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**Some Guidelines For Financial Planners In Measuring And Advising
Clients About Their Levels Of Risk Tolerance**

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To be published in the Journal of Personal Finance (2002)

Key words : risk tolerance, financial planning, financial attitudes

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Abstract

The aim of this article is to provide advisers and planners in the financial services industry with an outline of the key issues to consider as they develop an understanding of the risk tolerance of their clients. Risk tolerance is the assumed level of risk that a client is willing to accept. Through gaining an accurate assessment of a client's risk profile, an adviser can develop a tailored financial plan that better reflects the client's perception of the acceptable trade-off between risk and the compensation required for bearing risk. By making the client's risk tolerance explicit and understandable, the planner is able to help the client identify any mismatch between psychological and financial needs, then work with the client to make any trade-offs that might be required. However, in contrast to the views of some financial writers, it is argued that risk tolerance is a complex attitude that requires the use of a sophisticated and complete assessment process. Most importantly, the use of a scientifically developed measure of risk tolerance within a structured process set up by the financial planner provides the best approach to determine the risk tolerance of clients. A risk tolerance test score or profile provides the adviser with a good basis upon which to explore further in the interview the type of investments that a client is most likely to find to be acceptable. In addition, using a test of risk tolerance that has established test norms allows the adviser and client to understand how a client's level of risk tolerance compares to other people who have completed the same profile. Finally, the article raises other issues that need to be considered in assessing the risk tolerance of a client, including the format and wording of a measure of risk tolerance, when to give the test, ethical and practical issues in managing test results, and using the use of a measure of risk tolerance with a couple.

Some Guidelines For Financial Planners In Measuring And Advising Clients About Their Levels Of Risk Tolerance

Defining and understanding risk are important challenges for financial planners and their clients. A wide variety of sources have provided advice about the definition of risk, its measurement, and how discussions of risk are built into the establishment of an open and trusting client-adviser relationship. The present discussion focuses upon the key issues that are associated with the selection of risk tolerance assessments for clients. In particular, this paper builds upon existing knowledge available to advisers and planners in the financial services industry by providing a set of guidelines to consider as they assist clients in developing an understanding of risk tolerance. In particular, this discussion examines (a) the concept of risk tolerance; (b) why it is important that planners understand the risk tolerance of clients; (c) how planners should go about obtaining an understanding of their clients' risk tolerance; (d) what planners should look for in a risk tolerance test; and (e) some other general issues. These guidelines are also provided to assist financial planners and counsellors to identify the main features of a good measure of risk tolerance.

Defining Risk Tolerance

Individuals are motivated to meet needs for food, safety, and shelter. Once these primary needs are met, people are more willing to consider the achievement of higher-order needs which include personal development, and securing a better future for themselves and those they love (Maslow, 1954). In this search for the fulfilment of human needs, the human psyche also grapples with the desire for control over the environment. We know that people become anxious and stressed in dealing with issues that are important to them. They become anxious if they perceive these matters to be under threat or to be less under their personal control. In managing their personal financial affairs, people are attempting to achieve a level of financial independence that allows them to meet not only their basic human needs, but also higher level needs for self-development and self-improvement. Making the best decisions about financial affairs can challenge their sense of being in control.

Most people consider themselves to be risk-avoiders rather than risk-takers. People will make decisions in which they are willing to accept a certain small return rather than a larger, but uncertain profit, from their financial decisions (Olsen, 1998; Wright, 1984). An important finding from research is that individuals' evaluations of their self-worth and their levels of self-esteem are related to their levels of satisfaction with their financial situation (Grable & Joo, 2001). Research in behavioral finance also reveals that money managers themselves can make poor financial decisions due to a failure to understand risk, professional over-confidence, or through decision-making practices that become too routine (Katz, 1998; Wood, 1989).

