An Exploratory Study for a Model of Personal Financial Management Style

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This article explores: (a) the initial exploratory development of a model of personal financial management style drawing from the work of McKenney and Keen (1974); Deacon and Firebaugh (1988); Gross, Crandall, and Knoll (1980); and Rettig (1987), and (b) the initial development of an instrument to be used in measuring the proposed model of personal financial management style. Responses of 128 adults were used to test the scales for the hypothesized instrument for validity and reliability using factor analysis. Results included the identification of 14 possible items for the Analyzing Scale, and eight possible items for the Holistic Scale. Future research is needed for further development of both the hypothesized model of personal financial management style and of the scales for the hypothesized instrument to measure personal financial management style.
KEY WORDS: cognitive style, personal financial management style

Personal financial management traditionally has been viewed as a normative process. The management process has been taught in a prescriptive fashion, as structured, systematic, and sequential but has left clientele and educators alike with the uneasy feeling that what is being taught, while possibly the "ideal," is not the actual process people use in managing their financial resources (Lown, 1986; Winter, 1986; Davis & Weber, 1990; Rettig & Schultz, 1991). A few even venture to question if one normative ideal of financial management can be the optimum process for everyone (Prochaska-Cue, 1987). Teaching such a standardized,

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systematic, prescriptive financial management style may have worked when adult education was more pedagogical. Students would have taken the instructor's word as final. Now, with an increasing awareness among professionals and clientele alike that individuals learn and process information in different ways, prescriptively teaching one style of personal financial management is no longer appropriate.

Previous personal and family financial management research has concentrated on demographic, social, and economic descriptions of the management of financial resources. A limited number of studies focus on the cognitive, psychological, or personality components of personal financial management behavior. Brown, Heltsley, and Warren (1983); Rosen and Granbois (1983); Wermers (1984); Granbois, Rosen, and Aeito (1984); and Furnham (1986) investigated locus of control and personal financial management. Financial management attitudes have been investigated more extensively including studies by Bailey and Gustafson (1986), Furnham (1985), and Yamauchi and Templer (1982). Sproles and Kendall (1986) studied the relationship between general learning styles and consumer decision making styles of high school students. Rettig proposed in 1987 a family decision making framework based on Kuhn's model of a controlled system, but research on this model has not been found. Rettig and Schulz (1990) recently published the results of an exploratory study which used the Harrison and Bramson Inquiry Modes Questionnaire (InQ) as the conceptual basis for categorizing individual financial decision making styles, but the results of their study were not available when the present study was initiated.

The purposes of this article are to report research on the initial exploratory development of: (a) a model of personal financial management style; and (b) an instrument used in measuring the proposed model.

Theoretical Perspective for the Study

The theoretical perspectives for the development of a model of personal financial management style for the present study evolved from two distinct research knowledge areas. The first was family systems management models as advanced by Deacon and Firebaugh (1988); Gross, Crandall, and Knoll (1981); and Rettig (1987). The theories of both Deacon and Firebaugh and of Gross, Crandall, and Knoll proposed an individual cognitive element in personal financial management, but both failed to develop this element in any detail. Rettig's model of family decision making allowed for individual cognitive decision styles but could be further

refined by describing specific cognitive decision styles as they apply when managing the resource of money.

The second area was cognitive style theory, specifically the information processing style model of McKenney and Keen (1974). This theory was chosen because it is based on the cognitive style of adults, and has been linked with management and decision making.

Family Systems Management Models

Models proposed by Deacon and Firebaugh (1988), Gross, Crandall, and Knoll (1981), and Rettig (1987) were used as part of the theoretical base for this study.

Deacon and Firebaugh Individual Personal/Managerial System

The Deacon and Firebaugh (1988) model is composed of three major components: input, throughput, and output. The throughput component is further identified as having two subsystems within the resource management system of each individual: the managerial subsystem and the personal subsystem. When discussing the personal subsystem in an earlier version of their book, Deacon and Firebaugh (1981) described an individual's approach to decision making as intuitive or rational. While acknowledging intuitive decision making, Deacon and Firebaugh devoted the vast majority of both versions of their book to a detailed description of the more systematic, rational decision making and management process.

Gross, Crandall, and Knoll Family System Model

An individual system is described as part of the Gross, Crandall, and Knoll (1981) model. Two subsystems within the individual system are the psychosocial subsystem and the managerial subsystem. Included within the psychosocial subsystem are knowledge; attitudes; motivation; the ability to think logically; confidence; a sense of self-worth; loyalty; concern for others and for the environment; and the use of time and energy in consumption. The psychosocial subsystem was treated as an integral part of their model, but Gross, Crandall, and Knoll devoted the vast majority of their book to detailing the managerial subsystem.

