Chapter 2: Literature Review

Most of us are aware of a forward direction to “real” time, moving from the past through the present to the future. In this type of real time, people are always literally “in the present.” However, in the present, people can do remarkable things. They can travel forwards or backwards in subjective time. Indeed, even at the present moment, one can imagine oneself in the past thinking about how some event in the further past might have been different like for instance had we made the important decisions in our life differently, then how different our life would have been? What if you had gone to some other university or opted for a different career or the most bizarre married some other person? Most of us deliberate about such “possibilities” every now and then and get lost in thought by the obvious failings such musings reveal (Roese & Morrison, 2009).

According to Tulving (2004), without this cognitive capacity of “mental time travel” humans would be unable to form a stable concept of “the self” over time and, even more significantly, the myriad of human cultures that have existed and that exist today would never have been able to evolve. The story of human cognition is all the more remarkable because not only do humans have the ability to travel in subjective time, they also have the ability to effect changes to the historical record as they time-travel – to imagine actions with consequences in these (at least seemingly) possible worlds. The capacity for humans to explore and be influenced by the counterfactual worlds they construct is a truly outstanding evolutionary feat – one that has propelled our species far beyond even the most formidable powers of retrospection (Tulving, 2004).

Such thoughts of ‘what might have been’ or of ‘how the past might have turned out differently’ are termed as counterfactuals (Chen et al., 2006; Roese, 1994, 1997; Roese & Olson,
Counterfactual thinking has been variously described. Dalgleish (2004) refers to counterfactual thinking as the process of reflecting on an event and changing aspects of it so as to alter the eventual outcome. According to another definition agreed upon by many researchers “counterfactual thoughts refer to mental representations that are explicitly contrary to facts or beliefs” (Byrne, 2005; Epstude and Roese, 2008; Roese, 1997).

The “contrariness to fact” aspect of counterfactuals has long been of interest to logicians such as Lewis (1973), and Stalnaker (1968). According to this broad definition, counterfactuals do not require a temporal reference. For instance, one might say “If all circles were squares, then all spheres would be cubes”. Such premises are sought to explain how knowledge could be derived from false conditional premises.

Social researchers, especially psychologists, have paid greater attention to counterfactual thinking that focuses specifically on how the past might, could, would, or even should have turned out differently. These researchers have been intrigued by the compelling nature of what if and if only thoughts, and the propensity for people to mentally time-travel. Here counterfactuals are often represented as “if-then” conditional propositions that embrace both an antecedent (“if”) and a consequent (“then”) (Roese, 1997).

My approach to counterfactuals is more close to that of social researchers and the way I operationalize counterfactual thinking or counterfactuals is that it refers to “alternate versions of the past” (Roese, 1997). For me counterfactual thinking is important because it shapes how individuals reason their world and find meanings in the events that transpire in their life. Also, counterfactuals act as the “benchmarks” (Chen et al., 2006) in light of which the actual events of day-to-day life are figured out.
Often, in discussions of counterfactual thinking the term simulation is used (Kahneman & Tversky, 1982). The term refers to any imaginative mental construction and thus includes a broader group of which counterfactual thinking is just one subset (Roese, 1997).

2.1 Linking counterfactual thinking with other disciplines

The concept of the counterfactual has progressively gained significance in a number of scholarly disciplines in the past two decades. Some analytical philosophers treat counterfactual dependence as the key to the explanation of causal facts, others discuss counterfactuals with regard to thought experiments. Linguists have long used the concept of counterfactual thinking in connection with a particular form of conditional relation that children learn to master during language acquisition. Moreover, in due course of time counterfactual thinking has not only emerged as an object of study, but also as a method for several disciplines. Like for instance social scientists increasingly employ counterfactuals alongside causal inference, criminologists use counterfactual thinking to assess jury decisions as well as eyewitness descriptions, and economists draw on the method in order to pinpoint the influence of regulations and policies. However, in most of these disciplines the method is still extensively debated. This is especially true for historiography. While some – mainly English and American – scholars regard counterfactual thinking as a valid and useful way of identifying the factors that shaped historical development and have even published historiographic explorations of counterfactual courses of history, others fervently oppose the method as unscientific and useless (Birke, Butter, & Koppe, 2001).
More recently counterfactual thinking inspired research by psychologists and cognitive scientists because such thought processes influence a wide range of emotional, judgmental, and behavioral outcomes (Roese & Olson, 2003). These researches have more or less addressed three key issues: antecedents and psychological functions of counterfactual processing, the rules that counterfactual simulations obey, and the psychological outcomes (that is their role in everyday cognition) (Birke, Butter, & Koppe, 2001).

