

**Do Attributes of Industry Audit Specialists Differ by Their Levels of Expertise?
A Research Note**

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Abstract: Abdolmohammadi, Searfoss and Shanteau (2004) use responses from audit partners to provide evidence on the relative importance of 25 pre-defined attributes of top industry audit specialists. A research question is whether the importance of these attributes differs by expertise level in one's specialty. Using data from auditors of varying ranks and specialties, this paper investigates the degree of possession of each of these 25 pre-defined attributes by specialists of varying expertise levels. The subjects assessed their own possession of the attributes as well as the possession of the attributes that they believed was necessary for various levels of expertise in their specialty. Consistent with the extant literature (e.g., Tan and Libby, 1997; Wright, 2001), the results indicate that possession of many attributes differs significantly by expertise level. For example, "adaptability" was rated as significantly more important for expert specialists than competent specialists and specialty candidates. However, for many other attributes (e.g., "intelligence"), there were no differences in possession between levels of expertise. Consistent with the preliminary findings of a recent paper (Thibodeau, 2003), this evidence indicates that some expertise attributes may transfer between levels of expertise and audit specialties. Implications of these results for audit practice and research are discussed.

Key words: Expert attributes, industry audit specialists, attribute transfer

Data Availability: Contact the author.

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INTRODUCTION

A line of research in recent years has focused on identifying the determinants of expertise in auditing. For example, Abdolmohammadi and Shanteau (1992); Libby and Tan (1994); Tan and Libby (1997); Tan (1999), and Abdolmohammadi, Searfoss and Shanteau (2004) have collectively identified over 25 attributes of expertise in auditing. For example, the latter study used responses from partners identified by their firm as top industry audit specialists to rank order 25 attributes of expertise from the most important (e.g., current knowledge) to the least important (e.g., methodical).¹ Other attributes such as ability, experience, confidence, leadership and communication skills were among the most important attributes.

A related issue of interest to researchers has been to investigate whether attributes of expertise vary by levels of specialty or professional rank. For example, Tan and Libby (1997) found that while tacit managerial knowledge (i.e., leadership attributes such as management of self, others and career) is important for superior performance at the audit manager level, technical skills are important for superior performance at the staff level. The authors also found that problem solving abilities distinguish superior performance at the senior rank. These findings suggest that while personality/social attributes such as tacit managerial knowledge are more important for superior performance at higher professional ranks, judgment/technical skills are more important for superior performance at the lower professional ranks.

¹ The authors also collected data on expertise attributes in an open-ended questionnaire and the results were largely consistent with the list of pre-defined attribute.

The current paper contributes to this line of research by providing evidence of relative importance of 25 attributes adopted from Abdolmohammadi et al. (2004) for specialty candidates, competent specialists, and expert specialists. A corollary to the objective of the paper is to identify the expertise attributes that are common between varying levels of expertise in specialty, and thus transferable between areas of specialty and expertise levels. Thibodeau (2003) finds that loan credit review knowledge develops similarly between specialty areas and thus can be transferred across both industry and task contexts to aid performance in the going concern judgment. Thibodeau's (2003) results imply that certain expert attributes may be common between specialty areas and levels of expertise. The attributes in this study that indicate insignificant differences between levels of expertise provide preliminary evidence on transferability of certain expert attributes.

The remainder of the paper is organized as follows: The following section provides the background literature as a means of developing the study's research hypotheses. The research method and data analysis are presented in the subsequent two sections, followed by a summary of the findings and several conclusions in the final section.

Background and Hypotheses

An extensive literature has developed on various aspects of expertise in auditing, a review of which is beyond the scope of this paper.² However, little has been reported on differences in expertise attributes between various levels of expertise. Using archival data, Salterio (1994) observed that definite improvements in efficiency and effectiveness are achieved as experienced auditors (i.e., managers) move higher in "expertise" levels at their firms' central

² For reviews of the expertise literature in auditing, see Bedard (1989), Choo (1989), Colbert (1989), Davis and Solomon (1989), Bonner and Pennington (1991), Bedard and Chi (1993), Libby (1995) and Abdolmohammadi et al.

research units. Tan and Libby (1997) found that while tacit managerial knowledge was important for superior performance at the manager level, technical skills and problem solving abilities were respectively important for superior performance at the staff and senior rank levels. Similarly, in a test for the benefits of task-specific experience, Wright (2001) compared loan judgments provided by inexperienced seniors, experienced managers, and more experienced junior partners and senior managers to a criterion based on the conclusions of senior audit partners. He found that judgments of financial institution auditors improved by achieving higher levels of expertise defined as attaining higher levels of professional ranks.³

