

**TOWARDS AN UNDERSTANDING OF SELF IMPROVEMENT:
THE INTERSECTION OF THE FRESH START EFFECT AND IMPLICIT
THEORIES**

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**This study is dedicated to
the memory of my late Dad, Mathew Cherian**

Abstract

The objective of this research is to understand how individuals experience a Fresh Start Effect (FSE). Self-efficacy is tested as a driver of the effect and the phenomenon is analyzed through the lens of implicit theories. The FSE examines how new beginnings allow individuals to mentally separate from their imperfect former self and pursue self-improvement. The effect is driven by a temporal landmark (like New Year's Day), giving the person a feeling of a new beginning.

This study focuses on understanding the process underlying the FSE. Individual response is studied in terms of perceptions of self-efficacy and goal commitment. This research demonstrates that a person with a fixed mindset will change to more of a growth perspective following a Fresh Start Message (FSM). The implications of this research will help marketers implement positive change and inform individuals on how to leverage life events for successful personal improvements.

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List of Abbreviations

FSE – Fresh Start Effect

FSM – Fresh Start Message

CLT – Construal Level Theory

Chapter 1: Introduction

Self-improvement is a difficult undertaking for individuals in every stage of life. Motivating individuals to pursue positive change in their lives can help develop more healthy and productive societies. Projections show that, at the current rate of obesity increase in the USA, by 2030 86.3% of adults would be overweight (Wang, Beydoun, Liang, Caballero, & Kumanyika, 2008). Statistics like this illustrate the necessity of assisting individuals in making self-improvements. This research seeks to better understand how framing time can help people be more successful in implementing change.

The Fresh Start Effect (FSE) is a theory that has been integral in explaining how individuals pursue self-improvement (Dai, Milkman & Riis, 2014), and it also explains the phenomenon of pursuing a goal on a landmark day. The concept is based on the fact that an individual decides to pursue a change on an important day and at that the same time perceives that their imperfect past is behind them. This research will further explore and test the FSE in two important ways. First, a mechanism is tested by which the self-efficacy of a person increases when exposed to the FSE, which in turn leads to goal commitment. Secondly, it examines how different mindsets experience a Fresh Start Message (FSM).

Through mental accounting, individuals are able to perceive the past as a different time period from the present and feel that they are free to become a different, improved version of themselves (Dai, Milkman & Riis, 2014-b). The separation of the past gives a sense of a new beginning and thereby motivates people to pursue a change. In other words, people experiencing the FSE consider the past to be behind them; therefore, the changes in habit can be implemented as there is a sense of new beginning on an important

day (Dai et al., 2014-b). Next, implicit theories of mindset are examined which help us to further understand the types of mindsets individuals have.

Implicit theories of mindset have been well established theories that deal with the different types of mindsets that people hold (Dweck, 2006). Dweck, Chiu & Hong (1995) explain implicit theories of mindset as models of human qualities that make up the view that people hold of themselves and how they behave in certain situations. They are studied in various fields like personality (Schneider, 1973), leadership (Schyns, 2006), intelligence (Sternberg, 1985), and mindset (Dweck, 2006). Throughout the literature, there are two kinds of mindset, the first being the fixed mindset or entity group, and the second being the growth or incremental group. Those who support the fixed mindset believe that personality traits are fixed and largely unchangeable (Hong, Chiu, Dweck, Lin & Wan, 1999). These individuals commonly view abilities like intelligence, creativity, and athleticism as talents that one either does or does not possess (Murphy & Dweck, 2016). Conversely, those who support the growth mindset believe that people can improve their abilities and traits through personal changes and self-improvement (Hong et al., 1999). The age-old question, “are leaders born or made?” is one example of a dilemma between the two groups.

The purpose and scope of this research is to explore the intersection of the FSE and implicit theories. Previous studies have demonstrated that the FSE can motivate a person to change from an existing condition to a better future on the premise of a temporal landmark (Dai et al., 2014-a & -b). However, the role self-efficacy plays in driving the effect has yet to be empirically examined. Such an examination would help to further explain the underlying process involved in the FSE. In this study, it is important to find out the level of self-efficacy a person perceives after being exposed to the FSE.

Self-efficacy can be described as a generalized trait that represents a person's overall ability to perform various jobs in different situations (Strajkovic & Luthans, 1979). Studies have shown that by understanding the magnitude of self-efficacy, the level of task difficulty that a person believes they are able to execute can be explained (Stajkovic & Luthans, 1979). In other words, a higher level of self-efficacy would indicate that the person believes in his/her own ability to achieve a challenging task. So, when an individual is exposed to a fresh start, if it leads to an increase in their self-efficacy levels it means that they believe in their ability to pursue the goal. It is expected the individual would feel an increase in their self-efficacy level when exposed to a fresh start because, during the FSE process, the past is separated from the present and the person's focus shifts to the future (Dai et al., 2014). As a result, the individual's self-efficacy level is increased, and it is possible for them to pursue their goal. This research examines self-efficacy as a mediator in the process of an individual being exposed to the FSE and reaching goal commitment. It is proposed that when a person is exposed to the FSE, their perceived self-efficacy levels increase which in turn mediates the approach in pursuing a goal.

Part of the process driving the FSE has begun to be identified, however, it is not understood how an individual's mindset would be impacted by this phenomenon. It is likely that individuals respond differently to FSM given the differences in their mindsets. It would be interesting to study how different mindsets interact with the FSE. This study will increase the understanding of how a temporal landmark would influence different mindset group's perceptions of self-efficacy in pursuing a self-improvement goal. The study predicts that, although the absolute level of self-efficacy would be higher for a growth mindset to change from an existing condition, a fixed mindset would exhibit

greater magnitude of increase in self-efficacy when exposed to the FSE condition. In other words, the growth mindset starts off with a higher level of self-efficacy than a fixed mindset, but the fixed mindset would exhibit a greater increase in self-efficacy than the growth mindset. This is predicted because those with fixed mindsets are more burdened by their past performance. It is assumed that, if the fixed mindset person had a failure in the same domain, the unpleasant memory of not achieving the desired results can be wiped away by the new-beginning feeling. From past literature, we know that people with a fixed mindset believe that qualities are more or less fixed and cannot be changed with their own efforts (Dweck et al., 1995). So, when they are exposed to an FSM, as opposed to a non-FSM, a more dramatic change in their self-efficacy is expected since they are experiencing a new feeling of potential change. The separation of the past from the present may help them to create distance from what they were, and the new focus on the future might act as motivation to undergo the change.

A fresh start creates a feeling of a new beginning and promotes a sense of change. When faced with a fresh start, it is possible that an individual with a fixed mindset could experience a change in perspective. The separation of the past self from the present self, and the new focus on the future may cause a fixed mindset person to adopt a more growth-oriented view. Previous literature has explained the implicit theories of mindset as a continuum with fixed mindset and growth mindset lying at each end (Mercer & Ryan, 2009). So, it is possible that a person having a certain mindset in a particular domain could shift to another mindset given favorable circumstances. Past experiments have also demonstrated that an individual can hold different mindsets across different domains (Mercer & Ryan, 2009), and there are also studies demonstrating that mindsets could change (Jain, Mathur & Maheswaran, 2009; Plaks, Levy & Dweck, 2009). It would be

interesting to find out whether a fixed mindset can change to a growth-oriented mindset when a fresh start happens. It would help in the area of self-improvement for an individual who believes more in a “cannot change” attitude to incline towards a “can change” attitude.

Next, I will examine the concepts of the FSE and implicit theories of mindset in detail to fully explain the effect a fresh start would have on different mindsets.

Chapter 2: Literature Review

“The first step towards getting somewhere is to decide you’re not going to stay where you are.” —John Pierpont “J.P.” Morgan

This section begins with the explanation of the concept of the FSE, how it works, and the details we know about this effect. After explaining the elements of the FSE, such as the significance of a temporal landmark, as well as mental accounting and how it works, the discussion then will shift to implicit theories. The different types of implicit theories are then discussed with respect to different mindsets.

2.1 Fresh Start Effect (FSE)

The “FSE” is explained as a phenomenon by which a person separates the imperfect past from the present by using mental accounting and moves towards a better future on a temporal landmark occasion (Dai et al., 2014). Mental accounting of time is the practice of mentally recording, analyzing, and verifying the passage of time to keep track of how time advances (Thaler, 1999). Temporal landmarks are events and occurrences stored in memory (Shum, 1998), and can be occasions of significant importance remembered by a person. These mental accounting periods help people pursue goals because they separate their imperfect pasts from the day of the fresh start (Dai et al., 2014-b). Mental accounting periods act as a fresh beginning where people can pursue a goal or other personal improvement. The time-based landmark motivates people to attribute imperfections to a different, former self and progress into a new beginning (Dai et al., 2014-b). A classic example of this effect is the New Year’s resolutions made by many people. On New Year’s Day, people decide to make a change to their past habits or

trends and believe they can create a better lifestyle than they had in the past. For example, a person who rarely visits the gym or does exercise may decide to visit the gym regularly at the start of the year. The start of the year for this person acts as a temporal landmark for a new beginning as it separates the past from the present.

From past studies, we know that the FSE motivates people to bring about a change to their current condition and to work for a better future, and that, in general, there has to be a motivating element for people to change. According to Mitchell (1982), motivation is a psychological development that results in actions that are goal focused. In other words, motivation is the internal drive that pushes individuals to pursue and achieve goals. Peetz & Wilson (2013) studied personal change across different experiments, and they demonstrated that a landmark, when made significant, helps people to categorize time periods before and after the selected landmark. In their experiments, they measured how people would categorize a period in the presence of a landmark. When there was a temporal landmark of “Mothers’ Day,” it was seen that people classified periods before and after the landmark day as separate categories. This lends support to the idea that projecting a temporal landmark as an important event can lead people to feel more disconnected from their past and to be more motivated to change for a better future. The element of motivation is that they are leaving the imperfect past behind them and starting a new beginning. So, the new start is the motivational spur that moves the subjects in the direction of a better future.

In the next sections, I will discuss in detail the aspects involved in bringing about change. Peetz & Wilson (2013) also conducted experiments to study the effect of a temporal landmark and its importance of separating the past from the present to focus on a better future. In their study, the difference between the present health condition and

future health condition increased participants' motivation to exercise and focus on their goals. In other words, participants were motivated to exercise when a better health condition in the future appeared to them. This demonstrates that people often consider their past to be imperfect and are willing to work for a better and more promising future.

2.1.1 Temporal Landmark

As humans, there are many events that come into our lives that have special significance to us and can form into memories due to their importance. Examples of these events include anniversaries, proposals, and childbirth. Shum (1998) explains temporal landmarks as events and occurrences stored in historical memory. These events may or may not have direct involvement with the individual. An example of such an event is natural disasters that occurred somewhere other than where a person is located. These landmarks may have the effect of arranging events that occur in a person's life in a memorable way. According to Ribot (1882), memory consists of reference points that are connected to events. He explains that these referral points or events in our memory make the memory retrieval very effective as we can remember the events based on the reference points in our memory. For example, a person may remember the day his first child was born and, therefore, particularly remember the events that happened on that day. In this case, the events and happenings are tied to the reference point of his child's birth. This easily helps him remember the time and order of the events that occurred on that days.

One type of temporal landmark can be of reference points on socially occurring events, and another type of temporal landmark includes personal life events (Dai et al., 2014). The extent to which a temporal landmark is seen as a new beginning depends on how the landmark resonates with a person's identity, beliefs, culture, and religion (Shum,

1998). Socially occurring events would include events such as the start of a year or a season; while personal life events would include an auspicious day such as birthday or anniversary. These temporal landmarks help people recall memories and the events associated with the landmark (Rubin & Kozin, 1984). Socially constructed events are consistent throughout a particular society (for example, the importance of Chinese New Year to the Chinese community); whereas personal life events are unique to the individual (for example, birthday and anniversary dates in a person's family). A marketer can target socially constructed events whereas it is more difficult to target personal life events without personal data like consumer's birthdays. People often use temporal landmarks to organize their lives and plan for the future; hence why the latter has a significant effect on one's identity and motivation (Peetz & Wilson, 2013).

2.1.2 Mental Accounting

Previous research suggests that mental accounting determines how individuals make choices in a variety of situations. Thaler (1999) explains mental accounting as the set of cognitive actions used by individuals to organize and track various activities in their life. Mental accounting is a type of decision framework in which individuals are hypothesized to form psychological descriptions of the pros and cons of an event (Henderson & Robert, 1992). Sometimes, the essence of decision making is all in the element of time and how it is framed.

Thaler (1999) clearly explains the three components of mental accounting, with the first being the perception of the outcome and how it is experienced. This component is related to the decision-making and how it was evaluated. Basically, this means that an event is evaluated based on the outcome of the event. Thaler (1985) conducted a study in

which the perceived value of a transaction would influence the willingness to pay. He experimentally tested the willingness to pay a given price for a beer at a beach resort as well as at a nearby grocery store. While paying \$2.50 for a beer was considered an annoyance at the resort hotel, it was considered as a “rip-off” in a grocery store. Though the same beer was consumed in both cases, the location and environment of the offering affected the outcome of the transaction.

The second component involves the allocation of activities to specific categories (Thaler, 1999). For example, the cost of a family vacation need not be classified as an expenditure, instead, it can be seen as an investment in the family because the happiness and pleasure from the vacation can be deducted from the expenses. This change in mindset helps perceptually reduce the expenditure burden for an individual. Thaler (1985) demonstrates the use of rebates when dealing with expensive purchases, like houses or automobiles. The dealer would have the advantage to sell additional options as the cost can be added to a larger purchase. An example is adding extended warranty to an automobile purchase. The buyer would consider the addition as a value since the price is not significant when compared to the principle purchase.

The third component of mental accounting is related to the frequency at which the accounts are evaluated (Thaler, 1999). It is the choice of the individual to close a particular accounting period on a daily, weekly, monthly, or yearly basis. The frequency is dependent on the nature and type of the decisions involved, and also the thought process of the individual. If the person keeps a weekly expense calculation, that person may opt to calculate the income and expenses of a particular week to find out how much was saved or if there were extra expenses in that week. Although a person tends to do

intense calculations and allocation as part of mental accounting, as the name suggests it is assumed that it is done mentally, nothing is usually written down and calculated.

Basil & Runte (2007) examined the impact of mental accounting in the frame of work-time volunteering. The classification of volunteering depended on the involvement level of the person towards the cause. In their study of measuring volunteering time during work hours and personal time, it was found that highly involved people used mental accounting to combine both work hours and personal time, and they tend to increase personal time volunteering in addition to the work time volunteering. It was also seen that less involved people used separate accounting for volunteering during work time and personal time and that they tend to decrease their personal time volunteering due to work volunteering. In sum, the time allocation for a task depends on how it is mentally accounted.

A time frame can heavily influence how individuals interpret and react to situations. Studies have explored the ways in which a time frame can be developed. Dai (2016) proposed the term performance reset, a concept similar to the FSE. There can be situations in organizations, where the past performance of the employee is disregarded, and the upcoming performance is measured separately. This can happen in cases where the employee is relocated, a new incentive system is introduced, or there are changes in the business model. In such cases, the change can affect an employee in various ways. For example, where an employee's past performance was poor and unsatisfactory, the new start can be motivating, and the person may then perform well. Conversely, if the employee's past performance was extraordinary, wiping away the past may act negatively in the employee's mind. This negative mindset may lead to decreased commitment. In

short, performance reset improves future performance for those whose past is weak, whereas it may negatively impact those whose past performance is excellent (Dai, 2016).

The above literature suggests that people have the tendency to separate time periods in their minds to help interpret time and the events that occurred. Mental accounting can be used to define a start and end of a particular time frame based on how a person wants to value an activity or event. The present circumstances and the desired future goals are the major elements that control these timeframes in one's life. This practice of keeping a mental tab of time and effort is a key element in the process of the FSE because the concept also focuses on the fact that people often separate their time frames based on circumstances and motivation to do better. Mental accounting people to separate the events that occurred in the past and treat those memories as different periods from the present or the future.

2.1.3 Separation of past and future self

Temporal landmarks that mark new beginnings can inspire goal initiation by creating a psychological disconnect between a person's past and present (Dai et al., 2014). The temporal landmarks give a feeling of a new beginning in which a change can be brought forth and made into new practice. Temporal landmarks persuade people to think the future will be much more successful than the past and to work towards future goals (Peetz & Wilson, 2013).