In spite of the fact that counterfactual thinking can possibly have such long drawn implications, research on counterfactual thinking has not been taken up so far by anthropologists or more so the cognitive anthropologists. Neither the researchers from the range of disciplines discussed above tried to use anthropological method and technique like ethnography to probe the phenomenon of counterfactual thinking from close quarters though it seems that counterfactuals are part of the mundane life across all cultures.

2.2 Types of Counterfactual Thoughts

As mentioned earlier, counterfactual thinking involves mentally undoing the present state of affairs and imagining alternative realities “if only” different decisions had been made or actions been taken (Roese, 1997). Several different varieties of counterfactual thinking have been identified. One broad distinction that has been made is between thoughts that are additive versus subtractive, that is, whether thoughts focus on the addition of new aspects that were not in fact present (e.g., If I had studied harder, then my marks would have been better.) or the subtraction of factual aspects that were in fact present (e.g., If I had not invested in the other company, then maybe I would have suffered less loss; Roese & Olson, 1993). In the former case (additive
counterfactuals) the concern is reversal of a previous *inaction* (e.g., if only I had acted, things might have gone better), while in the latter case (subtractive counterfactuals) the concern is reversal of a previous *action* (e.g., if only I hadn’t acted, things wouldn’t be so bad). Molden and Higgins (2005) are of the view that because additive counterfactuals simulate the correction of a past error of omission, this type of thinking represents a more eager strategy of considering alternative realities. In contrast, because subtractive counterfactuals simulate the correction of a past error of commission, this type of thinking represents a more vigilant strategy of considering alternate realities.

Similarly, when considering the direction of counterfactuals, they could be categorized as *upward* counterfactuals where one could be better off [e.g. “If only I hadn’t been playing around with the radio, I wouldn’t have had the accident.”] or *downward* counterfactuals where one could be worse off [e.g. “At least I had my seat belt on. Otherwise I could have been killed.”] (Jasper, Barry & Christman, 2008; Markman, Gavanski, Sherman & McMullen, 1993). A point worth taking into cognizance is that additive or subtractive counterfactuals could themselves be in an upward or downward direction. Likewise, upward or downward counterfactuals could either be additive or subtractive in nature.

Researchers (Epstude & Roese, 2008; Gilovich & Medvec, 1995; Markman, Lindberg, Kray & Galinsky, 2007; Roese & Olson, 1995) are of the view that additive counterfactual thinking often involves more creativity and more consideration of novel options because of which it is more salient for future performance improvements. While on the other hand, reflecting on what one should not have done (subtractive counterfactual thinking) orients the individual to learn from past mistakes (Pennington & Roese, 2003; Roese et al., 1999). Thus, both additive and subtractive counterfactuals serve the preparative function in their own ways.
Moreover, Roese (1994) posits that upward and additive counterfactuals help people to improve performance and downward counterfactuals make people feel better. All the above expressed conclusions fall under the *functional basis* (Roese, 1994) or *functional theory* (Epstude & Roese, 2008) of counterfactual thinking which essentially propagate the message that counterfactual thinking has many functional aspects which makes it all the more important to study the phenomenon.

Functionalism, however, was not a brain child of psychology. It was the 19th century philosopher Herbert Spencer, who propounded concepts like “Social Darwinism” and “Survival of the Fittest”, first of all wrote about *functional approach* in social sciences in his landmark book *Principles of Sociology* (published in three volumes from 1874 to 1896). Soon the idea became popular in other disciplines like the mainstream psychology (with William James) and mainstream anthropology (with Bronislaw Malinowski).

