WHEN "I" BECOMES "WE": REGULATORY SHIFT IN A CONSUMER'S CONFLICT RESOLUTION PROCESS

A Dissertation

by

DONGWOO SHIN

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2007

Major Subject: Marketing

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Approved by:

Co-Chairs of Committee,	James H. Leigh
	Richard P. Bagozzi
Committee Members,	William M. Pride
	Larry G. Gresham, Jr.
	Richard W. Woodman
Head of Department,	Jeffrey S. Conant

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ABSTRACT

When "I" Becomes "We": Regulatory Shift in a Consumer's Conflict Resolution Process.

(May 2007)

Dongwoo Shin, B.S., Hanyang University, Seoul, Korea;

M.S., Hanyang University, Seoul Korea;

M.A., University of Michigan, Ann Arbor

Co-Chairs of Advisory Committee: Dr. James H. Leigh
Dr. Richard P. Bagozzi

This dissertation explores the socio-cognitive system of collective influences on consumers' evaluation and decision processes, which have not been discussed fully in consumer literature, by examining how people resolve a conflict between group orientation and trait regulatory focus. It is proposed that, depending on the interaction between group commitment and collective efficacy, consumers implement one of three conflict resolution processes (i.e., depersonalization, compliance, and self-preservation) to determine the outcome of their regulatory shift. The impact of these three conflict resolution processes on regulatory shift and following message evaluations are tested with a series of six experiments.

The results of these studies showed that people shift their regulatory orientation from trait regulatory focus to group orientation if the group identity is strong enough (experiment 1 and 2), the impact of group orientation on message evaluation is stronger when group members have higher group commitment (i.e., depersonalization; experiment 3 and 4) or experience higher collective efficacy (i.e., compliance; experiment 5), and

people experience regulatory non-fit when they follow compliance process and generated less favorable message evaluations than when they follow depersonalization process (experiment 6). These findings highlight the importance of understanding group influence on a consumer's mindset that consequently affects his/her various psychological processes and consumption behaviors.

To my parents who taught me to love and to be loved.

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I wish to thank my special friends Leona Tam and Garry Smith who shared many tears and laughs with me throughout five years in Texas A&M and became my second family. (Yes. You heard me. I called both of you my second family.) I am thankful to my friends and colleagues in the Marketing Department, Kartik Kalaignanam, Tarun Kushwaha, Sujan Dan, Thomas Dotzel, Paul Dwyers, and Mona Srivastava for creating very supportive and enjoyable environment. I must thank Suzi Kennedy for yelling at me "get it done" whenever she had an opportunity to do so.

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CHAPTER I

INTRODUCTION

Marketers have implemented various campaigns to improve images of their organization, services, and products by activating a certain collective identity and related in-group favoritism. In everyday consumption situations, group identity plays a critical role in a consumer's evaluative processes and purchase decisions. For instance, a local family restaurant in a college town often tries to connect its business with the university in the town so they can induce some positive attitudes from the students, faculty, and staff members of the university. MBNA financial services uses various group memberships (e.g., universities, professional basketball teams, major league baseball teams) in developing personalized credit cards for various customers. People in Texas also buy a Dallas Cowboys' t-shirt or a San Antonio Spurs' team jersey to express their support for the team's playoff games.

Such a profound impact of group identity on group members' consumption behaviors has generated a considerable amount of research in the marketing literature. However, most of the contexts for these studies have been intra-organization situations (Dewsnap and Jobber 2002) or the relationship between target organizations and their customers (e.g., Bhattacharya and Sen 2003; Steinman, Deshpande, and Farley 2000), and there have been only a few attempts in the marketing literature to understand the cognitive and motivational influences of collective identity on individual consumers.

This dissertation follows the style of *Journal of Consumer Research*.

By examining the regulatory role of social identities for individual consumers, this dissertation attempts to explore an uncharted area in consumer psychology: the socio-cognitive system of collective influence on consumers' evaluation and decision processes.

In this dissertation, two major research streams for understanding persons' self-perceptions (i.e., self- theories in social cognition advanced by American psychologists and social identity theory developed by Tajfel and his followers) are implemented to create a theoretical connection between the group identity and individual's active self-concept(s) based on the common foundations of the two research streams: the dynamic nature of the self and the shared reality among social group members for creating the collective identity. Specifically, a conceptual framework of the influence of collective identity on an individual's self-regulatory system is developed based on regulatory focus theory (Higgins 1997, 2000), which emphasizes the distinct role of self-orientations (promotion focus vs prevention focus) for guiding individuals' decision making and their actions, and on the depersonalization process from social identity theory, which provides a conceptual foundation of understanding how people shift their locus of self-perception.

Regulatory focus theory (Higgins 1997, 2000) postulates that, depending on the characteristics of their socialization experience, people develop different self construals for regulating and developing their goal pursuit processes. When an individual experiences socialization processes focused on nurturance-related needs (e.g., advancement, growth, aspiration, and accomplishment), he/she develops an *ideal self-guide* which entails adopting a promotion focus most suited to their nurturance-related

needs. A promotion-oriented person, therefore, is sensitive to the presence and absence of *positive outcomes* and concentrates his/her efforts on using eagerness strategies to maximize gains and minimize nongains (e.g., insuring hits and insuring against errors of omission). In contrast, an individual who undergoes a socialization process focused on security-related needs (e.g., protection, safety, and responsibility), tends to develop an *ought self-guide* and adopts a prevention focus, a regulatory state oriented toward *responsibility* and heightened sensitivity to *obstacles* for achieving their goals. Accordingly, a person with a prevention focus is sensitive to the presence and absence of *negative outcomes* and puts his/her efforts on using vigilance strategies to avoid losses and attain nonlosses (e.g., insuring correct rejections and insuring against errors of commission). An interesting assumption of the theory is that people develop both promotion and prevention foci in their regulatory system, and activate the most suitable regulatory focus for the current social context.

Another important psychological mechanism applied in developing the theoretical framework of this dissertation is the process of depersonalization that generates the discontinuity of cognitive perception of individual self to collective self (Turner 1984; Turner et al. 1987). *Depersonalization* refers to a categorization process through which a stereotypical representation of the social group defines the self as opposed to one's personal identity. When people encounter a social situation which makes their group membership salient, they regard other in-group members as part of the self (redefining the self as 'we' rather than 'I') and perceive their individual motivations and perspectives to be psychologically interchangeable with those of group members who share the same

social identity. Turner et al. (1987) proposed such a cognitive shift from individual attributes to stereotypical images of the group identity as the foundation of the collective self (i.e., social identity) distinct from the perception of the self as a unique person (i.e., individual self-concept).

Rather than taking one aspect of self-perceptions (e.g., individual oriented perspective in regulatory focus theory or group oriented perspective in social identity theory) to understand the interaction between social identity and personal identity, this dissertation attempts to create a conceptual framework focused on the conflict between two different levels of self-perceptions (i.e., collective identity and personal identity) and conflict resolution strategies, which individuals adopt to manage the psychological tension between the two self-related agents. When a certain social identity is made salient, consumers often use the group's norms, values, and goals to guide their consumption behaviors, which often creates psychological tension with individual consumers' personal norms, values, and goals. Among many possible tensions between a group and its members, this research focuses on the conflict between an individual's regulatory focus (i.e., trait promotion/trait prevention) and a group's goal orientation (i.e., group avoidance/group approach).

In this dissertation, the depersonalization process suggested by social identity theory is adopted as the default process to resolve the conflict between two different self-related agents (i.e., personal identity and social identity). However, the depersonalization process alone cannot provide sufficient explanations for complicated strategies people implement to resolve conflicts between two identities. For instance, we often observe or

experience group situations where people are cognitively aware of their group memberships, but resist following the group's norms, values, and goal orientations. Consequently, the main objective of this dissertation is to understand the fundamental nature of interaction between personal identity and social identity in an individual's regulatory system. A dialectic process of conflict resolution is suggested as an attempt to answer the following research questions:

- Why do consumers' experience different degrees of collective influence on their consumption even though they share the same social identity?
- What are the factors determining the level of collective influence on consumers?
- How do consumers shift their locus of self-perceptions and related regulatory orientations?
- How does a regulatory shift impact consumer's evaluative process following purchase decisions?

CHAPTER II

THE SELF AND CONSUMERS

The concept of "self" has been an intriguing subject in the fields of consumer and social psychology. Many researchers in the both fields have tried to incorporate the concept of "self" in their studies since James (1892) first germinated the idea and established the notion of the psychology of self more than 100 years ago. In social psychology, self-related research has generated prolific theories and empirical studies since then. There has been a threefold increase in research on the self between 1970 and 1998 and the absolute number of studies on the self is surprisingly high – one out of seven studies in the field of psychology is self-related (Tesser 2000).

Many pioneers of consumer psychology and marketing also took advantage of the rich tradition of the self-theories to understand the complicated mind of an ordinary consumer and generated abundant self-related studies (e.g., Birdwell 1968; Dolich 1969; Grubb and Grothwohl 1967; Grubb and Hupp 1968; Hamm and Cundiff 1969; Landon 1974; Ross 1971). However, unlike the field of social psychology, the initial high interest in the self-concept among consumer psychologists and marketers quickly faded away. Most of the early empirical studies of the self-concept in consumer behavior and marketing research considered the self-concept to be a single unidimensional independent concept which *directly* (or at least very closely) influences various buying behaviors.

Consumer psychologists attempted to develop a variety of models where the self-concept works as an immediate antecedent of various consumption behaviors. One of these is the congruence hypothesis – the fit between the consumers' "self-view" and

product/brand characteristics. The idea of "fit" between products and consumers' self views has pervaded marketing academia and practice for some time. We often hear people express themselves using their connection with a product. For instance, one can say "a Nissan 350Z is my kind of car" or "I'm a Mini Cooper," to express the belief that we are most comfortable with products that are in some sense congruent with our self-view. However, the fit hypothesis of the self-concept has not received strong support in academic studies. Most studies testing the congruence between the self-concept and product characteristics have showed mixed findings (e.g., Kassarjian 1971; Kleine, Kleine, and Kernan 1993; Sirgy 1982). Failing to provide coherent results concerning the relationship between the self-concept and other consumption variables, consumer psychology and marketing researchers have shifted their focus into more intra-individual oriented psychological processes such as attitude, information processing, judgment, choice, emotion, and motivation (Bagozzi 2000).

Even though studies focused on intra-individual processes have generated fundamental and interesting findings about human psychological process, they also have generated some unexpected consequences in the field. One of them is the lack of research studies on the social side of consumption, another important aspect of consumer behavior.[1] Since the majority of studies in consumer psychology have focused on intra-individual processes, more social oriented approaches, such as social identity theory, volitional processes of collective entities, interpersonal or group processes, have received relatively little attention in the field. This imbalance reflects the intra-process oriented

[1] See Bagozzi (2000) for an extensive discussion on this subject.

tradition of mainstream consumer psychology and the individualistic characteristics of American culture (e.g., Markus and Kitayama 1994) that has been the main context for studying consumer behavior over the years. Such an individual-oriented mindset of consumer psychologists can be attributed to the underlying cultural norm of western societies – individualism. Consequently, consumer researchers have lost interest in understanding the impact of the self-concept on consumption behaviors, and the majority of studies in consumer psychology has mainly focused on intra-individual processes.

While consumer psychologists and marketers struggled to exploit the self-theories in their research studies during the early year of consumer research, there had been a significant advance in social psychology during the 1980's. As a result of the so-called cognitive revolution in social psychology (Taylor 1998), researchers experienced a Renaissance in self- studies. The early studies of the self focused on how "global" self-concepts (e.g., global self-esteem) influence individual's psychological processes. On the other hand, the cognitive evolution in social psychology enabled researchers to study the cognitive structure of the self-concept and opened a new era in self- studies. Recognizing the importance of the cognitive revolution in self studies, Stein and Markus (1996) once noted: "(t)he cognitive approach to the self-concept advocated by cognitive social psychologists over the last two decades has raised the status of the self-concept from an overused and poorly understood entity to that of a legitimate, perhaps vitally important construct, central to the understanding of human behavior (p. 350)." Conceptualizing the structure of the self as a set of cognitive schemata, researchers established new streams of research studies that define the self as a *dynamic* structure with multiple facets which can

generate different characteristics depending on situational contexts (e.g., Markus 1977; Markus and Nurius 1986).

Such a dynamic view of self is also consistent with other self theories. For instance, identity theory (Stryker 1980; Stryker and Serpe 1982), developed by sociologists, emphasizes the importance of social roles in identifying individual's self concepts, and the activation of a different role will bring different characteristics into one's active role identity. Another theory adopting a dynamic perspective of selfhood is social identity theory (Tajfel 1981, 1982; Turner et al. 1987), developed and forwarded especially by European social psychologists. Social identity theory focuses on an individual's group membership in defining his/her self-concept rather than the cognitive structure of an individual. However, all three approaches (i.e., research into the self-concept, identity theory, and social identity theory) emphasize the dynamic nature of self and the influence of the social context in forming the self-structure (either cognitive or social).

