

Research Paper

The Relation Between Delay of Gratification, Self- Efficacy and Habit Formation Among Young Adults: A Correlational Study

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ABSTRACT

Habits assist us in leading a balanced life. Forming habits in only a few areas while neglecting others will result in long-term problems. The secret to a happy life is, good habits will help you to be happy for the rest of your life. It keeps you motivated and urges you to do well all of the time. Our health is dependent on our habits. They have the power to make or break our chances of accomplishing and sustaining our lifestyle goals, such as sticking to a diet, exercising frequently, managing diabetes and other medical issues, as well as improving quality of life and enhancing lifespan. Little research has been done on the concept of habit formation with respect to self-efficacy and the ability to delay gratification. This study measures the prevalence and effect of self-efficacy and impulse control on habit formation. There is a growing sense of urgency to form better habits as after the pandemic it has become increasingly difficult to get into routine. The focus of this research is to see how young adults can attempt to change their existing behavior to form a better lifestyle and habits.

Keywords: Parenting, Emotional Regulation, Young Adults

This chapter contains an overview of the topic chosen, rationale and significance of the given study and the objectives this study aims to learn.

Habit is a routine or behavior that is performed regularly and automatically. Our daily life can be described as a bundle of habits, that is why having good habits matter so much. The challenges while forming good habits are that people want instant change and because of that they try to do massive actions like working out for 3 hours every day. Even if you desire big change, you should always start small, step by step actions should be taken. We often get obsessed with making life-changing transformations instead focusing on lifestyle, which is important for good habits. Small changes in daily routine can lead to remarkable results in future. We often expect instant results, that is instant gratification but habits get stronger with each time we repeat them and therefore benefit us in the long run. People give up if they don't get what they expect in a short period of time, therefore having the ability to wait for the results to show is essential. Believing in ourselves that we will be able to repeat a certain behavior till it becomes automatic is vital, getting over difficult situations and not losing confidence in personal abilities help in habit formation. Habit is the

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routine or behavior that is repeated regularly and tends to occur subconsciously. Habits are the usual way of behaving and it is something you do often or regularly. For example: brushing, bathing, exercising. The first known use of the word habit was in the 13th century. Habit formation is the process by which a behavior through regular repetition becomes automatic or habitual. When a new habit is being formed, new neural connections also start to develop in our brain, and the more the behavior is repeated the stronger the neural connection gets. The four stages of habit formation are,

- **Cue-** cue is the piece of information which predicts reward. Previously our ancestors used to pay attention to cues that indicated primary rewards such as water and food. Nowadays we learn cues that signal secondary rewards such as money, status, love and personal satisfaction. Our brain analyzes the environment for hints about the rewards. This naturally leads to craving, as there is an indication that we are close to a reward.
- **Craving-** If we don't have craving, we have no reason to act, thus they are the motivational force behind every habit. We crave the change in state the craving delivers and not the habit itself. You feel motivated to have a clean mouth instead of brushing.
- **Response-** the actual habit you perform is the response, which can be in the form of an action or thought. The occurrence of response is dependent on how motivated you are and the friction associated with behavior. If the response requires more physical or mental effort than you can spend, then chances are you won't do it. Whether a response will be generated or not depends on your abilities as well.
- **Reward-** the generated response delivers reward. Reward is the end goal of a habit. Noticing the reward is cue, wanting the reward is craving and repose is obtaining the reward. The reward either satisfies us or they teach us which actions to avoid or repeat later in life.

The Ability to Delay Gratification

Sometimes people unknowingly watch TV with the intention of being more physically active. Eat sweets while eating a healthier meal. Or hit others when you're trying to be more patient or open-minded. Are you familiar? People often have control over themselves to achieve long-term goals such as living a healthy life and maintaining a satisfying relationship, but sometimes they cannot or do not want to exercise self-control. Gratification is pleasure, which is gained from satisfaction of a desire.

The Stanford marshmallow experiment was a study on delayed gratification in 1972 led by psychologist Walter Mischel, a professor at Stanford University. In this study, a child was offered a choice between one small but immediate reward, or two small rewards if they waited for a period of time. The children who were willing to delay gratification and waited to receive the second marshmallow ended up having higher SAT scores, lower levels of substance abuse, lower likelihood of obesity, better responses to stress, better social skills as reported by their parents, and generally better scores in a range of other life measures.

Researchers have followed each child for over 40 years, and the group patiently waited for the second marshmallow over and over again to succeed in the measured ability. In other words, this series of experiments proved that the ability to delay satisfaction is important to the success of life. And if you look around, you'll see that this is happening everywhere. If you postpone your TV satisfaction and do your homework now, you'll learn more and get

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better grades. Delaying the satisfaction of buying desserts and french fries at the store will help you eat healthy when you get home. If you delay the satisfaction of finishing your workout early and repeat it a few more times, it will become stronger.

Delayed gratification is the act of resisting the impulse of gaining immediately available reward, in order to get something better in future. It involves the ability to wait to get what you want. For example: Resisting to eat a piece of chocolate (present) in order to shed a few pounds (future prospect), If you delay the gratification of watching television and get your homework done now, then you'll learn more and get better grades. Here are ways to learn how control your impulse:

- Start with something incredibly small. Make your new habit so easy that you can't say no.
- Improve one by 1 percent. Do it again tomorrow
- Use the "Seinfeld Strategy" to stay consistent. Seinfeld strategy is all about not breaking the chain of course of actions. It is not about results, motivation, it is about not breaking the chain.
- Find a way to get started in less than 2 minutes.

Humans are wired to be instantly satisfied. That's why it's so difficult to develop good habits and break bad habits. Good habits usually result in delayed return, weight loss due to diet and exercise, while bad habits provide immediate feedback. To alleviate this, you should work on habit formation in two steps. First, think about identity, not result. "The ultimate form of essential motivation is when a habit becomes part of your identity." (James Clear). So, instead of building a habit of, for example, singing four times a week, identify yourself as a singer. Second, focus on collecting small wins. Dramatic changes tend to be short-lived. Therefore, a better approach is to give the environment clues to make new habits clear, attractive, easy and satisfying. These are the four laws of behavioral change. Instant gratification is the desire to experience pleasure or fulfillment without delay. You want to experience a certain level of pleasure at that particular moment. For example: The desire to hit snooze instead of getting up early to exercise, getting a few extra minutes to sleep is equalized to pleasure.

Pleasure principle: the pleasure principle strives to fulfill our most basic needs and primitive urges such as hunger, anger etc. It is the driving force of the id that seeks immediate gratification of all needs, wants and burgers. (Sigmund Freud).

