in Data Sources) when comparing the total scores on the 100 point scale; the USA average for all 50 states scored 58 while the 20 countries average score was 56. However, a very different scenario occurs when looking at the ten individual child care benchmarks using the standardized 0 – 2 scoring protocol. The 20 countries selected in this study scored statistically higher on the following child care benchmarks: Director ($t = 7.100$; $p < .0001$) and Teacher ($t = 7.632$; $p < .0001$) qualifications. The USA scored statistically higher on the following child care benchmarks: Health/Safety ($t = 6.157$; $p < .0001$), Staff Clearances ($t = 3.705$; $p < .01$), and Pre-Service ($t = 4.989$; $p < .001$) /In-Service training ($t = 2.534$; $p < .02$) (See Table 1 & Figure 2).

The results showed that both the USA and all other countries mean scores were 58 and 56 respectively on the 100 point scale – this is a raw scale score and not the standardized score (0 – 2 – see Table 1 and Figure 2) which was used in the comparisons for each benchmark. This is not a particularly good score if you think in terms of exams, but for states and countries with

Table 1

Mean Comparisons between USA and Twenty Countries on Child Care Aware – NACCRRA Benchmarks

Benchmark	Countries	USA	Significance
ACR (R1)	1.122	0.8462	not significant
GS (R2)	0.4063	0.5865	not significant
Director (R3)	1.5625	0.5	t = 7.100; p < .0001
Teacher (R4)	1.6563	0.4038	t = 7.632; p < .0001
Preservice (R5)	0.9375	1.6731	t = 4.989; p < .001
Inservice (R6)	0.6563	1.0481	t = 2.534; p < .02
Clearances (R7)	0.6094	1.2404	t = 3.705; p < .01
Development (R8)	1.6406	1.4519	not significant
Health(R9)	0.9844	1.7404	t = 6.157; p < .0001
Parent(R10)	1.5000	1.5385	not significant

Legend:

Child Care Aware - NACCRRA Benchmarks:

Parent = Parent Involvement (R10)

Health = Health and safety recommendations (R9)

Development = Six developmental domains (R8)

Clearances = Background check (R7)

Inservice = 24 hours of ongoing training (R6)

Preservice = Initial orientation training (R5)

Teacher = Lead teacher has CDA or Associate degree (R4)

Director = Directors have bachelor's degree (R3)

GS = Group size NAEYC Accreditation Standards met (R2)

ACR = Staff child ratios NAEYC Accreditation Standards met (R1)

Scoring:

0.0 = Does not meet Child Care Aware – NACCRRA Benchmarks.

0.5 = Marginally meets Child Care Aware – NACCRRA Benchmarks.

1.0 = Partially meets Child Care Aware – NACCRRA Benchmarks.

1.5 = Substantially meets Child Care Aware – NACCRRA Benchmarks.

2.0 = Fully meets Child Care Aware – NACCRRA Benchmarks.

vastly complex bureaucracies maybe this isn't as bad as it looks. Could it be that the USA is better than we think or is it that the USA and all other countries are providing just mediocre child care?!

The reason for using aggregate data in this study was to be consistent in how data have been collected in the USA utilizing the Child Care Aware – NACCRRA Scoring Protocol. This did delimit the potential analyses for this

study and the recommendation would be made in future studies to unbundle the results so that more detailed comparisons could be made. As mentioned in the introduction, the purpose of this study was to provide an initial baseline comparison between the USA and other countries on the Child Care Aware – NACCRRA Scoring Protocol.

Discussion

The purpose of this study was to extend the Child Care Aware - NACCRRA Child Care Benchmarks Scoring Protocol to an international sample comparison. As has been done by the National Science Foundation with math and science testing, these same types of comparisons have been made with the USA not fairsing all that well on the math and science

comparisons.

It appears that when it comes to child care benchmarks the USA actually appears to be in better shape than many advocates and experts would have thought when compared to other countries or is it that the other countries are providing the same form of mediocre care as it relates to these child care benchmarks. Remember that these benchmarks are heavily weighted towards the structural side of quality

Legend:

Child Care Aware - NACCRRA Benchmarks:

Parents = Parent Involvement (R10)

Health = Health and safety recommendations (R9)

Devel = Six developmental domains (R8)

Clearance = Background check (R7)

Inservice = 24 hours of ongoing training (R6)

Pre = Initial orientation training (R5)

Teacher = Lead teacher has CDA or Associate degree (R4)

Director = Directors have bachelor's degree (R3)

GS = Group size NAEYC Accreditation Standards met (R2)

ACR = Staff child ratios NAEYC Accreditation Standards met (R1)

Scoring:

0.0 = Does not meet Child Care Aware – NACCRRA Benchmarks.