Armed with new theories of the self which emphasize the dynamic nature of self and surrounding social influences, contemporary consumer psychologists have provided a solid theoretical explanation of why the previous self studies failed to support the relationship between "global" self concept and consumption behavior, and introduced more social oriented frameworks to understand the social side of consumption behavior (e.g., Aaker 1999; Aaker and Lee 2001; Kleine et al. 1993). Encouraged by this recent development, consumer psychologists and marketing researchers have revitalized self-studies and conducted self- based studies in various domains of consumer research (e.g.,

Aaker 1999; Aaker and Lee 2001; Aaker and Maheswaran 1997; Agrawal and Maheswaran 2005; Kleine et al. 1993; Laverie, Kleine, and Kleine 2002; Lee and Aaker 2000; Louro, Pieters, and Zeelenberg 2005; Wheeler, Petty, and Bizer 2005).

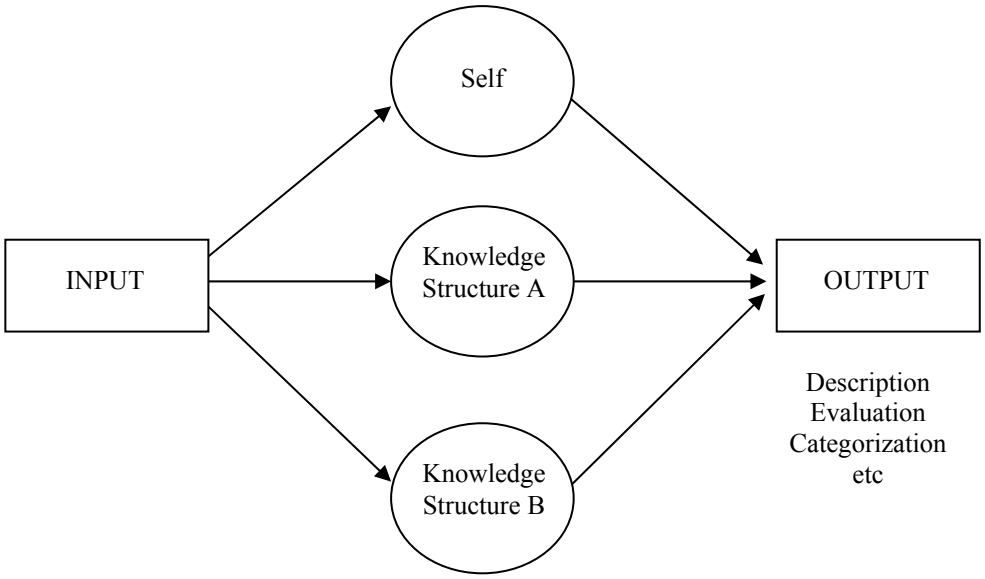
In this chapter, we will examine three major domains of self-studies and review how consumer researchers applied them in consumption and marketing contexts. First, we will discuss the cognitive representation of self concept(s) and how researchers have conceptualized the structure of people's self-perceptions to explain the situational fluctuations of the self-concept (i.e., the phenomenal self). Even though people possess and express different and often contradictory ideas about themselves, these ideas are linked together in an organized configuration. Activating only parts of the cognitive configuration in a given context, people can navigate the complicated social world without experiencing cognitive and social discord. Understanding how phenomenal selves are activated and what factors influence the process will provide better perspectives for various domains of consumption behavior. Second, the regulatory function of self will be discussed. At any given moment, people use the currently active phenomenal self to regulate and guide their behaviors. The third issue is the collective aspect[2] of the self-concept that channels the surrounding social environments into an individual's self-perceptions. Even though recent developments in consumer psychology allow researchers to look into the social side of consumption, there have been only few

[2] It has been suggested that people have three levels of self-construal – the personal self, the relational self, and the collective self (Brewer and Gardner 1996). The personal self refers to the differentiated, individuated self-concept most characteristic of studies of the self in Western psychology. The relational self refers to the self-concept derived from connections and role relationships with significant others. The collective self corresponds to the concept of social identity and emerges as a consequence of one's relationship with a collectivity (i.e., group membership).

efforts to systematically examine the collective influences on consumers' psychological processes and consumption behaviors.

FIGURE 2-1

THE SELF IN INFORMATION PROCESSING – VIEW 1(Markus and Smith 1981)



The Role of the Self in Psychological Processes of Consumers

"We don't see things as they are; we see them as we are (Anaïs Nin)." In the field of psychology, two different views exist with respect to the role of the self (or self schemas) in people's information processing (e.g, Markus and Smith 1981). One view downplays the role of the self and regards it as one of those independent knowledge structures people construct through their life spans (see Figure 2-1). From this perspective, as you can see in Figure 2-1, the self is represented as an independent cognitive structure

that does not influence other knowledge structures. Here, the self is a potentially important structure but only one of many possible structures available to process incoming information, and this view assumes no connection between the self-construct and other cognitive structures. Early self studies in consumer psychology (e.g., Birdwell 1968; Dolich 1969; Grubb and Grothwohl 1967; Grubb and Hupp 1968; Hamm and Cundiff 1969; Landon 1974; Ross 1971) adopted this view and used the self as an immediate antecedent of consumption behaviors.

The other view of self[3], outlined in Figure 2-2, assumes that the self is the anchor of the individual's perceptual or cognitive process and it influences all other judgments and information processing. From this perspective, the self plays the central role and influences other knowledge structures in their processing of information. As the main anchor, all stimulus information is initially processed through the self-concept. The schematic view of the self follows the latter approach and emphasizes the filtering role of self-schemas.

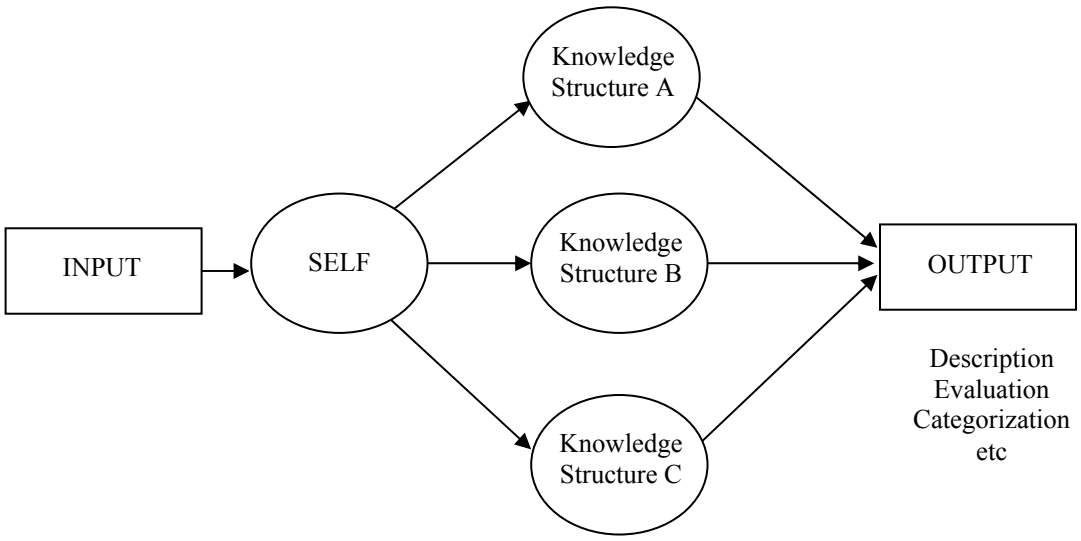
As Anaïs Nin speculated, we often alter the incoming information and knowledge to fit into how we see ourselves (i.e., our self concepts). Using the self-view as a psychological lens through which we observe and understand the world, we can make sense of surrounding social and physical environments, other people, and ourselves. By doing so, the self concept we employed in the process influences and alters not only cognitive processes but also affective and motivational processes (Higgins 1997). Such

[3] Markus and Smith used this framework to explain people's perception of others, but such a view has been applied in other social and information processing contexts.

an intervening role of the self-concept in various psychological processes has been widely discussed and studied in various fields of social sciences, including a handful of recent self studies in consumer psychology and marketing (e.g., Agrawal and Maheswaran 2005; Fisher and Dube 2005; Lee and Aaker 2004; Louro et al. 2005; Mukhopadhyay and Johar 2005; Wheeler et al. 2005).

FIGURE 2-2

THE SELF IN INFORMATION PROCESSING – VIEW 2 (Markus and Smith 1981)



The Dynamic Nature of the Self

Turner and Onorato (1999) suggest that the traditional paradigm in self studies has been built on four axiom-like ideas widely shared among social psychologists. First, the self-concept is a representation of the perceiver's *personal (individual) identity*. It assumes that the self focuses on personal aspects of people, describes the *I* and the *me*, and includes personality traits and individual attributes. The second idea extends the first

and treats individual self-concept as a *unique* or *idiosyncratic property*, which belongs to only one individual and is not shared with others. This idea includes not only the concept of *I* and *me* but also the concept of *mine* and focuses on the ownership of the self. By identifying one's own ownership of the self, each individual can differentiate him/herself from others and provide unique individuality and personality. The third idea concerns social aspects of self-concept and treats it as *a looking glass self*, a reflection and internalization of other social actors' (individuals, groups, society, etc.) reactions to the individual's presented self (i.e., public self). The final and fourth idea focuses on the representation of the self concept and assumes the self-concept as a relatively fixed, enduring, stable *cognitive structure*.

Sharing these four ideas, social psychologists viewed the self as a single, stable, and unified entity. This traditional paradigm of self- studies construes the self as a relatively fixed cognitive structure which establishes the uniqueness and stability of a person's perceptual and/or behavioral tendencies (predispositions) across different social situations. Therefore, more general and situation independent constructs and theories of self (e.g., "global" self-esteem, self enhancement, self consistency) dominated the mainstream of self-studies.

However, such general constructs of self did not provide coherent explanations of why people display considerable variations in their behaviors when they encounter different social environments. This stable perspective of self, which sees the self-concept as a single cognitive/emotional structure, prevents self-theorists from generating

explanations of how the self mediates and reflects the diversity and complexity of behavior to which it is supposedly related.

Recognizing the problems of the traditional self studies, which treated self as *a stable cognitive structure* and emphasized a single view of the self, researchers have developed a few theories (e.g., Greenwald and Pratkanis 1984; Markus and Sentis 1982; Markus and Wurf 1987; Stryker 1980; Stryker and Serpe 1982; Tajfel 1981, 1982; Turner et al. 1987) that conceptualize the self as a multifaceted structure (either cognitive or hierarchical). These theories also share the common assumption of "fit" between social situation and self structure, in which an actor activates only a small portion of the multifaceted self structure which fits the immediate social context best.

These theories are capable of incorporating social/situational contingencies into the concept of self, and produce more realistic explanations concerning the behavioral variations across different social contexts. For instance, Markus and her colleagues (e.g., Markus and Nurius 1986; Markus, Smith, and Moreland 1985; Markus and Wurf 1987) propose that people develop self-related cognitive structures (i.e., self-schemas) through their social experiences, and activate only a subset of such self-schemas which fits the prevailing social circumstances. Therefore, the self-concept varies as a function of the specific subset (i.e., the working self) of self-related cognitive structures derived from past social experiences.

Self-schemas are defined as "cognitive generalizations about the self, derived from past experience, that organize and guide the processing of self-related information contained in the individual's social experience" (Markus 1977, p. 64) and can reflect the

person's social histories. Social interactions enable a person to obtain a diversity of self-relevant information that becomes organized into a schematic structure – a set of loosely connected cognitive structures obtained from various social domains. Through self-schemas, people categorize, explain, and evaluate their attributes and behaviors in various social domains.

The idea of the working self assumes that all underlying self-schemas are not activated most of the time and only a subset will be activated and become part of one's current self-concept. The activation of a working concept depends on two factors – *the configuration of the immediate social situation* and *the self-motives being served* (e.g., self-enhancement, consistency maintenance, or self-actualization). The working self varies in its structure and function depending on the prevailing social circumstances and on the individual's motivational state.

Since the self operates as a psychological lens through which the actor views the surrounding environments, the activation of different working-selves changes an individual's interpretation of incoming information. By conceptualizing the structure of the self as schematic representations, researchers further developed the dynamic self-concept, since the schematic view makes possible the connection of situational contexts with related self-schema.

Because variation occurs in the specific combinations or subsets of self-concepts generated in response to the ongoing social events, self-perception is flexible and dynamic. As a consequence, even though the self-concept itself is a stable structure that consists of a relatively fixed collection of self-conceptions, the individual may well

experience temporary shifts and changes in the self-view. For instance, one may view himself as a music lover, introvert, and a dedicated husband when he watches the movie "Ray" with his wife, whereas he may view himself as a scholar, a consumer psychologist, and a fun-seeking person when he hangs around with his colleagues. Such flexible characteristics of the self would explain why people's thoughts and behaviors are not consistent across different social situations.