Moreover, many people do not fully appreciate their personal comfort zone when they trade-off what they are willing to accept in terms of possible losses versus possible gains. For some people, their comfort zone can be quite robust. Faced with the possibility of a trade-off between a large gain or loss, at worst they feel slightly comfortable. For others, the possibility of more than a small loss results in high levels of anxiety, in sleep loss, and even in depression. Such responses are supported by the findings of studies on stress and coping that reveal how people vary in their perceptions of events in their lives, especially in how stressful or threatening such events might be (Callan, 1993; Terry, Callan, & Sartori, 1996). These findings again highlight the need to understand how each client, determines an acceptable level of risk.

Risk tolerance is a complex psychological concept that is a key feature of financial attitudes and planning. Risk tolerance is the level of risk that an individual believes he or she is willing to accept. It is important to note that risk tolerance is a complex attitude, and like any attitude, it has multiple levels of interpretation. Risk tolerance reflects an individual's values, beliefs and personal goals, and overlaps with feelings of wanting to feel confident and in control (Young & O'Neill, 1992). Jackson, Hourany and Vidmar (1992) propose, for instance, that risk tolerance has four levels: financial, physical, social and ethical. While there is some evidence of generalized risk

taking, there is stronger evidence of consistency within, but not between facets. Financial risk tolerance involves perceptions about how confident people are in their ability to make good financial decisions, their views about borrowing money, and how much of a risk in terms of financial loss they believe they could accept in achieving financial gains in the longer term. Because of the complexity of the concept of risk tolerance, its measurement is also viewed as not an exact science (Lamm-Tennant, 1994).

In summary, risk tolerance is an attitude that is made up of a balance of different components. It is the degree to which a client is willing and able to accept the possibility of uncertain outcomes being associated with their financial decisions. A measure of risk tolerance is an attitudinal instrument that reveals the client's perception of the trade-off between risk and the compensation required for bearing risk (see Blume & Friend, 1978; Harlow & Brown, 1990). In general terms, the test score from a measure of risk tolerance makes explicit an implicit zone of comfort each client has. If planners and advisers can better understand that zone of comfort, they can provide more appropriate and targeted client advice.

Planners' Efforts to Understand The Risk Tolerance Of Clients

A major reason that planners need to understand the risk tolerance of clients is the difficulty in communicating to people opinions about risk. There are many reasons why it is difficult to communicate the nature of risk to clients. For instance, studies in the field of behavioral finance (Katz, 1998; Elsayed & Martin, 1998) reveal that clients' goals and objectives are often poorly developed and unrealistic. It is often difficult for clients to describe in their own words their attitudes about risk. The initial meetings with financial advisers can be quite difficult for some clients because of the lack of understanding that they might have about their "financial selves", and the investment risks that they might be willing to accept.

A related issue is that most people are not very good intuitive statisticians. In assessing financial or other data, the average person uses mental shortcuts that allow them to process large amounts of information, but always with some degree of error. People experience a wide range of biases and errors of judgment in making financial decisions. The most common, from a psychological perspective, is follow-the-leader or herding behavior. Other studies of investor behavior reveal a natural tendency for under-estimation of the likelihood of a possible loss from investment decisions.

There is a good chance that new clients in particular will not understand many of the financial and risk concepts presented by advisers. It is easy for a client not to listen or to misunderstand an adviser, especially when the technical nature of financial investments, markets, and products makes some clients feel uncomfortable and at the worst, stressed, and aggressive. In addition, most forms of communication between people, even between people who know each other very well, involves a fair degree of miscommunication. Person-to-person communication is not an exact science. It is full of biases, errors in accurately explaining issues, and errors of interpretation (Gallois & Callan, 1997).

The client-adviser relationship may experience all of these problems of miscommunication. Having the client complete a measure of risk tolerance allows any discussion or communication to be focused around an explicit and understandable score or profile. Working from this profile, the planner is able to help the client better understand any mismatches between their psychological and financial needs, and then to assist the client in making the trade-offs that might be required.

Another reason for gaining a more exact measure of risk tolerance is evidence that advisers do not reliably make accurate risk tolerance estimates of clients. In a study by a psychological testing firm (Elsayed & Martin, 1998), clients completed a questionnaire measure of financial risk tolerance.