2.3 Mechanism of counterfactual thinking

Recently, Epstude and Roese (2008) explained the mechanism of counterfactual thinking using two different pathways – content specific and content neutral pathways. The *content specific pathway* entails the transfer of information [about action (s) that may possibly have been taken] from the counterfactual supposition into behavioural intentions, which consecutively have some bearing on the execution of subsequent behaviour. To begin with, in this pathway, the individual engages in counterfactual thinking because of the occurrence of some negative experience or misfortune or problem. Engaging in counterfactual thinking helps the individual to
identify the action that he could have taken, which is translated into formation of intention. The intention finally leads to the corrective behaviour in future.

![Figure 2.1: Content Specific Pathway (Epstude and Roese, 2008)](image)

*Content neutral pathway* is about the way information is dealt with, and not about details of the information itself. That is, independent of the meaning contained in the counterfactual, the counterfactual thought may initiate attentional, cognitive, or motivational processes that themselves modify behavior. Therefore, contrary to the content specific pathway where the focus was on the content of counterfactual [about action(s) that may possibly have been taken], this pathway does not take into account the structure or content of counterfactual(s) elicited.
The generation of counterfactual thinking has been visualized as a two stage process, the initial or first stage being *activation* followed by *content* (Roese, 1997). *Activation* means whether the process of counterfactual generation is initially switched on or off, while *content* refers to the specific composition of the resulting counterfactual thought. The two are linked but theoretically separate aspects of counterfactual generation and preliminary activation is an essential condition for any content effects to transpire but not vice versa (Roese, 1997). Also, the variables which influence the two stages of activation and content are different.

The main determinant of activation of counterfactual thinking is affect that is negative emotional states like sorrow, discontentment, rage, and depression which activate counterfactual thoughts (Roese, 1997). For example Davis, Lehman, Wortman, Silver, and Thompson, (1995) using the case of recent death of child assessed the number of counterfactuals generated by bereaved parents 15 months after the event. They found that greater the sorrow associated with death of child (at 3 weeks after the sudden death), more were the number of counterfactuals generated.

![Figure 2.2: Content Neutral Pathway (Epstude and Roese, 2008)](image_url)
Other variables salient to the activation stage are closeness of event (s) to reality (Kahneman & Tversky, 1982) and expectancy (Sanna & Turley, 1996). Kahneman and Tversky (1982) using a hypothetical scenario of an irritated traveler missing a flight by two minutes versus missing the flight by two hours showed that perceived closeness of event to reality influences the number of counterfactuals generated. The perceived closeness here was temporal but it can also be in terms of physical distance (for example a soldier killed 10 meters vs. 50 meters from the bunker) or numerical proximity (for example being the 999th contender when the 1000th contender wins a prize). Sanna & Turley (1996) using a range of tasks concluded that outcome expectancy, that is whether the outcome was surprising vs. expected, effects the activation of counterfactual thinking with unexpected outcomes leading to generation of greater number of counterfactuals.

Once counterfactual thinking is activated it can take almost any form be it upward type, downward type, additive type, subtractive type, substitutive type (involving both an explicit deletion and an explicit addition of aspect) or a combination of any of these. The second stage of counterfactual thinking that is content or specific composition of the resulting counterfactual is determined by number of factors, the prominent being antecedent normality (Kahneman & Miller, 1986; Kahneman & Tversky, 1982), antecedent controllability (Girotto, Legrenzi, & Rizzo, 1991), and antecedent action-inaction.

Kahneman and Tversky (1982), Kahneman and Miller (1986) using a series of experiments with vignettes concluded that the content of counterfactuals mostly comprise of the conversion of exceptional or unusual antecedents back into normal antecedents. Gavanski and Wells (1989) contradicted the above discussed antecedent normality factor and instead came up with a correspondence heuristic according to which exceptional outcomes are supposed to
follow from exceptional antecedents and normal outcomes are supposed to follow from normal outcomes. Girotto, Legrenzi, and Rizzo (1991) again by using a series of experiments with vignettes or Markman, Gavanski, Sherman, and McMullen (1995) using a computerized game inferred that counterfactuals are mostly centred on those antecedents that people perceive to be controllable and hence mutable.