This schema based view also implies that the self is something more than a passive storage for self-relevant information. Not only does it mediate psychological processes and influence the interpretation of incoming information, but it also regulates an individual's on-going actions and reactions (Markus 1977). A schema is hypothesized to have a dual nature: to be at once a structure and a process (Markus and Sentis 1982; Neisser 1976; Rumelhart and Norman 1978), and has the capacity to represent the self as both a passive object and an active agent. The working self-concept sees the self as a dynamic interpretive structure that mediates most intrapersonal processes and a wide variety of interpersonal and social processes. Thus, an individual's cognitive, affective, motivational, and volitional processes are regulated according to the set of dynamic structures currently activated in the working self-concept.

Using a variety of experimental paradigms, researchers have demonstrated the self-concept as an important regulator in various cognitive and motivational domains including information processing sequence, regulating behavior and mood, and structuring interpersonal interactions (e.g., Carver 1994; Higgins 2001; Higgins et al.

1986; Kihlstrom and Cantor 1984; Markus and Wurf 1987). In the following section, such a regulatory role of self will be discussed further.

How People Control Themselves?

In his extensive review of self studies, Baumeister (1998) succinctly illustrates three basic components of selfhood – reflexive consciousness, the interpersonal aspect, and executive function. *Reflexive consciousness* refers to an individual's conscious attention toward his/her own source (the self), which enables an individual to develop the concept of the self. The e*xecutive function* refers to the self's role as an active agent for decision-making and regulating the individual's actions. The *interpersonal aspect* of self emphasizes the role of social environments and close personal relationships for constructing a concept of the self.

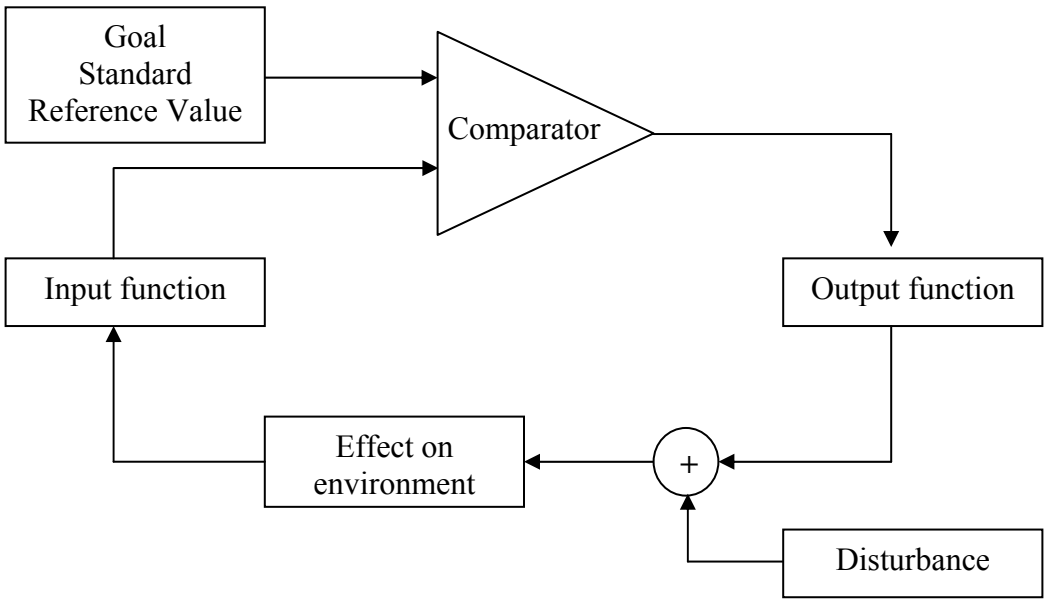
Among the three elements of selfhood mentioned above, the executive function of the self in individual's goal directed behaviors (both overt and covert) is often called self-regulation or self-regulatory system, where the self plays a pivotal role in making decisions, initiating actions, setting goals, developing plans, and executing them (Carver 2001; Higgins 1997; Markus and Nurius 1986) so that people can control their actions and aspects of the surrounding social environments (e.g., significant others, their groups, etc.). The active involvement of selfhood is crucial in a regulation process. Without the self, the actor would be merely a passive observer unable to initiate actions except to perceive and interpret the flow of events and information.

One critical aspect of a self-regulation is the *feedback process* through which an individual (i.e., the self) will be able to examine the discrepancy between the current state

and his/her desired end states. Carver and Scheier (1998) propose four basic elements (i.e., an input function, a reference value, a comparator, and an output function; see Figure 2-3) of a feedback system. An *input function* is a sensory system that perceives and brings the information of current state into the feedback loop. A *reference value* is the goal state the feedback loop tries to achieve or to avoid. The *comparator* is a cognitive structure that makes comparisons between the information from the input function and the reference value. When the comparator detects a discrepancy between an input function and a reference value, the *output function* will steer the actor toward a desired state or away from an undesired state.

FIGURE 2-3

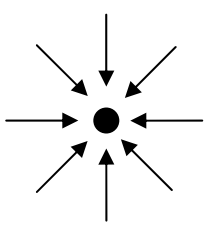
SCHEMATIC REPRESENTATION OF A FEEDBACK LOOP
(Carver and Scheier 1998 p. 11)



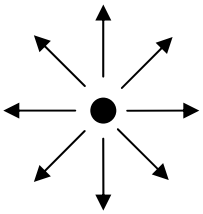
When the reference value is an approach goal (i.e., a positive end state the actor desires to achieve) in nature, the actor is motivated to get closer to this reference value. Consequently, the feedback system generates a *discrepancy reducing process* where the change in output decreases any deviation of the input function from the reference value. In a discrepancy reducing process, the comparator examines the discrepancy between the information about current state and the reference value. If the comparison fails to find a difference, the output function does not attempt to change the input value. If the comparison finds a discrepancy, the output function changes the input value *toward* the reference value.

FIGURE 2-4

NEGATIVE VS POSITIVE FEEDBACK SYSTEM AND REFERENCE VALUES
(Carver and Scheier 1998)



Discrepancy reducing (negative) feedback loop – comparison value as attractor or goal



Discrepancy enlarging (positive) feedback loop – comparison value as repeller or anti-goal

On the other hand, when the reference value is an avoidance goal in nature (i.e., a negative end state that the actor desires to avoid), the feedback system generates a

discrepancy enlarging feedback and forces the actor to move away from the negative state. The comparator examines the incoming information to find out whether it describes a "safe" distance from the reference value or not. If the comparison detects the distance does not guarantee desired level of safety, the output function attempts to change the input to get away from the undesired end state as far as possible (see Figure 2-4).

Most current goal theories underscore the content of the self-concept in determining the nature of the self-regulatory system (e.g., Bagozzi 1992; Baumeister 1998; Markus and Wurf 1987), and implicitly imply the crucial role of self concept(s) in developing regulatory feedback system. The self as a known (*me*) works as an input function that generates the motivational force to energize people. The reference value used in the system often involves the self-related status (possible and/or normative "me"s such as being a renowned researcher, being a homeless person, or being a good student). The self as a knower (*I*) will provide the actor the capability to compare his/her current "me" with the possible "mes." The existence of the discrepancy (or lack of the discrepancy) between the two operates as a motivator and the nature of the reference value activated in a specific regulatory system guides the actor to choose specific means (e.g., approach or avoidance) and strategies to achieve the goal.

For instance, the idea of possible selves – the self-concept includes not only the information of the present and past self but also incorporates beliefs and expectations about the future self (Markus 1977; Markus and Nurius 1986; Markus and Wurf 1987) – provides a good example of how the self is involved in regulation processes. When a particular domain of self schema becomes activated, the individual's potential self-

concepts (i.e., possible selves) are also primed. They reflect the person's ideas about the self in the future: the self he/she is likely to become (the expected self), hopes to become (the hoped-for self), or is afraid of becoming (the feared self).

These three possible selves are highly personalized manifestations of the person's goals, desires, and fears and often serve as reference values in a self-regulatory system. When a feared self (e.g., being a homeless person) is primed, an actor tries to escape from the negative end state (i.e., an avoidance goal) and takes concrete actions to stay away from the possible self (i.e., a discrepancy enlarging feedback process). On the other hand, when a hoped-for self (e.g., being a renowned academician) is primed, an actor activates a discrepancy reducing feedback process to get closer to the positive end state (i.e., an approach goal).

Another kind of self- based reference goals can be found in Higgins' (1987) self-discrepancy theory which emphasizes the role of self-guides (ideal vs. ought self-guide) in an individual's affective states. He argued that people are motivated to reach a psychological state where people's current state (actual selves) matches their desired end states, which represent their hopes, wishes, and aspirations (ideal selves) or duties, obligations, and responsibilities (ought selves). From the perspective of a self-regulatory system, actual selves provide information for an input function and ideal and ought selves operate as reference values of the individual's regulatory feedback system.

Self-Regulatory Focus

Expanding the concept of ideal vs ought self guides in his self-discrepancy theory, Higgins (1996b; 1997) developed regulatory focus theory which goes beyond the basic,

widely accepted hedonic principle that people approach pleasure and avoid pain. He introduced two distinct modes of self-regulation (promotion focus vs prevention focus) shaped by people's desired view of selves (ideal self and ought self) and proposed that having a particular regulatory focus will influence people's strategic choices and the manner of pursuing their goals.

The theory postulates that people with nurturance-related needs (e.g., advancement, growth, aspiration, and accomplishment) invoke a promotion focus and prefer the type of behavioral strategies most suited to their nurturance-related needs. Promotion-oriented people, therefore, are sensitive to the presence and absence of *positive outcomes* and concentrate their efforts on using eagerness strategies to maximize gains and minimize nongains (e.g., insuring hits and insuring against errors of omission). In contrast, people with security-related needs (e.g., protection, safety, and responsibility) tend to adopt a prevention focus: a regulatory state oriented toward *responsibility* and heightened sensitivity to *obstacles* for achieving their goals. Accordingly, people with a prevention focus are sensitive to the presence and absence of *negative outcomes* and put their efforts on using vigilance strategies to avoid losses and attain nonlosses (e.g., insuring correct rejections and insuring against errors of commission).

The driving force of promotion/prevention regulatory system is the discrepancy between the current self status and two self guides (ideal and ought selves), which only can be detected when a person is aware of his/her current self-status (i.e., the reflexive consciousness) and compares it with his/her inherent standards. A person does not merely notice the fact that he/she has a certain height and weight; rather, he/she compares them

to his/her standards such as an ideal height and weight. The difference between the current height and an ideal height provides a motive to behave a certain way (e.g., purchasing shoes with high heels).

Being aware of the difference between the current state and the standard(s) provides us a "locomotive" needed for our actions. However, without an engineer who can control its horsepower and guide our actions, it is almost impossible to reach our final destination – the desired end state. The executive function of the self, the focal substance of regulatory focus theory, serves as a driver regulating and guiding the person's psychological processes and behaviors.

Most of theories concerning self-regulatory system discuss only these two aspects of selfhood and views a regulatory system as a closed feedback circuit with one fixed self concept. Unlike these theories, regulatory focus theory reflects all three aspects (reflexive consciousness, executive function, and interpersonal aspects) of selfhood suggested by Baumeister (1998) by introducing social aspects of selfhood into the regulatory system. Regulatory focus theory treats the actor's previous socialization process and the immediate social environments (i.e., interpersonal aspect of the self) as major determinants in shaping his/her psychological tendency of how to frame goals and choose appropriate means to achieve the goals (i.e., regulatory focus).

Higgins (1996b; 1997) proposes the "*shared reality*" between a child and his/her caretakers as the foundation of a specific self-regulatory system. To obtain the nurturance and security required for survival, a child must establish and maintain close relationships with his/her caretakers. Because of the child's dependence on the caretakers, they have a

pervasive influence on the child's beliefs and values. Consequently, the child develops a common worldview (i.e., a shared reality) with the caretakers, and when the shared reality is internalized, it becomes a part of the child's core self – a basis for the person's self-regulation –and produces systematic variation in the individual's interpretation of social environments.

Depending on the characteristics of an individual's socialization processes, he/she can infer different styles of "shared reality" which mediate the significant others' desires for them and develop different types of "self guides." When the shared reality with the significant others reflects hopes and wishes, and they use encouragement and enthusiasm for being a certain type of person, he/she develops an ideal self-guide In contrast, when an individual infers that the significant others believe they should be a certain type of person and they represent these beliefs as duties and obligations, he/she develops an ought self guide.

