



Psychometric Evaluation of the Australian Inventory of Family Strengths (AIFS) on Rural Malay Families in Malaysia

Zarinah Arshat* and Rozumah Baharudin

*Department of Human Development and Family Studies, Faculty of Human Ecology,
Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia*

ABSTRACT

This study examines the psychometric properties of Australian Inventory of Family Strengths (AIFS) in a sample of 200 rural Malay families in Malaysia. The exploratory factor analysis of AIFS revealed 3-factor solution and were labelled as Shared Values, Togetherness and Respectful Communication. The overall scale had a high degree of internal consistency ($\alpha = 0.96$). Results indicate that the three factors were moderately correlated. The validity of AIFS was also satisfying in terms of the actual data matching the expected correlation between family strengths measure and the variables of children's social competence and self-esteem. The results of this study imply that the construct of family strength and its measurement from the West can be helpful and applicable in understanding the characteristics of family strength of rural Malay families in Malaysia.

Keywords: Family strengths, factor structure, psychometric properties, respectful communication, shared values, commitment

INTRODUCTION

Family strengths have been a key of interest among helping professionals who provide family interventions, programs, and support services. Thus, it is important to gather information about the competencies

and capabilities of families from their own perspectives using a standardized assessment tool of family strengths. Family strengths are conceptualized as "those forces and dynamic factors...which encourage the development of the personal resources and potentials of members of the family and which make family life deeply satisfying and fulfilling to family members" (Otto, 1975, p.16). Comprehensively, family strengths are defined as the relationship patterns, intrapersonal and interpersonal

ARTICLE INFO

Article history:

Received: 20 February 2012

Accepted: 6 March 2013

E-mail addresses:

zarinah_upm@upm.edu.my (Zarinah Arshat),

rozumah@upm.edu.my (Rozumah Baharudin)

* Corresponding author

skills and competencies, and social and psychological characteristics which create a sense of positive family identity, promote satisfying and fulfilling interaction among family members, encourage development of the potential of the family group and individual family members, contribute to the family's ability to deal effectively with stress and crisis (Stinnett, Chesser, & DeFrain, 1979; Williams, Lingren, Rowe, Van Zandt & Stinnett, 1985; Schlesinger, 1998; Moore, Chalk, Scarpa, & Vandivere, 2002). Along the lines of these conceptual frameworks, several self-report instruments have been developed to assess family strengths, for example Family Strengths Inventory (Stinnett & DeFrain, 1985), Family Strengths Scale (Olson, Larsen, & McCubbin, 1983), Family Functioning Style Scale (Deal, Trivette, & Dunst, 1988). These instruments have been proven to be reliable and valid in the West, and in turn have helped researchers further clarify the construct of family strengths on the one hand, and on the other hand, have provided practical tools for practitioners to find ways of intervention to enhance the family strengths in the real-life environment.

The Australian Inventory of Family Strengths (AIFS) (Geggie, DeFarin, Hitchcock, & Silberberg, 2000) was chosen to assess Malaysian's family strengths in this study because it has broad conceptual base which covers a multiple dimensions of family strengths where this measurement has six dimensions that strong families across the world have in common (Stinnett & DeFrain, 1985; Stern, Yuen & He, 2004).

It has been noted that a more reliable measurement in any assessment is to use multiple dimensions so that the measurement will produce consistent outcomes. The six dimensions in AIFS are sharing life together, caring for each other, communicating effectively with each other, valuing each other, connecting spirituality for well-being and growing together through challenges. Factor analysis of the 85 items of AIFS resulted in the emergence of four factors, namely, Togetherness (Factor 1), Respectful Communication (Factor 2), Shared Values (Factor 3), and A Sense of Belonging (Factor 4). However, the reliability and validity of the AIFS were not reported (source).

