

*Pattern of Investment and Risk Seeking Behavior among
Investors*

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Abstract: There has been several studies in the past that suggest difference in risk taking pattern of individuals and further relating it to several influences that may be psychological, economical or even biological.

The objective of this research is to reflect on earlier studies that attempted to establish relationship between individuals' gender or personality and risk appetite. It has been found that individuals who are more pessimistic in nature tend to be quick to liquidate their investment holdings compared to the optimists in nature. Also this study explores the possibility of relationship between gender and investment attitude and aptitude.

This study would help to study certain behavioural finance theories and further aid investors to understand why do they take those investment decisions and what drives them.

Keywords: Risk, Pattern, Psychological, Economical, Biological, investment attitude, behavioural finance.

I. INTRODUCTION

You are— face it— a bunch of emotions, prejudices, and twitches, and this is all very well as long as you know it. Successful speculators do not necessarily have a complete portrait of themselves, warts and all, in their own minds, but they do have the ability to stop abruptly when their own intuition and what is happening out there are suddenly out of kilter. If you don't know who you are, this is an expensive place to find out.” — Adam Smith

Investment decisions are complex and difficult ones to make but imperative as they are to an individual's economic well-being, these decisions do demand very careful consideration. Especially when we are constantly bombarded with pieces of information from everywhere, regardless of the authenticity. Also with lack of knowledge or acquaintance with different investment avenues investors fail to understand that what piece of information will impact with what impact.

To Add to this confusions and uncertainties the investors have to think about like low savings rates, recessionary economy, stock market scandals, and other global influences . All of this almost ends up making investment decisions a rocket science for a layman. The stock market no longer seems to be a place to put your hard money and a safe place to invest.

Moreover, many investors rely on their portfolios for retirement needs. Their biggest concern is whether they will outlive their savings. Nevertheless, the resounding mantra from the industry is to “buy and hold” for the long term. Indeed, over the long haul the market has gone up. Unfortunately, market recoveries can take several months to many years. Just look at the recent Japanese or post 1929 U. S. markets. Perhaps then, a better strategy is to “buy and hold with caution.” This is especially true for women who taken together, statistically speaking, outlive men. (James, 2003)

Along with gender, age also has a significant part to play in case of investment decisions. Age has a sort of inverse relationship with risk taking ability; as the age passes the fear of losing savings and making losses becomes more bulging and real. With this fear and insecurity they often end up making irrational decisions.

According to Olsen (1998)¹, “decision attributes that focus on negative events during stress, loss aversion where the preference is for concrete over abstract information, among others, make sense because they have survival value”. This implies that as an individual, investment decisions do get influenced by several behavioural mechanisms.

Clearly, the innumerable contradictory messages stemming from both the investor’s external and internal environments complicate investment decisions. Unfortunately many investors, they unconsciously become victims of their own non- adaptive rigid behavioural practices. Considering the current environment, recognizing and avoiding these behavioral patterns has never been more important. As such, this study is primarily concerned with the influences on investment decision-making. After all, the goal is to seek better investment results and improve one’s wealth.

II. THEORETICAL BACKGROUND

As the nature of the research topic is diverse, a multidisciplinary theoretical approach is used. The literature is drawn from a range of disciplines such as economics, psychology, and biology. Most of the literature regarding this topic comes from psychological studies, albeit, advances are being made in biological psychology to help explain human behavior and experience in terms of evolution, genetics, and physiology (Kalat, 1998)².

The primary theories considered in this study include prospect theory, Lewin’s field Theory, regret theory and the anchor theory. These theories vary in their approach, but when combined they help to develop a consistent and cohesive system of thought regarding potential effects on the process of decision making.

Kahneman and Tversky’s (1979)³, prospect theory, suggests that individuals do not like losses. Decision makers exhibit a willingness to take bigger risks or gambles in the purview of losses and are quick to seize gains indicating risk aversion. This behavior contradicts the popular normative view of the “rational economic actor.”

Rational individuals usually select alternatives with the highest expected utility or value (Bernoulli, 1738; von Neumann & Morgenstem, 1944)⁴. Sorley (1999)⁵ notes, “while expected utility theory is based on the decisions people ought to make, prospect theory describes the decisions people actually make”

Farmer (1999)⁶ summaries, “people are not some identical calculating machines that differ only in their utility functions, what is equally important is the diversity of viewpoints persuaded by nature and nurture”. Put another way, bio- behavioral and experiential factors possess some explanatory value.