There have been a few attempts to explain the influence of collectives on individual's information processing and behaviors, and they have generated considerable knowledge for understanding the social side of the self-concept. Kanagawa et al. (2001) proposed that social and cultural contexts influence three aspects of the self-concept – the universe of self-schemas, the degree of variation in the working self-concept, and the appropriate behavior in a given context.

In the following section, the theoretical connection between collective self and regulatory focus will be further developed. One of the underlying themes of many theories of collective self is the *shared* awareness of the collective characteristic (e.g.,

group membership, cultural or national identity, etc.), which is consistent with the idea of "*shared reality*" in regulatory focus theory. Various theories of the collective self will be discussed to explore possible links between self-regulatory focus theory and the collective self.

Collective (Social) Self

As we discussed at the beginning of this chapter, the individual oriented and contextual independent assumptions of traditional self theories have prevented researchers from seeking one of the fundamental questions of social psychology – the social influence on individuals' psychological processes and actions – and the leading researchers from related fields have emphasized the imperative need for developing more social oriented theories of self (e.g., Bagozzi 2000; Brewer 1991; Markus and Kitayama 1991; Markus and Kitayama 1994; Taylor 1998; Turner and Onorato 1999).

In many Western cultures, the *distinctiveness* of a person from collective groups is believed to be very essential in defining an individual's personal identity. Such a normative imperative leads people to believe that preserving an individual's unique identity and independence from the surrounding social environments is one of the more important necessities and virtues in their social lives.

Reflecting the cultural norm, virtually every approach in Western social psychology views the self as a unique entity that involves internal attributes of a person (e.g., preferences, character, personality, attitudes, abilities, motives, and values) and conceptualizes these individual attributes as the major determinants of the actor's behaviors. Such theories of self emphasizes the difference between the private self and

public self and treat the former as the only genuine self and the latter as a presentational or instrumental means to strategically express or assert the internal attributes of self.

Realizing the inherent limitation of individual oriented self studies, Markus and Kitayama (1994) criticize the asocial mindset of Western social psychology and emphasize the importance of the collective concept in understanding the individual's conception and construction of the self. Ironically, the asocial nature of self- research studies stems from western culture's collective influence that emphasizes independence and individualism. Markus and Kitayama (1994) state, "(t)his culturally *shared idea of the independent self* is a pervasive take-for-granted assumption that is held in place by language, by the mundane rituals and social practice of daily life, by the law, by the media, the foundational texts like the Declaration of Independence and the Bill of Rights, and by virtually all social institutions" (p. 568, emphasis added).

Moreover, even though social identities are weaved into our everyday social lives and often generate very positive influence in individual people's lives such as education, religions, politics, and entertainments, consumer researchers have generally failed to grasp such positive impacts of group membership. Marketing practitioners have used the positive associations between their customers and certain collective organizations such as universities, non-profit organizations, sports teams etc.

The widely shared unfavorable images of collective influence provided negatively framed research questions in group studies and generated terminologies with negative connotations such as: conformity, compliance, obedience, group think, risk shift, diffusion of responsibility, and stereotyping (Markus and Kitayama 1994). Consequently,

social behaviors in Western-based psychological research are very often understood as antagonistic factors to an individual's (true) behaviors determined, by his/her inner attributes, and the collective self-concept has been neglected in various domains of social and consumer psychology literature.

Against the individualistic view of the self, which pervades Western social science research, a few researchers have proposed alternative collective perspectives to understand the complexity of the self. In the following section, we review two major theories of the self, which championed the social and collective aspects of the concept - Markus and Kitayama's independent vs. interdependent self-construal and social identity theory from Tajfel and followers.

Interdependent/Independent Self-Construal

The cross-cultural perspective, which recently has developed into a legitimate area of psychology, uses collective aspects of the self to examine how cultural differences influence the individual person's self-construal. The interdependent/independent conceptualization of the self construal (Kanagawa et al. 2001; Markus and Kitayama 1991, 1994), one of the leading theories in cultural psychology, focused on East-West differences that influence people's interpretation of self concept(s): Westerners typically view the self as independent whereas East Asians typically view the self as interdependent with others.

An interdependent construal prevails in many Eastern cultures (e.g., Japan, Korea, China, Hong Kong, etc.) as well as some African and to a lesser extent in even some Western cultures where the idea of being connected to other people is considered to be

the fundamental element of human beings. In these cultures, the self is portrayed not as an independent/separate being from the collective social context but as an interdependent entity intertwined with the collective. The self is developed from the individual's relationships with the members of the collective, and the person becomes complete only in interaction with others. An individual with an interdependent construal focuses on maintaining connections with others (i.e., adjusting and fitting in to important relationships, occupying one's proper place in the group, engaging in collectively appropriate actions, and promoting the goals of the group) rather than maintaining the independence from the collective.

On the regulatory role of the collective self, Markus and Kitayama (1991) emphasized the difference in reference values between the interdependent construal and the independent construal for regulating the actor's behavior. They assert that people with an interdependent self construal apply more contextual dependent reference values (i.e., interpersonal contingencies) for their self-regulations. In the regulatory process of an interdependent self, not the personal self, but the social self (i.e., relationships of the person to other members in the collective) plays the role of agent controlling the actor's behaviors. Lifetime social experience in interdependent cultures involves seeing oneself as part of a social group (i.e., a social network of relationships), and the person's regulatory processes and behaviors are primarily determined by, contingent on, and organized by what he/she perceives to be collective thoughts, feelings, and actions. People with an interdependent self construal activate reference values related to the current social context (i.e., group norms or family values) and often attempt to control

their inner attributes (e.g., personal goals, private feelings, etc.) to maintain harmonious equilibrium in social relations. On the other hand, a person with an independent self-construal uses his/her personal self as the agent, and tends to use their inner attributes and traits to control his/her behaviors. In such a regulatory process, the actor pursues his/her own interests, goals, and aspirations instead of seeking harmony with other people, and his/her behavioral strategies are often aimed at controlling the social environments rather than his/her own inner attributes.

Consequently, for an individual with an interdependent self construal, the relationship with others in the collective, rather than his/her personal view of the self, is crucially important in the very conception and regulation of the self. However, having an interdependent self construal does not automatically lead to the individual to internalize and follow other people's views and opinions. Rather, they follow very selective procedures through which they identify important other people and includes those people's views and perspectives into their collective identity. Markus and Kitayama (1991) state:

> (I)nterdependent selves do not attend to the needs, desires, and goals of *all* others. Attention to others in not indiscriminate; it is highly selective and will be most characteristic of relationship with "in-group" members. These are others with whom one shares a common fate, such as family members or members of the same lasting social group, such as the work group. Out-group members are typically treated quite differently and unlikely to experience either the advantages or disadvantages of interdependence. Independent selves are also selective in their association with others but not to the extent of interdependent selves because much less of their behavior is directly contingent on the actions of others (*p*. 229).

Even in cultures emphasizing the interdependent self construal, in-group and out-group categorization is very crucial in developing people's self perceptions. People in such a culture are very selective in identifying their in-groups, and the uniqueness of the self derives from the specific configuration of relationships and group memberships that each person has developed throughout their social experiences.

Social Identity Theory

Another stream of research emphasizing the collective self concept in a different way is social identity theory which has been developed by Tajfel and his colleagues (e.g., Hogg and Abrams 1988; Tajfel 1978; Tajfel 1982; Turner et al. 1987). Social identity theory emerged from research on the process of social categorization, the tendency of individuals to classify others and themselves into separate groups (i.e., in-group vs out-group) and to assign differential social values to those social categories.

Social identity relates an individual to his/her group membership, and provide alternative definitions of his/her identity with shared similarities with in-group members, while the classic notion of personal identity corresponds to personal or idiosyncratic attributes that uniquely define the individual (Turner and Onorato 1999). Hence, "social identity" is a person's definition of his/her self in terms of group membership with the associated values, norms, and emotional significance (e.g., a self-definition as "we Texas A&M Aggies," "we Texans," "we Americans," or "we Koreans"). People develop social identity through the process of social categorization (i.e., the distinction between in-group and out-group) and use it as an appropriate self-definition when they encounter a social situation which makes the group membership salient. In such a group situation, the

members coordinate their actions in a collective, unitary, and consensual fashion reflecting their shared group memberships, norms, and values that become the focal aspects of their self definitions.

To activate a particular social identity in a given social context, an individual invokes two underlying sociocognitive processes. First, a cognitive process of self-categorization sharpens intergroup boundaries by producing group-distinctive stereotypical and normative perceptions and assigns people, including the self, to the contextually relevant category (Turner et al. 1987). Second, the motivational process of self-enhancement and uncertainty reduction guides the social categorization process such that norms and stereotypes largely favor the in-group (Hogg and Mullin 1999).

When a person activates self-categorization process and defines him/herself using a group membership, he/she develops a psychological discontinuity between the person's idiosyncratic personal identity and social identity (i.e., depersonalization). Self-categorization is a dynamic, highly variable, and context-dependent process and is determined by comparative relations of three cognitive factors (i.e., *accessibility, comparative fit, and normative fit*) in a given context. The likelihood of activating a group identity varies as a function of the interaction between the perceiver's readiness (accessibility) to categorize a situation in a particular way and the nature of the social context (comparative fit and normative fit) (Turner et al. 1987; Turner et al. 1994).

Accessibility refers to the readiness of an individual to adopt or make use of a particular social category, which is determined by past experience, present expectations, current motives, values, goals and needs. The strength of group identification plays an

important role in determining accessibility, suggesting that how central, valued and ego-involving the group is to the self-concept, and influences a person's readiness to use a given social category in specific situations (Doosje and Ellemers 1997). For example, if being a Texas A&M student is an important part of a person's sense of who he/she is, he/she will be more likely to act in terms of the social category (and to perceive and interpret the actions of others in terms of categorical divisions between Texas A&M members and out-groups).

The principle of comparative fit maintains that, for a social category to become psychologically activated, the differences among in-group members (intra-class difference) must be smaller than those between in-group and out-group members (inter-class difference). It is defined by the principle of metacontrast: the ratio of the average difference perceived between in-group members and outgroup members over the average difference perceived between in-group members.

The last cognitive requirement for activation of a social category is normative fit – the congruence between the person's expected characteristics (i.e., normative expectations) and actual characteristics of the social categories (i.e., in-group vs out-group). To have proper normative fit, the similarities and differences between the two groups must be consistent with a perceiver's content-related expectations, normative beliefs, and social meaning about in-group and out-group categories. In other words, to activate and maintain a certain group membership the shared similarities and differences between social categories (i.e., in-group vs out-group) must be consistent with the

perceiver's normative/stereotypical beliefs about the substantive social meaning of the categories (i.e., normative fit).

Two motivational factors, uncertainty reduction and self-enhancement, were proposed as the driving force of self-categorization process/social identity (Hogg 2001; Hogg and Mullin 1999). Uncertainty reduction refers to a social motivation that people use to categorize others in order to make the social world a meaningful and predictable place in which they can act effectively, and therefore they tend to categorize people (including themselves) in a way to minimize such uncertainty. Self-enhancement motivation concerns the evaluative nature of social categories. Social categorization almost always involves placing ourselves in one of the categories, and thus acquiring the evaluative attributes of that category. When people evaluate the categories of in-group and out-group, they are motivated to construct social categories to generate positive evaluations toward in-group membership, and in turn to generate favorable self-evaluative consequences.

After a certain social category is activated, group members see themselves relatively similar to each other in comparison to out-group members because in-group members are exposed to similar information from the same perspective (i.e., group norms and values), which can be summarized and represented into a prototype of the group. A prototype refers to "a subjective representation of the defining attributes (e.g., beliefs, attitudes, behaviors) of a social category, which is actively constructed from relevant social information in the immediate or more enduring interactive contexts. (Hogg, Terry, and White 1995, p. 261)" It is a group member's cognitive image that captures the

context-dependent features of group membership, often in the form of a representation of exemplary members or ideal types.

The prototypicality of a group member can be assessed by examining the cognitive distance between the member and the group prototype. Prototypes are influenced strongly by the salient out-group in this context since they should represent the collective images which create the highest metacontrast ratio between the in-group and the out-group. Thus, group characteristics and norms in a certain social identity are very dynamic in nature: they are highly responsive both to intergroup dimensions and to immediate social comparative contexts.

An important psychological mechanism closely related to prototypical representation is the process of depersonalization that generates the discontinuity of cognitive perception of individual self to collective self (Turner 1984; Turner et al. 1987). *Depersonalization* refers to a process of self-stereotyping through which the self comes to be defined by the prototype of the social category as opposed to one's personal identity per se. When social identity is salient, individuals come to see other in-group members as part of the self (redefining the self as 'we' rather than 'I') and perceive their motivations and perspectives to be psychologically interchangeable (i.e., prototypical) with those of others who share the same social identity. Turner et al. (1987) proposed such a cognitive shift from individual attributes to a prototypical exemplar as the foundation of the collective self (i.e., social identity) distinct from the perception of the self as a unique person.