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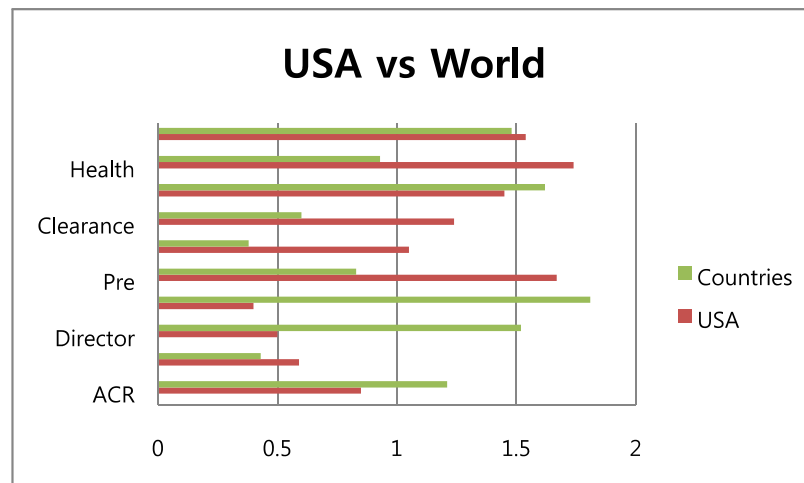


Figure 1. Mean Comparisons between USA and Twenty Countries on Child Care Aware – NACCRRA Benchmarks

rather than the process side of quality.

However, when the individual benchmarks are analyzed then certain patterns occur which seem very consistent with the previous research literature. The 20 countries scored higher on the staffing benchmarks while the USA scored higher on the training and health/safety benchmarks. Clearly this is an indication reflecting public policy in the other countries as versus the USA. Many other countries place more emphasis on the process aspects of quality which involve staff and staff interactions with children. The USA has focused more on the structural aspects of quality which involve health & safety especially in the state licensing of child care. These structural aspects of quality are more easily quantifiable in state rules and regulations which is the locus of control for the licensing of child care. Since the USA does not have national standards that are required (the USA does have national health and safety standards that are recommended practice, such as *Caring for Our Children* (2012)) as is the case in so many of the countries in this study, this may provide a possible explanation for the results of this study. It will be interesting to see how Quality Rating and Improvement Systems (QRIS) which usually have some process standards impact this overall balance of structural and process aspects of quality. This is an area that needs additional research and more in-depth analysis.

So what does this tell us. I think it is a warning call as has been put forth by Child Care Aware - NACCRRA that we still have a lot of additional work to do in improving child care, not only in the USA, but worldwide. Just as the Child Care Aware -NACCRRA Report Cards (2007, 2009, 2011) have played a role in making positive change in the child care benchmarks over time; we need to expand this reporting and change to a world wide focus. There is clearly the need to expand from the present analysis of 20 countries and the USA to other countries throughout the world and to track changes over time as Child Care Aware/NACCRRA has done.

Another area of concern within the USA and I am sure in other countries as economies have begun their slow recovery from the economic downturn of 2008 – 2010 is to do more with less. One such approach being explored in the USA is called differential monitoring which helps to re-allocate limited resources in a more cost effective and efficient manner via a risk assessment and key indicator approach. I hope that this comparison utilizing the Child Care Aware – NACCRRA Benchmarking Scoring Protocol and introducing the Early Childhood Program Quality Indicator Model/Differential Monitoring Logic Model and Algorithm (Fiene, 2013) within an international context as first steps in making that happen.

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Notes

¹ In the licensing literature these child care benchmarks are usually referred to as key indicators (Fiene, 2013). Please see Figure 1 which delineates where within a program monitoring system these benchmarks would appear and could be utilized.

² The following individuals played key data collection roles as research assistants in the compilation of this study: Melissa Cave, Ashley Le, Breanna Green, Corrie Podschlne, Sherrie Laporta, Ashley Edwards, Laura Hartranft, Gissell Reyes, Janet Lazur, Kayma Freeman, Jessica White, Karen Mapp, and Lindsay Bitler.