Prospect theory shows that people do lot of mental accounting when they make financial decisions. They have a tendency to classify different financial decision problems under separate mental accounts, while overlooking the fact that it would be more rational to integrate all of these choices into one portfolio decision.

In this study the researcher is making an attempt to understand if these theories can throw insights on people’s maladaptive behaviors, such as, an investor’s inclination to sell winners too soon and hold losers too long (Sheffin & Statman, 1985)⁷. Sorley (1999) found that prospect theory achieved remarkable accuracy when considering economic decisions of those individuals that utilize an optimistic explanatory style. Pessimists, on the other hand, did not behave in accordance with the theory.

In short, this theory says that people respond differently to equivalent situations depending on Whether it is presented in the context of a loss or a gain. Most investors are risk averse when chasing gains but become risk lovers when trying to avoid a loss.

Lewin’s (1939)⁸ field theoretical approach integrates divergent physiological, psychological, and sociological facts based on their interdependence. Social events and relationships influence an individual’s subjective psychological world— life space. Human behavior is either a direct action or an emotional expression. The lack of a clear structure or unknown surroundings leads to uncertainty of behavior and makes every action a conflicting one.

Ribeiro (1990)⁹ conducted a study using a stock market simulation program that examined how people make decisions over time under economic adversity involving conditions of: (1) past experience, (2) the structure in terms of positive or negative mind frames, and (3) immediate feedback. It was certain that neither prospect theory nor cognitive dissonance provided an adequate framework for this study. Overall, Lewin's field theory provided a more substantial theoretical framework for decision making over time and under stress (Ribeiro, 1990).

Regret theory is about people's emotional reaction to having made an error of judgment. Investors may avoid selling stocks that have gone down in order to avoid the regret of having made a bad investment and the embarrassment of reporting the loss. They may also find it easier to follow the crowd and buy a popular stock : if it subsequently goes down ,it can be rationalized as every-one else owned it.

Human beings have the tendency to feel the pain or the fear of guilt whenever a wrong decision is made. As such, to avoid this pain of regret or guilt, people tend to modify their behaviour, which may end up being absurd or irrational at times. Tversky and Kahneman (1974)¹⁰ recognized the impact of human heuristics on the decision-making process. Tversky et al. defined heuristic as a strategy that can be applied to a variety of problems and that usually—but not always—yields a correct solution.

For example, some investors invest in the stocks of companies that have fallen considerably in a very short amount of time. In this case, the investor is anchoring on a recent "high" that the stock has achieved and consequently believes that the drop in price provides an opportunity to buy the stock at a discount

III. LITERATURE REVIEW

Kahneman and Tversky's (1979), prospect theory, posits that individuals do not like Losses. Although, some years later, Tversky and Kahneman (1992) modified and reframed prospect theory to apply to ambiguous and risky prospects with a number of outcomes in order to allow for different weighting functions for gains and losses. However, the new model maintained the underlying theme of prospect theory, which suggests that, "losses loom larger than gains."

Further modified literature suggests that people rationalize their actions and cognitively defend themselves against errors in judgment by distorting negative outcomes (Jervis, Lebow, & Stein, 1985; Staw, 1974; Weick, 1964; Whyte, 1986)¹¹.

The theory also challenges the prevalent theoretical view of the "rational economic actor." Contrary to popular assumptions, decision makers do behave differently. Furthermore, ego defensive mechanisms can influence decisions and behaviors (Aronson, 1968, 1976; Festinger, 1957; Staw, 1976, 1980,1981; Staw & Ross, 1978)¹². For a model of rational decision-making, see Janis (1989). In the domain of losses, empirical studies of prospect theory produce reasonably expected results. However, one glaring weakness with many studies of prospect theory is that they use student subjects who are generally younger, less experienced decision makers. Studies of student risk preferences indicate a propensity for risk seeking in the domain of losses (Cohen et al., 1987)¹³; Hershey, Kunreuther, & Schoemaker, 1982; Hershey & Schoemaker, 1985; Schoemaker & Kunreuther, 1979; Slovic, Fischhoff, Lichtenstein, Corrigan, & Combs, 1977)¹⁴.

Likewise, studies involving experienced executives or decision makers also presented similar outcomes (Fishburn & Kochenberger, 1979)¹⁵; Laughhunn, Payne, & Crum, 1980¹⁶; Libby & Fishburn¹⁷, 1977; MacCrimmon & Wehrung, 1984, 1986; Wehrung, 1989)¹⁸. In Shefrin and Statman (1985)¹⁹, investors demonstrated a willingness to continue with loser for too long.