Haslam and Platow (2001) showed that the depersonalization process leads a person to a behavior qualitatively distinct from that which is predicted on personal identity – because it is shaped by, and oriented toward, the interests of the group as a whole rather than those of the individual in isolation. When a person's social identity becomes salient, there are psychological consequences for the person, so that his or her behaviors and psychological processes are qualitatively transformed. In particular, the process of depersonalization associated with defining oneself as a group member leads to heightened perceptions of *interchangeability* between oneself and like-minded others (in-group members). It is expected to lead individuals to see themselves as relatively interchangeable representatives of a particular social category, sharing self-defining norms, values, and goals with other members of that category (in-group members).

Moreover, social identity provides group members with a common perspective on reality that leads them (a) to expect to agree with each other on issues related to their group membership and (b) to actively seek agreement through processes of mutual influence. It provides group members with motivation (and expectations of an ability) to coordinate their behavior with reference to emergent group norms (e.g., those that define the in-group as different from, and better than, other groups). Finally, it leads group members to work collaboratively to advance the interests of the group as a whole (their collective self-interest), even perhaps to the detriment of themselves as individuals (their personal self-interest) (e.g., Reynolds, Turner, and Haslam 2000; Reynolds et al. 2001).

Dynamic Self, Collective Self, and Self-Regulation

In this chapter, we have reviewed a few theories of the self, which have begun to influence both social and consumer psychology studies of various domains. With the development of the constructs and theories that emphasize the dynamic and social nature of the self, researchers have been able to steer interest from the individual and cognitive oriented research paradigms to more contextual and collective oriented paradigms.

One of these new approaches is the concept of the "working self" we discussed at the beginning of this chapter. Stein and Markus (1996) summarize three focal differences between the working self concept and its historical predecessors: it views the self-concept as (1) a complex, *multifaceted* structure; (2) an active memory structure that functions to *mediate* and *regulate* behavior; and (3) a dynamic structure that is both highly *stable* and highly *malleable*. As we can see from the summary above, the theory emphasizes the role of an individual's memory structure (a set of self-schemas) that will provide the regulatory standard (the working self) guiding the individual's behavior and that will express the malleable nature of the self-concept.

Not only is the working self-concept able to explain the dynamic nature of the self-concept with a memory based cognitive structure (i.e., self-schemas), but it also introduces the social and contextual influence on an individual's self-definitions. The content of the working self-concept is influenced by both the social situation at a given time and the person's goals, affect, and/or motivational state. The mutual interaction between the immediate social situation and the individual's personal traits will determine the phenomenal characteristics of the working self. Once activated, the working self-

concept orients and directs an actor's behaviors to facilitate the actor's adaptation to a given social context (Kanagawa et al. 2001).

Such a dynamic and collective view of self is also reflected in Higgins' self-regulatory focus theory, which provides the power to explain the influence of both individual traits and social contexts on people's regulatory systems. This theory postulates that people have both ought and ideal self-guides, but the development of which one is stronger than the other depends on people's previous socialization processes, creating the individual tendency of their self regulation (i.e., prevention focus vs promotion focus respectively). However, situational contexts can prime the weaker self-guide and people can shift their regulatory focus from one to the other, providing strategic flexibility for their self-control: a dynamic characteristic can also be found in the working self. One noticeable difference between these two theories is that self-regulatory focus theory provides more specific explanations and predictions (e.g., behavioral strategies, emotional and cognitive outcomes, etc.) concerning the regulatory role of the activated self. Another noteworthy aspect of self-regulatory focus is its ability to embrace the social influence in an individual's regulatory process by conceptualizing the foundation of the self-guides as the shared reality between the actor, caretakers, and significant others (Higgins 1996b).

The recent development concerning the dynamic and social nature of the self-concept should lead consumer psychologists to re-examine the applications of self-theories in various marketing domains. Following the initial attention to the congruence hypothesis by consumer researchers, only sporadic self-studies (e.g., Belk 1988; Shavitt,

Lowrey, and Han 1992) appeared to keep this research stream alive, intra-individual theories of consumer behavior. However, the dynamic view of the self provides consumer researchers a new opportunity to integrate intra-individual processes and the dynamic and social nature of the self (e.g., Aaker 1999; Aaker and Lee 2001; Agrawal and Maheswaran 2005; Escalas and Bettman 2003; Wheeler et al. 2005). This new conceptualization of self provides new ways to test the congruence hypothesis. For instance, Aaker (1999) introduced the concept of malleable self into the study of the consumer's message evaluation. She categorized the congruence effect into two categories – *self congruity* (the consistency between an individual's personality traits and the brand personality) and *situation congruity* (the consistency between the activated social norms by situational cues and the brand personality). The results showed that low self-monitoring participants showed a greater congruity between the brand and their self-views, whereas situational congruity was enhanced for high self-monitoring participants. Using the framework of self-schema matching (i.e., presentation of a message which appeals or conforms to the person's activated self conception), Wheeler et al. (2005) also demonstrated that activating different natures of self-schemas will influence various psychological processes and message evaluations (e.g., brand attitudes, cognitive responses, behavioral intentions, and argument quality) from an advertisement. They found that matching messages to recipients activated self-schemata leads to increased or decreased persuasion depending on the advertisement's argument quality and a person's cognitive responses.

Leading consumer researchers also have been able to develop a new perspective to understand the role of the multifaceted self on the regulation of consumers' psychological processes and consumption behavior. Aaker and Lee (2001; 2000; 2004) have published a series of articles that share the common theme of emphasizing cultural and social influences on individual's self-regulatory processes. They have shown that differences in cultural variables (e.g., collective vs individualistic society) will influence a consumer's self-construal (e.g., interdependent vs independent self-construals) and regulatory process (i.e., prevention focus vs promotion focus), which leads to different effects on persuasion and attitude change. By integrating self-regulatory focus theory (Higgins 1997) and independent/interdependent self construal theory (Markus and Kitayama 1991) into one framework, they were able to demonstrate the substantial cultural influence on an individual's regulatory focus.

While developing this approach, consumer researchers have been able to achieve a new perspective incorporating another important facet of consumer behavior – namely, social aspects of consumption. Furthermore, this new perspective also provides an alternative framework for examining the dynamic and social characteristics of self, which helps the individual navigate the complex social world by providing the required flexibility to his/her psychological and regulatory processes.

Another approach attempting to explain the dynamic and social nature of the self-concept is social identity theory proposed by Tajfel and others. This theory uses the dynamic and hierarchical nature of social categories to explain the situational variations in the self-concept and its functioning. Self-categorization theory suggests a rather

independent role for social identity from personal identity. Turner (1984) states, "social identity is sometimes able to function to the relative exclusion of personal identity (p. 527)." Independent from one's distinctive personal identity, social identity provides another source of variation to *malleable* self-concepts in a complex social world. Moreover, such an adaptive function of social identity produces collective behavior and psychological processes which are often different from those characteristic of people acting as individuals.

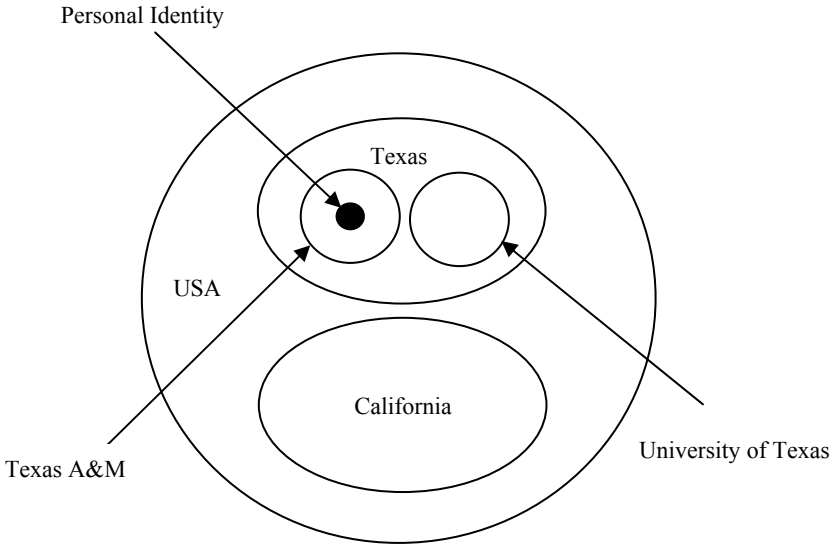
The self-categorization process is social identity theory's key cognitive concept for understanding the dynamic nature of the self. One important application of the self-categorization process in a dynamic social world is that people, who categorize themselves into certain social categories in one context, can re-categorize both the in-group and the out-group into a higher order social category in another context and come to perceive previous out-group members as similar to themselves, without any actual changes in their own positions, since they become in-group members in the new context.

For instance, Texas A&M students (Aggies) and University of Texas students (Longhorns) might categorize themselves into two distinct social categories when they are watching a football game between the two schools. The students in each university recognize that the two groups represent different value systems, norms, and cultures and are motivated to differentiate themselves from the out-group members. There has been a citywide campaign in the Austin area, where the University of Texas is located, called "Keep Austin Weird," to preserve the distinctive characteristics of the city. While Austin was running the campaign, people in College Station, where Texas A&M University is

located, often witnessed students wearing T-shirts on which "Keep College Station Normal" was printed. Knowing that the University of Texas students are involved in the campaign to "Keep Austin Weird," these Texas A&M students tried to create the maximum cognitive distance from the rival school's city and members across the categories.

FIGURE 2-5

THE HIERARCHICAL AND DYNAMIC STRUCTURE OF SOCIAL CATEGORIES



However, the same student bodies can share the same social identity at a different level (e.g., they are both Texans), when they watch a football game, say, between the Dallas Cowboys and San Francisco 49ers. In such a situation, both Texas A&M and the University of Texas students might find that they have a lot in common, since they share the same social identity as Texans. Imagine another situation such as the 1980 Winter

Olympics, when the USA men's ice hockey team won an Olympic gold medal against the favorite, the USSR ice hockey team. When people in Texas and California were watching the game, being a Texan or being a Californian did not make much of a difference, because the situation made a higher order social category – "Americans," more salient. Such a hierarchical and dynamic nature of social categories is illustrated in Figure 2-5.

The main premise of such a self-categorization process is that people recognize and process (i.e., categorize) group related information to create a distinct social identity which fits the immediate social context the most. The dynamic nature of social categories is consistent with what was suggested by Markus and her colleagues in their working self-concept. However, one noteworthy difference between the two theories is that social identity theory heavily emphasizes on-line cognitive activities to process information related to variations in the immediate social situations and downplays the influence of individuals' self-related memory structures.

Even though a few researchers in social identity research have recognized the role of the individual's historic and memory structures (e.g., normative fit maintains that individuals should cognitively be aware of the current situation and their preexisting normative constructs), the majority of conceptual and empirical studies have focused on the person's cognitive (online) assessment of the immediate social situations. This outcome is partly due to the characteristics of the experimental paradigm called "minimal group paradigm" and related experiments where no other social variables such as group norms or previous interpersonal relationships exist, except a simple assignment of group memberships (e.g., Hogg and Abrams 1988; Turner et al. 1987).

The only manipulation the researchers use in the minimal group paradigm is the random assignment of people into distinct groups, thereby controlling for individual differences of participants. The general finding from this research is that people favored their in-group members over out-group members, even though there were no pre-existing social interactions and attitudes among the participants. The concept of the self-categorization process (Turner et al. 1987) was developed to provide a theoretical explanation concerning the underlying cognitive processes for the findings. Since the participants did not have any previous exposure or awareness of their group membership, researchers have focused on the online cognitive processes of categorizing the current collective situations, where participants could not use their preexisting cognitive schemas.

On the other hand, the working self theory and self-regulatory focus theory emphasize the cognitive structure of the self-concept (i.e., self-schemas) stored in a long-term memory and assume that an actor activates a self-schema most fitting to the immediate social contexts from the preexisting collection of self-schemas. Since the schematic approaches have been heavily dependent on an individual's memory structure, the two theories assume that social norms and values are already stored in self-schemas and situational cues will activate the relevant self-schemas. Even though a few schema-based self theories recognize that many aspects of the self-concept are dependent on the immediate social contexts, they are often silent on the detailed process of how novel social system's characteristics, values, and norms are transferred into an individual's self concept(s).

In terms of the collective aspect of the self-concept, the schema-based approach underscores the enduring differences in self-perceptions between people in collective and individualistic societies. The approach considers collective self-concepts rather stationary and fixed entities, and hence, cannot incorporate the embedded diversity within higher order collectives into their theoretical frameworks. Recognizing the importance of the diversity of collectives, Markus and Kitayama (1991) state, "Even in American culture, there is a strong theme of interdependence that is reflected in the values and activities of many of its subcultures. Religious groups, such as the Quakers, explicitly value and promote interdependence, as do many small towns and rural communities. (p. 228)." Even though they recognized the diversity in a given cultural system, and the theory provides an intuitive explanation for each subgroup (e.g., Quakers emphasizing interdependence within independence oriented American society), Markus and Kitayam's theory is silent on how members in different groups within a hierarchical structure of a society learn and activate conflicting tendencies in terms of their self-construals. We often have more than a few, and often inconsistent, social cues in a given social space, and the theory does not provide detailed explanations of how we filter and recognize the relevant social cues and the resolution process when they encounters conflicting social situations.