The measure had very good psychometric qualities, with especially high levels of validity and reliability (these concepts are discussed later in this paper). Results revealed that advisers' estimates of the risk tolerance of their clients were accurate in less than half of the cases; were slightly accurate in one in three cases; and were significantly inaccurate in one in six cases. There was a tendency among advisers to over-estimate when the risk tolerance of clients was low. On the other hand, advisers under-estimated when risk tolerance was high – a “one-size-fits-all” estimating bias. This study indicates that it is often not easy for advisers to estimate the risk tolerance of their clients. There can be a level of over-confidence among many advisers, possibly reinforced by their misplaced belief in the effectiveness and accuracy of their personal measures of risk tolerance. This over-confidence seems to lead many advisers to believe that their estimates are more accurate than they actually are.

Finally, investors of similar ages or professions do not necessarily have homogeneous investment preferences. The adoption of a “life cycle” approach by some financial planners has encouraged the view that two clients who are aged 45 years of age and employed in professional jobs are at the same point in their life cycle and planning horizon. For many reasons, however, one of these clients could have a lower level of risk tolerance. They might feel very uneasy about making financial decisions. Again, each investor is an individual, and should be treated as a person with unique needs and attitudes. A major task for the investment adviser is to understand their clients as individuals, and to determine what level of risk each client is willing to accept compared to the wider population of investors.

Obtaining An Understanding Of Clients' Risk Tolerance

It is well established by social psychologists and market researchers that the use of a single item or less than four items to measure an attitude provides a less accurate measure of an attitude than a larger range of items or attitude statements (Secord & Backman, 1964; Zikmund, 2000). To

achieve acceptable reliability (to be discussed later), a range of questions centered around the relevant concept is required. The attitude of risk tolerance is not accurately measured by a one-question self-assessment (e.g., “How would you rate yourself in terms of the amount of risk you can tolerate compared to other investors?”). Rather, accurate assessments of any attitude like risk tolerance only emerge through the use of multiple questions that tap into the complex nature of the construct (Cutler, 1995). In addition, a reliable test can only result from a broad sampling over the range of areas that contribute to a client’s risk tolerance. A small number of questions in an interview or questionnaire will not provide reliable information about a client’s risk tolerance.

A measure of risk tolerance needs to reflect the complexity of the construct of an attitude to risk tolerance. The measure or test needs to ask multiple and related questions which tap into the personal beliefs, knowledge levels and emotions of the client. As studies in social psychology reveal, any attitudes has a spoken component (i.e., beliefs) and also unspoken components (i.e., feelings and emotions; Secord & Backman, 1964). As a result, the assessment of risk tolerance needs a sophisticated and complete evaluation process that measures both the spoken and unspoken aspects.

The function of most psychological and attitudinal tests has been to measure differences between individuals or between the reactions of the same individual on different occasions. In line with this, the function of a measure of risk tolerance should be to differentiate people on the basis of the level of risk that they are willing to accept. Such a test can also be used to measure the risk tolerance of the same person over time. That is, attitudes like risk tolerance are likely to change over time as people experience the positive and negative outcomes of their previous investment decisions, changes with age to their family or work lives, and changes in the performance of national and global markets. However, social psychological research reveals that most changes in attitudes take some time to emerge (Adams, Hayes & Hopson, 1976; Argyris, 1985).

To obtain an understanding of a client's attitudes about risk tolerance, the same principles apply that are used for any scientific assessment of personal attitudes (Spector, 1996). The three common techniques are gaining biographical data from clients, conducting an interview, and using a scientifically validated test. What is argued here is that as validated tests of risk tolerance are slowly becoming available, an adviser can form a much more accurate impression of a client's risk tolerance by giving most weight to the results of the risk tolerance test. Two good examples are the American Colleges Survey of Financial Risk Tolerance, and the ProQuest Risk Profiling System. Such validated tests are a better use of client and adviser time. Also the personal profile that emerges is shared between the client and the adviser, and provides a foundation for establishing rapport, trust and a sharing of confidences. For the adviser, the information on a client's risk profile is a very cost-effective method of understanding the range of conflicting expectations that clients typically bring to meetings with their financial advisers.