There are two primary explanations for the FSE. First, the temporal landmark refers the past imperfections of a previous mental accounting period; and second, it promotes a focus on the big picture (Dai et al., 2014). In regard to the first explanation, a study done by Dai et al., (2014) discusses how psychological disconnection, induced by

temporal landmarks, motivates people to pursue their goals. This study empirically tested and supported that the separation of the past from the present acted as a mediator for the FSE. From their experiments, it was supported that landmarks mark a new beginning, psychologically motivate people to feel disconnected from their past, and motivate people to initiate new goals for the future (Dai et al., 2014). In their experiment, when the respondents were asked to pick a day to get a reminder, it was seen that start of summer was selected over regular days as a preferred landmark day. This implies the importance of a temporal landmark in starting a goal pursuit.

The second aspect of the temporal landmark is that it changes individuals' perspectives to focus on the big picture. When making decisions, individuals tend to focus on either the near or distant future. Time discounting helps in understanding the importance of events as they occur in the near future or distant future (Trope & Liberman, 2003). There can be instances where the near future is considered more important than the distant future. The selection of near or distant future depends on the situation and how events are perceived. For example, in cases where entertaining guests at home is discussed, the fun and enjoyment expected from the near future overrides the effort involved in cleaning and arranging in the distant future. Similarly, a distant future can be more attractive than a near future. This can happen in a case of building physical fitness. The effort and involvement in daily exercise can be considered less daunting when the bigger picture presents an overall healthier situation. Although the change to big picture thinking has not been empirically tested, past research has suggested it as an additional mechanism driving the FSE. When a person is able to visualize a better future, it can be motivating enough to make a new beginning by bringing change to past habits, beliefs, and practices for achieving a better condition moving forward. In the process of the FSE,

a person is shown the benefits that can be obtained in the future and the importance of those benefits to them, which makes a person think more positively on their ability to make a change to achieve the future goal. In this way, big picture thinking is an important element in the FSE mechanism.

The choice between a near future and a distant future is explained by Construal Level Theory (CLT). CLT is an account of how mental distance influences one's judgments and activities (Trope, Liberman & Wakslak, 2007). The theory proposes that the closer people are to a goal, the more likely they focus on more precise details (low-level construal). As they move away from the goal, the attention shifts towards general details (high-level construal) (Fujita, Henderson, Eng, Trope, & Liberman, 2006). Based on CLT, people evaluate their available options based on the importance and outcomes of their alternatives. In other words, at higher-level construal, people focus on broader details since they see more of the big picture, whereas, in low-level construal, people focus on narrow details (Aggarwal & Zhao, 2015)

Fiedler (2007) illustrates the concept of CLT through the example of choosing a destination. It is explained that when it comes to choosing between two available options in which one option is a location that is desirable, and the other option is a destination that is feasible, the option of the desirable vacation would be selected by those with a longer view and the feasible option would be selected by those with a short distance view. In other words, if the vacation is being planned for next year, the desired location can be selected, but if the vacation were for the next week or month, then the feasible option would be selected. CLT explains how options are considered based on the importance of a near future or a distant future to a person.

A higher-level construal relates to a perspective called “big picture thinking”. Experiments were done by Labroo & Patrick (2008) to study whether positive cues increase abstract construal suggest that positive moods lead to high-level construal, which facilitates engagement in goals that are abstract. In other words, positive moods promote a focus on distant events and promote big picture thinking, which is important when the distant future is considered to be more attractive and rewarding than the present. If the immediate future were more important to a person than the distant future, then the focus would be on the immediate future rather than the distant future.

A recent study done by Briley, Rudd & Aaker (2017) tested how the role of big picture thinking affected health recovery in cancer patients. The study was to investigate how an optimistic approach could help the patients have the energy to overcome their condition. The study demonstrated that having optimistic feelings of recovery drove the patients to have anticipated energy. In other words, the focus on the big picture of a healthier future motivated the patients to think about recovery. The positive picture of recovery portrayed relates to optimistic bias by creating an optimistic approach of “everything will work out well” thinking. Growth mindset would be expected to have a stronger optimistic bias because it is believed that qualities can change and can be improved.

It should be noted that the FSE emerges only in cases where people consider their past to be imperfect and inferior to the present. This perception may differ among individuals. There might be people who consider their past to be perfect or the same as the present condition (at least with regard to the issue in question). In such instances, the FSE would not be prominent (Dai et al., 2014-b). In a case where a person is in a habit of exercising regularly and following a healthy diet, a temporal landmark may not act as an

influencer to change to a healthy lifestyle as that person is already living a healthy life. However, the temporal landmark can act as the FSE if the person decides to get into intense bodybuilding and develop certain muscles instead of the regular healthy lifestyle already followed. In such cases, the person may be inclined toward the FSE since a change from past actions is required.

2.1.4 Self-efficacy

Self-efficacy has been a long-discussed topic in the field of behavioral change and the results have been quite consistent. Strajkovic (1979) defines self-efficacy as a generalized trait that represents a person's overall ability to perform various jobs under different situations. According to Bandura, self-efficacy is a belief that one can successfully execute the performance required to produce outcomes (1977). Gist & Mitchell (1992) explain self-efficacy as an estimate of an individual's competence to demonstrate performance on a particular task. Furthermore, studies have shown that self-efficacy is a direct indicator of a person's ability to take up challenging tasks. In other words, the level of task difficulty that a person believes they are able to execute can be understood by the magnitude of their self-efficacy (Stajkovic & Luthans, 1979). Perceived self-efficacy, or self-belief, can strengthen or weaken performance (Bandura, 1989). This means that perceived self-efficacy indicates a person's own perception of their ability to perform a behavior, rather than their actual ability to do it. So, a higher level of self-efficacy would indicate that a person perceives they are capable and does not indicate their actual performance ability. Previous literature has suggested that self-efficacy may increase as the imperfect past is separated (Dai et al., 2014-b), however, it is yet to be empirically tested.

2.1.5 Goal Commitment

Goal commitment refers to the determination to try for a goal (Locke, Shaw, Saari & Latham, 1981), and is essential for achieving a goal (Locke, 1968). Previous studies have examined the importance of goal commitment on difficult goals rather than easy goals because commitment to an easy goal would not be an issue (Hollenbeck & Klein, 1987). In other words, goal commitment often refers to a commitment of a person to pursue a relatively difficult goal. Commitment indicates the application of effort towards achieving a goal and highlights the reluctance to abandon or compromise the goal (Campion & Lord, 1982; Hollenbeck & Klein, 1987). Klein, Wesson, Hollenbeck & Alge (1999) empirically demonstrated that performance to achieve a task is high only when the goal difficulty and goal commitment are both high. They explained that a difficult goal does not lead to high performance when commitment is low and that a high level of commitment to simple goals also fails to initiate high performance.

Locke, Latham & Erez (1988) classified the determinants of goal commitment into three major categories: external factors (authority, peer influence and external rewards), interactive factors (participation and competition), and internal factors (expectancy and internal rewards). Locke et al. (1988) explained three possible ways to measure goal commitment. The first method involves measuring commitment directly using questions. Examples include “How committed are you to attaining the goal set?” and “To what degree do you accept the goal set?” (Latham & Steele, 1983). The second method to measure goal commitment is to estimate the discrepancy between the assigned goal level and the personal goal that the individual claims actually the person is trying to attain (Hannan, 1978). The third method to measure commitment is by inference from performance (Locke et al., 1988). The method of measuring commitment by

understanding the performance is important because the behavior or action is the ultimate evidence of commitment (Salancik & Staw, 1982).

Based on the literature so far, a few key points can be summarized relating to the FSE. Firstly, people often have the tendency to account for time based on the tasks and time frame they are involved in. A person engages in mental accounting to create a difference in the present time frame and the desired future. Secondly, temporal landmarks such as dates and events of importance can help individuals pursue a decision or adopt a change in the present state for a desirable better phase in the future. Landmark dates that have importance or interest for a person can motivate them to initiate a change. In short, it is inferred that the FSE involves a personal decision to change to move to a better phase in life on an important day because that day psychologically signals a new beginning to the person where they can leave the imperfect past behind and move to a better future.

Next, the intricacies of implicit theories and how these theories may interact with the FSE are explored.

2.2 Implicit Theories

Ross (1989) explains that implicit theories are knowledge structures that define the stability of an attribute and organize them according to the importance of events. Implicit theories of mindset are a widely researched topic in the field of social psychology. The implicit theory of mindset explains an individual's beliefs concerning their personal traits and abilities (Dweck, 2006). Although the mindset is a continuum, it is seen that individuals are inclined to hold either a fixed mindset or a growth mindset, and from that could be predicated whether they believe that a trait like intelligence can be enhanced through their own efforts or not (Heslin, 2010). The fixed mindset group

believes that their intelligence is generally fixed and cannot be changed by their own efforts. In contrast, the growth mindset group believes that intelligence can be enhanced through their own efforts. Many types of traits are potentially influenced by implicit theories, such as intelligence, morality, shyness, and personality (Park & John, 2010). By understanding the levels of stability or malleability of human characteristics, organizations can design strategies to address consumer preferences (Wheeler & Omair, 2016). For example, an educational company can design an advertisement that focuses on the performance of their product for the fixed group, and also can have a campaign that highlights more of the learning aspect for the growth mindset group. Implicit theories also help to study the nature and mindset of people by understanding their inner qualities and thus describing the basic reason for their actions. The growth mindset group believes in improving through expending effort and developing skills, whereas the fixed mindset group believes that an individual's abilities are mostly unchangeable, and that effort cannot improve them a great deal (Dweck et al., 1995).

Dweck et al. (1995) proposed a theoretical model explaining how implicit beliefs influence people's behavior and decision-making patterns. They empirically tested and explained the differences in how the two mindsets interpret their experiences and pursue self-improvement. While the fixed mindset group tends to improve by signaling their qualities to others and self, those with a growth mindset work on development through self-improvement (Mathur, Chun & Maheswaran, 2016). Signaling is a process by which people with fixed mindsets demonstrate abilities and traits to others and self (Park & John, 2010). For example, a fixed mindset student would ask the instructor related questions to the same topic the instructor presented, rather than thinking further independently. The student is signaling to the instructor that he or she has understood

what the instructor has said so far but does not intend to think beyond that point autonomously. On the other hand, a student with a growth mindset would try to interpret and understand the comments from the instructor and would think of ways to explore more by themselves. Individuals with fixed mindsets are often seen blaming others for their failure, as it seems to them that they have put their best efforts forth and cannot do better (Dweck, 2006; Keating & Heslin, 2015). This strategy is utilized because of the underlying belief that their qualities are fixed and therefore cannot be changed regardless of effort. Conversely, the growth mindset, or the incremental mindset, believes they can improve their qualities through their own efforts and do so through effortful practice (Yeager & Dweck, 2012). For example, when a person with a growth mindset faces a failure, he or she tries to understand what went wrong in the initial attempt and then puts in more effort to further improve the situation.

Heslin (2010) discusses the characteristics of mindset. First, it is pointed out that although the mindset is a continuum, individuals often tend towards a growth or fixed mindset depending on what mindset suits them best. Second, each mindset is present with an approximately equal ratio in most populations (Heslin, 2010). In other words, both mindsets are evenly distributed among people. Third, neither of the mindsets is predicted by a person's traits such as education, ability, or skills (Heslin, 2010). Fourth, people can simultaneously hold different mindsets (Heslin, 2010). This means that an individual can be of a growth mindset in one particular area and be of a fixed mindset in other areas. Finally, as theorized by Dweck et al. (1995, p, 279), mindsets are "relatively stable but malleable personal qualities, rather than fixed dispositions." This means that mindset is a relatively stable quality, but it can be changed or altered. Plaks et al. (2009) suggested that members of the same ethnic or occupational group should not necessarily be assumed

to have the same mindset. This leads to the understanding that group membership, like ethnicity and race, is not the factor that develops the trait in a person.

What we know so far regarding the differences of a fixed and growth mindset on certain aspects can be summarized as shown in Table 1.

Table 1. Attribute comparison of fixed versus growth group

Attribute	Entity Theorist / Fixed Mindset	Incremental Theorist / Growth Mindset	Reference
Focus	Goal focused and are satisfied with the outcome	Process focused and are motivated to see the progress	Jain et al., 2009; Mathur, Block & Yucel-Aybat, 2013
Motivation	Motivated by feedback (signals)	Motivated by new knowledge by learning	Mathur et al., 2016
Goal Selection	Picks easier goals that help in highlighting own efforts	Picks challenging goals that help them to learn more	Dweck et al., 1995; Mathur et al., 2016
Self Enhancement	Through signaling (self and others)	Through learning	Mathur et al., 2016
Social Media Involvement	Present more as a transmitter. Relies more on sharing information with others.	More of a follower. Learns from the information from others	Mathur et al., 2016

2.2.1 Learning, Self-enhancement and Motivation

The fixed mindset group believes that human qualities are generally fixed, and, as a result, they tend to have goals that highlight their strong features with the least effort (Dweck et al., 1995). They select easier tasks in which their efforts can be highlighted, and results can be achieved through minimal effort. Their motivation lies in emphasizing their success. The fixed mindset group prefers putting forth less effort because they interpret working hard negatively and it indicates a lack of personal ability (Dweck et al., 1995). On the other hand, people with a growth mindset have a flexible mindset and

believe that human characteristics are changeable. They believe in putting in their best efforts to achieve their goals (Mathur et al., 2016).

2.2.2 Goal Experiences

People with different mindsets have different ways of experiencing goal pursuit. People choose methods that resonate with their thoughts and behavior. Elements like goal setting, goal operating, and goal monitoring are dealt with differently by the fixed and growth mindset groups (Burnette, O'boyle, VanEpps, Pollack & Finkel, 2013).

Goal Setting

Past research has highlighted the distinction between performance goals and learning goals. When a person follows a performance goal, the individual focuses on highlighting their performance compared to others. Conversely, when a person follows a learning goal, the individual focuses on mastering a skill (Burnette et al., 2013). Burnette et al. (2013) put forth that fixed mindset and growth mindset individuals have different approaches when it comes to goal setting. People with fixed mindsets often tend to set performance goals that can help them portray their performance. They fear failure as they think that it might show their incompetence, so they select performance goals in which they can excel and exhibit good performance. When pursuing performance goals people tend to showcase their ability and skill in comparison to others (Leondari and Gialamas, 2002). On the other side, people with a malleable mindset tend to set learning goals. They do not fear failure because they react to such instances as learning situations that help them to further strengthen their approach. When pursuing a learning goal, people with growth mindsets focus on mastering a skill or learning something that will help enhance their qualities (Maurer, Mitchell & Barbeite, 2002). People with growth mindsets are

ready to change within by adopting new skills and knowledge, and hence why they work with a learning approach.

In the modern world where social media has a growing importance in a person's life, people with a fixed mindset share their performance on social media platforms and use this as self-signaling (Mathur et al., 2016). They are seen to be more as transmitters where they share posts and comments portraying their knowledge and performance. This supports the notion that they are inclined more towards a performance strategy. People with the growth mindset, however, are seen to be more as receptive or as a follower in the social media environment. They follow people and tend to learn from other's posts and discussions (Mathur et al., 2016).

Goal Operating

Based on the difference in the goal selection for both fixed and growth mindsets, the operating strategies are also different (Burnette et al., 2013). Each mindset group prefers selecting strategies that help them achieve their goals. The nature of those with a fixed mindset is that they do not want to take risks but want to showcase their performance, and so they often adopt helpless-oriented strategies (Dweck, 1975). The helpless response is usually characterized by a concern of demonstrating ability, avoiding a challenge, or giving up a challenge (Rhodewalt, 1994; Thompson & Musket, 2005).

People with a growth mindset often work on a mastery-oriented strategy (Burnette et al., 2013). Since they work on learning goals and focus on mastering a skill, this approach complements their goal setting. The mastery-oriented strategy is characterized by pursuing challenges, displaying determination and increased effort at times of failure (Rhodewalt, 1994; Thompson & Musket, 2005).

Thompson & Musket (2005) conducted an experiment to test whether students with fixed mindsets (entity group) would perform better when they were instructed to pursue mastery goals compared to performance goals. The study consisted of two groups of students, one set of fixed mindset and another set of growth mindset. It was seen that students with a growth mindset continued to display a mastery orientation irrespective of whether their ability was high or low. This supports the understanding that growth mindset individuals follow mastery goals and are open to change. Interestingly, it was also noted that students with the fixed mindset of ability responded positively and performed better after mastery goal priming than following performance goal priming. This led to the conclusion that despite the entity group having a fixed mindset and following performance goals, they can change their approach depending on the goal orientation and the way it is primed. In the study, they explained that the positive effects of mastery goals might help the fixed mindset group to change and work towards the goal. The way a goal is set and explained can help a fixed mindset person to respond positively towards a mastery goal, even though they tend to follow a performance goal type.