Appendix 1

Benchmark criteria for *We Can Do Better: NACCRRA Ranking of State Child Care Center Regulations:2011 Update* were developed by Child Care Aware - NACCRRA and have been used for the 2007, 2009 and 2011 We Can Do Better reports. The rationale for each standard, including research evidence of its importance in quality care, is noted in each section of the report and in previous reports. Each of the 10 regulation benchmarks were scored with a value ranging from one to 10 points, depending on how closely the state met the benchmark, for a maximum total of 100 points. In cases where states permit several different options for complying (e.g., complying with director or teacher qualifications), the minimum allowed was used. This information was used to generate state sheets with scores for each standard.

Scoring Methods for NACCRRA Ranking of State Child Care Center Regulations (R)										
Question							Scoring method			
Regulation 1. Staff:child ratio requirements comply with NAEYC accreditation standards.							Number of ratios in compliance with NAEYC standards		Score	
							7 ratios		10	
							6 ratios		9	
							5 ratios		8	
							4 ratios		7	
							3 ratios		5	
							2 ratios		3	
							1 ratios		1	
6 mo	9 mo	18 mo	27 mo	3 yr	4 yr	5 yr				
1:4	1:4	1:4	1:4	1:9	1:10	1:10				
R2. Group size requirements are in compliance with NAEYC accreditation standards.							Number of group sizes in compliance with NAEYC standards		Score	
							7 ratios		10	
							6 ratios		9	
							5 ratios		8	
							4 ratios		7	
							3 ratios		5	
							2 ratios		3	
							1 ratios		1	
6 mo	9 mo	18 mo	27 mo	3 yr	4 yr	5 yr				
8	8	8	8	18	20	20				

<p>R3. Center directors are required to have a bachelor's degree of higher in early childhood education or a related field.</p>	<table> <tr> <th>Director education requirement</th><th>Score</th></tr> <tr> <td>Bachelor's degree in any field</td><td>10</td></tr> <tr> <td>College directors certification</td><td>7</td></tr> <tr> <td>Any associate degree</td><td>5</td></tr> <tr> <td>CDA</td><td>5</td></tr> <tr> <td>Clock hours/less than associate degree</td><td>2</td></tr> <tr> <td>High school or less</td><td>0</td></tr> </table>	Director education requirement	Score	Bachelor's degree in any field	10	College directors certification	7	Any associate degree	5	CDA	5	Clock hours/less than associate degree	2	High school or less	0
Director education requirement	Score														
Bachelor's degree in any field	10														
College directors certification	7														
Any associate degree	5														
CDA	5														
Clock hours/less than associate degree	2														
High school or less	0														
<p>R4. Lead teachers are required to have a Child Development Associate (CDA) credential or an associate degree in early childhood education or related field.</p>	<table> <tr> <th>Lead teacher education requirement</th><th>Score</th></tr> <tr> <td>CDA/associate degree or better</td><td>10</td></tr> <tr> <td>State Credential</td><td>5</td></tr> <tr> <td>Clock Hours in ECE</td><td>2</td></tr> <tr> <td>High School/GED</td><td>2</td></tr> <tr> <td>Less than High School</td><td>0</td></tr> </table>	Lead teacher education requirement	Score	CDA/associate degree or better	10	State Credential	5	Clock Hours in ECE	2	High School/GED	2	Less than High School	0		
Lead teacher education requirement	Score														
CDA/associate degree or better	10														
State Credential	5														
Clock Hours in ECE	2														
High School/GED	2														
Less than High School	0														
<p>R5. Lead teachers are required to have initial training, including:</p> <ul style="list-style-type: none"> • Orientation. • Fire safety. • Other health and safety issues. • At least one staff member certified in first aid must be present when children are in care. • At least one staff member who is certified in CPR must be present when children are in care. 	<table> <tr> <th>Number of areas training is required</th><th>Score</th></tr> <tr> <td>Five areas</td><td>10</td></tr> <tr> <td>Four areas</td><td>8</td></tr> <tr> <td>Three areas</td><td>6</td></tr> <tr> <td>Two areas</td><td>4</td></tr> <tr> <td>One area</td><td>2</td></tr> <tr> <td>None</td><td>0</td></tr> </table>	Number of areas training is required	Score	Five areas	10	Four areas	8	Three areas	6	Two areas	4	One area	2	None	0
Number of areas training is required	Score														
Five areas	10														
Four areas	8														
Three areas	6														
Two areas	4														
One area	2														
None	0														
<p>R6. Lead teachers are required to have 24 hours or more of annual training.</p>	<table> <tr> <th>Ongoing training \geq</th><th>Score</th></tr> <tr> <td>24 Hours</td><td>10</td></tr> <tr> <td>18 hours</td><td>7</td></tr> <tr> <td>12 hours</td><td>5</td></tr> <tr> <td>6 hours</td><td>2</td></tr> <tr> <td>None</td><td>0</td></tr> </table>	Ongoing training \geq	Score	24 Hours	10	18 hours	7	12 hours	5	6 hours	2	None	0		
Ongoing training \geq	Score														
24 Hours	10														
18 hours	7														
12 hours	5														
6 hours	2														
None	0														
<p>R7. A comprehensive background check is required for child care providers.</p> <ul style="list-style-type: none"> • Use of fingerprints to check state records. • Check FBI records. • Check state child abuse registry • Check sex offender registry. • Criminal history check. 	<table> <tr> <th>Number of Background checks completed</th><th>Score</th></tr> <tr> <td>Five checks</td><td>10</td></tr> <tr> <td>Four checks</td><td>8</td></tr> <tr> <td>Three checks</td><td>6</td></tr> <tr> <td>Two checks</td><td>4</td></tr> <tr> <td>One check</td><td>2</td></tr> <tr> <td>None</td><td>0</td></tr> </table>	Number of Background checks completed	Score	Five checks	10	Four checks	8	Three checks	6	Two checks	4	One check	2	None	0
Number of Background checks completed	Score														
Five checks	10														
Four checks	8														
Three checks	6														
Two checks	4														
One check	2														
None	0														