While not stated explicitly, cognitive style can be considered part of the psychosocial subsystem in the Gross, Crandall and Knoll model, and of the Deacon and Firebaugh's personal subsystem. The third family

systems management model takes a more cognitive approach to individual management.

Rettig Cognitive Conceptual Family Decision Making Framework

Three processes in a conceptual decision making system used in the management of personal resources were identified within the framework proposed by Rettig (1987). The three identified processes included perceiving, deciding, and acting. Individuals have perceptual styles which involve how they sense and access information. The cognitive or deciding styles of an individual involved the unique ways each individual thinks and processes information while behavioral styles are unique ways the individual acts upon situations and problems.

Both Deacon and Firebaugh, and Gross, Crandall and Knoll proposed an individual cognitive element in personal financial management, but both failed to develop this element in any detail. Rettig's model of family decision making allowed for individual decision styles but could be refined further by adding specific cognitive styles. Consequently, the second research knowledge which provided a base for this study was cognitive style theory, specifically the information processing style model proposed by McKenney and Keen (1974).

Cognitive Style

Cognitive style referred to the various ways an individual perceives, gathers, and processes information to solve problems or make decisions (NETCHE, 1976). Cognitive styles also have been described as "the preferred way each individual organizes all that he sees, remembers, and thinks about" (Messick, 1976, p. 3). Messick further stated that "these styles represent consistencies in the manner or form of cognition as distinct from the content of cognition or level of skill displayed in the cognitive performance" (p. 5). Even (1985) noted that cognitive styles are not simply habits but habitual modes of information processing.

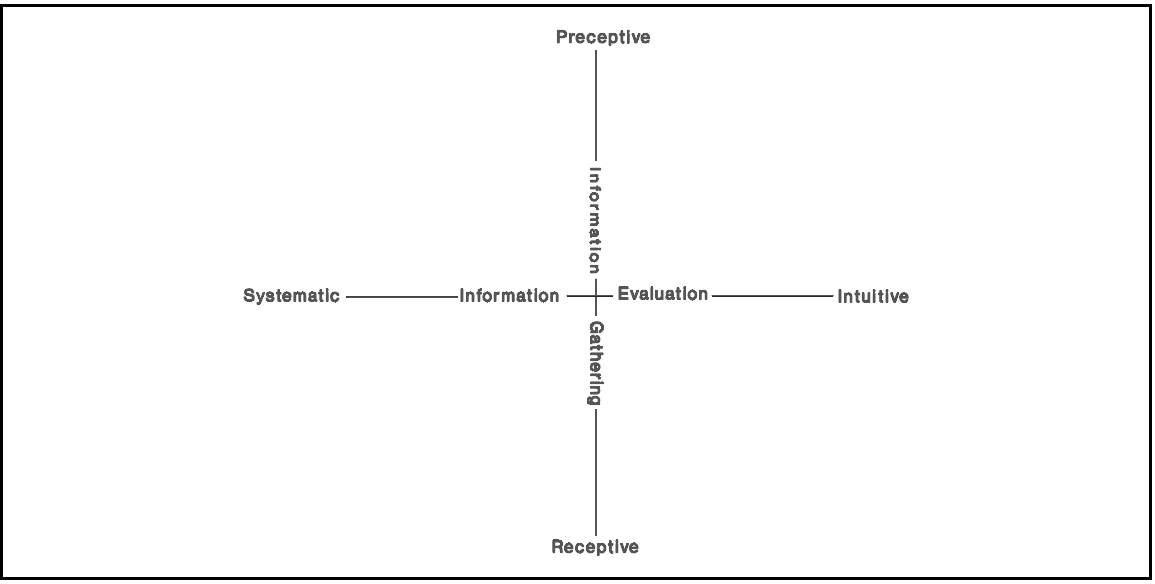
Witkin (1977), in identifying the characteristics of cognitive style stated that cognitive styles: (a) represent the "how" rather than the "what" of behavior; (b) are stable over time; (c) involve both cognitive and social characteristics of the person making this dimension a very pervasive one; (d) are value-neutral; and (e) some people may acquire mobility in their use of styles with experience or special training (p.18). Because of cognitive styles, learners see and make sense of the world in different ways. They approach their environment differently, construct

relationships differently, and process information differently (Cross, 1976). A cognitive style which has been investigated in adult education and in business management is information processing style as defined by McKenney and Keen (1974).