In the present study, the variables of social competence and self-esteem are to be used as the predictive validity indicators of AIFS in order to further understand its potential for cross-cultural application in the Malaysian culture. Children' social competence and self-esteem are chosen as predictive validity because these two variables have been consistently related to various psychological outcomes (source, based on study). For example, children with higher levels of social competence tend to elicit positive responses from others and are skillful in forming close and supportive relationship (Mendez, McDermott, & Fantuzzo, 2002). On the other hand, children who have high level of self-esteem tend to be emotionally stable (Judge, Erez, Bono, & Thoresen, 2002), attain higher academic achievement (Trautwein, Lüdtke, Köller, & Baumert, 2006), and possess low level of depression (Watson, Suls, & Haig,

2002). The aims of the present study were to explore the factor structure of the AIFS and to examine its reliability and validity among Malaysian people, in order to further understand its potential for cross-cultural application in the Malaysian culture.

METHOD

Sample

The respondents were 200 Malay families and selected from ten Federal Land Development Authority (Felda) schemes in Negeri Sembilan (Felda Bukit Jalor, Felda Bukit Rokan, Felda Pasir Besar and Felda Sg. Kelamah) and Pahang (Felda Bukit Kepayang, Felda Bukit Mendi, Felda Lurah Bilut, Felda Bukit Puchong, Felda Mayam and Felda Cemomoi). The selection of study respondents was based on married second generation had to have (and live with) at least one child between the ages of 7 and 12. Negeri Sembilan and Pahang are purposively selected as the location of the study based on the following considerations: (1) the availability of second generation Felda families that would facilitate the selection of respondents based on the discussion with Felda's Director of Community Development in Kuala Lumpur (2) the availability of study resources (finance, manpower), and (3) the accessibility of the respondents. Respondents that fit the criteria of the study were selected using simple random sampling from a sampling frame. The age of the respondents involved in this study range between 24 to 66 years old with an average of 36.6 years. Most of the respondents were male (51.5%),

had completed an average of 10.2 years education and had duration of marriage between 7 to 27 years. The average monthly household incomes of the respondents were RM932.40.

The average number of children was 3.7. There were slightly more males (58%) than females of the focal child.

Measures

Australian Inventory of Family Strengths (AIFS)

The original AIFS instrument contained 85 items (Geggie *et al.*, 2000). The scale items preceded by the phrase "In our family...". Respondents were asked to rate the items on 6-point scales that ranged from definitely agree to definitely disagree. In this study only 79 items were used. Six items were deleted from the original scale due to what the researcher and the faculty members of Department of Human Development and Family Studies, Universiti Putra Malaysia thought were issues of contextual and cultural relevance. The six items that were deleted are : 1) We like to hug each other, 2) We allow each other to be ourselves, 3) We wait for each other without complaining, 4) We feel connected with nature and the world around us, 5) We often says, "She'll be alright, mate", and 6) We give each other enough time to complete necessary task. This study also made some selected wording edits on three items to make it more appropriate for the sample study. Item 7 on the original AIFS was reworded from 'We feel a strong connection with our land' to 'We feel a strong connection with our

land development'. Item 9 on the original AIFS was changed from 'We enjoy hearing our grandparents stories about the past' to 'We enjoy hearing past family experience'. The new statement of the item 9 is more universal for the sample study because some of the respondents might not have grandparents any more due to death. Item 80 on the original AIFS scale was reworded from "Our personal religious and moral beliefs are compatible with each other" to "Our personal religious practice is strong". This item was reworded based on the fact that religious and moral beliefs among Malay families tend to highly homogeneous but in terms of religious practice may differ for family members.

Social Competence Scale (SCS).

The 12-item SCS (Corrigan, 2002) was used to measure children's social competence. The SCS assesses a child's prosocial and emotional skills. Each item on the scale states a behavior that a child may display in a social setting. Responses are coded on a five-point Likert scale ranging from 0 (Not at all) to 4 (Very Well). A higher scale showed a higher perception of child's social competence. Dennis, Brotman, Huang and Gouley (2007) report that the SCS had a good internal consistency (alpha coefficient = 0.87) and test-retest reliability showed correlations of .52 and .69. The concurrent and construct validity of the scale also well established (Dennis *et al.*, 2007).

Rosenberg Self-Esteem Scale (RSES).