Based on the common ground of the two research streams – shared social space (e.g., shared reality from self-regulatory focus theory and prototypicality from self-categorization theory), an alternative framework of self-regulation will be proposed in this dissertation. It focuses on the complementary role of two research streams (social

cognition and social identity) and emphasizes the dialectic process of two key components (self-schemas and self-categorization process) concerning collective identities to resolve the unsolved issues of the two theories mentioned above. Furthermore, perceived collective variables (i.e., social identity strength and collective efficacy), which may influence the activation and implementation of the depersonalization process, will be introduced into the framework, allowing researchers to seek answers for the interaction between the complicated social and individual characteristics functioning in everyday consumer behavior.

CHAPTER III

CONCEPTUAL MODEL AND HYPOTHESES

As we have discussed in the previous chapter, the concept of self has evolved from an individual-oriented construct to a more social-oriented construct that reflects various individual, relational and collective experiences. However, there has been no agreement among the related fields of self studies (e.g., consumer psychology, social psychology, sociology, etc.) concerning how collective environments influence individuals' judgment processes and their behaviors. Moreover, with only a few exceptions (e.g., Aaker 1999; Aaker and Lee 2001), there has been little attempt to introduce such social self concepts, especially the collective self, into the consumer research literature.

There have been a handful of attempts to understand the influence of social self concepts on consumers' various psychological processes and behavioral strategies (e.g., Aaker 1999; Aaker and Lee 2001; Aaker and Maheswaran 1997; Agrawal and Maheswaran 2005; Kleine et al. 1993; Laverie et al. 2002; Lee and Aaker 2000; Louro et al. 2005; Wheeler et al. 2005). For instance, Aaker and Lee (2001; 2000) examined the interaction between the cultural difference in self-construal (i.e., independent vs interdependent) and regulatory focus. They found that individuals with *independent* self-view are more persuaded by promotion-focused information and, in contrast, individuals with *interdependent* self-view are more persuaded by prevention focused information. In their experiments, independent and interdependent self-views were manipulated by priming individual situations (independent self view) or group situations (interdependent

self-view). By doing so, they demonstrated that dynamic characteristics of social self-concepts often influence a consumer's regulatory process which maintains and controls his/her consumption.

The main objective of this dissertation is to examine how consumers filter and process the collective environments which shape their regulatory systems through self-categorization processes, and in turn influence their cognitive, affective, and motivational processes (e.g., the evaluation of an advertisement) and behavioral strategies (e.g., purchase decisions).

We propose depersonalization as the default psychological strategy people implement when their group membership is made salient (i.e., regulatory shift). Just like an individual person, a group can develop a shared regulatory orientation (i.e., group orientation) among group members which guide their psychological processes and behaviors. By introducing the idea of group orientation, we apply the idea of a depersonalization process as a regulatory strategy a person can use to guide his/her behavior. When a group membership is made salient, people should use the group's goal orientation rather than their own personal regulatory focus. A group can possess avoidance or approach orientations, depending on the group's current goal status. When such a group orientation is inconsistent with an individual's personal regulatory focus (i.e., trait regulatory focus), he/her will experience a kind of psychological discord and attempt to resolve such a conflict (i.e., regulatory conflict).

To understand different types of psychological strategies that people implement to resolve the regulatory conflict, we developed a theoretical framework of conflict

resolution processes based on self-regulatory focus theory and social identity theory. More specifically, we propose three psychological strategies (depersonalization, compliance, and self-preservation) group members can implement to resolve a conflict between group orientation and trait regulatory focus. Two perceived collective variables (collective efficacy and group commitment) are conceptualized as moderating variables, which interact with certain variables (e.g., regulatory conflict, message evaluation, etc.) to determines what kind of conflict resolution strategy a group member will use.

In this dissertation, self-regulatory focus theory and social identity theory are viewed as complementary rather than competing theories of the self-concept. Even though these two theories show some conceptual differences, both of them are founded on a common assumption: the dynamic and social nature of the self-concept. By integrating the two theories, we are able to develop a more comprehensive framework for understanding the influence of a collective on an individual's self-construal, regulatory system, and consumption behaviors.

The framework suggested here also can provide a glimpse into the general process of social influence: how societal values, norms, and collective goals affect individuals' self-perceptions and regulatory systems. Stein and Markus (1996) once stated that "we view the social context as an important determinant of the self-system and suggest that it is via the self-system that the social context most powerfully influences the course of behavioral change … the individual's social environment plays a fundamental role in shaping the self-system (p. 375)." While self-regulatory focus theory provides rich descriptions of an individual's behavioral strategies and the foundation of social influence

(i.e., shared reality), social identity theory, especially self-categorization processes, offers a new perspective on cognitive processes concerning how an individual filters and internalizes specific contextual variables, such as social norms and values.

By connecting these two theories, the suggested framework possesses a couple of theoretical advantages. First, using self-regulatory theory as a building block of the framework allows researchers to pinpoint a specific aspect of the self-concept (i.e., self as a regulatory system) rather than investigating the multifaceted self-concept as a whole. Second, the notion of depersonalization processes provides a very helpful framework for examining how and when the socio-cognitive system of collective selves is deployed among the group members.

Shared Social Representation: A Bridge between Regulatory Focus and Social Identity

Self-regulatory focus theory (Higgins 1996b, 1997) postulates that an individual's regulatory focus (i.e., prevention vs promotion) is mainly determined by his/her earlier socialization processes with the caretakers (i.e., parents, family members, teachers, etc.). Depending on the way the person was raised by their caretakers, he/she develops different schemas of "*shared reality*" which can be projected into the person's self-concept (i.e., ought vs. ideal self guides). When a shared reality reflects the caretakers' beliefs about the person's duties, obligations, and responsibilities, he/she will develop an ought self-guide and trait prevention regulatory focus. In contrast, when a shared reality reflects hopes, wishes, and aspirations for the person, he/she will develop an ideal self-guide and trait promotion regulatory focus.

Turner and Onorato (1999) also considered the shared idea among group members a major component of developing a social identity. They argued that individuals' social identities are not unique or idiosyncratic but relatively *shared*, *consensual*, and *normative*. Hogg et al. (1995) defined such a shared mental representation of group characteristics as "a subjective representation of the defining attributes (e.g., beliefs, attitudes, behaviors) of a social category (p. 261)." It is the group members' shared image that captures the context-dependent features of the salient group membership.

A shared social representation is defined as a communal idea prevailing among people in a given social context (e.g., shared reality, prototype). Such a shared social representation in an individual's self definition is the common ground of the two theories and our theoretical framework is developed by using the common element as a bridge to cross the conceptual gap between the two theories.

We propose social identity, especially self-categorization processes, as an important instrument to manage and develop one's shared social representations and related self-regulatory systems. Even though caretakers play an important role in shaping and developing a person's regulatory system, other social environments may influence his/her regulatory system by forming different kinds of shared realities.

In the early stage of the life, a child has a very limited social boundary (e.g., family members) and he/she does not necessarily experience inconsistency between different social contexts (i.e., shared social representations). Such a limited social boundary allows caretakers to provide more consistent world views and plays the most important role in shaping the child's personal characteristics. However, as one matures,

he/she experience a more complicated social world and develop a number of different shared realities. For instance, when a child encounters different social environments as they expand their social boundaries (i.e., go to school, go to playgroup, interact with peers etc.), he/she needs to develop social relationships with people other than caretakers. As these social relationships become more important to the child, he/she develops another schema of shared reality with those people, and it often involves defining him/herself with a group membership (e.g., seeing him/herself as a member of the playgroup). Consequently, when the child encounters a social situation outside the family, such as playing with friends, he/she often may use norms and values of the peer group to control his/her behavior rather than ones acquired through the interaction with caretakers. As the child becomes an adolescent and then an adult, he/she faces a new challenge of managing such complicated socio-cognitive systems (i.e., a network of multiple shared social representations) to navigate the complicated and turbulent modern social world.

In the previous discussion, self-categorization theory played a major role in developing the idea of regulatory shift. While self-categorization process complements self-regulatory focus theory by providing a framework which can explain how people develop shared social representations and manage related regulatory strategies, its heavy emphasis on cognitive process of creating social categories provides limited explanations on how people internalize shared reality and group norms.

Self-categorization theory assumes that people process information about surrounding social environments on site to maximize intergroup differences and ingroup

similarities (i.e., increase meta-contrast ratio[4]). This self-categorization process, therefore, requires a high level of psychological resources to process such information and assumes that people deliberately develop the shared norm that separated the group from others.

One of dominant research/experimental paradigms in social identity studies is the minimal group paradigm where the only cognitive distinction between two groups (e.g., people with a blue name tag vs people with a red name tag) is manipulated, and no other social variables, such as group norms or previous interpersonal relationships, exist. It is relatively easy for participants to implement self-categorization processes with the minimal social information. However, the minimal group paradigm does not examine influences of other social variables (e.g., internalizing group norms and culture), and therefore cannot explain interactions between them.

The framework suggested in this dissertation postulates that people use self-categorization processes to develop different kinds of group identities (Being an Aggie, a Longhorn, a Texan, a Korean, etc.), and store these identities and related group information such as group norms and prototypes in their self-related schema (i.e., shared social representations). By doing so, an individual can develop a complicated network of shared realities that provide an efficient regulatory system. After members learn the essential history, values, and norms of a group through the self-categorization processes, they store the related information in group schema(s) so that when they encounter the

[4] Any collection of stimuli is more likely to be categorized as an entity to the degree that the differences between those stimuli on relevant dimensions of comparison (intra-class difference) are perceived as less than the difference between that collection and other stimuli (inter-class difference). Meta-contrast ratio (Turner 1987) is the ratio of the average difference perceived between members of the category and the other stimuli over the average difference perceived between members within the category.

same social (group) situation, instead of going through the self-categorization process again, he/she can use the stored collective self-schema(s) more efficiently.

When an actor encounters a new group situation, he/she needs to process the related group information and develop proper group norms and prototypical images of the group. However, it is very unlikely that an individual creates and recreates group norms and prototypes in every social situation he/she comes across. Once they categorize a certain social situation, the actor is more likely to use the same categorization and related group information (i.e., group norms, prototypes, etc.) when he/she encounters the same social situation again. Moreover, one of the important aspects of social identity theory is the attempt to explain how a group's norm and culture will be internalized by individual group members.

Given multifaceted but stable social contexts of our everyday life where we often encounter the same kinds of social groups (i.e., family, friends, schools, companies etc.), implementing such a costly cognitive strategy in every different social situation would not generate an efficient regulatory system. Instead, people often implement simpler and rather automated processes to activate their social categories (Macrae and Bodenhausen 2000).

By focusing on the cognitive process of creating self-categories, self-categorization theory fails to explore the naturally following domain of group influence: how, when, and why people internalize and manage context dependent group information. Schema based self-regulatory theory complements such a limitation of self-categorization

processes by providing the connection between group norms and an individual member's self-related schema.

Regulatory Shift: The Foundation of a Flexible Regulatory System

One of the unique characteristics of regulatory focus is its flexible nature which allows an individual to guide his/her behavior more effectively and efficiently in a complicated modern social world. Higgins (1997) argues that depending on the immediate social situation and goal characteristics, an actor can change his/her regulatory focus from prevention to promotion or vice versa. By creating conditional links between the social context and regulatory focus, people can temporarily shift their locus of regulatory agency from chronic (i.e., personal) regulatory focus to temporal goal orientation (e.g., group goals). A person with a chronic (i.e., personal) prevention orientation usually prefers behavioral strategies focused on avoiding negative outcomes (i.e., prevention oriented). However, he/she may have the opposite behavioral tendency (i.e., promotion oriented) when the immediate social context emphasizes a promotion goal state (i.e., approach a positive end state). For instance, feedback from the boss to increase sales of the product encourages an employee to construct a promotion goal (i.e., selling more products) and to use promotion regulatory focus in one's work even if he/she has a chronic prevention focus.

The shift in the regulatory focus, however, does not mean the person simply lose the self and surrender his/her control to a separate agent but rather implies changes in the locus of self perception. In this dissertation, we propose that people change their

regulatory focus not only because of temporal changes in the goal characteristic but also due to the shift in their locus of self-perceptions.