Goal Monitoring

Goal monitoring helps individuals to understand their progress and whether their performance is in line with the required level to reach the ultimate goal. Burnette et al. (2013) explain that fixed mindset people are likely to perceive feedback at times of failure as an explanation to self and to others about their abilities. If they are falling short of the goal achievement, they tend to project this monitoring as their inability to accomplish the task with their existing knowledge and ability. People with a growth mindset, however,

interpret any rate of change as evidence of their progress, showing their ability to master the given situation and also generate information for future goal operations.

Goal progress markers are tools that are used to check how well a task is progressing. In a way, it is also a feedback for the task, highlighting what remains to complete the goal. These markers have a different impact on fixed and growth mindset groups. Three studies were done by Mathur, Jain, Hsieh, Lindsey & Maheswaran (2013), in which they measured the favorability of goal progress markers, showed that the fixed mindset group responded positively as they saw their goal progress, whereas the growth mindset remained unaffected by the feedback. In other words, fixed mindset groups were more motivated by the feedback and updates received during their task and were more satisfied. This leads to the assumption that those with fixed mindsets rely on signaling effects in their activities. The feedback and comments, which serve as signals to keep them updated on their progress, act as a motivation to accomplish their tasks. However, the growth mindset group relies more on their learning skills and develop themselves with their effort to achieve their goals. Compared to the fixed group, the growth mindset works more on their learning ability.

2.2.3 Implicit theories in different domains

In order to study implicit theory in detail, it is worthwhile to observe the interaction of implicit theory in different domains like intelligence, morality, personality, and athletic ability.

Intelligence

A fixed mindset individual believes that their intelligence level is more or less fixed and they are unable to improve it with their own efforts (Levy & Dweck, 1998). Fixed mindset, or entity mindset, often requires signals to work on their skills and abilities. People with a growth mindset, however, believe that their intelligence can be improved by their own efforts, and do so by learning and mastering new skills and abilities. They are seen to self-improve as they believe in change and improving their skills through practice and effort.

Morality

Chiu, Dweck, Tong & Fu (1997) studied the relation between implicit theories and morality. Their research explained that individuals' mindsets and moral beliefs are related to one another. People with a fixed mindset show more preference for duty-based moral beliefs and trust in a more stable and static moral order. They believe that moral actions consist of a set of duties and obligations that have to be fulfilled in a regulated, orderly manner. To this group, violation of existing codes of conduct is unacceptable. On the other hand, people with a growth mindset have a stronger preference for rights-based moral beliefs. They believe in an evolving moral reality and in developing morality with individual efforts. People with malleable mindsets endorse the dynamic view and hence believe that the existing social moral order does not have absolute authority over individuals' morality. The study concluded that people with fixed mindsets are strongly associated with moral actions that are expected to complete a set of duties and responsibilities and to maintain the status quo, whereas people with a growth mindset are more associated with moral actions in which individuals' rights are more important. The

growth mindset type of approach believes that the status quo can be changed to promote individual rights.

Personality

Dweck (2008) explains that personality can be changed based on the circumstances and events prevailing in a person's life. Although we know that a growth mindset is accustomed to changes based on the learning experience they go through, it is worth considering the chances of change that can happen to a fixed mindset group. Dweck (2008) explains that personality of a person can be developed as the brain develops. We know from previous literature that the entity group has a kind of fixed mindset and personality and the growth mindset has a mindset open to change and to improve their personality with learning (Mathur et al., 2016). Based on the learning and developments in a person's life, the personality orientation may change depending on the circumstances and beliefs the person holds (Dweck, 2008).

Athleticability

Spray, Wang, Biddle, Chatzisarantis & Warburton (2006) experimentally studied implicit theories in the field of sports. The study consisted of manipulating fixed and growth mindset in students for the purpose of understanding the links between their implicit beliefs about sports ability and situational achievement goals. It was found that students with a fixed mindset opted for performance goals and those with a growth mindset were more inclined to learning goals. In the turn of failures, it was seen that students with a fixed mindset did not appreciate the game as much as the students with a growth mindset did. Students with a fixed mindset were seen to attribute the failure more

to their ability than their efforts. The study helps to demonstrate that the fixed mindset takes the condition of failure in a defensive way and blames their ability towards the sport rather than their efforts. However, the growth mindset group was observed as more inclined towards learning and improving their skills and ability in the game.

To summarize, there are differences in personality traits within the fixed and growth mindset. A summary of the traits with regards to the implicit theories is shown in table 2

Table 2: Comparison of traits between fixed and growth mindset

Trait	Entity / Fixed Mindset	Incremental / Growth Mindset	Reference
Intelligence	Believes it is fixed and cannot change with own efforts	Believes it is changeable	Levy & Dweck (1998)
Morality	Duty Based Moral Beliefs	Rights Based Moral Beliefs	Chiu et al., (1997)
Personality	Fixed, cannot improve with own efforts	Changeable, can improve with development	Dweck (2008)
Athletic ability	Takes failure seriously, reluctant to pursue further	Learns after failure, Improves	Spray et al., (2006)

Chapter 3: Hypothesis Development

3.1 Overview

From the literature review, the different mindset groups being the fixed mindset and the growth mindset were discussed. Both mindsets have shown differences in the way they select their strategies to attend to situations. For example, the fixed mindset adopts performance goals whereas the growth mindset adopts learning goals (Burnette et al., 2013). We know that people with a growth mindset believe in change and work on improving their performance, on the other hand fixed mindset individuals do not generally believe in change (Mathur et al., 2016).

3.2 Mindset and change

Mindsets are enduring but research has also shown that mindsets can be malleable (Yeager & Dweck, 2012). The reason for changes in mindset varies, it can occur naturally, because of an external factor, or through manipulations like those used in experiments (Jain et al., 2009). Although mindset change has been studied in minor ways, little is known about the types of influences that change mindsets or the boundaries of the phenomenon. Changing mindsets can have powerful implications on an individuals' ability to pursue challenging goals, overcome setbacks, or try new things (Burnette et al., 2013). Wheeler & Omair (2016) explained that people with a fixed mindset are somewhat open to the idea of malleability and change despite the fact that they tend to believe in stability. They suggested that if a change seemed to be easy, people with the fixed mindset might incline towards the change. It was experimentally demonstrated that exposing people to various television clips with characters being fixed or malleable could change mindsets (Jain et al., 2009). When people get exposed to information or news, it

can affect their thought process and can change their mindset towards the information perceived (Jain et al., 2009). Dweck, Chiu & Hong (1995 b) explained that people could hold both fixed as well as growth beliefs to different degrees. Dweck et al., (1995 b) explains that since they have been successful in manipulating people's implicit theories, both theories are familiar to people and that one set of beliefs is seen to be dominant. In regard to different domains, people may hold either a fixed or a growth mindset, but overall one of the mindsets would be dominant within the person. Heslin (2010) also explains that people can simultaneously hold different mindsets. Speculating on an example, a person may have a growth mindset when it comes to learning new languages but may have a fixed mindset towards maintaining a good physique. In this case, learning a new language is of interest and the person is willing to work on it, whereas maintaining a good physique is something not that interesting or something at which they have previously failed several times and may need external motivation or help to pursue.

Past research has shown that implicit theories may be experimentally primed in a laboratory by different means (Plaks et al., 2009). Exposing subjects to examples, proverbs or having them read paragraphs supporting either theory (fixed or growth) could cause the subjects to incline towards the theory they were exposed to at least for a temporary period (Plaks et al., 2009). This means that even though a person has a working belief, if exposed to a compelling message of another mindset, it can cause the person to take up some element of the new mindset at least temporarily.

Burnette & Finkel (2012) conducted an experiment to validate whether incremental beliefs intervention can help people in managing their dieting goals. One of the elements considered in the changing environment was to ensure that the dieters remained motivated after dieting setbacks instead of disengaging from their goals

(Burnette & Finkel, 2012). In other words, to avoid the “what the hell effect” dieters must believe that they had the ability to change. The “what the hell effect” is explained as a challenging situation as to when a person decides to lose weight and later disengages from their goal after setbacks in the form of indulgence (Polivy & Herman, 1985). Burnette & Finkel (2012) demonstrated that growth framed messages could counter the setbacks by providing a mindset that helps individuals to remain motivated and achieve their goals. In other words, it was observed that by incorporating growth beliefs, it promoted a sense of change.

Dweck (2006) explains with the help of a classic example as to how to change a fixed mindset child towards a growth mindset. It is explained that we may come across a situation when our kids start to feel that they are less intelligent than their peers. The child starts to develop a thought that somehow, he or she is not as smart as others and they are missing that trait. This is a situation where the child turns into the fixed mindset state. For changing the fixed approach to a growth side, the parents need to probe by asking questions like “What did you learn new today” or “what did you try hard today” etc. Initially, the child may resist by boasting about the performance demonstrated or by complaining about the situation, but by constantly asking the questions and by creating an approach by which the child understands the importance of learning something new or trying something hard, the child gets into the growth mindset approach. Additionally, Dweck (2006) advises that children should be praised for their effort at a task and not their “natural ability”. The problem with praising natural ability is that eventually the child may struggle in that domain (athletics for example) and decide they aren’t a natural after all. It’s important that children and individuals do not perceive effort or struggle as indicative of a personal limitation. These examples from Dweck (2006) illustrates that

mindsets can be developed and changed through how experiences are framed and interpreted.

3.3 Self-efficacy and Mindset

Given the differences in the characteristics of the two mindsets, self-efficacy levels are also different for the fixed and growth mindset. Komarraju & Nadler (2013) empirically tested the level of self-efficacy in students with fixed and growth-oriented thinking. While controlling the gender and age, they tested to see whether students in high and low self-efficacy groups had differences in their implicit theories of intelligence. The results showed significant differences in the self-efficacy perceptions between the two groups. The study revealed that students with high self-efficacy are more likely to believe that intelligence can be changed and is determined by efforts. On the other hand, students with low self-efficacy were seen to be doubtful and uncertain about their success and were more likely to accept that intelligence was a fixed quality. This leads us to summarize that people with high self-efficacy hold a more growth-oriented belief whereas people with low self-efficacy follow a fixed mindset

In the literature review, we discussed the types of mindset, growth and fixed, and how they react to different situations. Each mindset group has its own set of unique characteristics and behaves differently in situations. The concept of the FSE revolves around creating a new beginning on a temporal landmark day. It would be interesting to further study self-efficacy and the interaction of different mindsets with the FSE with a goal of establishing the FSE as a tool for encouraging implicit mindset change. Specifically, would the FSE help in increasing the self-efficacy of different people, and does this depend upon their mindset?

Previous studies have shown that different mindsets have different levels of self-efficacy. A fixed mindset tends to have a lower level of self-efficacy as they believe that characteristics are more or less fixed, while a growth mindset person would have a higher level of self-efficacy, as they believe that characteristics can improve with effort (Komarraju & Nadler, 2013). This research will study the effect of the FSE on people's mindset as well as the effect on self-efficacy for the two mindsets. It would be engaging to see if the FSE could cause a fixed mindset person to change into a growth mindset, at least temporarily. Also, it would be of interest to see whether this process is driven by an increase in self-efficacy.

3.4 Hypothesis

An FSM helps people to change by separating the past from the present and by focusing on the future big picture (Dai et al., 2014). The premise of a temporal landmark is a critical element as it helps to evoke the change on an important day. A person has to be motivated to bring about a change from the current state that is felt to be imperfect and move to a better future by pursuing a goal. Past research has demonstrated that temporal framing can effect an individual's self-perceptions. For example, Dai (2015) demonstrated that performance reset (past performance is disregarded, and the upcoming performance is measured separately) could cause an increase in self-efficacy when the past performance was poor, but when the past performance was perceived to be strong, performance reset was shown a decrease in self-efficacy. An important distinction between the performance reset and the present research question is the external monitoring by supervisors and external manipulation of performance. During the previous study of performance reset (Dai, 2015), there were external factors such as a supervisor's

presence, organizational conditions, etc. involved. The present research on the fresh start looks at strictly internal perceptions and evaluations. Individuals choose whether or not to disregard their past performance. We expect a fresh start to increase self-efficacy because individuals with poor past performance can assign those shortcomings to a former, different self. Thus, we expect individuals to feel more capable of achieving their goals when faced with a fresh start. Additionally, a fresh start leads individuals to use a big picture perspective that will help make the purpose and importance of their goals clearer. This focus on the should also increase perceived self-efficacy to pursue a change.

In the premise of the FSE, where the past is separated, and a new beginning is portrayed, people can be motivated to leave behind their imperfect past and move forward with a focus on the future. The two key elements, which lead to a new beginning for a person is that the past is separated and that there is a big picture thinking. As the past is separated in the FSE, a person can experience an increased level of self-efficacy to pursue a goal, as there is a feeling of a new beginning. In other words, as the person is moving away from the imperfect past towards a better future, it can lead to an increase in self-efficacy. In addition to this, there is also a big picture thinking that makes the individual realize that the change can result in a much better future if implemented. Hence the separation of past and the focus on the future big picture can lead to an increase in the self-efficacy for an individual. This leads us to hypothesize that the FSE can cause an increase in the level of self-efficacy for a person so that they pursue a change to their existing situation.

H1: Individuals will have a significant increase in their perceived self-efficacy when exposed to a FSM compared to a control message.

Past literature has explained that an increase in self-efficacy leads to selecting challenging tasks and accomplishing them successfully (Stajkovic & Luthans, 1979). Past research has found that self-efficacy leads people to set more challenging goals and be more committed to achieving the goal (Bandura, 1991; Bandura, 1993). In the premise of the FSE, people need to pursue a challenging path in order to improve themselves personally (Dai, 2015). I propose that FSM leads individuals to have greater goal commitment through their increased self-efficacy. Because individuals feel they are capable of achieving their goal they will be more committed to the change process. Figure 1 illustrates the proposed causal chain and mediation. This leads me to formally hypothesize that:

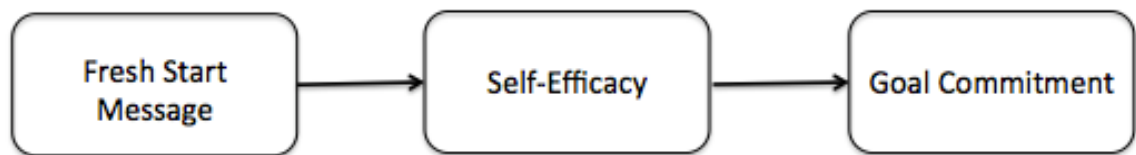


Figure 1: Proposed mediation model for the FSE

H2: The effect of FSM on goal commitment is mediated by self-efficacy.

Existing research on the FSE has been shown to work on average, however, it's unclear how and if it is consistent with different types of people (Dai et al., 2014-b). It is possible that FSM work for both the fixed and growth mindset but they experience it differently. This research asserts that fixed mindsets will change to a more growth-oriented mindset when presented with the FSE. Based on the malleability of mindsets we propose that FSM alter the perspective and mindset of fixed mindset individuals. We

know from past literature that both fixed and growth mindset exists on a continuum (Heslin, 2010) and that people can hold both fixed as well as growth beliefs to different degrees (Dweck et al., 1995 b). This leads us to believe that individuals may simply have a sense that some things can be improved with efforts and some they don't feel they can change. Previously, it was experimentally demonstrated that exposing research participants to television clips and messages could temporarily change their mindsets (Jain et al., 2009). Depending on the content of the message that is being transmitted to an individual, the mindset can be modulated to either a growth or fixed mindset. For example, a person with a fixed mindset can be encouraged to think from a growth perspective by framing traits and abilities in growth terms, such as change is possible, intelligence can be improved etc. In other words, it is possible to make people think in a new way through fairly simple manipulations (Plaks et al., 2009). Based on the types of manipulations shown to change mindsets we predict a FSM will similarly cause a fixed mindset individual to adopt a growth mindset. Although previous studies have demonstrated that by exposing fixed mindset individuals to a growth-oriented message can enable a change in their mindset to a growth-oriented one, the FSE would be another way to convey a message of the potential for change and growth and the separation of the past and the focus on the big picture may make this a compelling message format to encourage growth thinking. Also supporting the proposed change in mindset is the role "big picture thinking" plays in driving the FSE. From past literature, we know that the FSE leads people to focus on the bigger picture that is ahead of them, thereby making the change seem to be more possible and achievable (Dai et al., 2014). In a sense, the new beginning may promote a new way of thinking and perspective to the situation. An individual may typically think a personal trait is outside of their control, however

focusing on the big picture may alter this perspective. For example, a person may think they aren't very creative, but on their 40th birthday, they may feel their future has the potential to be very different and that they can develop their personal creativity.