The 10-item RSES (Rosenberg, 1965) is one of the most widely used scales for measuring global self-esteem with responses ranged from 1 (strongly disagree) to 4 (strongly agree). The negative items were reversed scored in order to obtained a higher scale indicated a higher level of self-esteem. The respondents were asked how they perceive their children's self-esteem. The coefficient alpha values were 0.79 and above for the English version (Mayhew & Lempers, 1998; Thomas & Gadbois, 2007), and 0.63 for the Malay version (Anjli Panalal, 2004). The concurrent, predictive and construct validity of the scale also was well established (Fischer & Corcoran, 1994; Lightsey, Burke, Ervin, Henderson, & Yee, 2006).

Procedures

Each respondent was interviewed face-to-face using the adapted questionnaire at their homes. This method permits the collection of the most extensive data on each person questioned (Tan, 2004; Brenner, Brown, & Canter, 1985). Prior to the interview, a briefing on the objectives of the study was given. The willingness of the respondents to participate in the study were asked. After the respondents agreed to participate in the study the interviews were proceed by using survey questionnaire. On completion of the questionnaire, the respondents were given a token in appreciation of their participation in the survey.

RESULTS

Exploratory Factor Analysis of the Malaysian Version of AIFS

A similar method used by Geggie *et al.* (2002) i.e., principle component analysis with a varimax rotation was performed on the data to explore the possible factor structure of the AIFS with Malaysian families. Criteria for identifying the factors were as follows: (1) each factors had to have an eigenvalues greater than one and noticeable change in the slopes and (2) items were retained when the loading was equal and greater than 0.30 (Lewis-Beck, 1994; Kline, 1994; Hair, Anderson, Tantham, & Black, 1998; Geggie *et al.*, 2002).

The results show eighteen factors had eigen values greater than one, which accounted for 73.13% of the variance. However, based on the inspection of scree plot the solution with three factors was examined for interpretability. According to Zwick and Velicer (1982), on the whole, scree plots tend to be the most accurate for determining the number of factors to retain in factor analysis. Through a varimax rotation, four items that had factor loading less than .30 were eliminated. Therefore only 75 items were retained for further analysis.

As shown in Table 1, the three-factor solution accounted for 38.34% of the variance of the data seems to be more meaningful to Malaysian families. Upon scrutinizing each item that was loaded in a factor, the first factor was labeled as Shared Values, contained 27 items which was accounted for 15.28% of the variance and its

factor loading ranged from .69 to .42. Shared Values describing that family members have a sense of greater good or power in life, a spirituality or set of values and beliefs that gives strength, perspective, purpose, and guidelines for living, which gives the family a sense of belonging or togetherness (Stern, Yuen, & He, 2004; Geggie *et al.*, 2000). Family members express their shared values and beliefs by practicing religious and cultural rituals, extending themselves to others, and volunteering and caring for their community.

The second factor of 27 items was labeled as Togetherness, explaining 11.68% of total item variance and the factor loading ranged from .69 to .33. Togetherness is the 'invisible glue' that bonds the family and gives the family members a sense of belonging (Geggie *et al.*, 2000). Family members express togetherness in many ways, such as by rearranging schedules to spend time with family, keeping promises and being dependable, setting goals together, building family memories, as well as used togetherness as a coping strategy when faced with adversity and crisis.

The last factor was primarily loaded by 21 items was named as Respectful Communication which was accounted for 11.38% of the variance and the factor loading ranged from .69 to .34. Respectful communication represents that family members are open and honest with one another, and they are willing to listen to other member's view (Geggie *et al.*, 2000). Families with communication patterns that convey support and caring often find

TABLE 1
Exploratory Factor Analysis Results for the Australian Inventory of Family Strengths – Australian Sample