Self-Efficacy:

The psychological theory of self-efficacy was born from the work of Albert Bandura. He found that previously undefined and systematically unobserved mechanisms work in people's lives. This mechanism was the belief that people have the ability to influence the events of their lives. The term was coined by Bandura. It is a person's belief in their ability to succeed in a particular situation. It affects how we think, behave and feel. These beliefs begin to form in early childhood as children deal with a wide variety of experience, tasks and situations. These beliefs keep evolving throughout life as people gain new skills and go through new experiences. People that possess strong self-efficacy have deeper interest in activities and they bounce back from set-backs and disappointments quickly.

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● **Self-efficacy and self-regulation**

Self-efficacy is sometimes confused with self-regulation because it is related to the concept of self-control and the ability to coordinate behavior to achieve goals. They are related, but separate concepts. Self-efficacy refers to an individual's "self-generated thoughts, emotions, and behaviors systematically aimed at influencing learning" (Schunk & Zimmerman, 2007), and self-efficacy is closer to the individual's perceptual abilities. Is a concept related to. Personal related. In other words, self-efficacy is more a strategy for achieving one's goals, especially when it comes to learning and self-efficacy believes he or she can succeed.

● **Self-efficacy and motivation**

Self-efficacy and motivation are inextricably linked, but they are also two separate components. Self-efficacy is based on one's belief in one's abilities, and motivation is based on one's desire to achieve something. People with high self-efficacy are often motivated and vice versa, but this is not natural. The relationship can also work in other ways to create some sort of success cycle. When people are motivated to learn and succeed, they are more likely to reach their goals and give them an experience that contributes to their overall self-efficacy.

● **Self-efficacy and resilience**

Achievement is certainly a large part of the development of self-efficacy, but there is room for failure. People with a high level of self-efficacy are not only more likely to succeed, but also more likely to bounce off and recover from failure. This is the underlying skill of resilience and is strongly influenced by self-efficacy.

Self efficacy and habit formation

Self-efficacy affects the effort one takes to change his or her behavior or create a new one. It helps relying on change and sustainability of risk behavior, and continue to strive despite barriers, frustrations that can undermine motivation. Self-efficacy is directly related to health behavior. However, it also indirectly affects health behavior by influencing goals. Self-efficacy affects the challenges people face and how high they set their goals. For example, I'm going to quit smoking or I'm going to quit smoking altogether. And people with a strong sense of self-efficacy selects more challenging goals . They concentrate on opportunity and not obstacles. Many studies on the adoption of health habits have measured self-efficacy and observed that it assesses the potential impact of initiating behavioral changes. Developing a strong sense of self-efficacy can play an important role in almost every aspect of your life. Life is full of challenges and high levels of self-efficacy can help you better deal with these difficulties more effectively. Your belief in your abilities can predict how motivated you feel, how you feel about yourself, and the amount of effort you put into achieving your goals and helps in forming good habits.

Problem Statement:

After the famous Marshmallow experiment performed by Walter Mischel, very little research has been done related to the ability to delay gratification. Relation of self-efficacy and delay of gratification to the context of habit formation doesn't have much empirical evidence. Understanding their relationship is very important as habits help in reducing cognitive load and self-efficacy and the ability to delay gratification are very important life skills.

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Objectives:

The objective of the research will be:

1. To find the relationship between the ability to delay gratification and habit formation.
2. To find the relationship between self-efficacy and habit formation.

Significance:

This research will help understand the effect of ability to delay gratification and self-Efficacy of a person on Formation of habit. Delayed gratification is an important and essential life skill which helps give in the spur of the moment, which is beneficial for promoting positive social behavior such as sharing and having good communications with peers. It also teaches self control which is beneficial in many areas of life. In addition, self-efficacy plays a major role in how a person approaches goals, tasks and challenges. This research will help people understand where they stand on self-efficacy and ability to delay gratification, both of which will help them build better habits, as habits shape our life and our brain clings to neurological connections formed by habits. Habits either make you or break you. Improving both the skills will lead to better habit formation which will help people with punctuality, making new and good choices, changing of belief system and social behavior.

REVIEW OF LITERATURES

This chapter contains the previous research done in accordance to the topic chosen and tells us the gap between previous and current research.

- 1) Indeok Song (2013) in his study “Internet gratifications, depression, self-efficacy and internet addiction” used the gratification approach and social cognitive theory to understand the relation in a typical college student population. The study interpreted Virtual community as a new gratification factor that was not mentioned in any previous studies. The study found out that the features such as monetary, diversion personal status were positively correlated to internet addiction.
- 2) Fuschia M Sirois (2014) in her work “Procrastination and intentions to perform healthy behaviors: The role of self-efficacy and the consideration of future consequences” examined the relationship between trait procrastination and health behaviors among 182 students. The students were administered personality and health-related questionnaires and were asked to recall past illness episodes along with health behaviors which improved their situation. Research findings revealed a significant negative relation between trait procrastinators and intention to engage in health behaviors and consideration of future consequences did not play a role in the procrastination.
- 3) Frank Pajares (2006) in his study “Self-efficacy during childhood and adolescence” stated that beliefs young people hold about their capabilities to succeed in their endeavors are a vital force in subsequent successes or failures. The research found out that self-efficacy beliefs provide the foundation for motivation, well-being and personal accomplishments in areas of life. It also found out that when people are provided with the option to select their own life paths, they will only select tasks which they think are within their capabilities.
- 4) Ji Won You (2018) in her work “Testing three-way interaction effect of academic stress, academic self-efficacy and task value on persistence in learning among Korean college students” examined the relation between academic stress, self-efficacy and task value among 483 Korean students through multiple regression

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analysis. Research findings showed a negative correlation between students with high motivation and a stressful environment.