Another debate related to the content of counterfactual thinking, and the focus of my thesis, is - whether counterfactuals are more likely to be constructed around actions or inactions. As already stated previously, in the generation of subtractive counterfactuals the concern is reversal of a previous action, while for additive counterfactuals the concern is reversal of a previous inaction. Hence the debate could be rephrased as - whether people generate more additive or subtractive counterfactuals. Kahneman and Miller (1986) are of the view that action-inaction reflects normality, that is inactions are normal and actions are abnormal, and hence this variable may influence content of counterfactuals. The supporters of correspondence heuristic posit that ‘actions lead to outcomes and that inaction leas to non outcomes (Roese, 1997). Some (Davis et al., 1995; N’gbala & Branscombe, 1994) even challenged the importance of action-inaction variable.

Roese (1997), making the story more complicated and intriguing, is of the view that “at least” two moderator variables may influence the action-inaction effects on the content of counterfactual thinking and these are - outcome valence (Roese & Olson, 1993) and passage of time (Gilovich & medvec, 1994; Gilovich, Wang, Regan & Nishina, 2003). However, we can add the tally by adding regulatory focus orientations (Higgins, 1998; Pennington & Roese, 2003 did consider it a moderator; Roese et al., 1999) and culture (Au, 1983, 1984; Bloom, 1981; 2004;
Chen et al., 2006; Gilovich et al., 2003; Zou, Tam, Morris, Lee, Lau & Chiu, 2009) but whether to call these *moderators* is debatable itself.

2.4 The debate of predilection for additive vs. subtractive counterfactuals

2.4.1 The subtractive counterfactual side

Among the researchers it is widely contested and heatedly debated that whether people engage more in additive or subtractive counterfactual thinking. The results of a set of previous researches suggest that counterfactual thoughts of subtractive type are more common and more far-reaching than additive counterfactual thoughts (Gilovich & Medvec, 1995; Kahneman & Tversky, 1982; Zeelenberg, van der Plight, & Manstead, 1998). For instance researchers have shown that losses which result from decisions *to act* tend to be viewed as more disconcerting than losses which occur following decisions *not to act* (e.g., Kahneman & Tversky, 1982). This effect has been interpreted as proof for the fact that individuals are able to construct subtractive counterfactual thoughts less effortlessly (Pennington & Roese, 2003) probably because in such cases people know exactly what mistakes they have committed and want to rectify them.

Gilovich and Medvec (1995) in a recall experiment asked participants (university students) to recall their single most regrettable action and inaction, what they had done to undo these regrets (regret of action or regret of inaction; akin to subtractive and additive counterfactuals), and also asked them that for which type of regret did they engage in most effective undoing. They inferred that people were more effectively able to undo the regret for action than inaction and came up with two potential explanations for this. Firstly, regrettable actions lead to more regret than regrettable inactions (Kahneman & Miller, 1986). Therefore,
people in general will be more motivated to undo the regret of actions and hence end up engaging more in subtractive counterfactuals. The second explanation follows from Lewinian perspective (Lewin, 1951) according to which people who undergo regret for an action taken have already overpowered the varied forces that prevented them from acting. An initial action changes the tension system and makes subsequent actions, like behavioural undoing, easier. On the other hand, an initial inaction, can lead to inertia. If an individual is not able to overpower the forces that prevent him from initial action then embarking on further action is even more arduous. Therefore, behavioural undoing is hindered.

Zeelenberg et al. (1998) criticizing the study of Gilovich and Medvec (1995) as “indirect and ambiguous” carried out another set of studies using different methodology of examining apology as a means of undoing interpersonal regrets on Dutch television show called *I am Sorry*. They concluded that people are more likely to undo interpersonal regrets by apologizing when these regrets originate from action than when they arise from inaction. They also made the important distinction between regret per se and about its undoing as they viewed behavioural undoing as a consequence of regret. This is contrary to the cognitive dissonance theory where the two concepts are seen as identical and regret is typically operationalized as the reversal or undoing of an initial action (Festinger, 1964).

### 2.4.2 The mid-way side

This predilection for subtractive counterfactual thinking was called as *the action effect* by Zeelenberg, Bos, Dijk and Pieters (2002) though the focus of the study by Zeelenberg et al. (2002) was on *the inaction effect*. In a series of experiments with university students where the prior outcomes were depicted as positive, negative or absent they found that when prior
outcomes were absent or positive then people attributed more regret to action than to inaction and hence placed more importance on undoing action than inaction. On the contrary, when prior outcomes were negative then more regret was attributed to inaction and hence undoing inaction becomes more important. The later was called as the inaction effect. They reasoned that prior outcomes may promote action and hence make inaction more abnormal, thus showing some relation to the notion of normality (Kahneman & Miller, 1986; Kahneman & Tversky, 1982).