Decisions are often made based on the evaluation of choices and the expected outcome of the choices in future (Trope & Liberman, 2003). A big picture approach becomes important if the future offering is much more promising than the current status. On the other hand, short-term thinking becomes important when the immediate goal becomes more important than the distant one (Trope & Liberman, 2003).

As explained previously, the FSE can motivate a person to change from a current state to a better condition by giving a focus on the big picture. The big picture in the future can motivate a fixed mindset person to change their existing habit and step away from an imperfect past. The separation of past and the focus on the big picture can help change the fixed mindset approach of a person to a more growth-oriented approach. This leads to a hypothesis that the fixed mindset of a person changes to a more growth-oriented mindset when exposed to a FSM.

H3: Individuals with a fixed mindset will have a significant change in their mindset when exposed to a FSM, such that their mindset becomes more growth oriented.

Past studies have shown that a fixed mindset in some cases have a lower level of self-efficacy as they believe that characteristics are more or less fixed, while a growth mindset person would have a higher level of self-efficacy, as they believe that characteristics can improve with effort (Komarraju & Nadler, 2013). However, after

experiencing a FSM, I propose that the difference in self-efficacy is higher for the fixed mindset group than the growth mindset group when comparing the effects of control condition to fresh start. We know that fixed mindset individuals do not believe in change as much as the growth mindset does. However, by separating the past, there can be a disconnected feeling from the past beliefs, leading a fixed mindset person to think differently and pursue a change with a fresh mindset. In other words, in a case where an individual with a fixed mindset is burdened with a failed past performance, a new beginning can help the person to start off fresh. This can cause an increase in self-efficacy for the fixed mindset person. So, when the fixed mindset group is exposed to the FSE, they would experience a larger boost in their self-efficacy than the growth mindset group. This is because change is new to the fixed mindset group and the FSE may cause a somewhat more dramatic change in their self-efficacy.

In the case of a growth mindset, we know that self-improvement is familiar to them. These individuals favor learning goals and don't mind effortful pursuit of self-improvement (Mathur et al., 2016). Hence a FSM may not lead to a dramatic change in their perceived self-efficacy. A ceiling effect may be present for growth mindset individuals (Ostrow, Schultz & Arroyo, 2014). A slight increase is predicted for growth mindset individuals following a FSM and a much more dramatic increase for fixed mindset person. A fixed mindset person should respond more strongly to a FSM because they are no longer limited by their poor past performance. This leads to a hypothesis that the difference in self-efficacy will be higher for the fixed mindset than the growth mindset when comparing the control and FSM but the absolute level of self-efficacy will be higher for the growth mindset. As shown in Figure 2, the difference in self-efficacy for

a control message versus a FSM would be greater for fixed mindset individuals, compared to growth mindset individuals.

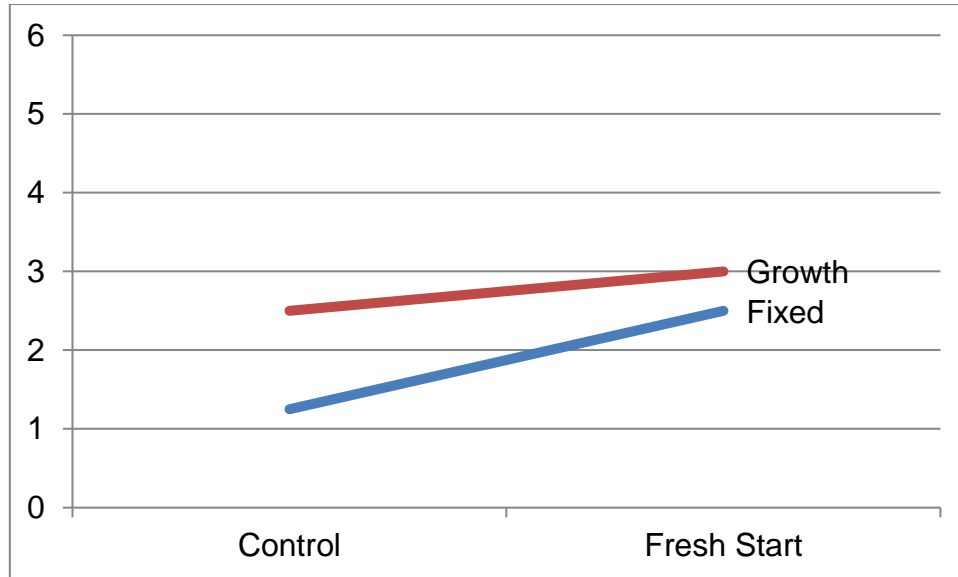


Figure 2: Expected differences in self-efficacy for the fixed and growth mindset in the control and FSM

H4: The positive effect of a FSM on self-efficacy is stronger for fixed mindset individuals than for growth mindset individuals.

Chapter 4: Methodology

The study was conducted in two phases. The initial phase involved a pilot study that was done among the students from the University of Lethbridge and the second phase involved the main study which was done using Amazon Mechanical Turk. The purpose of the pilot study was to assess the efficacy of the experimental manipulation of a “Fresh Start” and to validate the measures. The results of the pilot study were used to improve the procedure and survey instrument used for the main study. The survey instruments for the study was approved by the University of Lethbridge’s ethics approval committee.

4.1 Pilot Study Sample

A pilot study was conducted involving students from the University of Lethbridge to test the reliability of the measures and check the efficacy of the manipulation message. Students were given a link to take part in the survey and they were informed that a random participant would be selected to win a VISA gift card worth CAD 100 for participation. The name and contact details of the students were collected to enroll them for the draw and was not linked to their responses. The students were informed that their responses would remain confidential and safe.

4.2 Pilot Study Procedure

The study began with a brief introduction informing the respondents of their rights and details pertaining to the survey. After obtaining their consent, the respondents were asked to select a goal that they wish they could achieve from 5 different options. This question was a prescreening one, to select respondents with a weight loss goal. However, respondents were not informed that this question was a screening question, and it was

used to select respondents with a weight loss goal proceed to the survey. Only the respondents who selected the weight loss option entered the study, whereas others exited the questionnaire with a “Thank you” note. This step was implemented so that all participants would find a weight loss context personally relevant (Dai et al., 2014-b).

The respondents then recorded their initial mindset (T1 mindset) by answering questions from previous studies (Dweck, 2000; Chen & Pajares, 2010) which were adapted to serve the weight loss context. After determining the mindset of the respondent, a mathematical filler task was given to distract the respondent (Aaker & Schmitt, 2001). The filler task asked participants to complete a mathematical exercise of counting backward from 300 in groups of three. The filler task was implemented to distract the respondent’s attention from the T1 measure of domain specific mindset that would be repeated later in the survey. The next step in the experiment was to randomly assign the respondents to a FSM (treatment) or neutral message (control). The respondents were randomly assigned to either the Fresh Start Condition or the Control Condition. The fresh start condition consisted of a picture (Appendix C) of a spring theme with a scale and the text read, “It’s the start of a new Spring season, New Beginning, New You!! Make a commitment to yourself to lose weight with this fresh start”. The control message showed the picture (Appendix D) of a scale with the text “Make a commitment to yourself to lose weight this May”.

Respondents were asked to state their goal regarding weight loss. This was done to ensure that the respondents were clear with the goal they wanted to pursue and that they were thinking about what they wanted to achieve. Respondents were also asked to state a weight loss goal they had in mind. The respondents then answered questions for measuring goal commitment using an existing scale (Hollenbeck, Klein, O’leary &

Wright, 1989; Landau, Khenfer, Keefer, Swanson & Kay, 2018). The respondents then recorded their perceived self-efficacy using a scale adapted from Chen, Gully & Eden (2001). The next step was to measure the domain specific mindset (weight loss specific) again after the fresh start intervention (time 2 measure). The same questions initially asked were prompted to the respondents (Dweck, 2000; Chen & Pajares, 2010).

Questions from the general domain were also asked to measure the mindset of the respondents. Scales from Chiu, Hong & Dweck, (1997) was used to measure the general mindset of the respondent. Additionally, participants responded to questions measuring how separated they felt from their past self (Dai et al., 2015), and a few measures to be used as potential covariates. The separation of past items were included as a manipulation test to compare the fresh start and control condition (Appendix B). The potential covariates included questions regarding their past experience related to weight loss and a social desirability scale (Crowne & Marlowe, 1960). Demographic questions such as age, gender, education level, and income level were presented at the end. Respondents were given a contact email if they wished to view the results of the study.

4.3 Pilot Study Results

In total 135 responses were recorded, of which 46 respondents selected weight loss as a goal they wished to pursue and proceeded to the survey, the others exited the survey with a thank you note. Out of the respondents, there were 33% males and 66% females, approximately. 70% of the respondents were in the age group of 18 years to 29 years and 72% of the respondents either had a Bachelor's degree or a Master's degree. The respondents were randomly assigned to either Fresh Start Condition or Control Condition. There were 17 respondents (37%) who experienced the fresh start condition

and 29 respondents (63%) in the control condition. All the measures in the study performed with an acceptable level of reliability, greater than 0.70 (Tavakol & Dennick, 2011). See each scale’s reliability in Table 3.

Table 3: Reliability values for the pilot study scales

Measure	Reliability α
Weight loss domain specific mindset Measure (T1)	0.89
Weight loss domain specific mindset Measure (T2)	0.77
Goal Commitment	0.75
Self-Efficacy	0.94
General Mindset	0.94
Social Desirability	0.72

In order to prepare the data for analysis, reverse coded items from the scales were recoded, and the reliability was evaluated for each scale. Composite measures were calculated for all of the scales by averaging the items and creating a new variable. These variables were then used to test the hypothesis.

The first hypothesis predicted that FSM would lead individuals to experience an increase in perceived self-efficacy. In order to test this hypothesis, an ANOVA was conducted. The independent variable was the message they saw (FSM being coded as “1” or control being coded as “0”) and self-efficacy was the dependent variable. When comparing groups, control (N=29) and FSM (N=17), the result was nonsignificant, $F(1,44) = 1.030$, $p = 0.316$. The mean value of self-efficacy in the control condition was 5.34 (SD = 1.38) compared to the FSM condition $M = 4.94$ (SD = 1.10). The results

indicated that there was no significant differences in perceived self-efficacy between the two groups.

The second hypothesis predicted that the effect of FSM on goal commitment was mediated by self-efficacy. In order to test this hypothesis, Hayes' PROCESS model was used (Preacher & Hayes, 2004). The message condition was the independent variable, self-efficacy was the mediator, and goal commitment was the dependent variable. A bootstrap technique was utilized to test self-efficacy as the mediator and derive confidence intervals for the indirect effect and direct effect; the analysis was conducted with 5,000 resamples and a 95% confidence interval. The indirect effect of the FSE on goal commitment was nonsignificant (coefficient = .189, SE = .182, $p = .55$, 95% CI [- .149, .567]). The results do not support the proposed mediator. The direct effect of the FSM on goal commitment was not significant (coefficient = -0.189, $p = .550$).

To test H3 and evaluate if individuals with a fixed mindset would have a significant change in mindset when exposed to a FSM such that their mindset becomes more growth- oriented, a paired sample t-test was used. Fixed mindset individuals in the FSM condition reported (N=17) initial mindset $\text{mean}_{\text{Time 1}} = 2.71$ (SD = .22) and $\text{mean}_{\text{Time2}} = 2.62$ (SD = .19) with $p = 0.55$. There was no significant change in the mindset when exposed to the FSM, hence H3 was not supported.

To test H4 and see the difference in self-efficacy when comparing the control and FSM for a fixed and growth mindset, an ANOVA was used to compare the beta coefficients for the two different groups. The message condition was the independent variable and self-efficacy was the dependent variable and the beta coefficients were compared for the different groups. The effect was $F(2,45) = 1.650$, $p = 0.286$. This indicates that there is not a significant difference between the different mindset's self-

efficacy levels in both conditions.

The manipulation message was tested by comparing the separation of past for both conditions. Respondents in the fresh start condition (N=17) showed a greater separation of past (M = 4.29 and SD = 1.63) compared to the respondents in the control condition (N=29) (M = 3.89 and SD = 1.46), but the difference was not significant ($p = .399$, $df=1,44$ and $F=.726$). In order to reinforce the manipulation message for the main study, reinforcement questions were included.

4.4 Pilot Study Discussion

The Pilot Study accomplished multiple tasks. First, the reliability of the measures was validated for further experiments (Table 3). Second, it revealed that the fresh start manipulation may not have been strong enough. It is possible that the lack of significant differences between the conditions was due to low power from a small sample size (Fresh Start Condition N = 17 & Control Condition N = 29). Based on the failed manipulation the main study will include a reinforcement technique adopted from Dai et al. (2015). Third, the hypotheses were tested. These were not supported but it is likely this was due to a) a failed manipulation and b) low power.

4.5 Main Study Sample

The responses for the main study were obtained using Mechanical Turk, a service provided by Amazon. Adults over the age of 18, residing in the United States were invited to take part in the survey. Respondents who completed the survey were paid USD 1.00 for their time. 594 responses were recorded, of which 327 respondents selected weight loss as a goal they wished to pursue and proceeded to the survey. 20 responses

were removed as they failed the attention check. During the analysis, no responses were removed due to missing data. If there was missing data, the analysis didn't include the missing data from the respective measures. In total 307 completed responses were used for this study. During the analysis, if missing data was present, the same was avoided during presenting results. Out of the respondents, there were 150 males (49%) and 155 females (50%) and 2 respondents preferred not to answer the gender question (1%). The average age of the respondents was 30 years. 44% of the respondents had a Bachelor's degree and 22% of the respondents had passed high school. (Please see Appendix E for the complete questionnaire used for data collection).

In order to prepare the data for analysis, reverse coded items in the scales were recoded, and the reliability was evaluated for each scale. Composite measures were calculated for all of the scales by averaging the items and creating a new variable. In line with previous research, a spotlight analysis was used to categorize respondents as either a growth mindset or fixed mindsets based on their responses of the Time 1 measure of domain specific mindset (Fitzsimons, 2008 & Plaks et al., 2013). Respondents with a score at least one standard deviation below the mean was classified as a growth mindset and respondents who scored at least one standard deviation above the mean were classified as a fixed mindset. After categorizing the sample and dropping those respondents who fell near the mean the sample size consisted of 52 growth mindset respondents and 102 fixed mindset individuals. This variable was coded such that fixed mindsets were assigned the value of "0" and growth mindsets were assigned the value of "1". This variable was used to test H3 & H4

4.6 Main Study Procedure

From the pilot study results, the manipulation was not effective. In order to check if the manipulation for the main study was effective, a manipulation check question was asked to the respondents right after they were exposed to either of the message conditions. This manipulation check question helped to assess whether the respondents followed the message in either the FSM or control message.

The survey began with a brief introduction informing the respondents of their rights and details pertaining to the survey. Respondents were informed that there would be a very brief screening question. After obtaining their consent, the respondents were presented with this task: “From the options below select any topic you would be personally interested in. (Select as many as apply)”. Their options consisted of: “weight loss”, “learning a new language”, “getting a better job”, “making new friends” and “none of the above”. Only the respondents who selected the weight loss option entered the study, whereas others exited the questionnaire with a “Thank you” note. This step was implemented so that all participants would find a weight loss context personally relevant (Dai et al., 2014-b).

After determining the initial mindset of the respondent, a mathematical filler task was given to distract the respondent (Aaker & Schmitt, 2001). The filler task asked participants to complete a mathematical exercise of counting backward from 300 in groups of three. The filler task was implemented to distract the respondent’s attention from the T1 measure of the domain specific mindset that would be post-tested later in the survey. The procedure for the main study was identical to the pilot study aside from two changes. The first difference is the Solomon Four-Group design (Braver & Braver, 1988), because the domain specific mindset measure was pretested and post-tested, only half of

the respondents (N=154) were given the first measure in case testing effects were problematic. The second difference was in the manipulation for the experimental group. The results of the pilot study indicated that the FSM manipulation was only marginally effective in communicating the fresh start (the separation of past was only marginally significant). In order to reinforce the manipulation condition, respondents in the fresh start condition were asked “Please take a moment to think about reasons the start of this spring feels meaningful to you and list them below” and the respondents in the control condition were asked “Please think about reasons the start of the May feels ordinary to you and list them below”. This method of reinforcing the manipulation was adopted from Dai et al., (2015).