However, conflicting to the predictions of the theory, insurance underwriters showed greater risk aversion in the case of losses (Freifelder & Smith, 1986)²⁰. In the case of gains, empirical studies of prospect theory presented mix results. Studies involving students and experienced executives showed an inclination for risk seeking, which contradicts the theory (Cohen et

al., 1987²¹; Hershey, Kunreuther, & Schoemaker, 1982²²; Hershey & Schoemaker, 1985²³; MacCrimmon & Wehrung, 1984, 1986; Wehrung, 1989)²⁴.

Lastly, prospect theory does not provide sufficient explanation for the following decision behaviors. Empirical studies examining investment decision behaviors over time (Ribeiro, 1990), the pessimist's hypersensitivity to losses (Leahy, 1997, 2002; Sorley, 1999)²⁵, herding behaviors exhibited during market fluctuations (Friedman & Friedman, 1979²⁶; Kindleberger, 1996)²⁷, and non-escalation of commitments (Staw & Fox, 1977)²⁸. If we move little farther, perhaps a more holistic approach of viewing decision making under uncertainty would be appropriate. Lewin's (1939) field theoretical approach integrates different physiological, psychological, and sociological facts based on their interdependence.

In an attempt to understand social behavior, Lewin (1939) suggests that investigators should consider the structure of the total situation and the distribution of the forces within it. Simply dividing facts and then synthesizing them may lead to a partial and inaccurate picture.

A person's behavior largely depends upon his present position (Lewin, 1939). Along this line, Maslow (1970)²⁹ suggests that an individual's behavior at any particular moment is determined by their strongest need, and the most basic of human needs to sustain life include food, clothing, and shelter. For more than 100,000 years, human life prospered by developing and applying technologies like fire (for cooking and warmth), clothing, tools, and shelter (Dubos, 1968).

Lewin (1939) speaking about behavior observes that, "often, the world looks very different before and after an event which changes the region in which a person is located". This means both biological and psychological regions. While studying a group of teenagers, Lewin found that unknown surroundings lead to uncertainty of behavior. The lack of a clear path or structure is likely to make every action a contradictory one (Lewin, 1939). Clearly, economic decisions are oppressed with uncertainty.

Lewin (1939) offers this thought, "the unpredictability of the psychological environment leads to greater volatility of an individual's decision". Some observers believe the increasing gap and disconnect between our human design and our daily lives is responsible for much of the psychopathology (Wright, 1994)³⁰. For example, our human design is not equipped to live extraordinarily busy and stressful lives.

Getting out of one's comfort zone concerns not only psychological, and physical surroundings, but also the time dimension (Lewin, 1939). Lewin (1939) noted, "persons of all ages are influenced by the manner in which they see the future, that is, by their expectations, fears, and hopes". In short this approach is concerned with the structure and forces of the field as a whole and not with facts viewed in isolation (Lewin, 1939). Behavior depends on every part of the field.

In the spirit of Lewin's field approach, Ribeiro (1990) conducted a study on economic decisions over time using a self-designed stock market computer simulation program. The subjects were 160 paid volunteers with an equal number of males (80) and females (80) with a mean age of 27.4 years. The youngest was 18 and the oldest 67. The sample was heterogeneous in all respects including level of education, marital status, incomes, and work related experience. Data analysis consisted of hypothesis testing of significant differences, ANOVA, and MANOVA.

The experiment consisted of three parts: (1) the demo session, (2) the learning session, and (3) the experimental session. Each participant, on average spent two and a half hours in the whole experiment. The objective of the experiment was to study the effect of related past experience, the structure of situation, and economic outcomes on decisions. Participants' ultimate goal was to maximize gains or minimize losses.

The author identified two distinct scope for investing. Discrete scope applied to each decision while the cumulative scope considered all decisions in sequence and displayed overall gains or losses. Negative experienced produced stronger and longer lasting effects than positive ones.

In sum, Ribeiro (1990) found that: (1) people conduct themselves on the basis of the consequences of their past decisions, (2) feedback plays a significant role in decision-making processes, (3) economic decisions are naturally complex and require significant time and knowledge (4) Lewin's field theory appears to provide an adequate framework for decision making over time.