Item	Item Statement	Factor 1	Factor 2	Factor 3	Factor 4
24	We feel close to each other	.74	.32	.15	.11
21	We feel strongly connected to each other	.71	.22	.18	.13
10	We love one another	.69	.10	.17	-
8	We feel comfortable with each other	.68	.29	-	-
20	We like to show affection to each other	.66	.27	.17	.13
3	We like to have fun together	.66	-	.15	.29
23	We have lots of good times together	.65	.21	.26	.22
40	We enjoy the times we share together	.64	.34	.31	-
32	We like to hug each other	.62	.21	.18	.16
28	We often laugh with each other	.59	.30	.25	-
22	Hanging out together builds strong relationships	.59	.21	.17	.22
45	We have a strong sense of belonging	.59	.30	.37	-
50	We really care for each other	.58	.33	.31	-
4	We like to share our feelings with each other	.57	.33	-	.36
48	We share jokes together	.56	.21	.39	-
15	We like talking openly with each other	.55	.38	-	.27
73	We grow stronger because we love each other	.51	.29	.50	-
11	We are able to forgive each other	.51	.37	.12	-
57	We value each other	.49	.46	.28	-
14	We enjoy simple, inexpensive family activities	.46	.23	.19	.30
33	Our home feels like a sanctuary for all of us	.45	.21	.27	.16
62	There is a feeling of safety and security	.41	.35	.40	-
83	We enjoy having unplanned, spontaneous activities together	.36	.16	.30	.11
16	We like having a place we call 'home'	.32	-	.17	.12
37	We give each other a chance to explain ourselves	.36	.67	.11	.13
31	Everyone gets their say in making decisions	.15	.64	-	.20
55	We respect the roles each of us play in the family	.26	.63	.23	-
51	Putdowns are rare	.18	.62	-	-
53	We have reasonable expectations of each other	.24	.59	.17	.12
42	We wait for each other without complaining	.14	.59	-	.20
25	We wait for each other without complaining	.38	.59	-	.21
44	We can work together to solve very difficult family problems	.31	.57	.23	.11
85	We accept that each of us has different ways of doing things	.11	.56	.31	-
19	We like keeping our promises to each other	.33	.56	.10	.14
43	We enjoy our family discussions	.33	.54	.15	.22
38	Our communication is effective	.42	.54	-	.13
69	We like to support each other	.47	.53	.32	-

TABLE 1 (*continued*)

Item	Item Statement	Factor 1	Factor 2	Factor 3	Factor 4
34	Individuals are allowed to make their own choices	.13	.53	-	.14
17	We listen to each other	.47	.53	-	-
39	We allow each other to be ourselves	.37	.53	.18	-
36	We enjoy being thoughtful of each other	.46	.53	.23	.13
56	We are honest with each other	.37	.53	.17	-
82	We give each other enough time to complete necessary tasks	.13	.52	.33	-
18	We find solutions to our problems when we talk about them	.34	.52	-	.15
64	It is easy to share our values and ideas with each other	.48	.51	.28	.15
12	We enjoy helping each other	.42	.51	-	.17
65	There is a sense of peace	.35	.50	.37	.11
47	We find it easy to trust each other	.47	.50	.15	-
27	Talking through issues is important to us	.43	.50	-	.18
60	We find it easy to make plans and then carry them out	.15	.47	.25	.23
58	Sarcasm is not generally used	-	.47	.15	.18
75	We can make changes in our plans to meet changing circumstances	.22	.47	.45	-
13	It is easy to cue into each other's feelings	.40	.45	-	.27
68	We are able to face daily issues confidently	.24	.44	.31	.16
30	We have a hopeful attitude towards life	.20	.39	.29	.17
52	We like to do things for each other than make us feel good about ourselves	.32	.38	.32	-
79	We feel it is important to accept the things we cannot change	-	.38	.36	.13
29	We try to change the things we can	.32	.33	.18	.19
84	We have strong spiritual connections that enhance our well-being	.20	-	.62	.16
72	We always find something good comes from a crisis	-	.28	.61	.19
76	We benefit in many ways from our belief in a higher being	.13	-	.56	-
71	A crisis makes us stick closer together	.17	.35	.52	-
78	We look at challenges as opportunities for growth	-	.34	.51	.20
74	We believe love is a powerful force that keeps us together	.43	.14	.50	.12
49	A crisis helps make our relationships strong	.21	.26	.47	.19
77	We have the courage to take risks that will improve things for our family	.14	.28	.46	.12
35	Observing family rituals and customs is important to us	.15	-	.44	.22
67	We enjoy sharing our memories with each other	.29	.22	.40	.29
80	Our personal religious and moral beliefs are compatible with each other	.24	-	.36	.11

TABLE 1 (*continued*)