After viewing either the FSM or control message a manipulation check question was presented. Respondents were asked “The message you saw earlier in this survey, how much did that feel like a new beginning?”. The respondents then answered the same questions used in the pilot study to measure goal commitment, perceived self-efficacy, domain specific mindset, and general mindset. Questions from the general domain were also asked to measure the mindset of the respondents. Questions related to the weight loss domain were more related to the weight loss aspect, and the questions were adapted to target the weight loss thinking of the respondents (e.g., “You have a certain amount of weight losing ability and you really can’t do much to change it ”), whereas the general domain mindset was measured using general mindset questions such as “The kind of person someone is, is something very basic about them and it can’t be changed very much”. Scales from Chiu, Hong & Dweck (1997); Plaks, Stroessner, Dweck, & Sherman (2001) were used to measure the general mindset of the respondent. An attention check question was asked to verify if the respondents remembered the topic of the survey.

Specifically, they were asked “The message you saw earlier in this survey (with the picture of the weight scale) mentioned which time period. The available options included Spring, May, Winter, August, Monday, and I don’t remember. The same variables were measured for potential covariates. Additionally, participants responded to questions measuring how separated they felt from their past self (Dai et al., 2015), and a few measures to be used as potential covariates. The separation of past items were included as a manipulation test to compare the fresh start and control condition (Appendix B). The potential covariates included questions regarding their past experience related to weight loss and a social desirability scale (Crowne & Marlowe, 1960).

Demographic questions such as age, gender, education level, and income level were asked at the conclusion of the survey. Respondents were given a contact email if they wish to view the results of the study.

4.7 Measures:

The full-scale items used are included in the Appendix A. The measures are described below in the order that they were presented to participants.

Domain Specific Mindset

To measure the domain specific mindset, questions were adapted from previous studies to serve the weight loss context (Dweck, 2000; Chen & Pajares, 2010) which included statements such as “You have a certain amount of weight losing ability and you really can’t do much to change it”, “You understand the benefits about weight loss, but you really can’t lose weight,” etc. Respondents were asked to rate their level of agreement with each of the statements on a 6-point scale with responses ranging from 1 - “Strongly

disagree” to 6 - “Strongly agree”. Thus, higher scores corresponded to a more fixed mindset (and lower scores corresponded to a more growth mindset). The scale was highly reliable for the Time 1 and Time 2 measure (T1 Cronbach’s $\alpha = 0.87$, T2 Cronbach’s $\alpha = 0.90$).

Goal Commitment

To measure goal commitment a nine-item scale was used, and it contained statements such as “It’s hard to take this goal seriously”, “It’s unrealistic for me to expect to reach this goal” etc. (Hollenbeck et al., 1989; Landau et al., 2018). The response scale associated with these statements was on a 7-point Likert scale anchored by “Strongly disagree” to “Strongly agree”. There were 6 negatively worded items that were recoded so that a higher score indicated greater goal commitment on all items. The scale showed a reliability of Cronbach’s $\alpha = 0.85$

Self-Efficacy

To measure self-efficacy, a scale was adapted from Chen et al., (2001) to be specific to a weight loss context. The scale contained statements such as “I will be able to achieve the weight loss goals that I set for myself.” “When facing a weight loss goal, I am certain that I will accomplish it.” etc. The response scale associated with these statements was on a 7-point Likert scale anchored by “Strongly disagree” to “Strongly agree”. The scale showed a reliability of Cronbach’s $\alpha = 0.93$

General Mindset

In this study, mindset is measured in two different ways. The domain specific mindset measures how able individuals feel they are to pursue change in the weight loss domain. The hypotheses proposed and tested in this research are specific to the domain measure of mindset. If an individual sees a FSM with a weight loss component it may influence their feelings on weight loss, but it would be less likely to influence their overall implicit theory. However, previous research has used both a domain specific mindset as well as general mindset assess the respondents' mindset orientation (Lee, Heeler, Magerko & Medler, 2012). Although there were not any hypotheses pertaining to the general mindset measure, it was measured for potential post hoc analysis that might inform future research on mindset and the FSE.

The general domain mindset was measured using a set of 8 statements. This included statements such as “The kind of person someone is, is something very basic about them and it can’t be changed very much,” “People can do things differently, but the important parts of who they are can’t really be changed,” “Everyone is a certain kind of person and there is not much that can be done to really change that,” “People can substantially change the kind of person they are,” etc. (Plaks et al., 2001; Chiu et al., 1997). Respondents rated the extent of their agreement with each of statement on a 6-point scale with responses ranging from 1 - “Strongly disagree” to 6 - “Strongly agree”. Higher scores indicated a more fixed mindset, while lower scores indicated a more growth mindset. The scale showed a reliability of Cronbach’s $\alpha = 0.92$

Separation of Past

The separation of past questions were adopted from Dai et al., (2015) and contained statements such as “To what extent do you feel that your past challenges with

weight are distant from you.” and “To what extent do you feel distant from your imperfect past self of not an ideal weight?” and an image was shown, on which respondents were asked to represent how separated from the past they felt. Respondents were shown a series of seven increasingly overlapping pairs of circles beginning with completely overlapping circles to circles with a large gap separating them. The completely overlapping circles represented no separation from the past and far apart circles represented complete separation from the past (Appendix B). The scale showed a reliability of Cronbach’s $\alpha = 0.70$

Past experience with weight loss

Respondent’s past experience in weight loss was assessed using statements such as “How often have you tried to lose weight in the past?” “When thinking about pursuing a weight loss goal how much do you think about past failed attempts?” and “How many times have you failed to reach your weight loss goals?” A higher value on the 7-point scale indicated that the respondent has had greater issues in the past trying to lose weight. This scale was developed for the present research and was found to be reliable (Cronbach’s $\alpha = 0.78$).

Social Desirability

Social desirability was measured with an established scale and consisted of statements such as “On occasion I have had doubts about my ability to succeed in life.” “I sometimes feel resentful when I don’t get my way.” etc. (Crowne & Marlowe, 1960). A seven-point Likert scale was provided to the respondents starting from “Strongly disagree” to “Strongly agree”. The scale showed a reliability of Cronbach’s $\alpha = 0.71$.

Chapter 5: Results

5.1 Main Study Results

A total of 327 responses were considered for the study. 20 responses were discarded as they failed the attention check. In total 307 completed responses were used for this study. There were 156 respondents who experienced the FSM and 151 respondents in the control condition. To avoid any testing effects, half the respondents answered only the later mindset question T2 (N=153). The other half answered both T1 and T2 (N=154). The Pearson's correlations between the constructs are shown in Table 4 and the descriptive statistics across conditions are given and the in Table 5.

Control Variables

For the analysis, the covariates used were past experience with weight loss, social desirability and gender. Past experience with weight loss would show the historical experience with weight loss, whether the respondents had a favorable past or an unfavorable past. Past research has advised exploring the individual's experience with weight loss to gain insights into their weight loss approach (Burke, Steenkiste, Music & Styn, 2008). Based on their past experience, respondents may show a difference in approach to current weight loss messages. Hebert, Clemow, Ockene I, Saperia, Stanek & Ockene J (1997) explained that social desirability can be a biasing factor when individuals report their views or behaviors. Social desirability of the respondents would show how the respondents felt their behavior should be, hence it would be an important covariate for the analysis. Gender was used as one of the covariates to see if male and females behaved differently Past research has shown that men and women experience

weight loss differently (Wing & Jeffery, 1995) hence gender was considered as a control variable in the analysis because gender differences may influence the results of the study and these effects are outside the theoretical scope of this research. The same covariates were used for each hypothesis test. This provides consistency across the analyses. The p values are reported for each covariate for each hypothesis test. When covariates effect the significance of the results these situations are explored and described in detail.

Table 4: Correlations between the constructs

Measures	T1 Mindset	T2 Mindset	General Mindset	Goal Commitment	Self-Efficacy
T1 Mindset	1	0.779	0.393	-0.601	-0.244
T2 Mindset		1	0.456	-0.662	-0.306
General Mindset			1	-0.307	-0.335
Goal Commitment				1	0.483
Self-Efficacy					1

Table 5: Descriptive statistics across conditions

Measures	Control Condition						Fresh Start Condition					
	Fixed Mindset (N=50)			Growth Mindset (N=24)			Fixed Mindset (N=51)			Growth Mindset (N=28)		
	Mean (M)	Median	S.D	Mean (M)	Median	S.D	Mean (M)	Median	S.D	Mean (M)	Median	S.D
T1 Mindset*	3.16	2.66	(1.19)	1.11	1.00	(0.23)	3.21	3.00	(1.06)	1.14	1.00	(0.26)
T2 Mindset	2.89	2.33	(1.36)	1.27	1.00	(0.96)	2.84	2.66	(1.11)	1.13	1.00	(0.33)
General Mindset	3.62	3.68	(1.09)	2.55	2.31	(1.26)	3.75	3.87	(0.90)	2.75	2.43	(1.38)
Goal Commitment	5.15	5.33	(0.96)	5.87	6.11	(1.01)	5.12	5.33	(0.95)	6.09	6.16	(0.59)
Self-Efficacy	5.05	5.06	(1.02)	5.78	5.87	(0.93)	4.82	4.75	(1.12)	5.83	5.87	(1.09)

* T1 Mindset has a smaller sample size (N=154) than the rest of the measures, due to pretesting only half of the sample. See pg. 46 for a detailed explanation of the procedure used.

While measuring the respondent's initial domain specific mindset (T1 mindset), a Solomon Four-Group design was followed in this study (Braver & Braver, 1988). Because the domain specific mindset measure was pretested and post-tested, only half of the respondents (N=154) were given the first measure in case testing effects were problematic. In order to see if the responses were similar, a paired sample t test was used to compare the two groups of responses. There was no significant difference between the different set of responses. Also, while testing H1, H2 and H4, tests were done using both the groups to see if there was any difference between the two groups. The results didn't vary between the different groups. This leads to the understanding that using Solomon Four-Group design in collecting the mindset measure for individuals ensured that individuals didn't have any difference in their responses.

Manipulation Check

A manipulation check was administered to assess the efficacy of the fresh start manipulation. Respondents were asked how much it "felt like a new beginning". A higher value denotes greater feelings of a new beginning. To formally test the manipulation an ANOVA was conducted with the "new beginning" evaluation as the dependent variable and the condition variable as the independent variable. Respondents in the fresh start condition (N=151) reported $M = 5.78$ ($SD = 1.24$) and respondents in the control condition (N=151) reported $M = 4.32$ ($SD = 1.86$). The difference was significant, $F(1,300) = 63.52$ at $p < 0.005$. This indicates that respondents who saw the FSM felt a stronger sense of a new beginning and fresh start compared to the control group. Thus, support is found for a successful manipulation.

Separation of the past was used to test if respondents felt separated from their past after being exposed to the manipulation. The dependent variable was separation of past variable and the fresh start and control message condition was used as the independent variable. Respondents didn't show a significant change in separation from their imperfect past when they were exposed to a fresh start condition. When comparing control condition (N=151) and Fresh Start condition (N=151), the effect was $F(1,300) = .110$ at a significance of .740. This shows that the past separation was not effective in the fresh start condition.

H1 proposed that individuals experienced a significant increase in their self-efficacy when exposed to FSM compared to a control message. An ANOVA was used to test this prediction. The dependent variable was self-efficacy perceptions and the independent variable the condition (a dummy variable, with the fresh start coded as 1 and the control condition coded as 0). The control variables used in this analysis were: the respondent's past experience with weight loss, social desirability, and gender. All of the control variables were significant (weight loss $p = 0.025$, social desirability at $p < 0.005$, and gender at $p = 0.025$). When comparing groups, the difference was nonsignificant, $F(1,294) = 0.136$, $p = 0.713$. The data shows that there was no increase in self-efficacy when respondents were exposed to the FSM $M = 5.17$ ($SD = 1.24$), compared to the control condition $mean_{control} = 5.23$ ($SD = 1.14$). Hence the hypothesis is not supported.

H2 predicted that the effect of FSM on goal commitment was mediated by self-efficacy. In order to test this hypothesis Haye's PROCESS model was used (Preacher & Hayes, 2004). A bootstrap technique was utilized to test self-efficacy as the mediator and derive confidence intervals for the indirect effects and direct effects; the analysis was conducted with 5,000 resamples and a 95% confidence interval. The message condition

was the independent variable and goal commitment was the dependent variable with self-efficacy as mediator. The indirect effect of the FSE on goal commitment was not significant (coefficient = $-.0271$, SE = $.0548$, $p = .52$, 95% CI [$-.137, .0792$]). The results do not support the proposed mediator as the confidence interval contained zero. The control variables such as past experience with weight loss ($p < 0.005$) and gender ($p < 0.005$) were significant, but social desirability was insignificant ($p = 0.771$) predictors of goal commitment. The control variables such as past experience with weight loss ($p = 0.021$), social desirability ($p < 0.005$), and gender ($p = 0.014$) were significant predictors of self-efficacy. Figure 3 depicts the mediation model with path coefficients and p values. The direct effect of the FSM on Goal Commitment was not significant (coefficient = $-.0657$, $p = .526$).

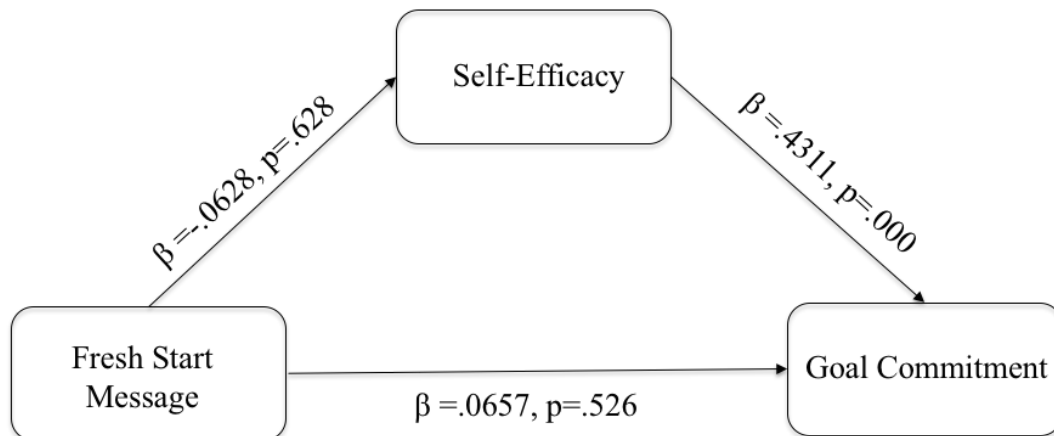


Figure 3: The indirect effect of a FSM on individual goal commitment

For testing H3, respondents were categorized as growth or fixed mindset (0 = fixed and 1 = growth) using a spotlight analysis. In line with previous research, a spotlight analysis was used to categorize growth mindset and fixed mindset (Fitzsimons,

2008 & Plaks et al., 2013). The time 1 measure of mindset was mean split keeping only those participants who had a standard deviation above or below the mean ($M = 2.52$ and $SD = 1.35$). Lower scores indicate a more growth-oriented mindset. After the spotlight analysis, there were 52 respondents classified as “growth mindset” and 102 classified as “fixed mindset.” To test H3 a Paired Sample t-test was used. Individuals with a fixed mindset in the FSM condition showed a significant change in their mindset, such that their mindset was more growth oriented (Figure 4). Fixed mindset individuals in FSM condition reported ($N=51$) initial mindset $mean_{Time 1} = 3.18$ ($SD = 1.06$) and $mean_{Time2} = 2.84$ ($SD = 1.11$), $p = 0.013$ ($t=2.57$ and $df=50$). Thus, support is found that a fixed mindset person can become a growth-oriented mindset person when exposed to the FSE. For comparison, a paired samples t-test was conducted to examine if growth mindset individuals experienced a change in mindset following the fresh start manipulation as well. Unlike the fixed mindset group, the growth mindset didn’t show any significant change in their mindset when exposed to the fresh start condition. Growth mindset individuals in FSM condition reported ($N=28$) initial mindset $mean_{Time 1} = 1.14$ ($SD = 0.26$) and $mean_{Time2} = 1.13$ ($SD = 0.33$) with a p value = 0.851