A scientifically developed test of risk tolerance asks questions in a strict order. This test and its questions can therefore take the place of similar questions in a structured interview. Another benefit is the substantial evidence from studies of selection and recruitment practices by psychologists that scientifically developed tests provide greatly improved assessment accuracy (see Noe, Hollenbach, Gerhart & Wright, 1994). The use of a structured questionnaire format rather than an unstructured or semi-structured interview format substantially increases the likelihood of making more accurate decisions. That is, a structured format of risk tolerance reduces the likelihood of advisers wasting time by asking random unstructured questions which in the end lead to less accurate conclusions about a client's risk-taking profile.

The interview is still a useful method for building rapport with any client. However, with a measure of risk tolerance taken before an interview, the adviser can use this information as a good

platform from which to probe further into the type of investments that a client is most likely to find acceptable. Short questions in the interview can be used to probe further about choices the client would make when there is uncertainty about the financial outcomes of those choices. Knowing the profile of one or both investors (if a couple) means that the adviser can begin a line of questioning about the feasibility of specific investment products that best match the client's levels of optimism, conservatism and expectations about performance.

A risk tolerance test can be in the form of a "paper and pencil" test. In addition to paper and pencil tests, planners may access the same test via computer programs. The client keys in a response to questions by pressing, for instance, an "x" or by typing in a number. Computer testing, however, is preferred over "paper and pencil" versions of the test for several reasons. First, the scoring is immediate. The client receives their profile without the delay that occurs if the test is scored by hand either by the client (which opens up some opportunity for error) or by the adviser. Second, computer completion and scoring of tests is now so sophisticated that computer tests elicit the same information with the same accuracy as results obtained by the testing agency when hand scored (Martin & Nagao, 1989).

Features of a Good Measure of Attitudes to Risk Tolerance

The key indicators of a good test of attitudes of risk tolerance are its reported levels of validity and reliability. Validity is what the test measures and how well it does it. There are different types of validity, with the most frequently reported ones being face validity and predictive validity. Reliability is the consistency of the test results for the same test taker. Planners who intend to use a test should acquaint themselves with these two aspects of any risk tolerance instrument. Such aspects should be reported in the manuals or material that are available with each test.

Face Validity. There are various forms of validity that are likely to be reported by the developers of a test of risk tolerance. If a test has good face validity, the questions it asks are seen to be very relevant by the person taking the test (Anastasi, 1990). Questions should reflect the level of experience the client has in dealing with the issues being measured. At the same time, it is likely that some questions will be hypothetical due to variations in clients' levels of experience with a particular aspect of financial management and risk. In these cases, a description of this hypothetical financial product should be built into the test question to help the client. If not, there may be a lack of face validity with the client guessing and the test score and risk tolerance profile become less accurate. In a good test of risk tolerance, levels of face validity will be high. That is, the client is asked a series of straight-forward questions about their actual or hypothetical financial behavior. Many of the questions will ask what decisions the client would make given the situation explained in the question, or given the range of options provided. As Anastasi (1990) notes with reference to measurement, tests need to avoid asking very general questions. In the case of risk tolerance, an example might be, "do you enjoy driving at high speed?"

Predictive Validity. Another issue is whether the test predicts a later measure of performance, that is, predictive validity. With risk tolerance, the concept of "performance" might include the perceived match between a client's score on the test, and some months later, their attitude about investment decisions. Those who score as more tolerant of risk, for example, should have opinions and investment behaviors with other financial products that are consistent with this greater tolerance of risk.

Factor Analysis. This statistical procedure measures the relationships between items and groups of items in the test. Those items that are highly correlated are combined into factors. These factors are then identified as representing particular behaviors. It is important for an adviser to understand how many factors are represented and what items in the test contribute to each factor or dimension.

Theoretically these factors must be relevant to the attitude of risk tolerance. There should not be too many factors and there should be at least three if not four questions or items loading on (relating to) each factor. Some tests of risk tolerance that report the results of factor analyses reveal that the construct of risk tolerance is one-dimensional. That is, risk tolerance is represented as a single factor (eg. The ProQuest Risk Profiling System). Other measures reveal up to two dimensions (Boettner Institute of Financial Gerontology, USA; Cutler, 1995), but it is likely that these two dimensions are in fact opposite ends or poles of the same single factor of risk tolerance.