Information Processing Style

The present study used the information processing style model of McKenney-Keen (1974) (Figure 1). This theory was chosen because of its focus on the cognitive style of adults, and because literature exists linking information processing and management.

Figure 1.
Information Processing Model (based on McKenney-Keen, (1974).



Four cognitive information processing styles are identified with the McKenney-Keen model: systematic-preceptive; systematic-receptive; intuitive-preceptive; and intuitive-receptive.

Two dimensions exist on the McKenney-Keen model; information gathering and information evaluation. Information gathering is related to the perceptual processes by which the mind organizes the data encountered in the environment; and is described as either preceptive or receptive. Information evaluation refers to processes commonly included under the category problem solving, and is defined by this model as systematic or intuitive.

Information gathering. Preceptive information gatherers filter information by fitting it into previously learned categories while people who gather information receptively take information in as raw or as accurate a form as possible. Martens (1976) identified the advantages of the preceptive mode as organizing ability and being able to handle large amounts of information while the disadvantages include missing new ideas all together and the uniqueness of types of information. The receptive mode offers the advantage of being more accurate with the disadvantage of the possibility of being glutted by large amounts of information.

Information processing. Systematic information processors approach a problem by devising a method with specific sequential steps to a solution in an orderly fashion. Intuitive information processors, on the other hand, use trial-and-error, define and redefine a problem, and rely on nonverbalized clues and hunches. Because systematics define their solutions in terms of their method, they work well when a single procedure is appropriate for successive problems while intuitives excel with unstructured and complexly structured problems. Intuitives are solution conscious and idea generators.

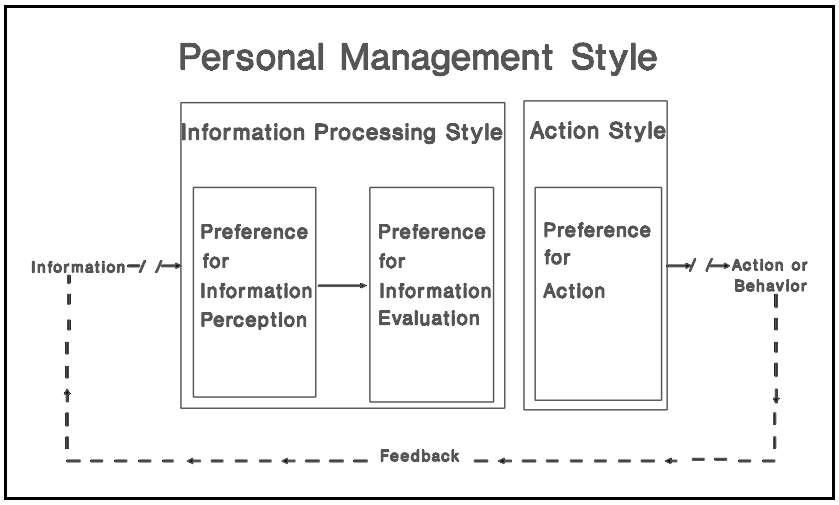
This cognitive model provides the framework for further delineating the cognitive element directly or indirectly included in each of the three family systems management models. No research studies were found which considered the relationship of adult personal financial management style and information processing style (as defined by McKenney and Keen). Since no cognitive theory of personal financial management style was found prior to the initiation of the present study, a need existed to develop a cognitive model of personal financial management style upon which a theory of personal financial management style may eventually unfold.

Development of a Personal Financial Management Style Model

One objective of this exploratory study was the development of a hypothesized personal financial management style model. Before an actual hypothesized model could be proposed, a hypothesized model of

the cognitive sequence of personal management was defined. Drawing from three existing family systems models (Deacon and Firebaugh, 1988; Gross, Crandall, and Knoll, 1981; and Rettig, 1987) and from the cognitive style model of McKenney and Keen, the hypothesized sequence of personal financial management (Figure 2) focused on the individual person. At the first crucial choice point indicated by a double slash (//) in Figure 2, an individual actively selects which information to consider. The selected information enters the person's

Figure 2
Model of the Sequence of Personal Management (Prochaska-Cue, 1988)