- 5) Karen D Ersche, Tsen-Vei et.al (2019) in their work “Impulsivity and compulsivity are differentially associated with automaticity and routine on the Creature of Habit Scale” measured the differing tendencies of 533 people to form habits using the Creature of Habit Scale (COHS). The research found positive relation between compulsivity and automaticity, positive relation between compulsivity and routine behaviors, positive relation between impulsivity and automaticity and negative relation between impulsivity and routine behaviors.
- 6) Rebecca Koomen, Sebastian Grueneisen et.al (2020) their work “Children delay gratification for cooperative ends” is a modified version of the famous marshmallow test. They studied the relation of cooperative decision making and skill to delay gratification in pairs of children (207 individuals) by rewarding only if both members of the pair delayed gratification. The research found a positive relation between social interdependencies and facilitation of cooperative success.
- 7) Daniel Romer, Sunhee park et.al (2010) in their work “Can adolescents learn self control? Delay of gratification in the development of control over risk taking” studies the ability to delay gratification as a potential source of control over risk taking in 900 young people aged 14-22 using structural equation analysis. The research found out three popular drugs (tobacco, marijuana and alcohol) are inversely related to ability to delay gratification.
- 8) Yan Wang (2015) in his work “Understanding time concept to help delay gratification in young children” examined the relation of how scaffolded approach to waiting with auditory and visual cues helped children delay gratification. It was a quasi experimental study with a convenience sample of 45 children aged 4 to 5 years old, which were divided into three groups of equal gender ratio. The first group were rewarded with visual cue after waiting for 10 mins, second with auditory cue and third group was rewarded with no cue. It found a positive relation between helping children to build ability to delay gratification and visual/auditory cue than no cue at all.
- 9) Patricia B Nemece, David Merlo et.al (2015) in their work “The force of habit: Creating and sustaining a wellness lifestyle” examined the several factors such as motivation, will power and rewards that impact habit formation. It also stated that habit formation is the product of analysis of current behavior, measurable short-term goals and detailed action plans.
- 10) Nina Knoll, Jan Keller et.al (2021) in their study “Habits and self-efficacy moderate the effects of intentions and planning on physical activity” examined the relation between plan specific self-efficacy and habit strength in an intervention program on 22 people for a year. The findings stated Higher than usual intention is required in the presence of low activity habits and high self-efficacy is required for higher than usual action.
- 11) Students’ Self-Efficacy, Causal Attribution Habits and Test Grades Kerstin Hamman et al in 2010 researched about why students vary on their test performance. They analyzed four factors i)the students ability to predict their grades, ii)the difference of performance for different students, iii) confidence and accuracy of learners and iv) causal attributions towards self efficacy. The sample was college students of different age groups. The sample size was 1,813 adults. Self- efficacy was measured using the Rosenberg self-efficacy scale. Subjective confidence was measured using the Korean version of Subjective confidence scale. Causal attribution was assessed

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by using The Attribution Questionnaire. The results of the analysis implied a positive relationship between self efficacy and prediction of grades and subjective confidence. The researchers concluded that self efficacy may be complementary to academic success in older students.

- 12) Eating habits, physical activity, nutrition knowledge, and self-efficacy by obesity status in upper-grade elementary school students Seong Ah Ha et al in 2016 examined the differences in the physical activity , nutritional knowledge, eating habits and self-efficacy of obese children. The sample were 5th graders from 70 schools all nation-wide. The sampling technique used was Two-stage stratified cluster sampling. The questionnaire included items related to all the variables. The data analysis was done for 3531 responses using SPSS. The sample was divided into two parts obesity (OW) and normal weight (NW) depending on body mass index. The result depicted a total of 21.5% subjects were obese. There was a difference between OW and NW group with respect to eating habits, as the OW group as they ate bigger meals. The OW group spent time more sedentary than the NWgroup ($P < 0.001$). The study revealed differences in eating habits, PA, and self-efficacy between OW and NW groups of children.
- 13) Self-efficacy mechanism in human agency. Albert Bandura (1982) suggested that the self efficacy mechanism is powerfully related to psychological well being in human agency. Higher levels of self efficacy is linked to inflated feelings of happiness, optimism, curiosity and connectedness additionally as weakened anxiety, depression, and worry of failure. Self-efficacy involves the will for the self's health and well being and is related to bigger personal initiative to create required changes in one's life. Much research was also conducted on the effect of perceived self- efficacy on career pursuits, changes in coping behavior, self regulation and growth of intrinsic interest.
- 14) Reflections on self-efficacy. Albert Bandura (1978) discussed that people who are high in self- efficacy treat themselves with kindness and concern after they experience a certain kind of trauma or negative event. The article further discusses the coping strategy and how it is related with self-efficacy. It also suggests that self-efficacy can be used as a coping strategy which encourages well-being and positive psychological functioning. In conclusion, people who are high in self-efficacy are less likely to over stress about a negative situation, experience anxiety, and avoid challenging tasks for fear of failure.
- 15) Impulsivity and Self-efficacy according to Internet Addiction Suh, Boo-Deuk et al (2008) studies the impact of self impulsivity and self-efficacy in young and elder adolescents of both the genders, that is males and females. In this study the researchers defined self efficacy as being open to and moved by one's own suffering, experiencing feelings of caring and kindness toward oneself, taking an understanding, non-judgmental attitude toward one's inadequacies and failures, and recognizing that one's experience is part of the common human experience. The researchers conducted their study on 90 students ages 11 to 18. Self efficacy was measured using the Self-efficacy scale, Impulsivity was measured using the Student's Impulsivity Scale. The findings concluded that older female adolescents had lower levels of internet addiction than either elder male teenagers or early teenagers of either genders. It also concluded that self-efficacy is poorly correlated with internet addiction and impulsiveness.

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- 16) Gender effects among undergraduates relating to suicide risk, impulsivity, aggression and self-efficacy Maurizio Pompili et al in 2007 did research on exploring the gender effects on self-efficacy, aggression, impulsivity and suicide risk. The research also entails that self efficacy is positively associated with psychological well being and psychological strengths such as happiness, life satisfaction and optimism. The researchers chose the undergraduate students, N= 504 and community adult N= 968. Participants were assessed by means of the Reasons for Living Inventory, the Aggression Questionnaire, the Barratt Impulsiveness Scale, and the General Self-Efficacy Scale. The results consistently show that the effect of self- efficacy on suicide risk and aggression is less than in male gender, suggesting that socialization may play a role. The results also indicated that interventions regarding self-efficacy could be useful for suicide prevention.
- 17) Goldbeck et.al (2007) discussed that adolescence is a developmental phase which is associated with various significant psychological and somatic changes. The research is a cross-sectional study which is examined on the effects of age and gender on adolescent's self-efficacy. The sample used are adolescent's of Germany from various schools age group 11-16 years. The researcher used the self-efficacy scale for their research. And found the results using ANOVA test. The result of the study was that girls reported lower self-efficacy than boys. In conclusion age and gender related to self-efficacy provide further evidence for adolescence as critical psychological development.
- 18) Lim and Putnam (2010) discussed the correlation between religion, social networks and formation of habit. The research showed positive evidence for social participatory mechanisms having an impact of religion on formation of habit. The effect of social networks in religious places also plays an important role in life satisfaction. The research suggests that religious people are better at formation and continuing a habit in their life because of the regularity in the religious services and building social networks in religious places. In conclusion, religion practices and habit formation are positively correlated.
- 19) Lewis et.al (2011) discusses the relationship between two variables: life satisfaction and self efficacy. The age group chosen for this research was Adolescents. The research highlights the importance of positive emotions in adolescents and school life. The research also discusses that negative emotions such as sadness or anxiety tend to narrow one's own cognition process. The sample for the research were Southeastern US middle school students. The researchers used Students life satisfaction was measured using Students' life satisfaction scale which is a 7 item test. The other part of the research was student engagement. Cognitive engagement was measured using Student engagement Instrument and behavioral engagement was measured with the behavioral segment of Student engagement scale. The result showed a directional relationship between the two variables. The research concluded that there is a significant positive correlation between life satisfaction and self-efficacy and it showed a non-significant relationship between emotional and behavioral engagement.
- 20) The moderating effects of age on the relationships of self-compassion, self-efficacy and mental health. Hwang et al in 2016 researched the effects of self-compassion, self-efficacy and age on mental health. The researchers entail self compassion as a complimentary self concept to self-efficacy. The sample was college students of different age groups. The sample size was 1,813 adults. Self- efficacy was measured using the Korean version of Rosenberg self-efficacy scale. Self compassion was

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measured using the Korean version of Self-Compassion scale. Subjective well Being was assessed by using the Concise Measure of Subjective Well Being. Depression was measured by the Korean version of Center for Epidemiologic Studies Depression Scale. The results of the analysis implied positive relationship self compassion and subjective well being was high with respect to older adults. The researchers concluded that self compassion may be complementary to self efficacy in mental health with respect to older adults.