Similar to the study by Zeelenberg et al. (2002) is the work by the likes of Roese & Olson (1993), Roese (1994) and Sanna & Turley (1996) who are of the view that subtractive counterfactuals are not always more frequent and consequential than additive, rather their frequency is contingent upon the real life situations. Roese & Olson (1993) tested the effect of variations of outcome (success/failure) and past record of the student (good/poor) on the generation of additive and subtractive counterfactuals. They found that subtractive counterfactuals were more likely after success whereas additive counterfactuals were more likely after failure. A potential problem with this study is that it focuses mostly on the outcome and conflates the nature of outcome and the desired change in the outcome. By default, participants pair “success” with negative direction of thought, and vice-versa for “failure” condition.

Later Roese (1994) conducted another study the focus of which was on the preparative function served by upward and additive counterfactuals. A series of experiments involving either retrospectively self-reporting any negative life event in the past one year or completing computer-administered anagram task and then generating counterfactuals of any one of the following sub-types: upward-additive, upward-subtractive, downward-additive, downward-subtractive were conducted. He found that people tactically use downward counterfactuals to make themselves feel better and upward and additive counterfactuals to upgrade their
performance in similar situations. However, one of the limitations of this study is that it focused entirely on reactions to negative outcomes. The other being that, negative events about which counterfactual thinking was elicited were either very vague (like any negative outcome related to life in the past one year) or very domain specific (like performing poorly in psychology exam and in anagram test).

Sanna and Turley (1996) focused on spontaneous counterfactual thinking as their view is that past research has failed to demonstrate that people spontaneously consider counterfactual alternatives which are of high practical value. They orthogonally manipulated outcome valence and expectancy violation in vignettes administered to university students who were asked to listen to the vignette and then retell the story. The result, in line with their hypothesis, was that more counterfactuals were generated for failures and unexpected outcomes. Moreover, greater number of additive counterfactuals was generated after failure (especially unexpected failure) and greater number of subtractive counterfactuals was generated after success (especially unexpected success). Like Roese & Olson (1993), in this study also there is conflation between nature of outcome and the desired change in the outcome.

2.4.3 The additive counterfactual side

Another line of research, which also includes cross-cultural studies on counterfactual thinking (Chen et al., 2006; Gilovich et al., 2003; Zou et al., 2009), showed the opposite trend where people in general opted more for additive over subtractive counterfactual thoughts. The first cross-cultural studies on the content of counterfactual thinking were by Bloom (1981) and Au (1983, 1984). All these cross-cultural studies investigating variation in counterfactual thinking have mostly focused on the comparison of East vs. West.
Initially, Bloom (1981) found that Chinese speakers were less likely than English speakers to give counterfactual interpretations to a counterfactual story due to the presence of a distinct counterfactual marker (the subjunctive) in English but its absence in Chinese language. Moreover he raised vital questions like - Does the fact that the Chinese lexicon carves up the semantic domain of the English word "reason" into a highly differentiated set of lexical concepts imply that the Chinese reason about reason and reasons in a more differentiated fashion than English speakers do? Does the fact that the Chinese lexicon includes words roughly equivalent to the English terms "suggestion," "mental perspective," and "meaning" but has no term directly equivalent to the English word "idea" imply that English speakers have an idea that Chinese speakers do not share? Does the fact that the Chinese language, unlike English, commonly uses distinct terms to distinguish "if-then" relationships from "if-and-only-if-then" relationships imply that Chinese students are, on that score at least, better fitted? This was interpreted as evidence for the weak form of the Sapir-Whorf hypothesis.