When people activate a social self, they also shift their locus of self-control from the individual level to the social level. In this section, we will focus on the shift in self-perceptions, especially the regulatory shift between individual trait regulatory focus and collective goal orientation. When a person defines him/herself with a group identity, his/her self view shifts from a personal self-concept to a social identity so that his/her behavior, cognition, and psychological process can be congruent with the characteristics of the group identity (i.e., shared norms among group members). Self categorization theory (Turner et al. 1987) describes such a psychological shift between two self entities as the result of depersonalization processes. Through depersonalization processes, instead of seeing oneself as a unique individual, he/she sees him/herself as a representative of a particular group sharing self-defining norms, values, and goals (i.e., the prototypical representation of the social category) which can be very different from his/her own personal characteristics.

Reicher, Spears, and Postmes (1995) advanced the idea of depersonalization and developed a more elaborate model of shift in different levels of self-entities called "A Social Identity Model of Deindividuation" (SIDE). Unlike traditional theories of crowd behaviors, which see depersonalization as the loss of self-concept and emphasize the negative/violent aspects of collective behaviors (e.g., Le Bon 1895; Zimbardo 1969), SIDE attempts to explain the depersonalization process not as the loss of self but as a changes in the locus of self perception (i.e., from individual to collective). Their

argument is based on the idea that people often use shared group norms and display stereotypical behaviors consistent with the norm when they encounter a certain group context. Hogg et al. (1995) state, "(p)eople are essentially "depersonalized": they are perceived as, are reacted to, and act as embodiments of the relevant in-group prototype rather than as unique individuals… … it simply refers to a contextual change in the level of identity (from unique individual to group member), not to a loss of identity (p. 261)."

Consider DT, a star running back of an NFL team. He has the reputations of being one of the most aggressive professional football players on the field. One day you have an opportunity of meeting the athlete in person. His brother is your close friend and DT invites you and his brother for a dinner at his house. You expect DT to be a typical football player: a "tough" guy with aggressive personalities, but when you actually meet him at his home, you find an unexpected softness or gentleness of a responsible family man by the athlete.

Such an unexpected experience, often encountered in our social lives, can be explained by self categorization and a shift in regulatory focus. DT works for a professional football team where moving toward a positive end state (e.g., scoring more points, winning more games, etc) is the pervasive group goal. Then, on the football field where he views himself as a professional football player (i.e., self-categorization as a member of professional football team), and such a promotion oriented group norm (i.e., a shared social representation) encourages him to develop a promotion regulatory focus (i.e., moving toward a positive end state) through various trainings and experience. Therefore, once the group identity is activated (i.e., playing a football game) he is more

likely to use a promotion orientation to guide his actions. However, outside the football field in his everyday life, he sees himself as a responsible family man (another self-categorization) and more likely uses a prevention orientation to guide his behavior (e.g., buying a Volvo and car seats to keep his children safe).

On the football field where his group membership is most salient, the athlete is not abandoning his self-related traits. Rather, through self-categorization processes, he shifts the locus of his self-concept from the individual to the collective so that his regulatory system can be more congruent with the immediate social context. In a sense, they do not lose the control of their behaviors, rather they shift the criteria for guiding their actions (i.e., regulatory system) from the personal to the collective level with associated self-stereotypes (i.e., shared reality). Therefore, when the player is not on the playing field (i.e., is removed from the social context), he can shift back to his individual self, displaying the soft side of his personal characteristics.

In the previous chapter, the self was described as a psychological lens through which people observe and comprehend the world, and the concept of the dynamic self provides us the opportunity to better understand the true nature of the psychological lens: we have more than one psychological lens in us. Just like a professional photographer always brings multiple camera lenses and chooses the one most suitable to the current environment for taking high quality pictures, people shift their self-perceptions which provide them better regulatory strategies in a given social environment. By doing so, they guide their behaviors most suitable to the current social context.

White, Hogg, and Terry (2002) demonstrated the shift in the locus of self from individual to collective by examining the impact of salient in-group norms on the strength of the attitude-behavior relationship. In this study, subjective norm proposed in the theory of planned behavior was redefined as a more context specific group norm. When the group norm is inconsistent with participants' preexisting attitudes, they displayed lower levels of correspondence between their attitude and behavior, while participants exposed to attitude consistent group norms displayed stronger correspondence. They argued that the depersonalization process drives the person to construe attitudes, behavioral intentions, and behaviors from the perspective of group identity when they are related to the defining features of the salient group membership (i.e., prototypes).

We extend the idea of self-categorization to understand the mechanism of individuals' regulatory processes in group contexts. To maintain the theoretical distinction between these two different regulatory systems, we named group level regulatory focus as group orientation (avoidance vs approach) and individual level regulatory focus as trait regulatory focus (prevention vs promotion). Further, we define the phenomenal self-regulatory orientation that guides the actor's behavior in a current social context as active regulatory focus.

We propose that when a certain group identity is made salient, its members shift their locus of self perception from the personal level to the collective level, and they follow a group level regulatory system consistent with its norms, values, and goals rather than their own personal regulatory system. Once a certain group identity is made salient,

the perceptual shift in the locus of identity from individual to collective drives an actor to use the group's goal orientation to guide his/her behaviors rather than using trait regulatory focus. Consequently, the group orientation (avoidance or approach) consistent with the group's norms and goals will be the default mode of regulatory process. So the following hypotheses are generated:

> Proposition 1-a. When an approach oriented group identity is made salient, group members will shift their active regulatory focus toward a group promotion focus.
>
> Proposition 1-b. When an avoidance oriented group identity is made salient, group members will shift their active regulatory focus toward a group prevention focus.

The Conflict Resolution Process: Looking inside the Black Box of Depersonalization

In the previous section, a self-categorization process is proposed as the psychological foundation of regulatory shift from a group member's trait regulatory focus to group orientation. The hypothesis is built on the concept of the dynamic self which enables people to shift their locus of self-perception from one regulatory focus to another. In a social context where a group membership is made salient, group members cognitively redefine themselves using the group identity. Such a shift of locus of self-perception from personal to collective generates discontinuity between personal and collective identity. In other words, when a particular group identity is activated, he/she will define him/herself using the collective identity, and its value, norms, and characteristics should determine his/her psychological responses.

While a number of studies in social psychology have generated rich evidence of collective influence, there also have been numerous studies and anecdotal stories which

illustrate people's resistance to group or social influences.[5] In a same group context, some people follow group norms, but others often use their own personality or judgment to guide their behaviors. In the following sections, we explore the psychological mechanism which determines the result of self-categorization process: why and how some people categorize themselves with a group membership and others define themselves with their own personal self-concepts. To do so, two socio cognitive variables (group commitment and collective efficacy) are proposed as moderating factors which determines the characteristics of psychological strategies people implement in a group context.

Regulatory Conflict

If two regulatory systems (i.e., group orientation and trait regulatory focus) are consistent with each other (i.e., $approach_g$-$promotion_t$ and $avoidance_g$-$prevention_t$), there should be no motivation to resist the shift in locus of self-regulation from individual to collective. However, when these two regulatory systems are not consistent, people experience psychological discord which motivates them to resolve the conflict and to restore balance in their psychological state. In this dissertation, we define *regulatory conflict* as an inconsistency between group orientation and trait regulatory focus. Table 3-1 displays two possible conditions ($approach_g$-$prevention_t$ and $avoidance_g$-$promotion_t$) people experience regulatory conflicts.

Higgins (1996a) described a possible conflict between two different self-regulatory systems (i.e., family values vs. peer group norms). As a child enters

[5] See Funder (2001) for further discussions about the person-situation debate.

adolescence, his/her relationships with friends create another important shared social representation in his/her socio-psychological space, which tends to differ from the one developed through interactions with his/her parents. According to Higgins, parents are often experienced as authority figures from which one learns responsibilities and receives discipline (i.e., prevention focus), whereas friends are experienced as partners with whom one constructs mutual goals and has "a good time" together (promotion focus). Thus, the adolescent's shared social representation with their friends (about the kind of person he/she wants to be) can compete with his/her shared social representation with their parents (about the kind of person he/she ought to be).

TABLE 3-1

REGULATORY CONFLICTS

		Trait Regulatory Focus	
		Promotion	Prevention
Group Orientation	Approach		*Regulatory Conflict*
	Avoidance	*Regulatory Conflict*	

Even though self-regulatory focus theory provides a profound explanation for developing different kinds of shared reality and regulatory strategies, it is silent on how one actually manages such a conflicting situation. The theory regards the actor as a passive player who simply activates the regulatory system closely related to the current social situation. Such an approach assumes that there is only one salient shared social representation in any given social situation. However, as we discussed above, it is possible that two different regulatory systems collide in the same social space, but self-

regulatory focus theory does not explain how people manage such a contradictory situation.

For instance, Chris, a 16 years old boy, may follow family norms (being responsible) when he is at home with his family and use peer group norms (having fun) when he/she is playing with his friends. Each of the situations has only one salient shared reality and the person would not experience any kind of problems. However, when the two inconsistent group norms collide in the same social space, he needs a psychological strategy to resolve the conflict between the two shared realities. Imagine Chris got a phone call from his mother while he was playing with his friends (having fun) and she demanded that he come home right now because he has to attend his distant uncle's funeral (responsibilities). Now two conflicting shared realities (family norm and peer group norm) coexist in the same social space and he has to make a choice between the two. Then, what kind of criteria or strategy will the person implement to make a choice between the two self-regulatory systems?

Self-categorization processes provide an excellent framework for understanding how people manage a cognitive system of more complicated shared realities and how they apply related regulatory strategies. Instead of being simply "primed" by the current social situation, people often play a very active role in managing their regulatory system and use self-categorization process as an instrument for guiding their behaviors. An individual may control multiple regulatory systems by activating one shared social representation most fitting the current social situation.

For a conflicting social situation, an actor can use self-categorization processes to resolve the conflict and restore psychological balance. One strategy an actor can use is categorizing himself into one group membership based on the importance of shared representations. In Chris' case, if he feels his family is more important than his peer group at the moment, he will categorize himself as a family member and follow the family's norm: "be a responsible family member and attend my uncle's funeral." Alternatively, he might categorize himself as a member of his peer group and use the group's norm to guide his behavior: "stay with my friends and have more fun with them."

In the following section, we discuss how the importance of a group membership changes the process of regulatory shift by examining the conflict between trait regulatory focus and group orientation.

Group Commitment

Dutton et al. (1994) described group identification as the cognitive connection between the definition of an organization (i.e., group characteristics) and the individual self. Such a cognitive connection between the individual and the group is the foundation of collective identity. Without establishing the connection between two self-entities, one cannot develop an associative link between his/her personal identity and the collective.

Even though cognitive awareness of group membership is the foundation of a self-categorization process, it is not the sole component of social identity. Ellemers et al. (2002) proposed that social identity is composed of two distinct meanings – the cognitive recognition of group membership and the strength of association with a particular social category. Depending on the strength of the cognitive connection, the intensity of

collective influence on individual group members can be different. Self-categorization theory (e.g., Turner et al. 1987) and SIDE (Reicher et al. 1995) suggest that the level of group salience influence the process of depersonalization and the conformity to group norms. In other words, the theory acknowledges variations in the process of depersonalization, depending on differences in perceived group salience. Once an individual links his/her personal identity and the collective, the strength of the link between the two self-entities will determine how strong is the impact of depersonalization. Therefore, we propose group commitment (i.e., the strength/importance of a social identity) as a moderating variable which influences the impact of group influence on individual actors.

Group commitment is often influenced by not only the strength of the cognitive connection but also emotional significance and positive evaluations of the group (Bergami and Bagozzi 2000; Brewer 1991; Ellemers, Koretekaas, and Ouwerkerk 1999; Ellemers et al. 2002). Ellemers et al. (2002) proposed three distinct components of social identity[6]: cognitive (a cognitive awareness of one's membership in a social group – self-categorization), evaluative (a positive or negative value connotation connected to group membership – group or collective self-esteem), and emotional (a sense of emotional involvement or attachment with the group – affective commitment), which influence the level of group commitment.

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[6]The distinctiveness of the three components of social identity has been demonstrated in two studies. Ellemers et al. (1999) used factor analysis with varimax rotation and found three distinctive factors and Bergami and Bagozzi (2000) confirmed the distinctiveness of three components of social identity with confirmatory factor analysis and demonstrated the mediating role of cognitive identification between group prestige and stereotype on the one hand and evaluative and affective components on the other hand.

By re-conceptualizing social identity into three distinct components, social identity theorists were able to differentiate the level of group commitment and to introduce more realistic group situations into research frameworks. The artificial environment created by the minimal-group paradigm often forces or exaggerates participants' cognitive awareness of group membership and self categorization because the sterile situation does not generate enough social cues that allow participants to implement other behavioral strategies (e.g., activating preexisting self-schemas or implement emotion management strategies) to understand and make sense of the current situation. In other words, in the minimal group paradigm, the cognitive process of self-categorization is the only information available to the participants, and researchers were more focused on the impact of cognitive categorization process than the interaction between self-categorization process and other social contexts.