- 21) The influence of self-efficacy on emotional well-being among early and older adolescent males and females Bluth et al in 2015 studies the impact of self-efficacy on emotional well being in young and elder adolescents of both the genders, that is males and females. In this study the researchers defined self-efficacy as the belief that influences how people think and feel. The researchers conducted their study on 90 students ages 11 to 18. Self-efficacy was measured using the general self-efficacy scale , Life Satisfaction was measured using the Student's Life Satisfaction Scale. Perceived Stress was assessed by using Perceived Stress Scale. The findings concluded that older female adolescents had lower levels of self-efficacy than either elder male teenagers or early teenagers of either genders. It also concluded that self-efficacy was strongly correlated with every dimension of emotional well being with the exception of positive affect.
- 22) The impact of impulsivity on mental health, sleep, quality of life and life satisfaction among older adults. Kim and Ko in 2018 studied that due to the rapid aging of South Korea's population the mental health and Quality of Life of elderly is increasing and becoming more and more important. This cross sectional study was held to find the relation between impulsivity and mental health, sleep disturbance, life satisfaction and health situated quality of life. The study also entails that Korean individuals tend to feel shame and judge themselves harshly when they make impulsive decisions,mistakes or fail rather than positive attitudes towards themselves. The data was collected with general characteristics such as age, gender, education level,etc.Impulsiveness if the participants was measured by the UPPS-P,a 59-item self report scale.The anxiety subscale of the Hospital Anxiety and Depression Scale (HAD)was employed to assess anxiety symptoms in older adults. Participants' sleep disturbance symptoms were assessed with the Insomnia Severity Index (ISI).Participants also completed the Satisfaction with Life Scale (SWLS).The EQ-5D-5L was used to measure HR-QoL that is health related quality of life.
- 23) Correlates of self-efficacy in children. Huebner in 1991, studied the correlates of one dimension of children's subjective well-being that is global self-efficacy. 79 students from grade 5 to grade 7 of a rural school district in the Midwest completed a self-efficacy scale and few personality tests. Individual differences of global life satisfaction were associated with personality characteristics. Self-efficacy was measured by Coopersmith self-efficacy Inventory- School Short Form which is a 50 item scale. Children's perception was measured by Nowicki-Strickland Locus of Control Scale which is a 40 item self-report scale. Student's anxiety was measured by using a 37 item self-report scale known as Revised Children's Manifest Anxiety Scale(RCMAS). Personality was tested by using the 81 item self-report scale known as Eysenck Personality Questionnaire- Junior Version(EPQ). Life Satisfaction was measured by Student's Life Satisfaction Scale(SLSS). The results showed a positive correlation of self-efficacy with respect to all the variables used by the researcher.
- 24) Health and Social Factors Related to the Ability of delaying gratification. Palmore and Luikart in 1972 studied that health, activities, social-psychological and socio-

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economic variables were thought to steer life satisfaction in middle age. The study mentions that people who are satisfied with life have the greater ability to delay gratification. In the study it was found that self-rated health was the dominant factor. The amount of organizational activity and belief in internal control were the recessive factors related to one's ability to delay gratification in life. The researchers found an important relationship with life satisfaction and health, activity, socio-economic and to some extent age. The data was studies from the Duke Adaptation study which is an interdisciplinary longitudinal study of 502 participants aged from 45 to 69 at the beginning of the study in 1968. The main reason for this study was to analyze the social, psychological, and physical determinants of adaptation in this age range. Life Satisfaction and health was measured by the Cantril Ladder. Organizational activity was calculated by the addition of the amount of religious services and meetings of other groups such as clubs, unions or associations, etc. Internal control orientation was analyzed by first-person items in the Jesor Scale known as Internal-External Control of Reinforcement Scale. The results showed that health and the ability to delay gratification are important factors responsible for a person's life at the age of 45 to 69. In conclusion, there is a positive correlation with health.

- 25) Seligman et al in 2005 studies different directions to self-efficacy and their association with satisfaction with life were investigated with adults answering to online surveys. The researchers calculated life satisfaction and the endorsement of three different ways to have the sense of self-efficacy by completing a skill, seeing someone complete a skill and get positive feedback. The variables measured were self-efficacy and satisfaction in life. The researchers analyzed 12 face-valid items describing the three orientations. Life satisfaction was measured by satisfaction with life scale which is a 5 item scale. All the scales were posted online. The total sample size was 845 participants who solved the online survey. The research design used in this research was cross-sectional design. In conclusion, the research shows that there is a positive or significant relationship between both the variables used by the researchers.
- 26) Meta-Analysis of Gender Differences in Self-Compassion Yarnell et al(2015) studies the impact of gender norms and other factors on self-efficacy. The researcher suggests a strong association of self-efficacy with mental health, well being, gender norms that may cause development of self-efficacy by women on one hand and men on the other. The scale used was the Neff Self-efficacy Scale. The sample used were North American samples of sample size being 129. The research showed a significant correlation between the variables.
- 27) Self-efficacy and life satisfaction in adolescents—gender and age as potential moderators Moksnes and Espnes in 2013 discusses gender differences on life satisfaction and self-efficacy and the relationship between self-efficacy and satisfaction with life in Norwegian teenagers aged 13 and 18. The potential moderating role of gender and age with respect to self-efficacy and life satisfaction was also discussed in the research article. The paper also discusses that life satisfaction is also considered to be a main construct with respect to other emotional, social and behavioral patterns. One of the main variables that may have an impact on satisfaction with life during adolescents is self-efficacy. The researchers used a cross-sectional survey in public elementary, school grade 8 to grade 10, and secondary schools from grade 1 to grade 3 in mid-Norway.

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The total sample size was 1,924 students. Life satisfaction was measured using the 5 item satisfaction with life scale, self-efficacy was measured by using the self-efficacy scale. Adolescent stress was calculated by using 56 item scale Adolescent Stress Questionnaire(ASQ-N), and Subjective well-being was measured by one item scale. The results showed that boys scored higher than girls in life satisfaction and subjective well being whereas girls scored high on stress than boys. In conclusion there is a positive correlation between all the variables.