Later Au (1983, 1984, and 2004) in a series of studies using Chinese bilinguals, Chinese monolinguals and Americans tried to replicate the findings of Bloom using both Chinese and English versions of a new counterfactual story as well as the story used by Bloom. In these studies, bilingual Chinese showed little difficulty in understanding either story in either language, insofar as the English and Chinese were idiomatic. For one story, the Chinese bilinguals performed better in Chinese than American subjects did in English. Nearly monolingual Chinese who did not know the English subjunctive also gave mostly counterfactual responses. These findings suggest that the mastery of the English subjunctive is probably quite tangenital to counterfactual reasoning in Chinese. In short, the present research yielded no support for the Sapir-Whorf hypothesis.
Gilovich et al. (2003) examined the tendency of people to generate long term regret of inactions and actions (similar to additive and subtractive counterfactuals respectively) in United States of America, China, Japan, and Russia. In their study, participants across cultures were first asked to describe the biggest regrets in their lives (up to four regrets) and then to respond to the forced-choice question about overall whether they tend to experience more regret over their actions or their inactions. They found that across cultures people generate long term regret more for inactions than actions. In this study there was no direct measure of counterfactual thinking.

More recently Chen et al. (2006) investigated the cross-cultural differences between Americans and Chinese in the likelihood of generating additive and subtractive counterfactuals in five life domains: schoolwork, romantic relationships, family relationships, friendships, and life in general. Participants were first asked to recapitulate a negative event pertaining to each of the five domains and then asked to complete a sentence with these counterfactual grammatical markers: “If only . . . , then. . . .” They found that across domains people of both cultures have the tendency to generate more additive than subtractive counterfactuals, but they also found that in the domains of schoolwork and family the tendency to generate subtractive counterfactuals was higher in Chinese participants as compared to American. There was a direct measure of counterfactual thinking in this study. These studies (Gilovich et al., 2003; Chen et al., 2006) though focused only on negative life events; failure was paired with upward direction of thought, which led to confounding outcome with direction of thought. Also, there was high variability amongst participants in terms of the events for which they generated counterfactuals.

Very recently Zou et al. (2009, Study 3) again following the methodology of Chen et al. (2006) asked European American and Chinese undergraduates to first recall a negative event from five different domains of life and then generate counterfactual thoughts in the frame work
of “If only…….then…” The dependent variable was a fraction calculated by dividing the total number of a particular type of counterfactual across the five domains by 5. In this study they also tried to ascertain the personal regulatory focus orientation and culturally consensual regulatory orientation among the participants. They concluded that consistent with past research (Chen et al., 2006) Chinese participants, as compared to American, generated significantly more subtractive counterfactuals across domains.

The two cultural explanations cited in the different cross-cultural studies for the preponderance of additive counterfactuals over the subtractive ones: There is a general view among the researchers (Pennington & Roese, 2003; Roese et al., 1999) that engaging in additive counterfactual thinking orients the individual’s attention to missed opportunities and may sensitize the individual to future opportunities. Similarly, engaging in subtractive counterfactual thinking might focus the individual to learn from past mistakes. Since, across cultures the emphasis is on former, people tend to engage more in additive counterfactual thinking. However, Chen et al. (2006) did speculate that in Far East cultures like China there is inherently more focus on learning from past mistakes, especially in the domains of family and schoolwork, and hence people there tend to generate more subtractive counterfactuals than Americans. The other explanation was presented by Gilovich and his colleagues (2003). As per Gilovich et al. (2003),

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1 In my view “learning from past mistakes” could potentially imply either additive or subtractive counterfactuals or both but past literature on counterfactual thinking has linked “learning from past mistakes” exclusively with subtractive counterfactual thinking.

2 In my view the Far East is not the only one that believes in learning from past mistakes. The finding of the Chen et al. (2006) study is that Chinese show more subtractive counterfactuals compared to the Americans in the domains of family and schoolwork. The post-hoc explanation was that in Chinese culture the focus is more on learning from past mistakes (more so in the domains of schoolwork and family) that is on not repeating the past mistakes which leads to more subtractive counterfactual thinking.
the negative mood coupled with past failures resulting from purposeful action (that is regret of action akin to subtractive counterfactuals) is generally more efficiently managed by people. Thus, regrets of action are likely to weaken with time. On the contrary, the haunting memories of the inability to act and seize the opportunity (that is regret of inaction akin to additive counterfactual) are hard to forget and manage for people. Thus, regrets of inaction are not likely to diminish with time. As a result, there is preponderance of additive counterfactuals over the subtractive ones across cultures.