The last theoretical framework examines elements, which date back over 500,000 years. (Barrow (1992)³¹ suggests that a global human nature exists with psychological mechanisms that are adaptive and conditioned by natural selection. However, given the slow rate of biological evolution, the current human psyche appears most adapted to life in a hunter/gatherer society over 10,000 years ago. Survival largely depends on innate mechanisms that discern good from potentially dangerous alternatives (Bowby, 1968³²; Marks, 1987³³; Wenegrat, 1990)³⁴.

The last theoretical framework discussed in this section is Damasio's (1994, 2000)³⁵ somatic marker hypothesis (SMH). SMH describes the body's (somatic) reaction and image (marker) of negative outcomes. It functions as the body's internal warning system that something bad is about to occur. The reaction is generally an unpleasant gut feeling, although it can manifest itself in other ways.(James, 2003)³⁶

To explain this further, Damasio, uses the example of offering an investment opportunity that sounds too good to be true. Moreover, subjects had to make a quick decision without giving them any time to do any analysis or reasoning. The sinking feeling in the pit of your stomach is a conscious response to a negative experience or negative marker.

Each person acquires positive and negative somatic markers through experience, and stores them in the internal preference system. Somatic markers enable people to make decisions quickly when there is not enough time to perform a more detailed risk/reward analysis. Furthermore, they help the decision maker to be cautious about (consciously or no consciously), which alternatives are favorable or dangerous, and eliminate the less desirable choices (Damasio, 1994, 2000).

Damasio (1994, 2000) conducted a series of fascinating gambling experiments using good (more rewards, less penalties) and bad (less rewards, higher penalties) decks of cards. Participants took turns picking from the decks of their choice. Each draw resulted in a reward or penalty. Using a gadget to measure skin conductance responses, the investigators found that normal subjects (no prefrontal cortex damage) were gradually learning to predict negative outcomes before they occurred. Some refer to this non conscious behavior as intuition.

"Damasio and other neuroscientists have provided us with biophysical explanations for intuition, learning, and other related self-defense mechanisms. In many respects, this work confirms what prospect theory says about decision making in the domain of losses. People do have an inherent dislike for unpleasant or painful experiences. However, SMH also illuminates the organism's uncanny ability to learn and adapt from various experiences. These findings provide a biophysiological foundation for future research in decision-making attributes and related psychological manifestations." (James, 2003)

There has been some research work done on understanding the impact on gender difference on individual decision making process. In Lewellen, Lease, and Schlarbaum (1977)³⁷, the authors aimed at exploring two things.(1) Identify the patterns of investment behavior and (2) to appraise the rationality of those patterns.

These researchers used a sample of 972 client accounts drawn from the database of a large national retail brokerage firm. Data came from open accounts from January 1964 through December 1970. Subjects also answered a questionnaire devised to fit four broad investment activities.

The investment activities include: (1) portfolio objectives, (2) information collection, (3) instrument selection, and (4) return perceptions. Each section had multiple questions. Some 30 variables originated from the survey and account transaction reports. Data analysis consisted of hypothesis testing, sequential one-way ANOVA, and regression analysis.

The dominant elements in the study in descending order of importance were age, income level, and gender. Researchers found that males generally behave more confidently than females across a spectrum of investment activities. Lewellen et al. (1977) note, "in general, male investors claim to do considerably more of their own security analysis and allege spending more time and money on that activity than do women. Women tend to rely heavily on their broker's advice for portfolio decisions". Moreover, male investors tend to make more trading transactions than women do and the trades were also in larger amounts.

The authors suggest that frequent trading may have stem from a high degree of confidence in one's ability to forecast and is a prerequisite for an optimistic view of potential outcomes. Lewellen et al. (1977) offer several more observations worth consideration.

Also the way market operates and the overall market environment seems to influence investor behavior. With age, investors seem to become more dubious about their foresight and fear of losing their hard earned savings convinces to adapt a longer-term investment horizon. The older they get the safer investment choices they want to make. "Although analytical styles vary among the sexes, the goals and resulting decisions appeared symmetric. The authors did not observe violations of any tenets of rational behavior." (James, 2003)

Estes and Hosseini (1988)³⁸ conducted a study concentrating on personal characteristics that influence the level of confidence in investment decision-making. Subjects came from four target groups, (1) shareholders, (2) security analysts, (3) institutional investors, and (4) general businesspersons. A total of 1,359 people participated. Approximately, 87% of the respondents were males. The mean age of the sample was 40.3 years. Data analysis consisted of significance testing and multiple regression analysis.