- 28) Self-compassion and efficacy across cultures: Comparison of young adults in China and the United States Melisa in 2013 did comparative research on young adults of China and the United States. A cross cultural study was done to explore the differences in self compassion and efficacy among Chinese and American undergraduates. The researcher used the Self Compassion Scale invented by Neff and Interpersonal Reactivity Index. 40 Chinese and 41 American undergraduates completed the scales. The results showed that there was no significant difference in overall self-compassion scores between Chinese and American students. There was one major effect of gender, but females scored significantly lower than males in both groups. The research concludes that Self-compassion and efficacy can be considered general and universal for the foreseeable future. The results of this study show important cross-cultural differences in the individual components of the composition. These constructs (self-love, common humanity, isolation, over-discrimination, fantasy, empathy). Gender differences in this study are consistent between both Chinese and Chinese cultures. American samples share the same pattern of gender differences in self-compassion and empathy.
- 29) Body Talk on Social Networking Sites, Body Surveillance, and Body Shame among Young Adults: The Roles of Self-efficacy, habit formation and Gender. This study investigated whether SNS (SNS) is positively related to body observation and body shame, and whether body observation mediates the relationship between body social media conversation and the body. We also checked that links to body spying and body shame were moderated in social media body conversations. Also, the inhibitory role of gender in the mediation model was examined. The model was tested with 194 female students and 119 students from Chinese universities who filled out body talk questionnaires on social media, Surveillance, body shame and self-pity. The results showed that talking about the body on social media is positively related to the body. Surveillance and body shame. The connection between body talk and body shame on social media was mediated by body observation. In addition, self-compassion softened the link between body talk and body figure on social media. There was no gender difference. It occurs in the mediation model. The results of the current study provide new insights into the subject's development. Emphasizes male as well as female consciousness and the potential value of developing self-efficacy in the prevention of body image concerns.
- 30) The company we keep: Exploring the relationship between perceived teammate self-efficacy and athlete self-efficacy Cozier et al in 2018 studies the relationship between perceived teammate self-efficacy and athlete self-efficacy. The major reason to do this was whether gender moderated this norm. The researchers used Neff's Self-efficacy Scale with the sampling size of 108 the sample being Team sport competitive athletes. The researchers conducted an online survey. The results showed a positive correlation between descriptive norms and self-efficacy. In conclusion athletes self-efficacy is connected to their interpretations of how often their teammates are self-efficacy.

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- 31) Anggraeni and Kurniawan(2012) discussed the relation between self-compassion and the ability to dealy gratification on Universitas Islam Indonesia students. The research discusses various problems of life satisfaction of college students. The researcher studied Indonesian college students. They used satisfaction with life scale and impulsivity scale to measure gratification. The result showed significant correlation in life satisfaction and the ability to delay gratification. In conclusion the research showed a positive correlation between life satisfaction and the ability to delay gratification.
- 32) Purpose, hope, and self-efficacy in three age groups Bronk et al in 2009 studies the relationship between purpose, hope and self-efficacy in three age groups that are adults, adolescents and emerging adults. In this cross sectional study researchers discuss that having a purpose in life plays an important role in human development. It also discusses that youth who have a purpose in life are more psychologically healthier than their peer group and same implies for adults. The sample of the research were of three different age groups 153 adolescents, 237 emerging adults and 416 adults total sample size was 806. The participants completed three surveys. Purpose was measured by using the Revised Youth Purpose Survey, hope was analyzed The Trait Hope Scale which assesses participant's confidence and self-efficacy was measured by the 8 item New Generalized Self-efficacy Scale. Results showed that hope and purpose play a major role in a person's self-efficacy.. In conclusion, there is a significant or positive relationship between all the three variables which are purpose, hope and self-efficacy.
- 33) The relationship between stress and impulsivity of Korean University students: mediational effects of positive affect and self-compassion Cho et al in 2021 aimed to study the relation between stress and impulsivity with respect to the mediational effect of positive affect and self-compassion. Gender-specific differences in stress experiences have been reported repeatedly. According to the researchers, some research has shown that women experience greater negative effects and more unpleasant symptoms than male like impulsivity. Researcher's discussed that dealing well with new adult challenges is critical to mental health. If students have their own internal resources the impact on their life satisfaction would be much less stressful.The study was conducted on 1087 Korean University students situated in South Korea among which 606 were male, 479 were female and 2 were unspecified. 241 participants were freshmen, 372 were sophomores, 236 were juniors, 228 were seniors and 8 fell in the categories of others. To assess the stress in college students the researchers used the Life Stress scale for college students which consisted of interpretation of 4 dimensions which were friendship, intimate relationship, family relationship and relationship with professors. The scale's items were rated on 4 item likert scale. To analyze and calculate the positive effect the Korean version of the positive and negative effect of schedule was used (K-PANAS). In conclusion, life stress and impulsivity are negatively correlated with positive affect, self-compassion and life satisfaction.
- 34) Jennings and Tan (2014) studied self-efficacy and life-satisfaction in gay men. The research discusses that anxiety and depression is increased in gay men because of social opression. The researchers used self-efficacy scale with life-satisfaction scale.Sample used were LGBTQ+ community from Southern California. The result showed a positive correlation between self-efficacy and Life satisfaction. The research concludes that gay men high in self-efficacy believe in themselves and

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believe that they can bring change into this world and are more satisfied with themselves.

- 35) The relation between Habit formation and Self-efficacy in Adolescents: A Comparative Study of Gender and Tribal in Sulawesi, Indonesia Khumas et al in 2019 studies the relationship between habit formation and self-efficacy in adolescents. The main aim of the study was to find if there is a relationship between formation of habits and Self-efficacy and to find if there are any variations in habit formation based on gender, age and ethnicity. The sample size of the research was 1161 among which 352 were men and 809 women from South and West Sulawesi. In conclusion there is a positive correlation between the selected variables.
- 36) Yue and Xiaodong (2017) discussed how a sense of humor affects self compassion and life satisfaction. It discusses the relationship between humor and self compassion and humor and life satisfaction. 277 Hong Kong Chinese were used as samples. Researchers used the Self compassion scale and Chinese version of Satisfaction with life scale and humor was assessed by Chinese Humor styles questionnaire. The results showed positive correlation with humor styles and positive relation between life satisfaction and humor styles. In conclusion, humor styles, life satisfaction and self compassion are positively correlated.
- 37) Yue and Xiaodong (2017) discussed how a sense of humor affects self compassion and life satisfaction. It discusses the relationship between humor and self compassion and humor and life satisfaction. 277 Hong Kong Chinese were used as samples. Researchers used the Self compassion scale and Chinese version of Satisfaction with life scale and humor was assessed by Chinese Humor styles questionnaire. The results showed positive correlation with humor styles and positive relation between life satisfaction and humor styles. In conclusion, humor styles, life satisfaction and self compassion are positively correlated.
- 38) Hounq et al. (1994) defined self-efficacy as one's own cognitive-judgemental process which is based on a person's quality of life. The researcher used variables such as age, sex, and university status and self-efficacy. The researchers used adult Australians as the sample of their study. They used Self-efficacy for their results. The results showed different patterns of self-efficacy in different age groups. The study showed no significant relationship between sex and self-effiacy. It also showed a slightly positive correlation between self-efficacy and university status. In conclusion there are a number of factors that affect self-efficacy.
- 39) Age and the Tenses of Life Satisfaction and Self-efficacy Schafer et al studies past, present and future life satisfaction reports and examines how changes perceived in specific areas of life relate to the overall perceived life trajectories. According to the researchers, life satisfaction is a cognitive, judgemental aspect of well-being based on an individual's consideration on how life matches expectations derived from some internal standard. Researchers discuss that happiness is almost stable throughout life according to various studies on aging. Observable changes tend to be somewhat positive but there is a slight decline after a health problem occurs. Some evidence according to the researchers suggests that changes in certain areas of life, social-relationships and material wealth tend to increase with age. The data for the study comes from the National Survey of Midlife Development which is situated in the United States of America. The sample size of the study was 2,742 of age 30 and older. Life satisfaction was measured from an overall indicator and from seven specific domains. Results show that people have reported that most domains of their