Item	Item Statement	Factor 1	Factor 2	Factor 3	Factor 4
70	Our friends are there when we need them	-	.23	.34	.20
2	We have a number of common interests	.23	.15	.34	.29
7	We feel a strong connection with the land	-	-	.14	.64
61	We feel strong connections with our ancestors	-	-	.35	.56
2	We have a number of common interests	.38	.17	-	.51
63	We feel connected with nature and the world around us	-	.10	.35	.49
9	We enjoy hearing our grandparents' stories about the past	-	.17	.11	.48
59	We enjoy looking at our family history	.15	.12	.33	.46
66	We often say, "She'll be right, Mate"	-	.15	.20	.38
6	Responsibilities are shared fairly	.14	.31	-	.36
1	We like to give each other a chance to do new things	.25	.28	-	.34

Note:- indicate loading less than .10

solutions to meet everyday challenges and prevent or recover from adversity, building their resiliency along the way (McCubin, McCubin, Thompson, Young Han, & Allen, 1997). By listening carefully and not criticizing each other, family members express respect, increasing their understanding of each other, and strengthen their relationships (Stern, Yuen, & He, 2004).

Internal Consistency

The coefficient alpha of the Malaysian version of the AIFS was 0.96. The internal consistency alpha values of the 3 factors were 0.94 for Factor 1, 0.90 for Factor 2, and 0.89 for Factor 3. Collectively, these statistics may be taken as evidence that the AIFS version for Malaysian families sample is an internally consistent instrument.

Inter-dimensional Relationships

The correlations between the scores on the three dimensions and the total score of AIFS are shown in Table 2. Results indicate that there were moderate a significant relationship between the different dimensions: Shared Values and Togetherness ($r = .57$, $p < .01$), Togetherness and Respectful Communication ($r = .55$, $p < .01$), and Shared Values and Respectful Communication ($r = .68$, $p < .01$). The findings also indicate that all three dimensions had correlation of at least 0.84 with the total score of AIFS. These set of findings demonstrates that the different dimensions of *family strength* are interrelated providing support for the contention that each dimension represents a unique set of *family strength*.

Predictive Validity

The results of the study found that the total score of AIFS was positively correlated with children's social competence ($r = .24$,

TABLE 2
Exploratory Factor Analysis Results for the Australian Inventory of Family Strengths – Malaysian Sample

Item	Item Statement In our family.....	Shared Values	Togetherness	Respectful Communication
59	There is a feeling of safety and security.	.69	.17	-
76	All things considered we are strong family.	.68	-	.11
68	We grow stronger because we love each other.	.68	.15	.26
54	We value each other.	.68	.14	.27
35	We enjoy being thoughtful of each other.	.64	.12	.18
78	We have strong spiritual connections that enhance our well-being.	.64	-	-
69	We believe love is powerful force that keeps us together.	.63	-	.27
73	We look at challenges as opportunities for growth.	.63	.11	-
60	It is easy to share our values and ideas with each other.	.62	.29	-
75	Our religious practice is strong.	.62	-	.18
49	We like to do things for each other that makes us feel good about ourselves.	.60	.37	.12
47	We really care for each other.	.60	.22	.12
53	We are honest with each other.	.60	.14	.19
39	Life in our family is satisfying to us.	.57	.21	-
52	We respect the roles each of us play in the family.	.56	.26	.35
21	We feel strongly connected to each other.	.54	.12	.26
43	We are happy as a family.	.54	-	.30
24	We feel close to each other.	.53	.23	.35
48	Put downs are rare.	.51	.19	.23
63	We are able to face daily issues confidently.	.47	.37	-
61	There is a sense of peace.	.46	.22	.34
36	We give each other a chance to explain ourselves.	.46	.23	.39
32	Our homes feels like a sanctuary for all of us.	.44	-	.44
30	We have a hopeful attitude towards life.	.42	-	.41
71	We benefit in many ways from our belief in a higher being.	.42	-	.26
25	We respect each other's point of view.	.47	-	.36
46	A crisis helps make our relationships strong.	-	.69	.14
67	We always find something good comes from a crisis.	.24	.66	-.27
66	A crisis make us stick closer together.	.16	.64	-.17
5	A crisis has helped us to grow closer together.	-	.62	-
74	We feel it is important to accept the things we cannot change.	-.20	.60	-
50	We have reasonable expectations of each other.	.41	.57	-