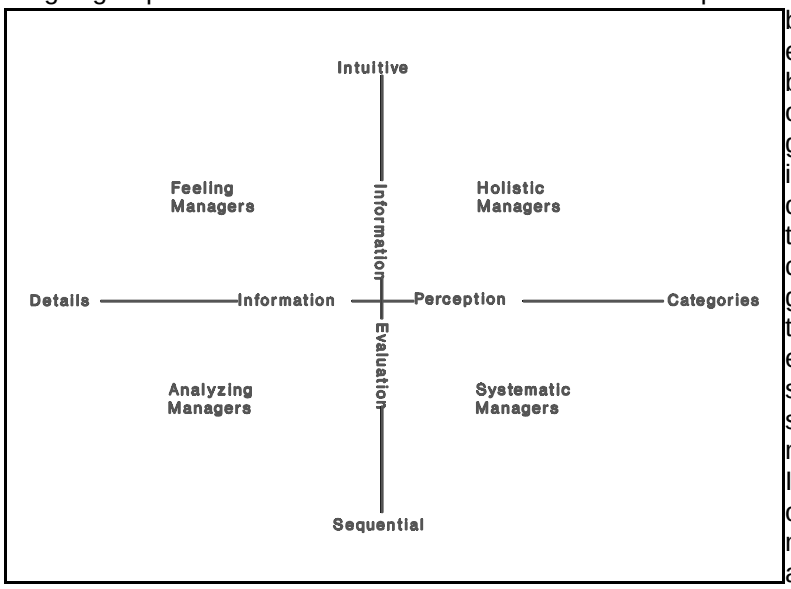


cognitive system and is perceived and evaluated by that person's preferred information processing style. A predetermined preference for action combines with two information processing preferences for how information is perceived and evaluated. These three predetermined preferences form personal management style. At this point, the second crucial choice point occurs as the person actively chooses whether to respond in a typical manner (as defined by the personal management style) or in an a typical manner. Actual behavior or action then occurs, the results of which feed back into the individual's cognitive system as an incoming information component.

Two dimensions of personal management style as defined in the hypothesized sequence of personal management are: (a) information perception, and (b) information evaluation (Figure 2). Individuals perceive information either in a detailed fashion as either new, raw, separate pieces of data or categorically

Figure 3.
Model of Cognitive Personal Financial Management Style (Prochaska-Cue, 1988)

as larger groups or chunks of data and related to what has previously been brought into the cognitive system. Information evaluation occurs either in an orderly, sequential, step-by-step method or through an exploratory, intuitive fashion.



Four specific classifications of personal management style then result. People who perceive in detail and who evaluate intuitively are defined as feeling managers. Those who perceive in detail but who use sequential evaluation are analyzing managers. Individuals who perceive information categorically and evaluate sequentially are defined as systematic managers while those who are categorical information-perceivers and intuitive information-evaluators are holistic managers.

The proposed cognitive personal financial management style (PFMS) model (Figure 3) provided the theoretical basis for development of an instrument to identify the PFMS of a specific person.

Development of an Instrument to Measure PFMS

A synthesis of test construction steps as identified by Borg and Gall (1983) and by Kline (1986) provided the procedure for development of an instrument to measure cognitive PFMS. A computer search in March 1987 of the ERIC and PSYCHINFO data bases failed to identify any existing studies relating a model of personal financial management style to learning style or to information processing style. A second search of these sources in March 1988 still found nothing. Consultants at the Nebraska Evaluation and Research (NEAR) Center provided programming and statistical guidance throughout this study.

Following the literature search, an item pool for a proposed PFMS instrument was developed by the researcher. Sixteen items for each of the four hypothesized personal financial management styles were generated by considering twelve areas of financial management activity: financial planning; budgeting; record keeping; using a checkbook; savings, emergency fund; investing; insurance; taxes; credit; estate planning; property ownership; and shopping. Since Crocker and Algina (1986) and Lord and Novick (1968) stressed the importance of defining constructs underlying psychological measurements in terms of observable behavior, items were generated which related to the cognitive activity of perceiving and assessing information as well as to actual behavior or activity hypothesized to represent the cognitive component. After being screened by two judges for face and content validity, and for clarity, the original 64 items were Q-sorted following Stephenson's (1953) suggestions for this methodology. Five graduate faculty members in personal and family financial management, and in home economics education participated. Items were sorted on the basis of the descriptions of the four hypothesized PFMS. Upon the advice of the NEAR Center consultant, the researcher's rating of each item was also considered in statistical analysis.

An item was retained if four of the six experts agreed about its group placement. This activity resulted in 10 items for the holistic style category; 10 items for the analyzing style category; 10 items for the systematic style category; and 14 items for the feeling style category. To reduce the items to ten for the latter category, only items which had five or more experts

agreeing on the feeling classification were accepted. Overall, the five experts did not significantly differ with the researcher in their classification of the 64 items.