These results lead to an expectation that expertise attributes become increasingly more important for higher levels of expertise as compared with lower levels of expertise. Thus, those who have achieved expert status in their area of specialty are expected to possess higher levels of expertise attributes than auditors with lower levels of expertise. This expectation leads to the following hypothesis:

H₁: Expert specialists possess higher levels of the expert attributes than lower level specialists (i.e., expert specialists > competent specialists > specialty candidates)

Somewhat inconsistent with this hypothesis is Thibodeau's (2003) finding that certain attributes such as task knowledge develops similarly regardless of the type of specialty and it also applies the same regardless of the level of specialty. Therefore, the attribute can transfer across both industry and task contexts. Thibodeau's results imply that certain expert attributes are common between specialty areas and levels of specialty. While this finding indicates

(2004).

³ Superior performance is defined in terms of the efficiency and effectiveness with which auditors perform their tasks (cf., Bedard and Chi 1993; Davis and Solomon 1989; Libby 1995) and studies have reported the effects of some expertise attributes such as ability, knowledge, and experience to investigate superior performance in auditing. Examples of such studies include Bonner and Lewis (1990), Libby and Luft (1993) and Libby and Tan (1994). In

insignificant differences for some expert attributes, little theory or empirical evidence exists in the literature to indicate which attributes can be expected to be common between levels of expertise in a specialty. Consequently, an exploratory research proposition is stated as follows.

RP₁: Expert specialists possess about the same level of some expert attributes as do lower level specialists (i.e., expert specialists = competent specialists = specialty candidates)

Research Method

Eighty five packets containing a research instrument were sent to contact partners in five offices of the then Big-Six accounting firms in the Northeast and a regional firm. I requested participation of auditors of varying ranks and specialty. The partners returned 43 responses yielding a response rate of 50.6 percent. The research packet had a cover page in which the purpose of the study was described and definitions were provided for three levels of specialty as follows:

Specialty Candidate: One who possesses the characteristics necessary to be admitted in an audit specialty.

Competent Specialist: One who is trained in an audit specialty area and has also practiced for 1-2 years in the specialty.

Expert Specialist: One who has mastered the tasks and has become an expert in the specialty.

In a demographic questionnaire, the subjects provided information on their primary areas of audit specialization and their level of specialty, years of experience in the specialty, and their level of education. The data indicated that approximately one half of the subjects (19) specialized in high technology or financial services, while the remaining half (20) had specialties in nine other areas such as insurance, healthcare or real estate. Four subjects did not reveal their

practice superior performance in a rank is generally taken into consideration for promotion of an auditor to higher

areas of specialty. On average, the subjects' experience in their specialty areas were 1.00 year for specialty candidates, 2.61 years for competent specialists and 5.37 years for expert specialists. The overall audit experience averaged 2.73 years with 2.3 years of standard deviation. While 24% of these subjects possessed a graduate degree, 76% possessed a bachelor's degree in accounting or a related field.

The remainder of the task instrument had two sections. Section I provided the listing and definitions of the 25 pre-defined expert attributes that were adopted from Abdolmohammadi et al. (2004). These attributes and their definitions are provided in Appendix A. In Section II, the subjects were provided a questionnaire in which they were asked to assess the degree to which they personally possessed each of the attributes. Using the levels of expertise from the demographic questionnaire this data serve to investigate differences in attribute possession by auditors of varying expertise level. The subjects were also asked to think of a specialty candidate, a competent specialist, and an expert specialist that they personally knew and then assess the degree to which the subjects believed specialty candidates, competent specialists, and expert specialists possessed each of the 25 attributes. The scale used for section II was a 1-5 Likert scale (minimal possession to very high possession).

Data Analysis

A battery of one-way analyses of variance (ANOVA) was performed to test for hypothesis 1 (H_1) and research proposition 1 (RP_1). The analysis was first performed on the self-assessment of the possession of the attributes by the subjects one attribute at a time comparing the ratings by specialty candidates, competent specialists and expert specialists. The next analysis was performed for all attributes in the aggregate for various levels of specialty. The

ranks.

results are presented in Table 1. Similar analyses were performed for the subjects' ratings of possession of the attributes of others by expertise level in their specialty. Table 2 presents these results. In both tables 1 and 2, expert attributes are listed in Column 1 organized by the relative importance as reported in Abdolmohammadi et al (2004). The means and coefficients of variation for the three groups are provided in Columns 2-4. The resulting F-statistics and significance levels are provided in Column 5.