TABLE 2 (*continued*)

Item	Item Statement In our family.....	Shared Values	Togetherness	Respectful Communication
51	We have a high regard for each other.	-	.56	.28
44	We find it easy to trust each other.	.34	.55	.14
57	We find it easy to make plans and then to carry them out.	.14	.55	.10
19	We like keeping our promises to each other.	.14	.52	.35
62	We enjoy sharing our memories with each other.	-	.51	.33
23	We have lots of good times together.	-	.51	.44
58	We feel strong connections with our ancestors.	.19	.51	-
28	We often laugh with each other.	-	.50	.26
70	We can make changes in our plans to meet changing circumstances.	.43	.46	-.15
56	We enjoy looking at our family history.	.11	.46	.29
18	We find solutions to our problems when we talk about them.	.26	.45	.24
27	Talking through issues is important to us.	.38	.44	-.17
2	We have a number of common interests..	-	.43	.19
9	We enjoy hearing our past family experiences	.21	.40	.32
42	We have a strong sense of belonging.	-	.40	.38
72	We have the courage to take risks that will improve things for our family.	.32	.39	-
41	We can work together to solve very difficult family problems.	.29	.39	.32
65	Our friend are there when we need them.	-	.38	.19
34	Observing family rituals and customs is important to us.	.28	.35	-
22	Hanging out together builds strong relationships.	.26	.33	.33
55	Sarcasm is not generally used.	.17	.33	-
7	We feel a strong connection with this land.	-	-	.69
16	We like having a place we call 'home'.	.19	-.13	.69
8	We feel comfortable with each other.	.23	.15	.67
6	Responsibilities are shared fairly.	.22	.14	.62
14	We enjoy simple, inexpensive family activities.	.18	.14	.59
12	We enjoy helping each other.	.30	-	.58
11	We are able to forgive each other.	.51	-	.53
15	We like talking openly with each other.	.14	.29	.50
20	We like to show affection to each other.	-.14	-	.48
45	We share jokes together.	.15	.39	.47
37	Our communication is effective.	.32	.14	.45
3	We like to have fun together.	.15	.22	.45
1	We like to give each other a chance to do new things.	.26	.11	.45

TABLE 2 (*continued*)

Item	Item Statement In our family.....	Shared Values	Togetherness	Respectful Communication
26	We like to be kind to each other.	.40	-	.44
13	It is easy to cue into each other's feeling.	-	.41	.42
33	Individuals are allowed to make their own choices.	.13	.25	.42
31	Everyone gets their say in making decisions.	.33	-	.41
38	We enjoy the times we share together.	.31	.29	.41
64	We like to support each other.	.27	.36	.39
40	We enjoy our family discussions.	.36	.32	.39
4	We like to share our feelings with each other.	.16	.34	.34

Note: - indicates loading less than .10

TABLE 3
Inter-correlations Dimensions and Total Score of AIFS

Variables	Shared Values	Togetherness	Respectful Communication	Total Score of AIFS
1. Shared Values	1.00	.57**	.68**	.86**
2. Togetherness			.55**	.86**
3. Respectful Communication				.84**

**p < .01

p < .01) and self-esteem ($r = .24$, $p < .01$). The correlation pattern provides convincing evidence for the validity of the Malaysian version of the AIFS among Malaysian families.

DISCUSSION

Cross-cultural family scientists are particularly concerned with such issues as whether family strength dimension is universal or cultural-specific (Stinnet & DeFrain, 1985; DeFrain, 1999; Olson & DeFrain, 2000). Structure equivalence thus becomes one of the most important psychometric indicators to examine cross-culturally the adaptability of family strength construct and its measurement. The present

study provided an evidence of the need for cross-cultural comparison of an imported construct and its measurement from the West to the East, by showing that the family strength construct may have somewhat different implications in Australian and Malaysian cultures. The exploratory factor analysis on the data failed to replicate the Australian 4-factor structure of family strength. Results in this study disclosed 3-factor solution which seems to be more meaningful to Malaysian families. The items loading in factor 1 (Shared Values), factor 2 (Togetherness and factor 3 (Respectful Communication) in this study do not come from any single factor of the original structure, rather they are quite mixture. The

differences in terms of number of factor structure and items loading occurred could be due to idiosyncrasies of some trivial characteristics of population (Gorsuch, 1997). The respondents who involved in this study comprised entirely of Malay, rural based, had 'moderate' education, lower income families that were not pre-screened as being self-identified 'strong families'. While in Australian, the sample group who completed the inventory generally come from white Australian, middle class, well educated, varied family structures (e.g., blended family, nuclear family, and sole parent family) and all respondents perceived their family unit as strong (Geggie *et al.*, 2000)