Reliability. There should be evidence in the supporting materials about the risk tolerance test that a similar result is obtained for the same person when they complete the test over short periods of time, that is, the test is reliable. If a person achieves two completely different scores on the same test within a few months of repeating the test, this may be an indication that the test is not reliable. Test reliability is the extent to which individual differences in test scores are attributable to true differences in the characteristics under consideration and the extent to which they are attributable to chance errors. Thus, reliability of a test is a very important consideration. Without high levels of reliability, a test score is in a genuine sense uninterpretable. High levels of reliability are commonly accepted as a level at .80 and above. Moderate levels of reliability are .60 to .79, and below this level of reliability, the test needs further development before its measurement results can be accepted with some confidence (Anastasi, 1990).

Advisers and planners, however, need to be aware of what are reasonable fluctuations in scores for a client who takes a test twice. There are many reasons why a client might not produce the same score on a risk tolerance test on two different occasions. Such factors might include (a) changes in the conditions where the test is completed, (b) the client having an experience that has made them re-think their attitudes towards tolerance of risk, (c) the prior test result might have been inaccurate ,

or (d) the client has some other problem which causes a lack of concentration (Anastasi, 1990; Cronbach, 1990).

Few short form measures of an attitude are reliable and valid. A short form is usually a test of an attitude (e.g. attitude to risk tolerance, attitude drinking and driving, attitude to water conservation) that uses fewer than about 10-12 items to measure the attitudinal construct. These short forms should be avoided for several reasons. Firstly, in extreme cases, it is possible that only a few questions in these short tests actually deal specifically with the attitude being measured. Also if an attitude is multidimensional, as most are, short forms of a test do not have enough questions to sample the wide domain of factors that influence the construct, whether it be attitudes to risk tolerance, drinking and driving or the environment. As a result, such measures will give inaccurate results about a client's level of risk tolerance.

Test reliability is known to fall below acceptable levels as the number of items in a test is reduced (Cronbach, 1990). As mentioned earlier, reliability estimates range from zero to one. As a guide, thirteen items approximates a reliability level of .80, which is seen as a good level of reliability for a test to be useful by researchers in psychology and other disciplines who study the attitudes and behavior of people (Cronbach, 1990; Zikmund, 2000). This guide, however, only applies when the longer version of the test in the first place has very high reliability (i.e. .90 and above). Producers of commercial tests of risk tolerance or other attitudes, however, want levels of reliability at .80 and most likely higher because of the commercial advantage of being able to promote their product as a more reliable measure than other measures. That is, the user of a test that has higher levels of reliability can be more confident about the accuracy of scores on the test.

Test Norms. Another issue that separates a good measure of an attitude from a poorer one is the ease of access to test norms. In the case of risk tolerance, test norms assist the adviser and client in

understanding how a client's level of risk tolerance compares to others in the community. The score for a client who completes a risk tolerance test will sit at a particular point on the distribution curve. It will show whether the client sits within a range of, say, 50% of the population or is something of an outlier and their score is, say, 99% higher than most people in the population. Each test has a reference group on which the test is normed. It is important, therefore, for the planner to know the population used to establish the test norms. An extreme example of inappropriate norming would be to norm a test of financial risk tolerance on clients who live in small coastal towns of a particular state in the country. The scores of this referent group of possibly predominantly conservative and retired persons could not be compared reasonably to clients living in large cities, still actively involved in their professional careers.

It is important to know who the test has been normed on. The population on which the test is normed must be relevant to the population who will be undertaking the test. Many tests of attitudes and personality measures are normed on North American and European populations. In almost all cases, the norms are for a total population that consists of males and females of different ages and backgrounds. In thinking about the nature of norms for a measure of risk tolerance, some studies reveal that males are more willing than females to accept financial risk. Other studies do not find any gender differences. Some reports show that older people tend to be less accepting of financial risk. But again, there is other research that reveals that age does not have an across-the-board effect on attitudes about financial decisions (Harlow & Brown, 1990; Hershey & Wilson, 1997). Given these mixed findings, norms for the total community are all that may be required in a test of risk tolerance.