Each subject received an instrument consisting of financial information about a hypothetical, but realistic company. Subjects reviewed the data and made an investment decision regarding the company. In addition, they also judged their confidence in the correctness of this decision. Lastly, participants provided information about their business experience, education in finance and accounting, years of college education, investment experience, sex, and age.

The authors found that age, value of personal portfolio, years of college, and years of business experience were not significant characteristics. The most striking finding was women had significantly lower confidence in the task than men. Estes and Hosseini (1988) attribute this to, "differential cultural influences that probably begin in early childhood" (p. 586).

However nothing found in their study suggests that men are better investment decision makers than women are. On the contrary, Estes and Hosseini (1988) state, "overly high confidence levels may result in reckless action, excessive risk, and avoidable losses" (p. 577).

In a unique approach to understanding sex differences in decision-making, Harlow and Brown (1990)³⁹ used a series of economic, psychological, and biochemical tests designed to establish individual risk profiles. Approximately 125 subjects volunteered for the study, 67 males and 58 females. The mean age of all participants is 21.6 years.

Subjects participated in a sealed bid auction with actual monetary payoffs to determine their level of risk aversion. They were administered the Sensation Seeking Scale (SSS Form Y) in order to assess sensation seeking, impulsivity, and extroversion. Lastly, subjects gave a small blood sample in order to measure platelet levels of monoamine oxidase (MAO) (James, 2003)

Previous research shows a link between high sensation seeking, impulsivity, and extroversion with lower than average levels of dopamine-beta-hydroxylase (DBH) and MAO (Zuckerman, Ballenger, Jimerson, Murphy, & Post, 1983)⁴⁰. Moreover, sensation seeking traits and levels of MAO may have a genetic link (Fulker, Eysenck, & Zuckerman, 1980; Nies, Robinson, Lambom, & Lambert, 1973)⁴¹.

Although the results were inconclusive, males appeared to exhibit less risk-averse tendencies than females. The authors do suggest that adventure seeking individuals and those willing to take financial risks have relatively low MAO levels. Harlow and Brown (1990) note, “our results demonstrate that along with neurochemical activity, financial risk tolerance is significantly related to sensation seeking and extroversion” (p. 61). Data analysis consisted of significance testing, ANOVA, and regression analysis.

In a more recent study, Barber and Odean (2001)⁴² analyzed investment account data from a large discount brokerage firm for over 35,000 households. The researchers examined common stock investments of men and women from February 1991 through January 1997. They discovered that men trade more often than women, but earn less than women. Data analysis consisted of significance testing and regression analysis.

Barber and Odean (2001) note, “we believe there is a simple and powerful explanation for the high levels of counterproductive trading in financial markets—overconfidence” (p. 287). Their findings are remarkably similar to Lewellen et al. (1977)⁴³. On a similar note, De Bondt (1998)⁴⁴ surveyed forty-five investors over a period of twenty weeks to track the group’s forecasts for the future performance of their stocks and the Dow Jones index. The results reflected overconfidence and excessive optimism about the future performance of their shares, but not for the Dow Jones index.

Barber and Odean (2001) indicate that, “selecting stocks that will outperform the market is a difficult task because predictability is low and feedback is noisy” (p. 264). Given these circumstances, overconfidence is generally at its highest (Griffin & Tversky, 1992)⁴⁵; (Fischhoff et al. 1977)⁴⁶; Lichtenstein, Fischhoff, & Phillips, 1982)⁴⁷. Newman (1982)⁴⁸ suggests that feelings of confidence result from an interaction between a person’s perceived abilities and how they interpret the difficulty of a particular task.

Overconfident investors spend too much money and time on investment information and hold riskier portfolios (Odean, 1998). Lastly, investors that trade excessively under perform relevant benchmarks (Barber & Odean, 2000), and act on too little information (Odean, 1999).

Barber and Odean (2001) is perhaps the only study of its magnitude that focused specifically on gender differences among investors. Some supporting studies suggest that gender differences in overconfidence emerge from masculine tasks (Beyer & Bowden, 1997)⁴⁹; (Deaux & Emswiller, 1974)⁵⁰; Deaux & Farris, 1977; Lenney, 1977)⁵¹, which includes financial matters (Prince, 1993)⁵². Although no one would disagree that women do exhibit overconfidence, men are generally more overconfident (Lundeberg, Fox, & Puncochar, 1994)⁵³.