Results of the current of study provide previously unavailable information regarding the reliability and validity of the AIFS in a sample of Malaysian families. In the current sample, the internal consistencies of three factors as well as the total score of AIFS were all acceptable ($>.77$) suggesting that participants responded consistently across items. Intercorrelations between each factor and the total score of the AIFS were also high ($>.74$) demonstrate that each dimension represents a unique set of family strengths. The correlations between the three factors were modest (.55 to .68), suggesting that, although related, they represent three distinct constructs of the AIFS. In addition, predictive validity was demonstrated by the positive correlation between AIFS with SCS and RSES.

The results of this study adds further support to the psychometric properties of the

AIFS using sample of Malaysian families, including its factor structure, reliability and validity. The sound psychometric properties of the AIFS suggest that the scale could be used as a quick screening tool of family strengths in family practice especially in Malaysian families' context. Family members can be invited to complete the measure individually and this can enable family counsellors to review the differences in perception of family strengths among family members. The findings also have implications for parents, policy makers, service providers, practitioners and community leaders seeking to increase the level of family strengths. It is necessary for family members to understand that the competencies and the capabilities in the family influence the child's social competence and self-esteem. Therefore family professionals should communicate to families that the strengths exist in the family are an extremely important context for fostering social competence and self-esteem of children.

While the present study adds further evidence to the literature on the psychometric properties of the AIFS, there are several limitations. First, the demographic characteristics (e.g., rural area in Negeri Sembilan and Pahang) of this sample may limit the generalizability of these findings to families from other regions and communities. Second the study assessed only perceived family strength of parents, but not those of their children. Third since the assessment of family strength was based on self-report measures, there are might

be bias among ‘insiders’. Therefore, the inclusion of observational data in real life setting based on the ‘outsiders’ is desirable.