In summary, the key guidelines that an adviser and planner needs to consider include the following:

- the test should have good face validity. Items in the test will ask about financial and related choices that are relevant to the client

- the test has been validated. Specifically, what data are used to test the risk tolerance measure?
What were the results of the factor analyses that were conducted in the development of the test?
What factors remained in the final test, and what were the loadings for these factors, and how many items represented each factor?
- the test must have good levels of reliability. If results from a test vary markedly in ways that cannot be explained, then the test is not reliable. Measures of risk tolerance that do not report various tests of reliability should be avoided. Avoid also using short measures as such tests have lower levels of reliability. A longer test is better than a short test because every question added improves the sampling of the attitude
- test norms should be available so that it is possible to inform clients how their risk tolerance scores compare to members of the general population of people who are also seeking financial planning advice.

Other General Issues

Test Format. There are some more general issues that need to be considered by advisers and planners in assessing a test of risk tolerance. One important feature of a test is its layout and wording. It is important for the client that the questions in the test are well formatted and clearly worded. Instructions need to clearly explain how the test needs to be completed. Also in introducing the expectation that clients complete a risk tolerance test, advisers need to follow the principle of “no surprises”. To allow this to happen, the adviser should follow a standard set of procedures. Such procedures may include a potential client being sent a package of materials that explain the aims and standards of the financial adviser’s organization. In this document, a request is made for the client to complete a risk tolerance measure.

Timing of the Test. Various planners have their own ideas on when to give the test. One argument for a client doing the test early in the client-adviser relationship is to reduce the influence the

planner may indirectly have on the client's opinions. Doing the test before there is any interview will reduce the likelihood that the planner has already expressed views about financial planning that might influence the risk taking attitudes of clients. Hard copies of the questionnaire are mailed out to clients with other advice or information, for completion prior to the meeting. The completed questionnaire and material is mailed back to the financial adviser, who data-enters the scores, and produces the risk tolerance profile. Alternatively, for some commercially available measures of risk tolerance, clients with personal computers and internet access can complete the test questions on line before the interview, and receive their profile results through a scoring service that is included in the internet access.

The Ethics of Assessment. Another important issue is the need for an adviser to follow ethical practices in managing any test of risk tolerance. When providing information to the client on the purpose of completing a risk tolerance profile, the planner should give a detailed explanation of the ethical considerations a client should know prior to completion of the instrument. In particular, the client should give informed consent. Clients should be advised about the purpose of the test and the use that will be made of their test scores. This information may include explaining how the client's investment portfolio may differ from that of someone who has a different level of risk tolerance. By explaining in general terms how different levels of risk tolerance impact on the decisions of the planner, the client gains a better understanding of the value of the test to the planner and the client. Again, such steps are common sense, and aim to build trust and rapport with clients.

In addition, the client should be advised about the persons who will see the test results. In the case of a test of risk tolerance, the client obviously will have a copy of the results. Only mutually agreed persons should be allowed to see the test results, and the confidentiality of the client's profile should be assured at all times. The adviser or planner will need a file copy of the results to

add to the client's file. This adds to records of the client's history and attitudes toward investment. This test record is important if there is re-testing of the client's risk tolerance in the future. The adviser might also be summarising scores for all clients to assist the developers of the test in expanding upon their country-specific norms for test takers. On this point, it is generally advisable that clients re-sit a test every two or three years to understand their current attitude of financial risk tolerance. Also, the test may need to be completed again after the death of a partner or divorce or due to major changes in the financial circumstances of the client.