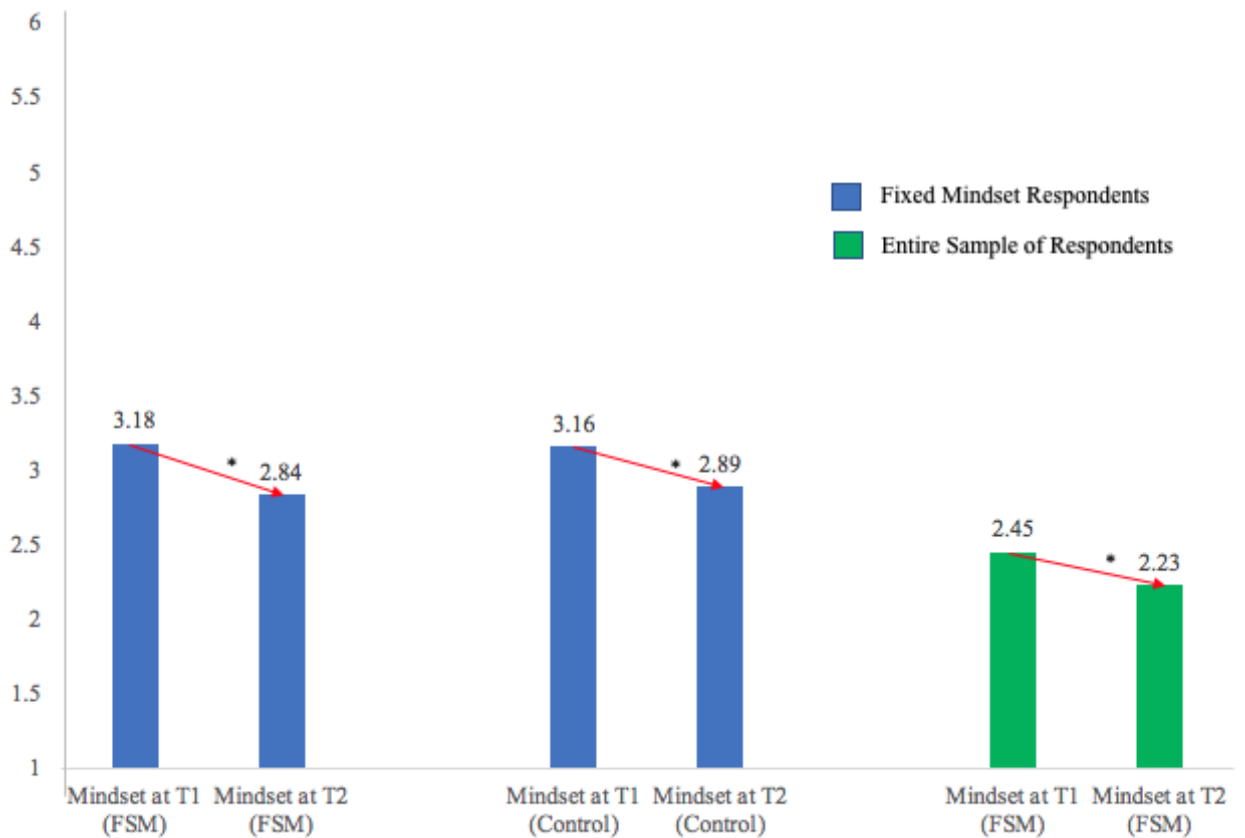
Although not hypothesized additional analyses were conducted to further evaluate any other potential changes in mindset. It was important to assess if the control group behaved differently following their weight loss message. In the control condition, respondents with a fixed mindset ($N=50$) reported initial mindset $mean_{Time 1} = 3.16$ ($SD = 1.19$) and $mean_{Time2} = 2.89$ ($SD = 1.36$). Effect was $F(1,49)=3.86$ which was significant at $p=0.055$ (Figure 4). Surprisingly, the control message produced a more growth mindset, similar to the FSM.

H3 predicted that specifically, individuals with a fixed mindset would adopt a more growth mindset when exposed to FSM (such that their mindset becomes more growth oriented). Repeated measures ANOVA was used to compare the pretest mindset (T1) and the post-test mindset (T2) for respondents classified as starting with fixed mindsets. The sample size for this test was considerably smaller because only a subsample was under consideration (N=51). The results of the ANOVA found a significant difference, $\text{mean}_{\text{Time 1}} = 3.18$ (SD = 1.06) and $\text{mean}_{\text{Time2}} = 2.84$ (SD = 1.1), $F(1,50)=6.61$; $p=0.013$. The results support that individuals with a fixed mindset change to a more growth-oriented mindset when exposed to an FSM (Figure 4). The covariates showed no significance: gender ($p = .360$), social desirability ($p = .881$) and past experience with weight loss ($p = .747$)

In addition to the fixed mindset, the growth mindset measure was also analyzed to see if there was a change in their mindset. Repeated measures ANOVA was used to compare the pretest mindset (T1) and the post-test mindset (T2) for respondents classified as starting with growth mindsets. The samples size for this test was considerably smaller because only a subsample was under consideration (N=21). The results of the ANOVA didn't show a significant difference, $\text{mean}_{\text{Time 1}} = 1.01$ (SD = .01) and $\text{mean}_{\text{Time2}} = 1.04$ (SD = .21), $F(1,20)=1.0$; $p=0.329$. The results show that individuals with a growth mindset didn't show a change in their mindset when exposed to FSM. The covariates showed no significance: gender ($p = .760$), social desirability ($p = .681$) and past experience with weight loss ($p = .547$)

Alternatively, changes in mindset were evaluated for the entire sample (not just those classified as "fixed" as done in the above paragraphs). A Paired Sample T test compared the pretest and post-test mindset. Respondents in the fresh start condition

(N=79) reported a mean_{Time 1} = 2.45 (SD = 1.30) and mean_{Time2} = 2.23 (SD = 1.23) and this difference was significant at p=0.015 (t=2.49 and df=78). In the control condition, respondents (N=74) reported initial mindset mean_{Time 1} = 2.49 (SD = 1.38) and mean_{Time2} = 2.36 (SD = 1.45) which was not significant at p =0.27 (t= 1.09 and df=73). This supports that respondents in the FSM became more growth oriented when compared to the control condition.



(Lower values indicate more growth orientation) * p<0.05

Figure 4: Mindset measures for fixed individuals before and after fresh start intervention

It was also tested to see if fixed mindset respondents in the control group had a change in their mindset. Fixed mindset individuals in the control condition (N=50)

reported an initial mindset $\text{mean}_{\text{Time 1}} = 3.16$ ($\text{SD} = 1.19$) and $\text{mean}_{\text{Time2}} = 2.89$ ($\text{SD} = 1.19$) and it neared significance, $p = 0.055$ ($t = 1.96$ and $df = 49$). The growth mindset group in the control condition reported ($N = 24$) initial mindset $\text{mean}_{\text{Time 1}} = 1.11$ ($\text{SD} = 0.24$) and $\text{mean}_{\text{Time2}} = 1.27$ ($\text{SD} = 0.97$) which was not significant at $p = 0.424$ ($t = -0.815$ and $df = 23$). This provides mixed support that the Fresh Start Condition has been effective in changing the fixed mindset to a more growth-oriented mindset.

Hypothesis 4 predicted that fixed mindset individuals would have a more dramatic response to a FSM. To test this hypothesis the slopes of the lines between the control condition and FSM were compared across fixed and growth respondents. A new variable was created by computing the message conditions (FSM and control) to the initial mindset measure. This newly created variable was the independent variable and self-efficacy was the dependent variable. Regression was used to compare the beta coefficients for the two different groups and the effect was $F(3, 152) = -1.493$, $p = 0.14$. This shows that there are no significant differences in how the group's perception of self-efficacy changed following a FSM. Covariates such as past experience with weight loss showed no significance ($p = .479$); gender also with no significance ($p = .113$) while social desirability showed significance ($p < 0.005$). Figure 5 illustrates the slopes for growth and fixed groups that were tested.

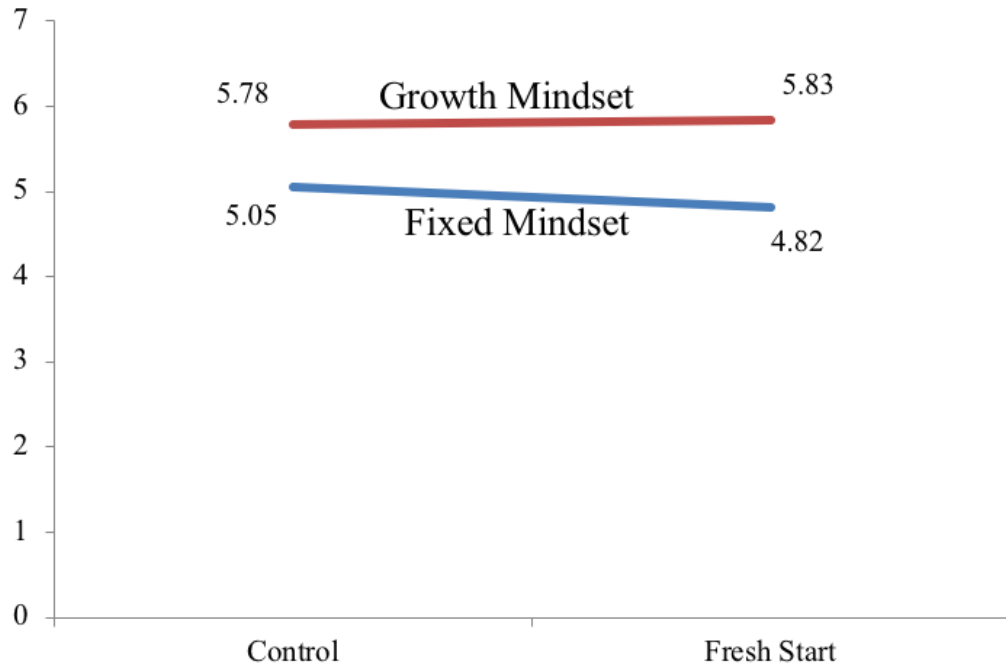


Figure 5: Perceived self-efficacy of fixed and growth mindset in control and FSM conditions

Chapter 6: Post Hoc Analysis

In addition to the hypothesis testing, numerous additional analyses were conducted to investigate for insights that might explain the unsupported hypotheses and to inform future research. Different measures such as separation of past, past experience with weight loss, and participants general mindset were used for post hoc analysis. As previous research has demonstrated, separation of the past is a proven mechanism for the FSE (Dai et al., 2015). Hence it would give insights into whether the FSM has been effective in the study. When it comes to weight loss, male and female respondents would behave differently (Wing & Jeffery, 1995). Gender can provide insights into how males and females respond to different messages and weight loss objectives. Past experience with weight loss would help in explaining weight loss approach for the respondents as the past experience of an individual would be important in explaining one's current approach to weight loss (Burke, Steenkiste, Music & Styn, 2008). The post hoc analysis will help in explaining how different mindsets react to the above-mentioned factors.

6.1 Separation of Past

ANOVA was used to see if respondents felt separated from their past after being exposed to the manipulation. The dependent variable was separation of past variable and the fresh start and control message condition was used as the independent variable. Respondents didn't show a significant change in separation from their imperfect past when they were exposed to a fresh start condition. When comparing control condition (N=151) and Fresh Start condition (N=151), the effect was $F(1,300) = .110$ at a significance of .740 (Table 6). This shows that the past separation was not effective in the fresh start condition. According to Dai et al., (2015) separation of past is a supported

mechanism driving the FSE. As the experimental and control group produced no differences, the success of the manipulation used is in question. The single item manipulation check was significant, so it is unclear why the results do not replicate the findings from Dai et al. (2015). This may be an explanation for the unsupported hypothesis H1, H2 & H4. See Table 6 for a comparison of the results of the separation of past variable and the single item manipulation check.

Respondents in the fresh start condition (N=151) reported a M = 5.78 (SD=1.24) and respondents in the control condition (N=151) reported M = 4.32 (SD=1.86). This denotes that respondents in the fresh start condition felt a greater separation from their past when compared to the respondents in the control condition. The effect was $F(1,300) = 63.52$ at $p < 0.005$.

Table 6: Results of the manipulation check variable and separation of past measure

Measure	Fresh Start M (SD)	Control M (SD)	Significance Test
Manipulation Check Item	5.78 (1.24)	4.32 (1.86)	$p < .005$
Separation of Past	4.04 (1.38)	3.99 (1.38)	$p = .740$

The manipulation check item, referred to as “new beginning” was examined as a potential mediator between FSM and self-efficacy using Hayes PROCESS macro. A bootstrap technique was utilized to test new beginning as the mediator and derive confidence intervals for the indirect effects and direct effects; the analysis was conducted

with 5,000 resamples and a 95% confidence interval. The condition (FSM or control) was the independent variable and self-efficacy was the dependent variable with “perspective of a new beginning” as the mediator. The indirect effect of the FSM on self-efficacy was significant (coefficient =-.325, SE = .0732, $p < 0.005$, 95% CI [.188, .474]). The results support the new beginning as a mediator. Figure 6 depicts the mediation model with path coefficients and p values. The direct effect of the FSM on self-efficacy was significant (coefficient =-0.388, $p = 0.007$). This suggests that a FSM leads to feelings of a new beginning and this ultimately makes individuals feel more capable of pursuing their weight loss goal.

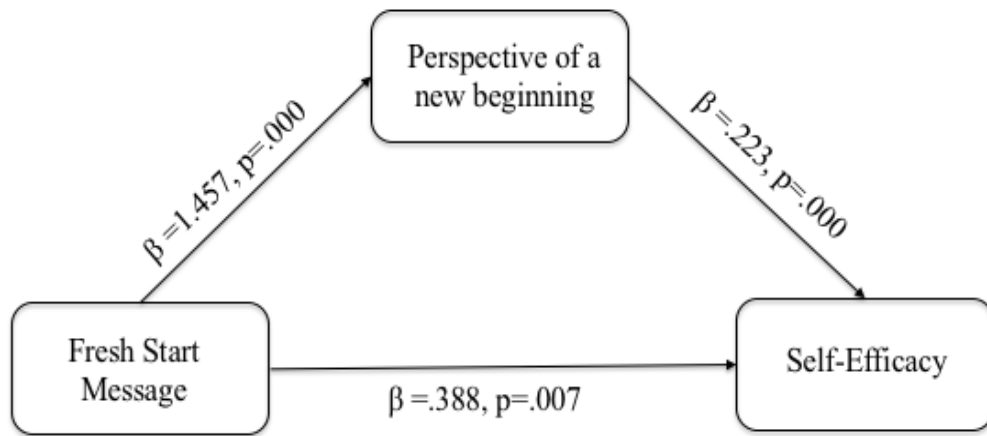


Figure 6: Mediation model with path coefficients and p values for perspective of a new beginning

6.2 Gender Findings

To check the difference in the level of goal commitment for weight loss across different genders, ANOVA was used with goal commitment as the dependent variable and gender as the independent variable. Females (N=79) showed a higher goal

commitment to lose weight when compared to males (N=71). Females reported M = 5.55 (SD = .88) and males reported M = 5.18 (SD = 1.18). The effect is $F(2,296) = 3.77$ at significance $p=.024$. This suggests that females show a higher level of goal commitment when it comes to losing weight than males (Figure 7).