The non-cultural explanations discussed for the predominance of additive counterfactuals over the subtractive ones is that it may be due to the requirement of “more-controlled mental operations” for the processing of negated information (Epstude & Roese, 2008) as is the case with subtractive counterfactuals. In addition if the counterfactual thought is not self-focused but other-focused, then subtractive counterfactual thinking might be even harder to accomplish. Another contention is that the content specific pathway mechanism (Epstude & Roese, 2008) might also be playing the role for the predominance of additive counterfactual thinking as this pathway specifically focuses on actions for generating counterfactuals and acting upon them for future improvement.

In all the above discussed studies, whether about the predominance of subtractive counterfactuals over the additive ones or the vice-versa case of prevalence of additive counterfactuals over subtractive ones, people’s strategic preference have not been taken care of or ignored at large. People living in different cultures, inhabiting different areas of the world, subsisting on different means of livelihood will have different preferences and strategies to survive about which these studies are more or less silent. Even the cross-cultural studies have
operationalized culture quasi-experimentally through country status and range of respondents considered in such studies is limited to university students only.

The strategic preference for a particular type of counterfactual could be explained in a much better way through regulatory focus that is strategies of promotion and prevention (Higgins, 1998). Self-regulation with a promotion focus involves concern with the attainment of positive outcomes, such as the desire for advancement and growth. In contrast, self-regulation with concerns about security, safety, responsibility, and maintenance of the status quo are typical attributes of prevention focus (Higgins, 1998).

People who are promotion focused keenly pursue gains or successes. Focusing on accomplishments, achievements, and the pursuit of ideals, they are oriented toward fulfilling their hopes and aspirations, and they examine their social world for information that bears on the quest of success (Lockwood, Jordan, & Kunda, 2002). In contrast, people with a prevention focus endeavor to avoid negative outcomes. Driven by the need to feel secure and to meet their obligations, these individuals are primarily concerned with preventing failures or losses, and their information processing and interpersonal strategies are geared toward avoiding undesirable outcomes (Higgins, Roney, Crowe, & Hymes, 1994).

Van-Dijk and Kluger (2004) proposed that instead of going for exact definitions of regulatory foci, they could be described as “rich syndromes”. When people operate within promotion focus they are more likely to use approach as a strategy and monitor “errors of omission” while once people operate within prevention focus they are more likely to use avoidance as a strategy and monitor “errors of commission”.

Likewise, there are a set of studies which relate promotion focus with “openness to change” (Liberman, Idson, Camacho & Higgins, 1999) and “openness to experience” (Ackerman
& Heggestad, 1997) while prevention focus with “conservation” (Liberman et al., 1999) and “traditionalism” (Ackerman et al., 1997). Thus, promotion focus is about growth while prevention focus is about security (Gable & Strachman, 2008).

Molden and Higgins (2005) are of the view that as additive counterfactuals simulate the correction of a past error of omission, this type of thinking represents a more eager strategy of considering alternative realities. In contrast, because subtractive counterfactuals simulate the correction of a past error of commission, this type of thinking represents a more vigilant strategy of considering alternate realities. Therefore, a promotion focus should increase the generation of additive counterfactuals, and a prevention focus should increase the generation of subtractive counterfactuals. In line with this, Roese et al. (1999) found that, both when analyzing hypothetical examples and when describing particular instances of their own behavior, participants who considered promotion-related setbacks (i.e., non gains and missed opportunities for advancement) offered a greater number of additive counterfactuals, whereas participants who considered prevention-related setbacks (i.e., losses and missed opportunities to prevent mistakes) offered a greater number of subtractive counterfactuals. The problem here, again, was that counterfactuals were generated only for failures and failure was paired with upward direction of thinking which led to confounding outcome with direction of thought.

A related unpublished study by Roese, Hur, and Pennington (1998) manipulating regulatory focus and outcome valence on between-subject basis and using scenarios helped to infer that “counterfactual thinking is a ubiquitous assessment and correction process that can be flexibly used for either promotion and prevention strategies” (Pennington & Roese, 2003 p. 285) unlike the previous studies (Mandel & Lehman, 1996; N’gbala & Branscombe, 1995) which are of the view that counterfactuals are chiefly oriented toward prevention and avoidance.
Consistent with the results of Roese et al. (1999), Pennington and Roese (2003) and Zou et al. (2009) also concluded that additive counterfactual thoughts were more frequently generated for promotion than prevention situations, whereas subtractive counterfactual thoughts were more commonly produced in response to prevention than promotion scenarios. However, Pennington and Roese (2003) did mention categorically that effects involving counterfactual additions and promotion focus were nearly always of greater scale than those involving subtractions and prevention focus.