[Insert Tables 1&2 Here]

Differences in Possession of Attributes by Expertise Level (H_1 and RP_1)

The aggregate data in Table 1 show that the degree of possession of the 25 expert attributes, taken together, is higher for expert specialists than for competent specialists whose possession of the attributes, in turn, is higher than those of the specialty candidates and the difference is highly significant at the 0.000 level (F-statistic = 66.30). It indicates that while the degree of possession of all attributes by competent specialists (3.74 with standard deviation of 0.22) is lower than that of expert specialists (4.08 with standard deviation of 0.19), it is greater than that of the specialty candidates (3.27 with standard deviation of 0.25).

Analysis at the single-attribute level provides support for H_1 for 15 of the 25 attributes in Table 1. Specifically, for 15 attributes (current knowledge, experience, perceptive, communicates expertise self confidence, adaptability, knows what is relevant, assumes responsibility, makes exception, stress tolerance, feedback, assertive, energetic, pattern recognition, and task analysis), I find that expertise level makes a significant difference at the 0.05 level in the degree of possession of the attributes by specialists. The remaining 10 attributes (problem solver, intelligence, quick thinker, inquisitive, configural processing, problem simplification, research skills, problem selection, perfectionist, and methodical), the data show no significant differences by level of expertise in specialty. This result provides evidence for

RQ₁, namely that some expert attributes are equally important for all levels of specialty and they transfer between various specialty areas.

Among the 25 attributes are five (assertive, energetic, inquisitive, perfectionist and methodical) that were listed by Abdolmohamamdi et al (2004) as distracter items. Since the question in this study was to investigate the degree of possession of various attributes, I did not have a theory to predict whether these attributes were expected to be different or not different between levels of expertise. The results indicate that while for two of these attributes (assertive and energetic) the subjects indicated differences, they did not indicate differences for the remaining three.

Table 2 results provide support for H₁ for 24 attributes. Thus in a test of RQ₁ only one attribute, methodical, did not show significant difference between levels of expertise. This is an interesting finding in the sense that while assessing the possession of attributes by other specialists, the subjects have indicated that higher levels of all but one attribute are needed for higher levels of expertise. As reported in Table 1, the assessment of self-possession of attributes analyzed by demographic data indicated that only 15 of the 25 attributes differ by level of expertise in one's specialty.

Summary and Conclusions

In this study a sample of audit specialists from several accounting firms assessed the degree to which they personally possessed each of the 25 pre-defined attributes in Abdolmohammadi et al's (2004) study. The subjects also assessed the degree of possession of these attributes by other specialists of varying expertise (i.e., specialty candidates, competent specialists, and expert specialists). The results from the first assessment are that 15 of the 25 attributes (e.g., current knowledge, experience) have the power to distinguish between various levels of expertise. Specifically, statistically significant differences were observed between

levels of possession of these attributes. The results from the assessment of the degree of possession of attributes by other specialists of varying expertise indicated that 24 attributes differed significantly by level of expertise. The exception was “methodical” that was insignificant. These results are consistent with prior research (e.g., Tan and Libby, 1997 and Wright, 2001) that has found expertise attributes to differ by level of expertise.

The remaining 10 attributes (e.g., problem solving ability, intelligence) from the self-possession assessment were not significantly different by levels of expertise. These results indicate that the possession of some attributes is about the same regardless of the level of expertise. This result is consistent with the preliminary results reported by Thibodeau (2003) who found loan credit review knowledge to develop similarly between specialty areas and thus can be transferred across both industry and task contexts. However, while attributes such as ‘intelligence’ was not significantly different in the current study, “current knowledge” differed significantly between levels of expertise.

One of the important implications of this study is that audit firms may use these results for designing training of specialty attributes. Specifically, attributes that do not differ by expertise level (e.g., problem solving) are subject to generic training for various specialties and levels of expertise. However, other attributes may require differential training for different levels of expertise. For example, in the current Sarbanes-Oxley Act (SOA, 2002) environment, perception of fraud or unethical behavior by clients may require training of staff, seniors, and higher staff in different ways. Specifically, while staff may be trained for perception of fraud committed by lower level employees, audit managers and partners may require training for detecting fraudulent behavior by management in sophisticated schemes.