Prototype Prepared and Piloted

The 40 retained items formed the prototype PFMS inventory. Each item in the prototype inventory was measured on a six point Likert-type scale to determine how much each item was perceived by the respondent to resemble personal style, and was used in a pilot of 21 people, both male and female, representing a variety of ages, household incomes, education levels, and occupations. Following the pilot, five items were modified for additional clarity. All items were checked for range of response.

Individual items were stated; then respondents circled which of six responses most accurately described them. These responses were:

1. definitely does not describe me
2. slightly describes me
3. moderately describes me
4. probably describes me
5. mostly describes me
6. definitely describes me

To minimize any response bias effect, items were presented in random order in the instrument.

Sample and Data Collection

Single people were defined to be the population for this study because cognitive style is an individual characteristic. Individual cognitive style may be contaminated through shared management and decision making activity with others.

Contact with fourteen formal and informal groups of single people in two Midwest metropolitan areas was made by the researcher when presenting a program on financial planning at the Fourth Annual Conference for Single Adult Living held in May 1988 at the University of Nebraska Center for Continuing Education. The researcher then visited each of these fourteen groups to recruit people to participate in the study. An instrument and postage-paid, pre-addressed envelope was given to each participant. Following the guidelines for survey methodology as outlined by Dillman (1978), a

Table 1.
Summary of Sample Demographics

	Frequency	Percent
Males	26	20.3
Females	102	79.7
Age		
Under 21 years	3	2.3
21 to 30 years	30	23.4
31 to 40 years	45	35.2
41 to 50 years	29	22.7
51 to 60 years	11	8.6
61 years and older	10	7.8
Income		
Less than $15,000	50	39.1
$15,000 to $24,999	45	35.2
$25,000 or more	33	25.8
Education		
High school graduate	16	12.5
Some post-high-school	51	39.8
College graduate	29	22.7
Advanced college degree	32	25.0
Single status		
Always single	47	36.7
Divorced, widowed	79	61.7
No response	2	1.6
Ethnic/Cultural		
Native American	2	1.6
White	123	96.1
Hispanic	1	0.8
No response	2	1.6
Location of Residence		
City	119	93.0
Small town	7	5.4
Rural	2	1.6

follow-up postcard was sent two weeks after the person had volunteered for the study if their instrument was not returned. If still missing two weeks later, a cover letter and second instrument were sent.

The revised PFMS instrument was administered to a total sample of 161 unmarried persons to collect reliability and validity data for the IFMS inventory. The response rate was 79.5 percent when 128 instruments were returned. Nearly 80% of the sample was female (Table 1). The modal age category was 31 to 40 years, modal income category less than $15,000, and modal educational level some post-high-school. More than 60% were divorced or widowed and more than 35% had always been single. The respondents were primarily white (96%), and lived in one of the two metropolitan areas (93%).

Description of Factor Analyses

Factor analysis as applied in an exploratory validation study (Crocker and Algina, 1986) was used to collapse the data and to analyze how the 40 items grouped for content and construct validity purposes. With 40 items, 120 to 400 subjects would be the ideal depending upon the source consulted (Guilford and Fruchter, 1973; Nunnally, 1978).

With 128 subjects, this study meets the minimum requirements for sample size. A principal components Screen analysis with no rotation showed eleven factors with eigenvalues greater than one.[1]

Results

Factor Analyses

A three-factor solution was accepted.[2] The accepted solution resulted in 14 items for factor one, six for factor two and nine for factor three (Table 2). Four items double-loaded on two of the three factors. One item was assigned
to the first factor since the difference between the correlation coefficients was > .20. Eight items did not load on any of the three factors.