Zou et al. (2009) asked Chinese and American undergraduates to first recall a negative event from five different domains of life (like Chen et al., 2006) and then generate counterfactual thoughts in the framework of “If only…….then..” which were later for additive or subtractive counterfactuals. The researchers made the distinction between culturally consensual regulatory focus and personal regulatory focus. They arrived at the conclusion that “influence of culture on the bias toward subtractive counterfactual thinking runs through participant’s perceptions of the consensual sharing of prevention focus among their peers” (Zou et al., 2009, p. 28).

There are a set of cross-cultural studies on regulatory focus (Elliot, Chirkov, Kim & Sheldon, 2001; Lalwani, Shrum & Chiu, 2009; Lee, Aaker & Gardner, 2000; Uskul, Sherman, Fitzgibbon, 2009; Van – Dijk & Kluger, 2004) which have presented the case that promotion or prevention focus orientation of an individual depend on how self is perceived by him, that is self-construal. This self-construal could be of two kinds – independent or interdependent and at the same time it could be chronic or situational. The chronic type of self-construal (independent or interdependent) is something with which one is born with (in a Western vs. Eastern country). While the situational type of self-construal is delineated as - the degree to which the independent or interdependent self is more dominant varies not only across different people within a
particular culture, but varies within an individual depending on which view of the self is made more accessible in a particular situation. All the above mentioned studies have related independent self-construal with Western and European countries at large, while interdependent self-construal with Eastern or Asian nations specifically with China, Japan and Korea (that is mostly the nations with mongoloid population).

The major problem with these studies and also with the study by Gilovich et al. (2003), Chen et al. (2006) and Zou et al. (2009) is that culture was operationalized quasi-experimentally though country status and on the basis of a sample comprising mostly of undergraduate students inference was made about the entire culture (nation). Such gross generalizations though give us a glimpse about the phenomenon among a bunch of people, but should be accepted as the complete holistic picture with a pinch of salt. Triandis and his colleagues (Triandis, 1995; Triandis & Gelfand, 1998) proposed that cultures differ not only in their levels of individualism and collectivism (individualism and collectivism are concepts parallel to independent or interdependent self-construal respectively), but in the degree to which they are vertical (emphasizing hierarchy) and horizontal (emphasizing openness). It is possible that construal-induced shifts in regulatory focus may be limited to cultures that are vertical in structure (Lee et al., 2000). Also, few previous studies investigating the way an individual’s regulatory focus strategy is shaped through caregiver’s social regulatory style (Higgin & Silberman, 1998; Shah, 2003) found that chronic individual differences in regulatory focus emerge through caregiver’s social regulatory style, especially individual’s representation of his/her father (Shah, 2003), which affects the way an individual navigates his/her social world.

Thus we find that aside from variables like outcome valence (Roese & Olson, 1993; Sanna & Turley, 1996), expectancy (Sanna & Turley, 1996) and culture (Chen et al., 2006;
Gilovich et al., 2003; Zou et al., 2009), regulatory focus, that is strategies of promotion and prevention explain the strategic preference for additive or subtractive counterfactuals in a much better way. This is ably supported by literature on counterfactual thinking which has studies to establish the relationship between counterfactual thoughts (additive/subtractive type) and distinct self regulatory strategies of promotion focus or prevention focus (Pennington & Roese, 2003; Roese et al., 1998; Roese et al., 1999; Zou et al., 2009). However, taking a cue from the points raised by Triandis and his colleagues it is extremely important to observe a group from close quarters so as to be able to ground our assumptions about the prevalent prevalence for promotion or prevention focus and prevalence for additive or subtractive counterfactual thinking in the group. Taking this view into consideration I first embarked upon the ethnographic study of rural Gurkhas in Dehradun which is being presented in the next chapter.