Communicating the Meaning of the Test Scores to the Client It is important that a client fully understands what the score on a test means. It is the responsibility of the adviser to check the client's understanding. A major task for an adviser is to explain how the client's final score of risk tolerance was derived. This includes an explanation of what mechanisms were used to arrive at the total score. Most often a raw score will be converted to a percentile score. This conversion gives the client a clearer picture of where they are on a distribution curve compared to other people in the community. "A percentile score is the rank from the bottom expressed in percentage terms"... "and " a percentile rank tells what proportion of the group falls below this person" (Cronbach, 1990). The planner needs to inform the client that most scores on attitude tests are explained in terms of a normal distribution. A distribution curve is symmetrical with 50% of scores lying above the midpoint and 50% of scores lying below it. The normal distribution curve represents a good approximation of a population of scores. While these are basic concepts to test givers or advisers who are highly familiar with the test and its manual of instructions, they are not familiar concepts to clients. It is important that the financial planner ensures that the client understands fully the group or population to whom the score is being compared.

Each client will differ in their expectations about what is to be gained from investments: This is one of the many reasons why a financial adviser uses the risk tolerance instrument. However, the

adviser should remember that even if two clients produce a similar score or risk profile on the test, different techniques may be required to explain what the score means. For this reason it is essential that an adviser has well developed communication skills. The adviser's task is to relay information to the client by using simple and clear language without jargon. In most cases there will be no need to be overly simplistic as this might be seen as patronising. Rather explain the test results in everyday language. It is helpful to include charts of the distributions and provide typical profiles of individuals who tend to produce particular scores on the test. The adviser should listen to the client to assess if they are pitching the conversation at the correct level. Finally, the adviser should ensure that the client-adviser session is a relaxed one. If the client has not asked any questions, an adviser needs to check with the client for clarification. The types of questions that the client asks will reflect their level of understanding. Advisers need to acknowledge all of the client's questions, and to ensure that the answers have been understood.

A good measure of risk tolerance should provide the client with a written explanation of the test scores. It may cover more details than is possible at the interview, but it is important that the client can take away such facts. In addition, advisers need to give the client an option to ask further questions at some time in the future. The client may prefer to consider the information and then talk to an adviser at another time. Often these discussions might involve feedback about the risk tolerance scores of both partners. A special challenge that frequently exists for advisers involves giving advice to husbands and wives (or other types of couples or partnerships) where there are contrary attitudes about risk tolerance. For example, one partner has a low level of risk tolerance. The other partner is keen to take greater risks. As a hint as to how partners might differ, studies reveal that greater risk tolerance is associated with being male, older, married, professionally employed with higher incomes, and having more education and increased economic expectations (Grable, 2000). Where an adviser has a valid and reliable measure of each person's risk tolerance, there is a range of strategies they can employ. One strategy is to split up the funds available for

investment evenly, allowing each partner to manage their proportion in line with their risk tolerance. Other strategies include managing the portfolio at the average risk tolerance of the couple; designing a financial strategy that runs the total portfolio based on the dominant partner's level of risk tolerance, irrespective of who owns the money; and running the portfolio to meet the couple's financial objectives.

Conclusions

This paper has outlined for advisers and planners the nature of risk tolerance, and some key issues in choosing a valid and reliable test instrument. In choosing the best test of risk tolerance, many questions need to be asked. How is risk tolerance defined in the test? How has the test been trialled? How and when is the test to be used? These questions and many others raised here should be answered in the manual that accompanies the test. Or, providers of the test must have experts available to answer such questions. What this paper highlights is that there is considerable scientific and statistical development by testing organizations to produce attitudinal and personality tests that meet the highest psychometric standards. Once the test is in the hands of the user, whether client or adviser, many other conditions need to be considered so that the test performs to its best.

The use of psychometrically validated attitude tests is a late arrival to the field of financial planning, compared to many other fields. However, this is not an excuse for putting into the marketplace or purchasing tests of risk tolerance that fail to acknowledge the complexity of the concept, or to meet recognized levels of validity and reliability. If the tests are developed and used according to the guidelines outlined in this paper, then advisers and planners will have access to scientifically sound measures that will allow them to discover substantial benefits for their clients and their financial investment firms. The major outcome is the ability to provide better advice to clients by knowing more about the psychology of each individual investor, and the risks that they

are willing to take. For advisers, the use of a well-developed risk tolerance test enables them to better target the most appropriate financial investment services for their clients, and to provide clients with the highest levels of financial advice, planning and education.

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