Behavioral research can also benefit from these results by devising experiments in which exact nature and measurement of various attributes can be investigated. For example, a repository of “current knowledge” can be developed by expertise level. Such a knowledge base can help pinpoint the exact nature of current knowledge differences by expertise level. Once developed, these types of assessment methods can be used to investigate their relationship with superior performance. Studies of this type have been presented in the literature (e.g., Bonner and Lewis, 1990; Tan and Libby, 1997). However, the number of attributes investigated has been limited (e.g., knowledge and innate ability in Bonner and Lewis, 1990) and the assessment methods have been fairly generic (e.g., the use of Graduate Record Examination questions for measuring general knowledge). Studies of larger number of attributes and more specific knowledge determinants may be needed to better assess expertise differentials in various specialty areas.

The usual limitations of behavioral research also apply to this study and indicate future research directions. For example, in their self assessment of the degree of possession of each attribute the subjects may not have fully understood the relationships of these attributes to audit performance. Future studies are needed to devise audit performance measures and investigate the relationship between various expert attributes and superior performance. Related to this issue is the possibility of a demand-effect in assessing the importance of the attributes of other auditors of varying expertise levels. The questioning mode may have facilitated subjects’ responses in an increasing degree by level of expertise for each attribute. This may be why only one attribute was viewed as equally important for various levels of expertise. The self-assessment responses reported in Table 1 may not have suffered from this limitation as each subject assessed the

personal degree of possession of each attribute that were analyzed by the subjects' level of expertise in the demographic information. Experimental studies in which attributes are investigated in contexts for which objective assessment criteria are available may be helpful to better understand the differences in the degree of attribute possession by specialists of varying expertise level.

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Table 1
One-way Analysis of Variance
Personal Possession of Attributes by Level of Specialty
Scale: 1-5 (minimal possession to very high possession)

Attribute Ratings per Abdolmohammadi, Searfoss and Shanteau (2004) (Numbers According to Appendix A)	(1) Attribute Ratings	Level of Specialty						(5) F-Stat	Sig.
		(2) Candidate (n = 13)		(3) Competent (n = 18)		(4) Expert (n = 8)			
		Mean	COV.	Mean	COV.	Mean	COV.		
6. Current Knowledge	4.47 (0.88)	2.69	0.23	3.72	0.24	4.13	0.15	10.53	0.000
20. Problem Solver	4.16 (0.96)	3.38	0.15	3.83	0.22	4.13	0.15	2.91	0.067
8. Experience	4.14 (0.99)	2.62	0.40	3.72	0.20	4.57	0.12	13.70	0.000
16. Perceptive	4.12 (0.93)	3.31	0.15	3.89	0.17	4.38	0.17	7.41	0.002
4. Communicates Expertise	4.10 (1.38)	2.69	0.32	3.72	0.20	4.25	0.17	11.40	0.000
23. Self Confidence	4.01 (1.04)	3.38	0.19	3.78	0.15	4.38	0.12	7.25	0.002
1. Adaptability	3.81 (1.09)	3.62	0.14	3.67	0.16	4.25	0.17	3.36	0.046
11. Intelligence	3.71 (1.05)	3.62	0.18	3.94	0.11	3.88	0.21	1.18	0.318
12. Knows What is Relevant	3.65 (1.02)	3.08	0.34	3.72	0.15	4.50	0.17	8.09	0.001
3. Assumes Responsibility	3.63 (1.08)	3.38	0.19	4.33	0.14	4.50	0.12	12.14	0.000
21. Quick Thinker	3.45 (1.18)	3.15	0.25	3.83	0.19	3.75	0.24	3.11	0.057
10. Inquisitive [dis.]	3.16 (1.06)	3.85	0.18	4.11	0.18	4.13	0.24	0.51	0.607
13. Makes Exceptions	2.94 (1.18)	2.85	0.32	3.78	0.23	4.13	0.15	7.02	0.003
24. Stress Tolerance	2.87 (1.14)	2.93	0.22	4.00	0.21	4.13	0.15	9.88	0.000
5. Configural Processing	2.65 (1.17)	3.69	0.20	3.83	0.22	3.88	0.16	0.17	0.841
19. Problem Simplification	2.61 (1.02)	3.46	0.25	3.50	0.26	4.13	0.15	1.78	0.184
9. Feedback	2.54 (1.09)	3.38	0.23	3.83	0.21	4.38	0.12	4.54	0.017
2. Assertive [dis.]	2.42 (1.15)	3.38	0.15	3.56	0.20	4.13	0.15	3.54	0.039
7. Energetic [dis.]	2.40 (1.32)	3.38	0.23	3.61	0.17	4.25	0.17	4.07	0.025
22. Research Skills	2.38 (1.06)	3.92	0.22	3.83	0.27	3.62	0.25	0.24	0.787
15. Pattern Recognition	1.98 (1.05)	3.23	0.23	3.56	0.17	4.13	0.15	4.56	0.017
25. Task Analysis	1.85 (1.02)	3.08	0.25	3.61	0.24	4.38	0.17	6.52	0.004
18. Problem Selection	1.70 (0.74)	3.46	0.15	3.50	0.25	3.50	0.31	0.01	0.990
17. Perfectionist [dis.]	1.27 (0.78)	3.31	0.40	3.56	0.32	3.50	0.34	0.16	0.851
14. Methodical [dis.]	1.11 (0.39)	2.85	0.40	2.94	0.36	3.13	0.27	0.18	0.840
Aggregate		3.27	0.25	3.74	0.22	4.08	0.19	66.30	0.000
		(n = 325)		(n = 450)		(n = 199)			