The previous ratings of the experts for the individual items were considered in evaluating the three-factor solution. From this evaluation, factor one

Table 2.
Three-Factor Solution Factor Analysis Loadings, .35 or Higher

	Loadings on factors		
Item	Factor 1 Analyzing	Factor 2	Factor 3 Holistic
I have carefully inventoried my need for insurance, done adequate comparison shopping, and believe I have the best insurance coverage for my situation.	.43679		
In recalling how I spent money during the past month, I remember general categories of expenses, but few specifics.			-.43287
Any written records of moneykept by me are accurate to the penny.		.60179	
I keep careful tax records all year long.	.55422	.47152	
I buy mostly on impulse; if it feels right, I'll get it.	-.38981		
When someone else tells me something about their finances, I tend to remember in general what they say but pay little attention to details.			-.43779
I can't always tell someone else how I solve financial problems.			-.44385
I may review several insurance options and then pick the one that just feels like it meets my needs best.	-.38348		
I only balance my checkbook when I receive a monthly statement, and may occasionally miss a month or two.		.47987	
I have an updated will which carefully outlines what I wish for my estate if I should die.	.49463		
I have an updated household inventory listing of all of my personal possessions.	.52163		
I have carefully considered ownership of my property and, if appropriate, have a joint owner named.	.52895		

Table 2 (Continued)
Three-Factor Solution Factor Analysis Loadings, .35 or Higher

Item	Loadings on factors Factor 1 Analyzing	Factor 2	Factor 3 Holistic
I have financial records organized in appropriately labeled file folders where I can quickly and easily put my hands on a particular piece of paper.	.56760		
I tend to remember financial details.	.46246		
My budget includes a careful plan for emergency and other unexpected expenses.	.67066		
When I shop for groceries, I just walk through the store and pick up what I need.			-.47896
My plans for using money include a goals statement, budget, and written records.	.52120		
When telling someone who should know about my finances, I am sure to relate lots of specific details.	.53559		
In general, my finances are somewhat orderly.		.65539	.39477
When I have a financial problem, I start to come up with solutions before I have much information.	-.48554		
I set financial goals annually and measure my progress towards these goals frequently.	.63988		
I feel investing is important and have a specific plan for reaching my financial goals.	.77249		
When I write a check, I enter the amount in the check register and subtract as soon as possible so I always know how much moneyis left in the account.		.70147	
Regular savings is a bore; I would rather live for today.	-.40024		
Before investing, I carefully study the alternatives, considering them according to the criteria I've set, and make the final decision only after careful deliberation.	.63561		

Table 2 (Continued)
Three-Factor Solution Factor Analysis Loadings, .35 or Higher

Item	Loadings on factors Factor 1 Analyzing	Factor 2	Factor 3 Holistic
I always put money in my regular savings account first before any bills or other expenses are paid.		.44630	
I would say my finances are generally somewhat disorderly.	.42567	.40071	
I keep all credit card transaction slips and compare them with the monthly statement which I receive.	.46618	.44699	
I tend to forget financial details.		.36179	
Any written financial records kept by me may not be accurate to the penny.		.51147	

appeared to represent the proposed Analyzing Style of management and factor three appeared to represent the proposed Holistic management style. Factor 2 was determined to be an uninterpretable factor result.

The Analyzing Scale had a negative relationship with both Factor 2 and the Holistic Scale in the factor correlation matrix, while Factor 2 had a positive relationship with the Holistic Scale. Therefore, Factor 2 appeared to be related more to the Holistic Scale than to the Analyzing Scale (Table 3).

Table 3.
Three-Factor Correlation Matrix

	Analyzing	Factor 2	Holistic
Holistic Scale	1.00000		
Factor 2	-.30190	1.00000	
Holistic Scale	-.12158	.24709	1.00000

The 29 items were collapsed into three scales representing two financial management styles, Analytic and Holistic, and the undefined third factor.

Reliability and Validity

Internal consistency reliability for each of the three scales was analyzed using coefficient alpha (also called Cronbach's alpha) on the SPSSX program. Reliabilities were obtained for each set of items composing the two scales; Analyzing and Holistic. Since this study was composed of a group of individuals, an index of .6 or higher was adequate for acceptance (Kline, 1986).

Two reliability analyses of the PFMS scales were done when the first analysis showed that coefficient alpha for the Holistic Scale would increase substantially if one item was eliminated from the scale. Results of the second reliability analysis indicate a Cronbach's alpha of .8814 for the Analyzing Scale, and .6713 for the Holistic Scale.

Face validity and content validity flowed directly from the procedures used in test construction, namely the Q-sort methodology as the five experts sorted items constituting the item pool on the basis of the descriptions of the four hypothesized personal financial management cognitive styles. Construct validity was estimated in two ways through statistical analysis of participants' responses: (a) scale-to-scale correlations, and (b) item-to-scale correlations.

The scale-to-scale correlation of the Analyzing-Holistic scale relationship as measured by a Pearson correlation coefficient was -.33. Because each scale was to be independent of the other two scales, it was important that each scale be unlike the others. Therefore, the extent to which the instrument had power to discriminate among its own scales was a test of validity. The negative correlation for the Analyzing and the Holistic Scales, and the fact that the intercorrelation was measured at $p < .001$ level indicated a satisfactory discrimination ability for the Analyzing and the Holistic Scales.