<p>R8. Child care centers are required to offer program activities that address all six child development domains</p> <ul style="list-style-type: none">• Language/literacy.• Cognitive.• Social.• Emotional.• Physical.• Cultural.	<table><tr><th>Developmental domains addressed</th><th>Score</th></tr><tr><td>6 domains</td><td>10</td></tr><tr><td>5 domains</td><td>9</td></tr><tr><td>4 domains</td><td>7</td></tr><tr><td>3 domains</td><td>5</td></tr><tr><td>2 domains</td><td>3</td></tr><tr><td>1 domain</td><td>1</td></tr><tr><td>None</td><td>0</td></tr></table>	Developmental domains addressed	Score	6 domains	10	5 domains	9	4 domains	7	3 domains	5	2 domains	3	1 domain	1	None	0												
Developmental domains addressed	Score																												
6 domains	10																												
5 domains	9																												
4 domains	7																												
3 domains	5																												
2 domains	3																												
1 domain	1																												
None	0																												
<p>R9. Child care centers are required to follow 10 recommended health and safety practices.</p> <ul style="list-style-type: none">• Immunizations.• Guidance/discipline.• Diapering and handwashing.• Fire drills.• Medication administration.• SIDS prevention.• Emergency preparedness.• Playground surfaces.• Hazardous materials.• Incidence reporting.	<table><tr><th>Standards addressed</th><th>Score</th><th>Standards addressed</th><th>Score</th></tr><tr><td>10</td><td>10</td><td>5</td><td>5</td></tr><tr><td>9</td><td>9</td><td>4</td><td>4</td></tr><tr><td>8</td><td>8</td><td>3</td><td>3</td></tr><tr><td>7</td><td>7</td><td>2</td><td>2</td></tr><tr><td>6</td><td>6</td><td>1</td><td>1</td></tr><tr><td colspan="4">Allowing corporal punishment is an automatic zero</td></tr></table>	Standards addressed	Score	Standards addressed	Score	10	10	5	5	9	9	4	4	8	8	3	3	7	7	2	2	6	6	1	1	Allowing corporal punishment is an automatic zero			
Standards addressed	Score	Standards addressed	Score																										
10	10	5	5																										
9	9	4	4																										
8	8	3	3																										
7	7	2	2																										
6	6	1	1																										
Allowing corporal punishment is an automatic zero																													
<p>R10. Child care centers are required to:</p> <ul style="list-style-type: none">• Encourage parent involvement.• Require daily or ongoing communication with parents.• Allow parental access any time their children are in care.	<table><tr><th>Number of items required</th><th>Score</th></tr><tr><td>Three items</td><td>10</td></tr><tr><td>Two items</td><td>7</td></tr><tr><td>One item</td><td>3</td></tr><tr><td>None</td><td>0</td></tr></table>	Number of items required	Score	Three items	10	Two items	7	One item	3	None	0																		
Number of items required	Score																												
Three items	10																												
Two items	7																												
One item	3																												
None	0																												

Appendix 2

These were the countries included in these analyses: Australia, Belgium, Norway, Finland, Sweden, Ireland, United Kingdom, Italy, France, New Zealand, Mexico, Greece, Canada, Austria, Portugal, Philippines, Turkey, Pakistan, Nigeria, Denmark, Spain, and the USA which included all 50 states.