COV. = Coefficient of variation; Sig. = Significance
F-Stat. F-statistic generated by one-way Analysis of variance

Table 2
One-way Analysis of Variance
Subjects' Perceptions of Possession of Attributes by Level of Specialty
Scale: 1-5 (minimal possession to very high possession)
(n = 43)

(1) Attribute Ratings by Abdolmohammadi, Searfoss and Shanteau (2004) (Numbers According to Appendix A)	Ratings	Level of Specialty						(5) F-Stat	(5) Sig.
		(2) Candidate		(3) Competent		(4) Expert			
Attribute		Mean	COV.	Mean	COV.	Mean	COV.		
6. Current Knowledge	4.47 (0.88)	2.44	0.43	3.65	0.22	4.65	0.14	71.97	0.000
20. Problem Solver	4.16 (0.96)	2.74	0.39	3.74	0.18	4.42	0.15	44.28	0.000
8. Experience	4.14 (0.99)	2.52	0.39	3.81	0.19	4.74	0.09	89.87	0.000
16. Perceptive	4.12 (0.93)	2.65	0.36	3.58	0.20	4.44	0.15	56.56	0.000
4. Communicates Expertise	4.10 (1.38)	2.47	0.37	3.70	0.20	4.56	0.14	80.62	0.000
23. Self Confidence	4.01 (1.04)	3.00	0.27	3.88	0.20	4.46	0.18	36.35	0.000
1. Adaptability	3.81 (1.09)	3.00	0.26	3.47	0.21	4.05	0.23	17.61	0.000
11. Intelligence	3.71 (1.05)	3.26	0.26	3.76	0.18	4.47	0.16	28.30	0.000
12. Knows What is Relevant	3.65 (1.02)	2.70	0.34	3.74	0.18	4.60	0.13	69.08	0.000
3. Assumes Responsibility	3.63 (1.08)	3.40	0.23	3.81	0.17	4.47	0.18	22.66	0.000
21. Quick Thinker	3.45 (1.18)	2.88	0.25	3.63	0.21	4.35	0.16	43.90	0.000
10. Inquisitive [dis.]	3.16 (1.06)	3.28	0.25	3.65	0.21	4.02	0.25	8.03	0.001
13. Makes Exceptions	2.94 (1.18)	2.58	0.37	3.53	0.24	4.09	0.21	31.41	0.000
24. Stress Tolerance	2.87 (1.14)	2.86	0.29	3.65	0.23	3.95	0.24	17.82	0.000
5. Configural Processing	2.65 (1.17)	2.86	0.30	3.79	0.20	4.28	0.16	37.55	0.000
19. Problem Simplification	2.61 (1.02)	2.67	0.36	3.60	0.23	4.29	0.19	36.90	0.000
9. Feedback	2.54 (1.09)	2.91	0.34	3.70	0.18	4.12	0.18	24.58	0.000
2. Assertive [dis.]	2.42 (1.15)	2.74	0.33	3.51	0.18	4.33	0.20	41.13	0.000
7. Energetic [dis.]	2.40 (1.32)	3.23	0.31	3.51	0.25	3.95	0.25	6.15	0.003
22. Research Skills	2.38 (1.06)	2.91	0.36	3.63	0.21	4.14	0.21	19.82	0.000
15. Pattern Recognition	1.98 (1.05)	2.53	0.33	3.58	0.20	4.23	0.20	50.41	0.000
25. Task Analysis	1.85 (1.02)	2.88	0.26	3.60	0.19	4.05	0.22	23.75	0.000
18. Problem Selection	1.70 (0.74)	2.74	0.32	3.30	0.20	3.91	0.28	18.16	0.000
17. Perfectionist [dis.]	1.27 (0.78)	2.84	0.38	3.21	0.28	3.60	0.32	5.49	0.005
14. Methodical [dis.]	1.11 (0.39)	2.84	0.30	3.00	0.27	3.02	0.43	0.43	0.650
Aggregate		2.84	0.33	3.60	0.21	4.21	0.22	659.76	0.000
		(n = 1074)		(n = 1074)		(n = 1072)			