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life have improved from past to present and will be better in future. In conclusion, there is a positive correlation between the tenses and aging and life satisfaction.

- 40) Goldbeck et.al (2007) discussed that adolescence is a developmental phase which is associated with various significant psychological and somatic changes. The research is a cross-sectional study which is examined on the effects of age and gender on adolescent self-efficacy. The sample used are adolescent's of Germany from various schools age group 11-16 years. The researcher used the self-efficacy scale for their research. And found the results using ANOVA test. The result of the study was that girls reported lower self-efficacy than boys. In conclusion age and gender related changes in self-efficacy provide further evidence for adolescence as critical psychological development.
- 41) Lewis et.al (2011) discusses the relationship between two variables: self-efficacy and student engagement. The age group chosen for this research was Adolescents. The research highlights the importance of positive emotions in adolescents and school life. The research also discusses that negative emotions such as sadness or anxiety tend to narrow one's own cognition process. The sample for the research were Southeastern US middle school students. The researchers used Student's self-efficacy scale. Cognitive engagement was measured using Student engagement Instrument and behavioral engagement was measured with the behavioral segment of Student engagement scale. The result showed Bi directional relationship between the two variables.
- 42) Hodgetts et al in 2020 studies the relationship between self-efficacy, rumination and depressive symptoms among older adults. The main purpose of the study was to test the process by which self-efficacy could act as the protecting factor among older adults by examining the mediation model and whether the model is conditional on gender. According to the researchers, older women are more significantly likely to get the depressive symptoms than men. They discuss that prevalence of depressive among women has led the researchers to investigate the mechanisms by which depressive symptoms occur. Researchers suggest that one well known theory which is the Ruminant Response Theory which states that the gender differences in the prevalence of depressive symptoms is a result of men and women in different ways responding to a depressed mood: women ruminate and men distract. The article suggests that women ruminate more often than men. Therefore, researchers suggest that self-efficacy can play a major role in protecting rumination and depressive symptoms among older women. In the research a total of 241 participants participated in the study among which 135 were women of age between 65 and 89 years and 106 were men of age 65 and 89 from Australia. The depressive symptoms were analyzed by using a Epidemiologic Studies Depression Scale which is a 20 item scale, rumination was examined by using the 20 item self-report scale that is The Ruminative Thought Style Questionnaire and self-efficacy was assessed by using the self-efficacy scale. In conclusion, there was a positive relationship between the three variables that are rumination, self-efficacy and depressive symptoms which changes by age and gender.
- 43) Neff, K. et al (2009) suggested that self-efficacy is powerfully related to psychological well being. Higher levels of self compassion is linked to inflated feelings of happiness, optimism, curiosity and connectedness additionally as weakened anxiety, depression, and worry of failure. Self-efficacy involves the will for the self's health and well being and is related to bigger personal initiative to

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create required changes in one's life. Much research was conducted on the self-efficacy scale, which measures self-efficacy as a stable trait.

Hypothesis

The hypothesis of the research will be:

1. There will be a significant positive relationship between ability delay gratification and habit formation.
2. There will be a significant positive relationship between self-efficacy and habit formation.

Variables:

Variables are as follows:

1. Predictor variable: Ability to delay gratification and self-efficacy.
2. Criterion variable: Habit formation

METHODOLOGY

This Chapter includes the operational definition, sample of the study, tools and procedure used for data collection and statistical analysis.

Operational Definition

For this study, the ability to delay gratification was defined as one's control over giving in the impulse of instant reward and expecting instant reward. A positive habit usually presents a delayed reward but humans are wired to be instantly satisfied.

That's why it's so difficult to develop good habits and break bad habits. Good habits usually result in delayed return, weight loss due to diet and exercise, while bad habits provide immediate feedback. Self-efficacy was defined as the one's ability to believe in themselves that they will succeed in maintaining habits and the course of actions and yield good results out of it. Believing in yourself that you can repeat a particular action every day in the same time frame and eventually it will become automatic.

Sample

In this research, the number of participants included were 110 participants, out of which 60% were male and 40% were female. Participants were gathered through simple random sampling via google forms. College students, working people, and early employees participated in this research from India as well as abroad. The youngest sample observed was of 18 years old and the oldest being 30 years old. The majority aged participants were 20 years old. 76.4% of the participants were single and 20.9% were in a relationship. The common occupation seen in the participants was that of being a student, 46.4%.

Tools

1) Barratt Impulsiveness Scale (Revised)

Barratt impulsiveness scale is a questionnaire designed to assess the personality and behavioral construct of impulsiveness.

This tool was used to measure impulsivity among the participants. Ernest Barratt developed this scale in 1995 to measure a person's level of impulsiveness. The scale comprises 30 questions scored on a 4-point scale, in which 1 stands for Rarely/Never, 2 stands for Occasionally, 3 stands for Often and 4 stands for Almost Always/Always. The lowest score

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possible is 30 and the highest is 120. Internal consistency coefficients for BIS-11 were from 0.79 to 0.83.

2) General Self-Efficacy Scale (GSE)

The German version was developed in 1979 by Matthias Jerusalem and Ralf Schwarzer and later it was revised and adapted to 26 other languages by various co-authors. The scale was created to measure the general sense of self-efficacy with the aim to know the coping abilities with daily hassle and stressful life events. The scale is available in 33 languages and it is designed for the general adult population. It is a 10 item scale, scored on a 4 point scale. 1= Not at all true, 2= Hardly true, 3= Moderately true, 4= Exactly true. The lowest score possible is 10 and the highest score is 40. The reliability, Cronbach's alphas ranges from .76 to .90.