Item-to-scale correlations for each of the scales based on the sample of 128 were derived and are presented in Table 4. All items correlated positively with the scale to which they were assigned, providing further evidence for the validity of the instrument.

Final Composition of the Prochaska-Cue Inventory of Financial Style (PIFS)

The Prochaska-Cue Inventory of Financial Management Style (PIFS) consists of three independent scales measuring two personal financial

management cognitive styles, Analyzing and Holistic. These two PIFS scales have been copyrighted with all rights reserved (Prochaska-Cue, 1988).

Analyzing Style Scale

The first PIFS scale, the Analyzing Style Scale, is composed of 14 items which measure various aspects of individual financial management style. Cronbach's alpha coefficient for the final Analyzing Scale is .8814. The following items compose the Analyzing Scale:

1. I have carefully inventoried my need for insurance, done adequate comparison shopping, and believe that I have the best insurance coverage for my situation.
2. I have an updated will which carefully outlines what I wish for my estate if I should die.
3. I have an updated household inventory listing all of my personal possessions.
4. I have carefully considered ownership of my property and, if appropriate, have a joint owner named.
5. I have financial records organized in appropriately labeled file folders where I can quickly and easily put my hands on a particular piece of paper.
6. I tend to remember financial details.
7. My budget includes a careful plan for emergency and other unexpected expenses.
8. My plans for using money include a goals statement, budget, and written records.
9. When telling someone who should know about my finances, I am sure to relate lots of specific details.
10. In general, my finances are somewhat orderly.
11. I set financial goals annually and measure my progress towards these goals frequently.
12. I feel investing is important and have a specific plan for reaching my financial goals.
13. Before investing, I carefully study the alternatives, considering them according to the criteria I've set, and make the final decision only after careful deliberation.

Table 4.
Item-to-Scale Correlations of the Two PIFS Scales

Item Number	Item to Total Scale Correlation
Analyzing Scale	
2	.4465
14	.4196
15	.5074
16	.4978
17	.5710
18	.5015
19	.6897
21	.5726
22	.5870
23	.6883
28	.6591
29	.7041
35	.6593
39	.3717
Holistic Scale	
4	.3851
7	.3883
9	.3918
10	.3342
11	.2933
20	.4328
24	.2960
33	.3347

14. I always put money in my regular savings account first before any bills or other expenses are paid.

Holistic Style Scale

The second PIFS scale, composed of eight items, has been named the Holistic Scale. Cronbach's alpha coefficient for this scale is .6713. Further definition of items for this scale is needed. Thus far, items for the Holistic Scale include:

1. In recalling how I spend money during the past month, I remember general categories of expenses, but few specifics.
2. I buy mostly on impulse; if it feels right, I'll get it.
3. When someone else tells me something about their finances, I tend to remember in general what they say but pay little attention to details.

4. I can't always tell someone else how I solve financial problems. 5. I may review several insurance options and then pick the one that just feels like it meets my needs best.
6. When I shop for groceries, I just walk through the store and pick up what I need.
7. When I have a financial problem, I start to come up with solutions before I have much information.
8. Regular savings is a bore; I would rather live for today.

The two scales were accepted as initial elements in PIFS following the recommendation of Kline (1986) who stated that a goal in test construction should be scales with alpha coefficients of .60 or higher.

Discussion

The results suggest a possible relationship between personal cognitive style and financial management style of individuals, but the small sample size of this exploratory study precludes any generalization of results beyond the sample itself.

Application of Results to Knowledge and Theory

The study reported here defined one element of the personal subsystem of the Deacon and Firebaugh (1988) model and of the psychosocial subsystem of the Gross, Crandall, and Knoll (1981) model as personal financial management style. Rettig's (1987) model of the components of individual management style is redefined by identifying what Rettig calls "perceptual styles: how you sense and feel" as "*perception styles: how you perceive information*," and what is defined by Rettig as "cognitive deciding styles: how you think" into "*evaluation styles: how you evaluate information*." The two previous categories, information perception and information evaluation, could then be combined and identified as the two components of individual information processing style, an important element of cognitive style. The information processing model of McKenney and Keen is expanded by making successful application of that model to personal financial management style.