COV. = Coefficient of variation

F-Stat. F-statistic generated by one-way Analysis of variance

Sig. = Significance

Appendix A

Pre-defined Attributes of Expertise

<u>Attribute</u>	<u>Description</u>
1 Adaptability	Adjusts decision-making strategy to fit current situation. Is responsive to changes in conditions of the on-going problem situation.
2 Assertive [dis]	Is insistent on stating the goals and objectives. Makes decisions quickly and emphatically based on clear objectives.
3 Assumes Responsibility	Accepts responsibility for the outcomes of decisions, successful or unsuccessful. Is willing to stand behind his/her decisions.
4 Communicates Expertise	Convinces others that he/she has specialized knowledge. Effectively communicates his/her ability to make decisions to others.
5 Configural Processing	Processes information in interaction with other pieces of information. Recognizes the interrelationships between various types of evidence.
6 Current Knowledge	Has an extensive knowledge base. Makes a special effort to keep up with facts, trends, and developments.
7 Energetic [dis]	Invests large amounts of energy into problem-solving. Often Spends extra time and energy in making decisions.
8 Experience	Effectively uses direct and indirect experience to make decisions. Is skillful in making decisions based on past experience.
9 Feedback	Uses available information and decision aids to assess the accuracy of his or her decisions. Makes problems less complex by seeking appropriate feedback and decision aids.
10 Inquisitive [dis]	Exhibits high degree of inquisitiveness in problem-solving situations. Is curious about all aspects of the issue.
11 Intelligence	Has a high level of intelligence. Understands complex problem situations quickly.
12 Knows What is Relevant	Readily distinguishes relevant from irrelevant information in a problem. Utilizes only what is relevant; ignores what is irrelevant.
13 Makes Exceptions	Knows when to follow established decision strategies and when not to. Doesn't have just one way to solve problems.
14 Methodical [dis]	Approaches new problem situations with only one thought out plan. Always proceeds in the same step by step way to make decisions.
15 Pattern Recognition	Readily recognizes the pattern of errors in a body of collected evidence. Proceeds to make a judgment based on the recognized pattern.
16 Perceptive	Is able to extract information from a problem that others cannot see. Is insightful in recognition and evaluation of a confusing situation.
17 Perfectionist	Attempts to achieve perfection by always seeking the best of all possible strategies. Persists on

[dis]	working to find the absolute best solution for the problem.
18 Problem Selection	Uses foresight and planning in selecting which problems to work on. Tackles only those problems that he/she can effectively handle or resolve.
19 Problem Simplification	With complex problems, knows how to use a divide and conquer approach. Works on parts to get a better understanding of a complex problem.
20 Problem Solver	Is capable of generating new approaches to solving difficult problems. When faced with a new problem, he/she can develop new strategies to solve that problem.
21 Quick Thinker	Quickly perceives data relationships. Is able to rapidly envision future possibilities and pitfalls.
22 Research Skills	Has the ability to seek out new sources of information to help tackle difficult problems. When information is not available, he/she can develop methods for obtaining what is needed.
23 Self Confidence	Has strong belief in his/her ability to make good decisions, Is calm and self-assured while making decisions.
24 Stress Tolerance	Is able to make decisions under high stress situations. Continues to be an effective problem solver even as conditions progressively worsen.
25 Task Analysis	Identifies the nature of the task easily. Can distinguish between different kinds of tasks, e.g., complex vs. simple; unique vs. repetitive.

[dis] = Distracter item

Source: Abdolmohammadi, Searfoss and Shanteau (2004)