3) The Creature of Habit Scale (COHS)

Ersche, K. D., Lim, T.-V. et al. developed COHS in 2017. It is a 27- item questionnaire to measure habitual responding. It incorporates two aspects of the general concept of habits, which are routine behavior and automatic responses. The routine subscale is predominated by items favoring regularity and familiarity and automaticity subscale by eating-related items. The scoring is done on 5 point likert scale which is strongly disagree, mildly disagree, undecided, mildly agree and strongly agree. The lowest score possible is 27 and the highest score is 135.

Procedure

The present study utilized a correlational research design. The study was completed online, a link to survey was provided through social media sites. Informed consent was first provided by the participants. Participants completed a total of sixty-seven questions. Participants were also asked to provide demographics such as age, sex and relationship status. The data collection was done through online surveys by means of google forms. All the three questionnaires were compiled together and sent across through online platforms such as WhatsApp, Instagram etc. Details regarding criteria about who is eligible to fill the form were provided and the participants were assured confidentiality of their results. In total participants took 15 minutes to complete the questionnaire. Some of the participants were asked questions post filling the questionnaire to get a better insight about the result obtained.

Statistical Analysis

The design of this research was Quantitative Correlational Design. It investigates the relationship between variables without controlling or manipulating them. Results drawn from numerical data and analysis prove to be highly effective. Before analysis the gathered data was prepared. The dataset was checked for missing data and outliers. The data was then analyzed using the statistical method, Pearson product moment correlation.

RESULT AND DISCUSSION

In this chapter, we will introduce the results of the survey and discussion regarding the results.

The data collected from the sample size of 110 was computed on an excel sheet. Coding and reverse coding was done according to the scales. The summation of each row was done in excel. The findings were then correlated using the statistical method, Pearson's product moment correlation on the excel sheet.

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RESULTS

1) A Pearson’s Product Moment Correlation examined the relationship between habit formation and self-efficacy among 110 participants. Scale scores were computed by adding responses to the ten questions of the General Self-Efficacy scale resulting in the minimum possible score of 10 and maximum of 40 and twenty-seven questions of The Creature of Habit Scale resulting in the minimum possible score of 27 and maximum 135.

The correlation between habit formation and self-efficacy was $r = 0.256$, $p < 0.05$. The positive correlation between habit and self-efficacy indicates that more participants felt that if they believed in themselves and their actions, they would be able to form good habits. So more self-efficacy, better habit formation. Using the Pearson correlation function, the hypothesis: ‘There will be a significant positive relationship between self-efficacy and habit formation.’ was analyzed. This hypothesis is accepted according to the analysis.

2) A Pearson’s Product Moment Correlation examined the relationship between habit formation and the ability to delay gratification among 110 participants. Scale scores were computed by adding responses to the thirty questions of the Barratt Impulsiveness Scale (revised) resulting in the minimum possible score of 30 and maximum of 120 and twenty-seven questions of The Creature of Habit Scale resulting in the minimum possible score of 27 and maximum 135. The correlation between habit formation and the ability to delay gratification was $r = 0.271$, $p < 0.01$. The positive correlation between habit and the ability to delay gratification indicates that more participants felt that if they were good at impulse control and had the ability to delay gratification, they would be able to form good habits. So more impulse control, better habit formation. Using the Pearson correlation function, the hypothesis: ‘There will be a significant positive relationship between ability delay gratification and habit formation.’ was analyzed. This hypothesis is accepted as well according to the analysis.

3) In addition the relationship between self-efficacy and the ability to delay gratification was also tested using the Pearson’s Product Moment Correlation among 110 participants. Scale scores were computed by adding responses to the ten questions of the self-efficacy scale resulting in the minimum possible score of 10 and maximum of 40 and thirty questions of the Barratt Impulsiveness Scale (revised) resulting in the minimum possible score of 30 and maximum of 120. The correlation between habit formation and self-efficacy was $r = -0.346$, $p < 0.01$. The negative correlation between the ability to delay gratification and self-efficacy indicates that more the self-efficacy in participants, worse the impulse control. The correlation between self-efficacy and the ability to delay gratification is inversely proportional and accepted.

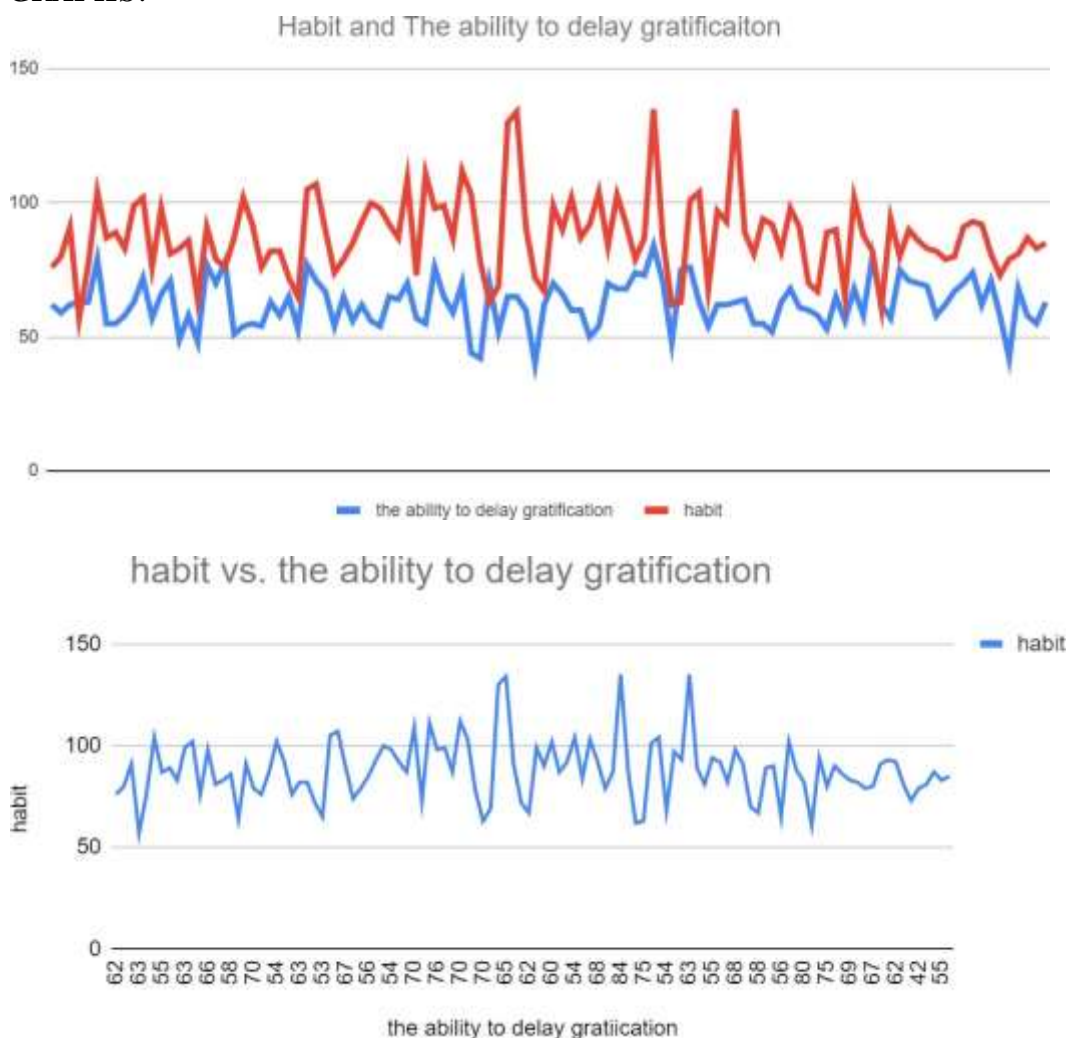
Table 4.1 This Table is of a Correlation Matrix among Three Variables for a Sample of Young adults (n = 110).