PFMS Model

While exploratory, the present study helps to establish that people cognitively manage their financial resources in different ways. Not everyone approaches management in a systematic, sequential manner as traditional financial management education would have one believe. Some people do use a more intuitive or holistic approach. The latter

cognitive style is much more difficult to define, but can no longer be ignored as possibly representing one cognitive PFMS.

Other classifications of PFMS undoubtedly exist. This first attempt at defining adult PFMS was probably not as conclusive. Future research might place these resulting X number of PFMS styles on the two continuums represented in the proposed model or perhaps changing the model into a multi-dimensional one.

Caution must be exercised when defining PFMS for an individual. Remembering what Shipman and Shipman (1985) advised when they stated that "people differ in the relative degree to which they evidence the behaviors associated with [each style]" (p. 276), any tendency to separate people into X number of PFMS must be avoided.

This exploratory study concentrated on the information evaluation component of the PFMS model; to a lesser extent, information perception was included. While information processing as defined by McKenney and Keen does appear to be an element in cognitive PFMS, management is more than pre-determined preferences of information perception and evaluation. A predisposition for action also must be included as part of cognitive personal management style. These three pre-determined preferences for information perception and evaluation, and for action, develop from one's social and psychological past and present; as such, any preference is subject to change in the future depending upon the feedback one receives. As a dynamic process, cognitive style continues to change, being modified by what continually happens to the individual.

Another critical theoretical element in the hypothesized cognitive sequence of personal management (Figure 2) is that of the two "decision points" in any cognitive process where the individual makes the decision *to use* the predetermined preference or style for information perception or evaluation, or for action, or chooses *not to use* one or more of one's preferred cognitive approaches. While this exploratory study did not specifically address these decision points, future research might find such investigation fruitful.

PIFS Instrument

The new instrument, the Prochaska-Cue Inventory of Financial Style (PIFS), identifies scales for measuring two hypothesized PFMS, the

Analyzing and the Holistic Styles. Identification and development of items for the two other hypothesized PFMS in the proposed model upon which this exploratory research study is based, Feeling and Systematic, and the refinement of the remaining items in the instrument used for data collection will result in future revised versions of PIFS. Financial management education practitioners and other financial management professionals may find the educational process facilitated by using PIFS to assess the PFMS of students and clients.

Implications

The Prochaska-Cue Inventory of Financial Style (PIFS) was an initial exploratory attempt at developing an instrument to assess cognitive personal financial management style (PFMS). PFMS and PIFS offer both an opportunity for further research and an opportunity to refine financial management educational practice.

Replications of this exploratory study need to be done with larger samples of individuals from other parts of the country representing a wider variety of ethnic and cultural backgrounds, and with a broader representation of individual location of residence to determine if findings can be replicated with more diverse samples. Debate continues as to whether factor analysis is appropriate for measuring psychological "spaces" as defined by Foa and Foa (1974). However, Crocker and Algina (1986) recommend using factor analysis for an exploratory validation study with a battery of tests in instrument development such as this research. Future research studies will need to employ varied statistical analysis as appropriate.

Additional studies which further define the hypothesized models of PFMS and the personal management sequence proposed in this study are needed. For example, defining how holistic people manage money; i.e. the actual financial management behaviors, processes and techniques they use, and the cognitive organizational structures they have developed for holistic management, will be an important research study in the future.

Results of this study offer two challenges to practitioners: (1) to eliminate the attachment of any value ("good" or "bad"; "correct" or "incorrect"; "right" or "wrong") to a particular style of individual financial management; and, (2) to develop effective means and methods for reaching the less systematic, the less sequential, the less organized person with financial management educational information.

If gone unanswered, these challenges contain the elements which will continue to spell "doom and gloom" for financial management education. Only when using a variety of methods and a varied knowledge base which accepts and includes many different cognitive PFMS styles as a matter of course in financial management education, will financial management educators be able to reach people with varied personal cognitive styles.

Endnotes

1. The elements of the Screen began to level out suggesting a lack of holding and a decrease in power so that, a likely solution was thought to be either three or four factors.

Both three-factor and four-factor solutions were checked using principal axis factoring with iterations and oblique rotation. The three-factor solution converged in five iterations, and the four-factor solution in seven iterations. The cutoff point used for the factor loadings was .35. When an item loaded on two or more factors, it was eliminated if the difference between the correlation coefficients was < .20. When the difference between the correlation coefficients was > .20, the item was assigned to the highest-loading factor.

2. Fewer items loaded on more than one factor with the three-factor solution and a total of 29 items loaded on three factors in contrast to 25 for the four-factor solution.

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