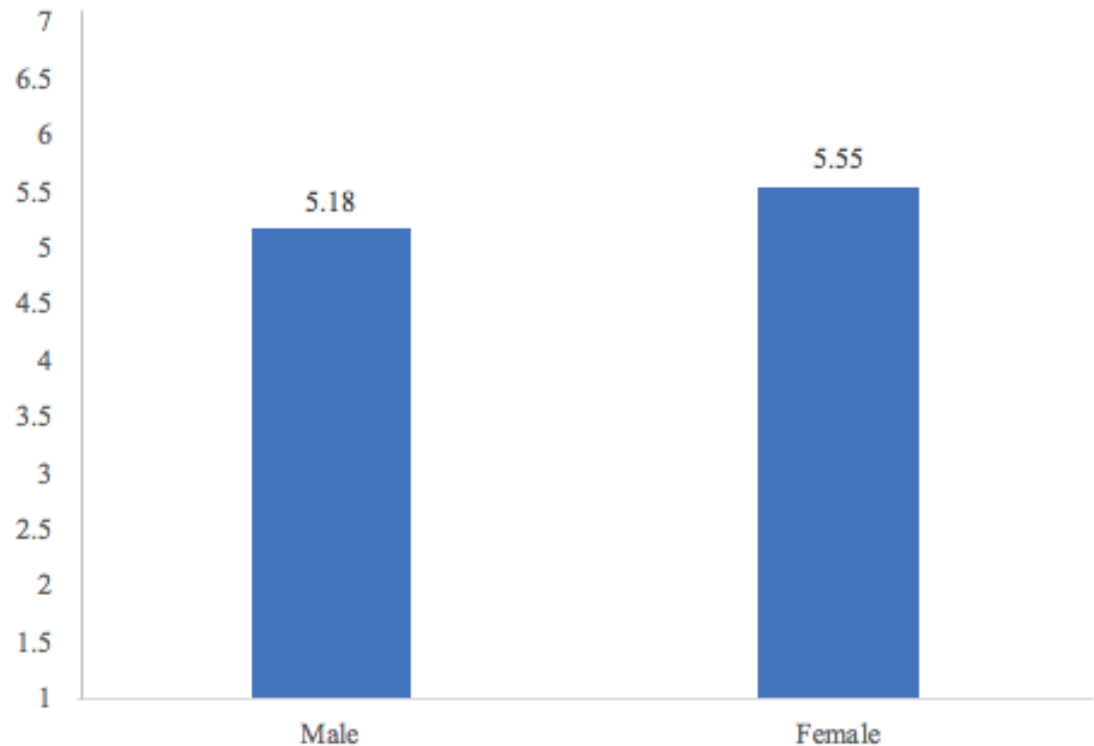


Figure 7: Goal commitment in weight loss for male and female respondents

6.3 Past Experience with weight loss

In order to understand how different mindsets reported their previous experience with weight loss, an ANOVA was used with past experience as the dependent variable and initial mindset conditions (fixed and growth mindset) as the independent variable. Gender was used as a covariate in this test. When comparing past experiences between fixed and growth mindset individuals (N=40) reported M = 3.84 (SD = 1.64) and fixed

mindset individuals (N=113) reported $M = 4.62$ ($SD = 1.32$). The effect was significant ($F(1,151) = 9.05$ significant at $p = .003$). Gender as a covariate was non-significant ($p = .612$). Higher scores indicate that there were greater issues in the past related to weight loss. This suggests that fixed mindset individuals have had greater issues in the past related to weight loss than growth mindset individuals (Figure 8).

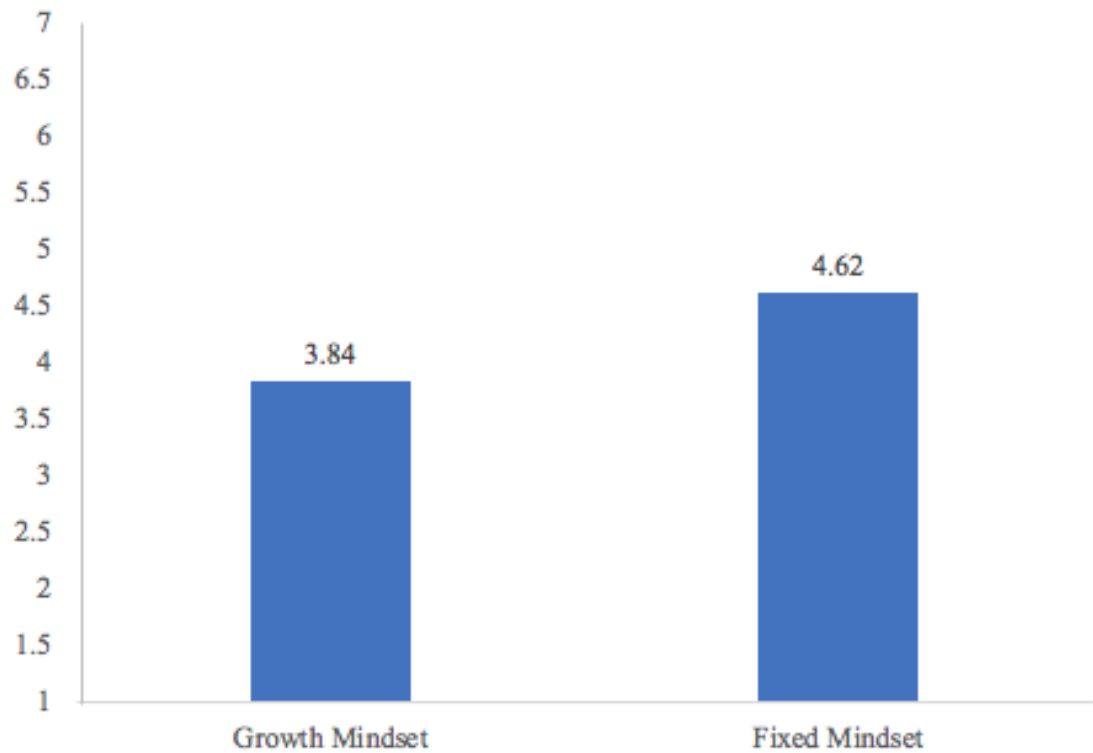


Figure 8: Past experience with weight loss for different mindsets

6.4 General Mindset

In order to have due diligence to verify the findings from domain specific mindset variable, general mindset variable was used to check if there was a change in self-efficacy in the treatment conditions. The domain specific mindset measure was developed using specific questions related to weight loss, whereas the general mindset measure was developed using a general approach. The general mindset of the respondent was separated

into fixed and growth mindset using a spotlight analysis (Fitzsimons, 2008 & Plaks et al., 2013). The measure of mindset was mean split keeping only those participants who had a standard deviation of one or greater above or below the mean ($M = 3.42$ and $SD = 1.23$). Lower scores indicate a more growth-oriented mindset. After the spotlight analysis, there were 58 respondents classified as “growth mindset” and 244 classified as “fixed mindset”.

After selecting the respondents who only answered the T2 measure of mindset, ANOVA was used with self-efficacy as dependent variable and the fresh start and control message conditions as independent variable. There was no significant difference in self-efficacy between the fixed and growth mindset individuals in the conditions. Fixed mindset respondents in the control condition ($N=63$) reported $M = 4.97$ ($SD = 1.19$) compared to the fresh start condition where fixed mindset respondents ($N=57$) reported a $M = 4.91$ ($SD = 1.20$) Growth mindset individuals in the control condition ($N=14$) reported a $M = 6.16$ ($SD = .93$) compared to growth mindset individuals in the fresh start condition ($N=15$) who reported $M = 6.11$ ($SD = 1.21$). The interaction effect was $F(1,145)=0.001$ at $p=.974$.

During our initial independent sample T test, it was shown that there was no significant difference between the respondents who had answered only T2 and those who answered T1 & T2. The general mindset measure was rechecked with the respondents who took both T1 and T2 using ANOVA with self-efficacy as dependent variable and the fresh start and control message conditions as independent variable. The results didn't support any significant difference in self-efficacy for control or fresh start condition. Fixed mindset respondents in the control condition ($N=59$) reported a $M = 5.22$ ($SD = 1.02$) compared to the fresh start condition where fixed mindset respondents ($N=65$)

reported $M = 5.05$ ($SD = 1.19$) Growth mindset individuals in the control condition ($N=15$) reported $M = 5.55$ ($SD = 1.12$) compared to growth mindset individuals in the fresh start condition ($N=14$) who reported $M = 5.80$ ($SD = 1.06$). The interaction effect was $F(1,149)=0.847$ at $p=.359$

The post hoc analysis was helpful in providing insights that may help future research. Females were seen to have more goal commitment than men when it comes to weight loss. Fixed mindset individuals have seen to have bad experience related to weight loss than those with a growth mindset.

Chapter 7: Discussion

7.1 Main Study Discussion

The study expected to find support for an increase in self-efficacy when individuals were exposed to FSM when compared to a control message. It was also predicted that self-efficacy would mediate goal commitment in the FSE. It was proposed that a fixed mindset individual would have a growth-oriented mindset after being exposed to the FSE. Fixed mindset individuals were expected to have a dramatic increase in their self-efficacy than a growth mindset individual after being exposed to the FSE than a control message. The study expected to explain how different mindset's experience the FSE uniquely. The study supported that mindsets can be changed, and that self-improvement is possible by exposing individuals to a FSM thereby creating a new beginning.

Support was not found for hypotheses H1, H2 and H4. Multiple explanations may exist for why these hypotheses were not statistically supported. First of all, it is unclear if the manipulation was effective. After the pilot study, it was observed that the manipulation was not effective as it was expected to be. To avoid this situation, a reinforcement measure was introduced in the main study to reinforce the manipulation message conditions for the respondents. Despite the reinforcement message, separation of past was not seen significant for the respondents who experienced the FSM. Separation of past was measured using constructs previously used by Dai et al., 2015 (Appendix B). As per Dai et al., 2015 separation of past has been empirically supported as a mechanism for the FSE. Since the separation of past was not significant, it suggests that the manipulation was not effective enough to increase the self-efficacy of the respondents in the fresh start

condition. The study used “start of the spring season” to communicate the FSE. The assumption was that, once winter is over people plan to be outdoors more and think of it as a new beginning of a fresh season. The spring season might not have been significant enough to mark a new beginning. Additionally, the study ran two weeks after the official “first day of spring”, which may have muted the effect. Future research may be more successful with a more meaningful landmark, like the start of a new calendar year (Marlatt & Kaplan, 1972).

A second possible explanation for the unsupported hypothesis is that the stimuli may not have been sufficiently arousing and the two conditions may have been too similar. In the FSM, the spring season was mentioned (“It’s the start of a new Spring season, New Beginning, New You!! Make a commitment to yourself to lose weight with this fresh start”) and in the control condition, the month “May” was mentioned (“Make a commitment to yourself to lose weight this May”). The month of May being mentioned in the control condition may have induced a new beginning as it’s a new month. Hence the control condition might have not been neutral enough.

Through H1, it was predicted that FSM would create an increase in self-efficacy when compared to a control message. However, the hypothesis was not supported and an increase in self-efficacy in individuals when exposed to the FSM was not observed. H2 in this study predicted that self-efficacy would mediate goal commitment, however, the results did not support self-efficacy as a mediator between a FSM and goal commitment. H3 predicted that a fixed mindset individual would become more growth oriented when exposed to a FSM. The results support that fixed mindset individuals become growth oriented when exposed to FSM. It was also observed that respondents within the control condition also had a significant change in their mindset. This leads to infer that a

motivational message of a new beginning can help change fixed mindsets to a growth-oriented mindset. H4 predicted that fixed mindset individuals would have a dramatic increase in their self-efficacy when exposed to a FSM compared to a control message. However, neither fixed mindset nor growth mindset groups showed an increase in their self-efficacy when they were exposed to the fresh start condition compared to the control.

Although the FSM did not influence perceptions of self-efficacy, the variable that measured “feelings of a new beginning” was positively related to self-efficacy and mediated the effect of the FSM. This leads to understand that in the premise of a FSM, the feeling of a new beginning can help the individuals to have self-efficacy to pursue a change in their habit or work towards a goal. Dai et al., (2015) demonstrated focus on the big picture as a mechanism for the FSE. The feeling and belief that the future is going to be better if the change is implemented, gives the drive for the individuals to pursue the change and work towards the goal.

The results of this study do indicate that mindsets can change with response to a FSM. According to H3, a FSM can lead fixed mindset individuals to change their perspective and adopt an outlook more open to change. Support was found for this prediction. However, the fixed mindset respondents in the control group also experienced a similar shift in mindset, which was marginally significant. Taken together, it seems that any messaging encouraging weight loss may influence the mindset of fixed individuals. Additionally, when the entire sample was tested (not just the subsample of fixed mindsets) and the initial mindset compared to the later mindset, it was seen that, there was a significant shift in the mindset to a growth-oriented mindset. This supports that this effect seems to work for the fixed mindset group as well as the neutral people around the mean of the scale, hence this method can be used to change mindsets because a fixed

mindset person can start to think like a more growth-oriented mindset after being exposed to the FSE. Considering the marginal results in the control condition, it can be discussed that any encouraging messages can perhaps help the fixed mindset individuals to become more growth oriented to some extent.

On the other hand, the growth mindset group did not show any significant change in their mindset when exposed to a FSM (no hypotheses were made regarding this relationship). From this study, it is seen that growth mindset respondents may not have exhibited much of a change in their mindset and this may be due to a ceiling effect. Past research suggests that growth mindset individual believe they can improve their qualities through their own efforts and do so through effortful practice (Yeager & Dweck, 2012). Hence the FSE may not have been influential to the growth mindset as change is not new to them.

Past research has demonstrated that mindsets can be malleable (Yeager & Dweck, 2012) and that people with a fixed mindset are somewhat open to the idea of malleability and change despite the fact that they tend to believe in stability (Wheeler & O'neill, 2016). This study also demonstrates that mindsets can be changed such that a fixed mindset individual can think on growth-oriented mindset when exposed to the FSE. Changing a fixed mindset approach to a growth mindset approach might help an individual to successfully implement changes and pursue self-improvement.

The post hoc analysis on the gender of the respondents also revealed some interesting facts. It was found that women have a higher level of goal commitment to lose weight than men, however, this effect did not differ based on the fresh start vs control condition. So, it suggests that in general women have a higher level of goal commitment when it comes to losing weight than men.

The post hoc analysis also explained that fixed mindset individuals had more of an unpleasant past experience when it comes to weight loss than the growth mindset individuals. This suggests that fixed mindset individuals may have had multiple failures leading to an unpleasant memory of weight loss efforts, more than the growth mindset individuals. On the other hand, growth mindset individuals, being open to change, have had much better past experience and were more successful with weight loss efforts than the fixed mindset group.

7.2 Practical and Theoretical Implications

The practical implications of this study would begin by helping organizations marketing self-improvement products and services. It can be used to change the fixed mindset nature of a person to a more growth-oriented mindset. In other words, a person who thinks, “change is not possible” can start thinking, “change can be possible”. For instance, weight management is associated with the overall ability of a person (Elfhag & Rossner, 2005) and people often struggle with managing a healthy weight. This may be because of the fixed mindset approach related to the weight management aspect. FSE may help in creating the positive approach in individuals to start managing their lifestyle by increasing their self-efficacy and motivating them to stay healthy.

Health enhancement providers can target a landmark day to launch a campaign that will promote the desire to change to a better condition. This can motivate both mindset groups to think along the lines of benefit and pursue the change. Social marketers who seek positive change to benefit society and individuals can make use of this study to promote healthy habits like smoking cessation, financial management etc. Social marketers can also use this concept to motivate people to support social causes. For

example, a non-profit organization can launch a campaign at the start of summer by explaining the importance and benefits of taking part in a volunteering activity. This can help in attracting new members to join the activity. Even if a person has a fixed mindset approach to such activities, the new beginning can change that mindset and motivate them to be a part of the event.

The theoretical implications of this study would begin with opening the way implicit theories are studied with regards to the FSE. The fixed mindset may change to a growth mindset when influenced with the FSE. The current study would add to the research done to understand how mindsets can be changed. The effect of a fresh start on a fixed mindset and a growth mindset is a new area of study and will help us to understand how different mindsets react to the effect.

7.3 Limitations

This study has its limitation due to the fact that the efficacy of the manipulation is in question. The temporal landmark selected for the study may not have been of sufficient importance to communicate a new beginning. This study was done using a social temporal landmark to communicate the FSE. Using a personal temporal landmark may have a different effect on individuals. A start of a new year or a personal landmark such as birthday or anniversary would have been a much better landmark to communicate the new beginning. Also, since the study is cross-sectional, there is no indication of how fleeting these results may be.

The study was done focusing on the weight loss aspect of individuals and the results indicate the responses specifically in the weight loss domain, hence the generalizability of the results may be a limitation. These results may not be the exact

indicator of how individuals would behave in a different context. Another limitation of the study was the unequal split of the fixed and growth mindset individuals who took part in the study. The responses consisted of 66% of fixed mindset individuals and 34% of growth mindset individuals which increased the difficulty in data analysis.

7.4 Future Research

Future research needs to consider a New Year beginning as an effective fresh start condition for carrying out studies based on the FSE. Future studies based on this study can be done on the premise of a new calendar year beginning to see if the effects can be supported. Another suggestion for future research would be to have a longitudinal study to explore the mindset change effects on a fixed mindset. As this study has explained that a fixed mindset can be changed to a growth-oriented mindset by exposing subjects to the FSE, it would be interesting to see how long the changed mindset would prevail. A FSM can be combined with a message encouraging a growth mindset thought (E.g.: “You have the ability to change your lifestyle and your weight”).

This study was done based on the weight loss context, similar studies can be done on different domains to see if the results support each other. The control variables such as past experience with weight loss, social desirability and gender showed significance during the analysis. Further research would help to understand the relationship between the control variables and its impact on individuals in the FSE context. This study followed the method of measuring the mindset of individuals, another direction would be to manipulate the mindset of the individuals and expose them to the FSE.

This study tested to see if self-efficacy mediated goal commitment in the premise of the FSE. Another possible mediator for goal commitment may be big picture thinking.