Gervais and Odean (1998)⁵⁴ suggest that investor overconfidence results from a tendency to take too much credit for their successes, and refer to this as the self-serving attribution bias model. Other researchers find the self-serving attribution bias is greater for males than for females (Beyer, 1990)⁵⁵; (Deaux & Farris, 1977)⁵⁶; (Meehan & Overton, 1986)⁵⁷.

Reavis and Overman (2001)⁵⁸ conducted a biological study, which specifically looked at sex differences in decision-making tasks that are sensitive to orbital prefrontal integrity. The study examined 161 participants consisting of 66 males and 95 females. In an effort to identify cognitive sex differences, the researchers measured the subject’s testosterone, estradiol, and progesterone levels with task performance. In addition, the study measured for risk taking (sensation seeking) and signs of depression.

Subjects were administered the Iowa Card Task (gambling experiment) as described in Bechara et al. (1994,1997)⁵⁹ with several modifications. In addition, subjects were required to complete the California Weather Task as described by Knowlton, Squire, and Paulsen (1994)⁶⁰, which involves predicting weather outcomes (rain or sunshine) using combinations of cards. Data analysis consisted of regression analysis.

The results found that men outperformed women in the Iowa Card Task and performed equally as well as women in the California Weather Task. Contrary to expectations, there was a negative correlation between testosterone levels and young male performance in the Iowa Card Task. Likewise, there was a negative correlation between high sensation-seeking men and their performance on the card task. There was no correlation between depression scores and performance on either task.

Lastly, Smith, Dickhaut, McCabe, and Pardo (2002)⁶¹ devised a study to measure attitudes about payoffs (gains/losses) and beliefs regarding outcomes (risk/ambiguity). Nine healthy medical students volunteered (6 males/3 females). Subjects drew marbles with different payoffs from two containers while their brain activity was measured with positron emission tomography. Participants were risk averse in gains and risk seeking in the domain of losses. Two neural substrates for choice surfaced in the interaction between attitudes and beliefs. These findings contradict the belief that evaluations of payoffs and outcomes are independent.

Furthermore, individuals with depression are generally hypersensitive to losses. This might explain why Sorley (1999) found that pessimists are less risk seeking than optimists in the domain of losses. Several studies mentioned in the literature review suggest that males exhibit more confidence than females in financial related matters. Confidence appears to be a prerequisite for an optimistic view of decision outcomes. Unfortunately, overconfidence can lead to frequent trading and lower returns. Women traded less frequently, were more conservative, and had higher returns than men did.

The two polar extremes, optimism and pessimism, can both result in maladaptive behaviors. Weinstein (1980)⁶² posits that excessive optimism develops among those individuals that believe they exert some measure of control over their circumstances. However, this can lead to destructive behavior (Leahy & Beck, 1988)⁶³. Optimism seems to be a male bias associated with excessive risk taking while pessimism is a female bias associated with overly conservative behavior. Albeit, no one would disagree that there are plenty of exceptions.

Indeed, advances in biological psychology help to explain human behavior in terms of evolution, genetics, and physiology. The human body strives to maintain a homeostatic (functionally balanced) biological state for its survival. This is a delicate balancing act considering the multitude of influences on the body state. Clearly, biochemical activity does play a role in sensation seeking, financial risk taking, and depression to mention a few. Moreover, some studies suggest that these traits are predisposed to generational heritability. (James, 2003)

Finally, one's environment and experiences affects learned behaviors. Thus, the interrelationship between (in no particular order) environment, experience, and body state results in certain relatively well-defined, identifiable behaviors. Lewin (1939) refers to this as— life space. A disturbance in the life space can cause physiological and psychological imbalances in the person. As such, decision-making at any level of complexity can be impaired to some degree. The challenge is to recognize and adjust for maladaptive behaviors.

IV. SUMMARY

To summarise, based on the literature review, following are the tentative conclusions that can be drawn 1) Men exhibit more risk seeking behaviour than females. 2) The decisions individuals take in a momentary situation are often influenced by their past experiences of gains and losses. 3) Excessive optimism among individuals does lead to destructive decisions. 4) Individuals at times tend to predict negative outcomes before they happen. 5) Age might have an impact on investment choices people make. 6) feedback plays a significant role in decision-making processes, (7) economic decisions are naturally complex and require significant time and knowledge.

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