REFERENCES

- Anjli Panalal, K. D. (2004). *Family functioning and child well-being in single mother families: Influence of risk and protective factors*. (Unpublished doctoral dissertation). Universiti Putra Malaysia, Malaysia.
- Brenner, M., Brown, J., & Canter, D. (1985). *The research interview uses and approaches*. United States: Academic Press Inc. (London) Ltd.
- Corrigan, A. (2002). *Social competence scale – parent version, grade 1/year 2*. Retrieved from Fast Track Project Web site: <http://www.fasttrackproject.org>.
- Deal, A. G., Trivette, C. M., & Dunst, C. J. (1988). *Family Functioning Style Scale*. In C.J. Dunst, C.M. Trivette, & A.G. Deal (Eds.), *Enabling and empowering families: Principles and guidelines for practice* (pp. 179-184). Cambridge, MA: Brookline Books.
- DeFrain, J. (1999). Strong families around the world. *Family Matters*, 53, 6-13.
- Dennis, T. A., Brotman L. M., Huang, K. Y., & Gouley, K. K. (2007). Effortful control, social competence, and adjustment problems in children at risk for psychopathology. *Journal of Clinical Child and Adolescent Psychology*, 36(3), 442–454.
- Fischer, J., & Corcoran, K. (1994). *Measures for clinical practice: A sourcebook* (2nd ed.). New York: The Free Press.
- Geggie, J., DeFarin, J., Hitchcock, S., & Silberberg, S. (2000). *Family strengths research project*. Retrieved from University of Newcastle, Australia, The Family Action Centre Web site: <http://www.newcastle.edu.au/centre/fac/conferences/Family%20Strengths%20Research%20Report.pdf>
- Gorsuch, R. L. (1997). Exploratory factor analysis: Its role in item analysis. *Journal of Personality Assessment*, 68, 532-560.
- Hair, J. F., Anderson, R. E., Tantham, R. L., & Black W. C. (1998). *Multivariate data analysis* (5th ed.). New Jersey: Prentice Hall.
- Judge, T. A., Erez, A., Bono, J. E., & Thoresen, C. J. (2002). Are measures of self-esteem, neuroticism, locus of control, and generalized self-efficacy indicators of a common core construct?. *Journal of Personality and Social Psychology*, 83, 693–710.
- Kline, P. (1994). *An easy guide to factor analysis*. London: Routledge.
- Lewis-Beck, M. S. (1994). *Factor analysis and related techniques*. London: SAGE Publications Ltd.
- Lightsey, O. R., Burke, M., Ervin, A., Henderson, D., & Yee, C. (2006). Generalized self-efficacy, self-esteem, and negative affect. *Canadian Journal of Behavioural Science*, 38, 72–80.
- Mayhew, K. P., & Lempers, J. D. (1998). The relation among financial strain, parenting, parent self-esteem, and adolescent self-esteem. *Journal of Early Adolescence*, 18, 145-173.
- McCubin, H. I., McCubin, M. A., Thompson, A. I., Young Han, S., & Allen, C. T. (1997, June). *Families under stress: What makes them resilient*. Retrieved August 2, 2005, from <http://www.cyfernet.org/research/resilient.html>
- Mendez J., McDermott P., & Fantuzzo J. (2002). Identifying and promoting social competence with African American preschool children: Developmental and contextual considerations. *Psychology in the Schools*, 39, 111–123.
- Moore, K. A., Chalk, R., Scarpa, J., & Vandivere, S. (2002, August). *Family strengths: often overlooked, but real*. Retrieved from <http://www.childtrends.org/Files/FamilyStrengths.pdf>

- Olson, D. H., & DeFrain, J. (2000). *Marriage and the family: diversity and strengths* (3rd ed.). California: Mayfield, Mountain View.
- Olson, D. H., Larsen, A. S., & McCubbin, H. I. (1983). *Family strengths*. In D.H. Olson, H. I., McCubbin, H. L., Barnes, A. S., Larsen, M. L., & Muxen, M. A. W. (Eds.), *Families: What makes them work*. Beverly Hills, CA: Sage.
- Otto, H. A. (1975). *The use of family strength concepts and methods in family life education: A handbook*. Beverly Hills, CA: Holistic Press.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Schlesinger, B. (1998). Strong families: A portrait. *Transition*, June, 4-15.
- Stinnet, N., Chesser, B., & DeFrain, J. (1979). *Building family strengths: Blueprints for action*. Lincoln, NE, USA: University of Nebraska Press.
- Stinnett, N., & DeFrain, J. (1985). *Secrets of strong families*. Boston: Little, Brown and Company.
- Stern, I. R., Yuen, S., & He, S. (2004). *Hawai'i's strong families*. Retrieved from University of Hawai'i, Center on the Family Web site: <http://www.uhfamily.hawaii.edu>.
- Tan, W. (2004). *Practical research methods* (2nd ed.). Singapore: Prentice Hall.
- Thomas, C. R., & Gadbois, S.A. (2007). Academic self-handicapping: The role of self-concept clarity and students' learning strategies. *British Journal of Educational Psychology*, 77, 101–119
- Trautwein, U., Lüdtke, O., Köller, O., & Baumert, J. (2006). Self-esteem, academic self-concept, and achievement: How the learning environment moderates the dynamics of self-concept. *Journal of Personality and Social Psychology*, 90(2), 334-349.
- Watson, D., Suls, J., & Haig, J. (2002). Global self-esteem in relation to structural models of personality and affectivity. *Journal of Personality and Social Psychology*, 83, 185–197.
- Williams, R., Lingren, H., Rowe, G., Van Zandt, S., & Stinnett, N. (1985). *Family strengths (Vol. 6): Enhancement of interaction*. Lincoln: University of Nebraska Press.
- Zwick, W. R., & Velicer, W. F. (1982). Factors influencing four rules for determining the number of components to retain. *Multivariate Behavioral Research*, 17, 253-269.