Big picture thinking may help to increase the goal commitment for individuals under the premise of the FSE. Big picture thinking can be tested to see if it mediates goal commitment for individuals when they experience the FSE.

7.5 Conclusion

The study has been successful in demonstrating that mindsets can change as they are exposed to the FSE. This study supports that, if a message is framed emphasizing the importance of a temporal landmark, it can help change the mindset of an individual such that it becomes more growth oriented to pursue a change. The FSE can help people to overcome their attributes of fixed mindsets and think more like growth-oriented mindsets. It may also be noted that while using a FSM, the start of a season may not be effective in communicating a new beginning. Previous fresh start studies done by Dai et al., (2015) were based on the start of the new calendar year and they were successful in communicating the FSM.

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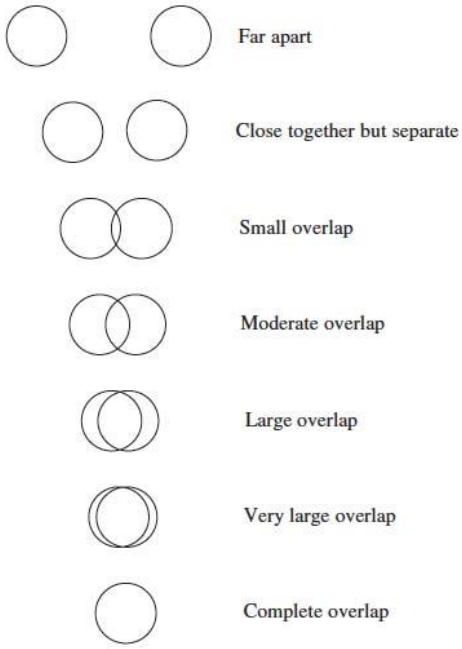
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APPENDIX A: Measures used in Main Study

Construct	Scale Items
<p>Initial and later Mindset (T1 Mindset and T2 Mindset)</p> <p>(Dweck, 2000; Chen & Pajares, 2010)</p>	<ul style="list-style-type: none"> • <i>I have a certain amount of weight losing ability, and I really can't do much to change it</i> • <i>My ability to lose weight is something about me that I can't change very much</i> • <i>I understand the benefits of weight loss, but I really can't lose weight</i>
<p>Goal Commitment</p> <p>(Hollenbeck, Klein, O'leary & Wright, 1989; Landau, Khenfer, Keefer, Swanson & Kay, 2018)</p>	<ul style="list-style-type: none"> • <i>I am strongly committed to pursuing this goal</i> • <i>I think this goal is a good goal to shoot for</i> • <i>It is quite likely that this goal may need to be revised, depending on how things go (R)</i> • <i>Quite frankly, I don't care if I achieve this goal or not (R)</i> • <i>It's hard to take this goal seriously (R)</i> • <i>It wouldn't take much to make me abandon this goal (R)</i> • <i>It's unrealistic for me to expect to reach this goal (R)</i> • <i>I am willing to put forth a great deal of effort beyond what I'd normally do to achieve this goal</i> • <i>There is not much to be gained by trying to achieve this goal (R)</i>
<p>Self-Efficacy</p> <p>(Chen, Gully & Eden, 2001)</p>	<ul style="list-style-type: none"> • <i>I will be able to achieve the weight loss goals that I set for myself</i> • <i>When facing a weight loss goal, I am certain that I will accomplish it</i> • <i>In general, I think that I can achieve the weight loss outcomes that are important to me</i> • <i>I believe I can succeed at this weight loss endeavor when I set my mind to it</i> • <i>I will be able to successfully overcome many challenges to achieve weight loss</i> • <i>I am confident that I can effectively lose weight</i> • <i>Compared to other people, I can lose weight very well</i> • <i>Even when things are tough, I can perform quite well to achieve weight loss</i>

<p>General Mindset</p> <p>First 3 items from Chiu, Hong & Dweck (1997)</p> <p>Last 5 items from Plaks, Stroessner, Dweck, & Sherman (2001)</p>	<ul style="list-style-type: none"> • <i>The kind of person someone is, is something very basic about them and it can't be changed very much</i> • <i>People can do things differently, but the important parts of who they are can't really be changed</i> • <i>Everyone is a certain kind of person and there is not much that can be done to really change that</i> • <i>People can substantially change the kind of person they are (R)</i> • <i>Everyone, no matter who they are, can significantly change their basic characteristics (R)</i> • <i>Everyone is a certain kind of person and there is not much that can be done to really change that</i> • <i>No matter what kind of person someone is, they can always change a lot (R)</i> • <i>People can change even their most basic qualities (R)</i>
<p>Social Desirability</p> <p>Crowne & Marlowe (1960)</p>	<ul style="list-style-type: none"> • <i>On occasion I have had doubts about my ability to succeed in life (R)</i> • <i>I sometimes feel resentful when I don't get my way (R)</i> • <i>I am always careful about my manner of dress</i> • <i>My table manners at home are as good as when I eat out in a restaurant</i> • <i>There have been times when I felt like rebelling against people in authority even though I knew they were right (R)</i> • <i>I'm always willing to admit it when I make a mistake</i> • <i>I sometimes try to get even, rather than forgive and forget (R)</i> • <i>I am always courteous, even to people who are disagreeable</i> • <i>I have never been irked when people expressed ideas very different from my own</i> • <i>I have never deliberately said something that hurt someone's feelings.</i>

APPENDIX B: Separation of Past for FSM & Control condition

<p>Separation of past representation</p> <p>Dai et al., (2015)</p> <p>This question was same for both conditions</p>	<p>Subjects were shown a series of seven increasingly overlapping pairs of circles with one circle in each pair and are asked to select the pair that “best describes how close they felt to their imperfect past at that moment.</p> 
<p>Separation of past representation</p> <p>Fresh Start Condition</p> <p>Dai et al., (2015)</p>	<p>Most people agree that they have not behaved perfectly in the past (or that their past self has imperfections). There are always some aspects of ourselves and our lives that we would like to improve.</p> <p>Sometimes our imperfect past self feels very far away, while at other times our past imperfections feel very close.</p> <p>"Think about how you would feel now, as you are entering a new spring season"</p> <ul style="list-style-type: none"> • <i>To what extent do you feel that your past challenges with weight are distant from you</i> • <i>To what extent do you feel distant from your imperfect past self of not an ideal weight?</i>

<p>Separation of past representation</p> <p>Control Condition</p> <p>Dai et al., (2015)</p>	<p>Most people agree that they have not behaved perfectly in the past (or that their past self has imperfections). There are always some aspects of ourselves and our lives that we would like to improve.</p> <p>Sometimes our imperfect past self feels very far away, while at other times our past imperfections feel very close.</p> <p>Think about how you would feel now.</p> <ul style="list-style-type: none">• <i>To what extent do you feel that your past challenges with weight are distant from you?</i>• <i>To what extent do you feel distant from your imperfect past self of not an ideal weight?</i>
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APPENDIX C: FSM



It's the start of a new Spring season,
New Beginning, New You!!
Make a commitment to yourself to lose weight with this fresh start.

APPENDIX D: Control Message



Make a commitment to yourself to lose weight this May.

APPENDIX E: Questionnaire

Welcome to a survey on individual behavior. This is a study being conducted by Master's student Jiby Mathew at the University of Lethbridge, Alberta, Canada. The study asks about typical behaviors, using a 20-minute survey. You must be 18 years or older to participate in this survey.

You will be provided a series of multiple-choice questions from which you will need to select the statement that most suits you. This study would take approximately 20 minutes of your time and should be completed in a single session. There is no potential risk or discomfort intended to the participant in providing responses. By participating in this study, you will be rewarded with USD 1.00 as a token of appreciation for your time and effort.

This research ensures your anonymity, as we do not capture your name or address for this study. The data provided will only be used for research purposes at the University of Lethbridge, Canada. Your IP address will be temporarily collected to assure that you participate only once, and then it will be deleted.

Your participation in this study is purely voluntary and refusal to participate will not initiate prejudice, penalty or loss of benefits to which you are otherwise entitled. Should you choose to withdraw from the study at any time, please be informed that you will be free to do so, without any liability or commitment. Simply close your Internet browser to withdraw from the study.

By completing this short survey, you are helping data collection for a project done in accordance with the academic requirements of a course. The data collected from this study will be used for the said research purpose and will not be reproduced in any form elsewhere without the permission of the University of Lethbridge. It may be presented at academic conferences or in academic publications, but only in summary form, which will not identify you in any way.

If you wish to get the outcome of this study, you may do so by sending an inquiry email to the address given below:

For further details and information, please contact:
Jiby Mathew, Second Year MSc Student, University of
Lethbridge, jiby.mathew@uleth.ca

Questions regarding your rights as a participant in this research may be addressed to “The Office of Research Ethics, University of Lethbridge (Phone: 403-329-2747 or Email: research.services@uleth.ca).”

The proposed research has been reviewed for ethical acceptability and approved by the University of Lethbridge Human Subject Research Committee.

The study is targeted for participants aged 18 or older. The objectives and procedures have been explained and you voluntarily agree to participate in this study.

Yes, I am 18 years or older and I agree voluntarily to participate in this study

No, I decline

From the options below select any topic you would be personally interested in. **(Select as many as apply)**

Weight Loss

Learning a new language

Getting a better job

Making new friends

None of the above

Select your level of agreement with the statements below. There are no right or wrong answers.

"I have a certain amount of weight losing ability, and I really can't do much to change it"

"My ability to lose weight is something about me that I can't change very much"

"I understand the benefits of weight loss, but I really can't lose weight"

Please complete the next exercise. Take as much time as you need.

Starting from the number 300, skip count backward in groups of 3. (For example, 297 would be the first answer).

- _____ 1
- _____ 2
- _____ 3
- _____ 4
- _____ 5
- _____ 6
- _____ 7
- _____ 8
- _____ 9
- _____ 10

On the following screen is material for you to view. Please take a moment with the content.



It's the start of a new Spring season, New Beginning, New You!!
Make a commitment to yourself to lose weight with this fresh start.

On the following screen is material for you to view. Please take a moment with the content.



Make a commitment to yourself to lose weight this May.

Please take a moment to think about reasons the start of this **spring** feels **meaningful** to you and list them below.

Please think about reasons the start of the **May** feels **ordinary** to you and list them below.

What is/are your weight-related goal(s)?

Think about your personal weight loss goal and respond to the following questions:

Select the extent of your agreement to the statements given below

“I am strongly committed to pursuing this goal”

“I think this goal is a good goal to shoot for”

“It is quite likely that this goal may need to be revised, depending on how things go”

“Quite frankly, I don’t care if I achieve this goal or not”

“It’s hard to take this goal seriously”

“It wouldn’t take much to make me abandon this goal”

“It’s unrealistic for me to expect to reach this goal”

“I am willing to put forth a great deal of effort beyond what I’d normally do to achieve this goal”

“There is not much to be gained by trying to achieve this goal”

Still thinking about your weight loss goal respond to the questions below:

Select the extent of your agreement to the statements given below

“I will be able to achieve the weight loss goals that I set for myself”

“When facing a weight loss goal, I am certain that I will accomplish it”

“In general, I think that I can achieve the weight loss outcomes that are important to me”

“I believe I can succeed at this weight loss endeavor when I set my mind to it”

“I will be able to successfully overcome many challenges to achieve weight loss”

“I am confident that I can effectively lose weight”

“Compared to other people, I can lose weight very well”

“Even when things are tough, I can perform quite well to achieve weight loss”

Select your level of agreement with the statements mentioned below

My attitude toward my weight loss goal is	1	2	3	4	5	6	7	
Bad								Good
Undesirable								Desirable
Unfavorable								Favorable

I intend to lose weight	1	2	3	4	5	6	7	
Strongly Disagree								Strongly Agree

Select your level of agreement with the statements below. There are no right or wrong answers.

"I have a certain amount of weight losing ability and I really can't do much to change it"

"My ability to lose weight is something about me that I can't change very much"

"I understand the benefits of weight loss, but I really can't lose weight"

Select your level of agreement with the statements below. There are no right or wrong answers.

"The kind of person someone is, is something very basic about them and it can't be changed very much."

"People can do things differently, but the important parts of who they are can't really be changed."

“Everyone is a certain kind of person and there is not much that can be done to really change that.”

"People can substantially change the kind of person they are."

"Everyone, no matter who they are, can significantly change their basic characteristics."

“Everyone is a certain kind of person and there is not much that can be done to really change that.”

"No matter what kind of person someone is, they can always change a lot."

"People can change even their most basic qualities."

The message you saw earlier in this survey (with the picture of the weight scale) mentioned which time period:

Spring

May

Winter

August

Monday

I don't remember

How much did that feel like a new beginning?

	1	2	3	4	5	6	7	
Not at all								Very Much

Most people agree that they have not behaved perfectly in the past (or that their past self has imperfections). There are always some aspects of ourselves and our lives that we would like to improve.

Sometimes our imperfect past self feels very far away, while at other times our past imperfections feel very close. "Think about how you would feel now, as you are entering a **new spring season**"

To what extent do you feel that your past challenges with weight are distant from you

Extremely Close

2

3

4

5

6

Extremely Far

To what extent do you feel *distant* from your imperfect past self of not an ideal weight?

Exactly the same

2

3

4

5

6

Completely Different

Most people agree that they have not behaved perfectly in the past (or that their past self has imperfections). There are always some aspects of ourselves and our lives that we would like to improve. Sometimes our imperfect past **self feels** very far away, while at other times our past imperfections feel very close. Think about how you would feel now.

To what extent do you feel that your past challenges with weight are distant from you?

Extremely Close

2

3

4

5

6

Extremely Far

To what extent do you feel *distant* from your imperfect past self of not an ideal weight?

Exactly the same

2

3

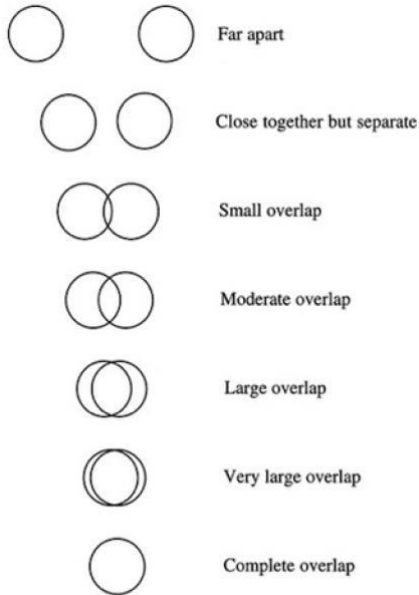
4

5

6

Completely Different

Which of the following conditions would explain how close you feel to your imperfect past as of now?



When you think about your weight loss goal, what thoughts come to mind? (Please write your thoughts in the space provided below in at least 50 words.)

Is there anything else that you would like to share with us about your weight loss goal?

How often have you tried to lose weight in the past?								
	1	2	3	4	5	6	7	
Never								Many times

When thinking about pursuing a weight loss goal how much do you think about past failed attempts?								
	1	2	3	4	5	6	7	
Very little								A lot

How many times have you failed to reach your weight loss goals?								
	1	2	3	4	5	6	7	
Never								Many times

Select the extent of your agreement to the statements given below

“On occasion I have had doubts about my ability to succeed in life”

“I sometimes feel resentful when I don't get my way”

“I am always careful about my manner of dress”

“My table manners at home are as good as when I eat out in a restaurant”

“There have been times when I felt like rebelling against people in authority even though I knew they were right”

“I'm always willing to admit it when I make a mistake”

“I sometimes try to get even, rather than forgive and forget”

“I am always courteous, even to people who are disagreeable”

“I have never been irked when people expressed ideas very different from my own”

“I have never deliberately said something that hurt someone's feelings”

Please answer the following questions to proceed.

Your age

18 years to 23 years

24 years to 29 years

30 years to 35 years

36 years to 41 years

42 years to 47 years

48 years to 53 years

54 years to 59 years

60 years and above

Your Gender

Male

Female

Prefer not to answer

Your education

None or less than high school

High school graduate

Certificates / Diploma

Bachelor's degree

Master's degree

Doctoral degree

Your annual family income

Below \$15,000

\$15,001 to \$25,000

\$25,001 to \$35,000

\$35,001 to \$45,000

\$45,001 to \$55,000

\$55,001 to \$65,000

\$65,001 to \$75,000

\$75,001 to \$85,000

\$85,001 to \$100,000

Above \$100,001

Should you wish to view the results of this study, please send a request to jiby.mathew@uleth.ca

Thank you for your participation