Variables	n	“r” value	p value (significance)
Habit formation and self-efficacy	110	0.256	0.05
Habit formation and the ability to delay gratification	110	0.271	0.01
The ability to delay gratification and self-efficacy	110	-0.346	0.01

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Table 4.1, The table indicates all the “r” and the “p” values for the given correlations. As expected, habit formation was positively correlated with the ability to delay gratification and was found to be true at 0.01 level of significance. As shown, some of my predictions were supported. There was a significant correlation between self-efficacy and habit formation at 0.05 level of significance. However, the ability to delay gratification and self-efficacy were inversely proportional, where $r=-0.346$. The hypothesis was found to be true at 0.01 level of significance.

GRAPHS:



The linear graph of correlation between the ability to delay gratification and habit.

DISCUSSION

Overview of the study

Habits are a series of automatic solutions that solve problems you face regularly. As habits are formed the activity in the brain decreases. Habits reduce cognitive load and free up mental space so you can allocate your attention to other tasks. The quality of our habits decides the quality of our life. Even if the changes in your life right now seem very small and unimportant, later those changes will compound into great results. Habits are self-compounding, if you stick with it, it will benefit you in the long run. So, it becomes important to know which factors affect habit formation in the long run. The two variables

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chosen for this study were self-efficacy and the ability to delay gratification. To investigate the relationship between self-efficacy, the ability to delay gratification and habit formation, a total of 115 young adults were considered as participants but there were 5 outliers to the extreme end which had to be removed and made the data come down to 110. Data was collected by the means of google form over social media. Responses were cleaned, sorted and analyzed on excel using descriptive analysis and Pearson's product moment correlation coefficient.

Discussion On the Findings

The primary purpose of this study was to examine the correlation between self-efficacy, the ability to delay gratification and habit formation. Earlier research suggests that there are benefits of being high on self-efficacy and being able to control your impulse for creating good habits. Some of the other researches state that most of the people give in for immediate rewards. The results obtained from a survey conducted on 110 young adults supported the expected hypothesis.

According to health psychologists (Bandura, 1988), people are more likely to engage in healthy behaviors when they feel confident in their capabilities to successfully carry out those behaviors. The findings showed positive correlation between self-efficacy and habit formation. The population of young-adults seem to believe in themselves. High-self-efficacy is shown to have numerous benefits to daily life.

Research indicates that people high in self-efficacy are set to be successful in forming and maintaining a good habit. Young adults in this study believed that they have control over their lives and that their actions will shape their lives. According to the self-efficacy theory given by Albert Bandura, it believes that self-efficacy also involves perseverance and motivation. These results seem consistent with the previous testing done on a similar sample.

It was also hypothesized that there will be a significant relationship between habit formation and the ability to delay gratification. The correlation between the ability to delay gratification and habit formation was found to be statistically significant. Both the variables were measured using statistical scales. In today's world where people crave for instant things, waiting for the results to show is a very important quality demonstrated by the participants.

The surprising result was the ability to delay gratification and self-efficacy were inversely proportional to each other. One of the reasons might be the participants high on self-efficacy, might believe that they exercise control over all of the actions taken by them and that they won't give in to the temptations over their well being, but sometimes in the want of instant reward, you take actions which you don't realize.

Other factors affecting the obtained result can be the pandemic. In isolation, people started doubting themselves and their abilities to do things on their own as no help was present. On the other hand, people learnt to wait for their desire to fulfill, like going out, eating in restaurants, going on trips etc. The pandemic helped people gain control over their impulse.

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CONCLUSION

The broad scope of this study was to identify the relationship of the ability to delay gratification and self-efficacy with habit formation. Statistical results described in Chapter 3, show that the objectives outlined in Chapter 1 have been achieved. The novelty of the work is that,

1. There will be a significant positive relationship between ability delay gratification and habit formation. It was concluded that there is a positive correlation between the ability to delay gratification and habit formation. The results showed that the participants could control their impulse and form better habits.
2. There will be a significant positive relationship between self-efficacy and habit formation. There was a positive correlation found between self-efficacy and habit formation. The participants with high self-efficacy are effective habit makers. They will form good habits in their life span and believe that they can face any obstacles with the help of habits.
3. There was also a negative correlation found between self-efficacy and the ability to delay gratification.

Suggestion and Limitations

Based on the findings and conclusions presented, the following suggestions and limitations are suggested

- Continuance of this study should be done to find the accurate result between self-efficacy and habit-formation.
- Self-efficacy is proven to be a vital life skill, therefore activities to enhance self-efficacy should be taken from a young age. For adolescents, adults and young adults, workshops must be conducted.
- The importance of habit should be more prominent and be told in every household.
- Lack of previous research studies on the topic: there is very little or no prior research on the chosen topic, it was an important opportunity to identify literature gaps and present it for further development in the area of study.
- Scope of discussions. As I don't have many years of experience of conducting research and producing academic papers of such a large size individually, the scope and depth of discussions in my paper is compromised at some level.
- Sample size: The sample size of this study was moderate. A larger sample size would have given more accurate results.

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Conflict of Interest

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APPENDIX

1) **Self-efficacy -**

[https://www.drugsandalcohol.ie/26768/1/General_Self-Efficacy_Scale%20\(GSE\).pdf](https://www.drugsandalcohol.ie/26768/1/General_Self-Efficacy_Scale%20(GSE).pdf)

2) **The ability to delay gratification-**

<https://onlinelibrary.wiley.com/doi/pdf/10.1002/9781118638279.app2>

3) **Habit formation-**

<https://www.sciencedirect.com/science/article/pii/S019188691730274X>