In natural group situations, however, it is possible that a person is aware of his/her group membership but reluctant to identify with the group because he/she does not have strong feelings or positive attitude toward the group. Understanding the interaction among three elements of social identity provides an analytic framework to understand why some people resist identifying with the group even though they are cognitively aware of their social category. Affective and/or evaluative dissatisfaction experienced by a group member weakens his/her group commitment and leads him/her to detach oneself from the group and to emphasize *differences* within the group (Ellemers and Barreto 2001; Ellemers et al. 2002). In such a situation, a group member would not initiate the depersonalization process because he/she focuses on seeking maximum differences

between oneself and the group (members). In other words, the person sees him/herself very different from other group members and uses “I” vs “others” categorization rather than using group membership to categorize herself as a part of the group. Consequently, instead of shifting the self-focus to a collective identity, he/she tries to preserve one’s internalized individual traits even if he/she is aware of the group membership.

Consider an exchange student from Japan visiting a university in California. She is certainly aware of her current group membership and may try to see herself using the characteristics of collective self. However, even if the student apprehends her group membership and related characteristics, she may not be able to create sufficient emotional attachment to the new group identity. Due to the lack of attachment, she may resist internalizing the group’s norms and values and find them in conflict with her traditional norms, which may further prevent her from developing strong affective components for the collective identity. Moreover, such a conflict may also drive her to develop a negative attitude and perceive in-group status as inferior to out-group(s) (e.g., a school in Texas which she considered visiting). Consequently, instead of fitting in to the new social environment, she may express negative emotions and attitudes toward the in-group and alienates herself from other in-group members.

The above example portrays a social situation where cognitive awareness of a social category does not automatically lead to a depersonalization process. When collective identities are concerned, group members with less emotional attachment and negative attitudes toward the group will not internalize group characteristics, norms, and values. Rather, the individual will resist self-categorization processes and attempt to

maintain and implement his/her own traits to regulate their behaviors. Strong affective and evaluative commitment are often needed to develop a full-fledged social identity (Ellemers et al. 2002). The extent to which group characteristics affect group members is determined by interaction among cognitive, affective, and evaluative elements of social identity.

Taking this reasoning one step further, we propose group commitment as a moderating variable influencing the degree of depersonalization processes and the resulting shift in regulatory focus. By doing so, it provides valuable insights for understanding the underlying psychological mechanism of conflict resolution process: how people manage regulatory conflict between group orientation and trait regulatory focus (see Table 3-2).

TABLE 3-2

MODERATING ROLE OF GROUP COMMITMENT

		Regulatory Conflicts		**Active Regulatory Focus**
		Trait	Group	
Group Commitment	High (Depersonalization)	Prevention	Approach	*Approach*
		Promotion	Avoidance	*Avoidance*
	Low (Self-Preservation)	Prevention	Approach	*Prevention*
		Promotion	Avoidance	*Promotion*

The theoretical framework suggested here postulates that group members take a different psychological route for the resolution of their regulatory conflicts, depending on their perceived level of group commitment. When there are conflicts between an individual's trait regulatory focus and the group's goal orientation, an individual with a

high level of group commitment follows depersonalization processes and sees him/herself as a part of the group. Consequently, he/she uses the group's norm and goal orientation to guide their psychological processes and behaviors (i.e., regulatory shift from trait regulatory focus to group orientation).

On the other hand, when a person has a weak identification with the group, the person inhibits the process of depersonalization and implements a self-preservation process. In self-preservation processes, instead of categorizing other group members sharing the same social identity, the person is more focused on "I" vs "Other" categorization. Such a separation of the personal self from the group identity leads the group member to use his/her trait regulatory focus to resolve the conflict. Therefore, the following two hypotheses are generated.

> Hypothesis 2-a. When an individual's group commitment is high, he/she will adopt the groups' goal orientation as active regulatory focus to resolve the regulatory conflict (depersonalization).

> Hypothesis 2-b. When an individual's group commitment is low, he/she will maintain his/her trait regulatory focus as active regulatory focus to resolve the regulatory conflict (self-preservation).

Collective Efficacy

Research on self-regulation has almost exclusively focused on the exercise of an individual's regulatory system and the resulting cognitive, motivational, and affective processes. In social contexts, however, people often do not have direct control over close others' behavior, social environments, and group norms that affect their lives. Moreover, in certain situations, individuals are asked to sacrifice their self-interests to achieve the group's goal. For instance, one of the promotion campaigns for the 2005 NCAA

basketball tournament emphasized individual sacrifice to achieve team victory: “Sacrifice the self for the good of the team.”

Under such social circumstances/pressures, people often surrender their individual self-regulatory process and seek their *desired outcomes* through the exercise of collective regulation. In particular, when people encounter situations where they have to achieve a certain goal through a social entity (i.e., their in-group), collective efficacy (Bandura 1997, 2000, 2001) plays an important role influencing how people select and achieve the desired end states (i.e., people’s collective regulation). It has been demonstrated that collective efficacy influence various group processes, including how group members achieve desired outcomes through collective action, how well they use their resources, how much effort they put into their group endeavor, and so on. A variety of empirical studies shows that collective efficacy, a group’s belief in their combined capabilities to produce satisfactory end states, influences various group processes such as group choices, efforts, and persistence (e.g., Carron 1984; Durham, Knight, and Locke 1997; Earley 1994; Feltz and Lirgg 1998; Hodges and Carron 1992; Jex and Bliese 1999; Mullen and Cooper 1994; Prussia and Kinkcki 1996; Sampson, Raudenbush, and Earls 1997; Spink 1990).

Collective efficacy is the extension of self efficacy which attempt to explain the changes in the locus of control in various social contexts. Bandura proposes three modes of human agency: individual agency (direct personal agency), relational agency (a proxy that relies on others to act on one’s behest to secure desired outcomes), and collective agency (exercised through socially coordinative and interdependent effort). He suggests

that people often hand over their regulatory functions to social (i.e., proxy or collective) agents because they do not have direction control over the situation or the goal can be achieved only through collective efforts. While group commitment is more focused on the strength of cognitive association and emotional attachment to the group membership, collective efficacy concerns the probability of achieving the desired end state through group endeavor and reflects the perceived ability of the group.

Society and individuals are interdependent entities that have reciprocal relationships. Bandura (2001) emphasizes the interdependence between social environments and individuals' self-regulation as the foundation of collective regulation. He argues, "people do not live their lives in isolation. Many of the things they seek are achievable only through socially interdependent effort… Group attainments are the product not only of the shared intentions, knowledge, and skills of its members, but also of the interactive, coordinated, and synergistic dynamics of their transactions" (p.p. 13-14). In other words, the foundation of collective efficacy is group members' *shared beliefs* in their collective power for achieving desired outcomes. It is another kind of shared social representation people develop through social interactions and reflects *the perceived beliefs* in individual group members' minds that controls their cognitive, motivational, and regulatory processes in a social context where group membership is made salient (i.e., people are cognitively aware of their group identity).

When an individual identifies with a certain group membership, group characteristics influence the individual's regulatory system through collective efficacy. However, individuals do not simply surrender their control to the collective

unconditionally, rather they play a proactive role and shift the perceptions of efficacy from individual to collective only when they believe they can achieve a desired outcome through the collective endeavor. Hence, collective efficacy is the product of the interaction between the individual's characteristics and social situations.

From this interactive perspective of the collective and the individual, collective efficacy is proposed here to be another variable guiding an individual's choices of strategies for resolving regulatory conflicts. When a group member experiences low levels of collective efficacy, the chance of attaining the desired goal is very slim leading the person to maintain/use his/her own trait regulatory focus (i.e., self-preservation). On the other hand, when a person perceives that the group possesses high collective efficacy for achieving a given group oriented task, he/she will consider the group an effective instrument to achieve the desired end state, and will follow the group's norms and regulatory orientations (i.e., group orientation).

TABLE 3-3

MODERATING ROLE OF COLLECTIVE EFFICACY

		Regulatory Conflict		**Active Regulatory Focus**
		Trait	**Group**	
Collective Efficacy	**High (Compliance)**	Prevention	Approach	Approach
		Promotion	Avoidance	Avoidance
	Low (Self-Preservation)	Prevention	Approach	Prevention
		Promotion	Avoidance	Promotion

In such a situation, group members use group norms as standards or reference values in their regulatory systems and follow group orientation to achieve their collective

goal (i.e., compliance). Therefore, when an actor experiences regulatory conflict between the individuals' regulatory focus and the group's goal orientation, he/she will shift their regulatory focus only when he/she experience high levels of collective efficacy (see Table 3-3). Hence, the following hypotheses are generated:

> Hypothesis 3-a. When an individual's collective efficacy is high, he/she will adopt the groups' goal orientation as active regulatory focus to resolve the regulatory conflict.
>
> Hypothesis 3-b. When an individual's collective efficacy is low, he/she will maintain his/her trait regulatory focus as regulatory focus to resolve the regulatory conflict.

Concerning the role of collective efficacy in the conflict resolution process, we postulate that collective efficacy plays a more prominent role in the low group commitment situation than in the high group commitment situation. When an individual group member does not posses strong sense of social identity (i.e., low group commitment), he/she maintains an independent sense of individual self and views the group as an instrument or agent helping him/her to reach desired end states. In such situation, high collective efficacy embedded in the group provides the actor strong motivation to follow the group's goal orientation different from his/her own trait regulatory focus. However, once group members develop a strong sense of social identity (i.e., high group commitment), the activation of the social category is rather automatic and even if group members perceive that the group does not possess high levels of collective efficacy, group members often stay with the group because the group membership becomes part of their "true" identity.

In this dissertation, we do not dispute the positive role of collective efficacy on building strong social identity. It is very likely that collective efficacy works as an antecedent of group commitment, and having high collective efficacy may encourage people to join the group and develop stronger sense of group membership. Bandura (2000) argues, "A sense of efficacy does not necessarily spawn an individualistic lifestyle, identity, or morality. If belief in the power to produce results is put to social purposes, it fosters a communal life rather than eroding it. (p. 77)" In this statement, he emphasizes the fundamental role of collective efficacy in fostering a collective mindset and sustaining a healthy social environment. In the long run, collective efficacy helps society members to develop various social identities which help them to maintain flexible regulatory systems. However, the theoretical framework suggested here does not attempt to explain such a long term effect of collective efficacy on group commitment. Rather, it tries to explain a cross sectional impact of the collective on individual group members' regulatory systems. Therefore, we leave the more complicated long term interactions between group commitment and collective efficacy for future research and focus on the cross-sectional impact of the two social variables.

The Congruence between Active Regulatory Focus and Message Framing

The revitalized self studies in consumer research have generated a lot of research in different domains of consumption and information processing. The major theme of the new research stream is on examining the impact of an individual's self-construal on consumers' consumption behaviors. Self-regulatory focus has received acute interest from consumer researchers and has been applied in various domains of consumption

behaviors, including evaluation of gain vs loss framed messages (Aaker and Lee 2001; Chernev 2004; Lee and Aaker 2000, 2004), consumer's switching behaviors (Chernev 2004), affective responses toward advertisements (Pham and Avnet 2004), cultural influence on individual's choice making (Briley and Wyer 2002), investment decisions among financial products (Zhou and Pham 2004), and consumers' repurchase decisions (Louro et al. 2005).

The popularity of this approach can be attributed to the concept's ability to explain a consumer's higher order goal framing (i.e., having a certain regulatory focus: prevention or promotion) that guides the consumer's selections of lower order consumption goals (i.e., behavioral strategies and means to achieve an higher order goal) in a consumer's goal hierarchy,[7] and subsequent affect, evaluations, and behaviors related to consumption (Aaker and Lee 2001).

To empirically demonstrate the impact of the conflict resolution process on a consumer's regulatory system, we test if the congruence between the exposed advertising framing (prevention vs promotion) and the person's active regulatory focus improves message persuasion. It has been shown that an individual with a promotion focus should evaluate a gain-framed message as more important, and an individual with a prevention focus should evaluate a loss-framed message as more important (Aaker and Lee 2001; Chernev 2004; Lee and Aaker 2000, 2004). In the previous sections, we proposed active regulatory focus as a phenomenal goal orientation people activate depending on the nature of the current social context. The influence of such phenomenal self-perceptions

[7] See Bagozzi and Dholakia for a detailed discussion on the goal hierarchy of consumption behavior.

on message evaluation has been demonstrated in Wheeler et al.'s (2005) work. They showed that messages matching with active self schema often invoke more elaborate message evaluation processes and often lead to more persuasive results given a satisfactory level of argument quality than do mismatched messages.

We propose when an individual activates a certain regulatory orientation (promotion/prevention), he/she evaluates the message consistent with the active regulatory focus. Therefore, the concept of message congruence in conjunction with our active regulatory focus hypotheses developed in previous discussions yields the following additional hypotheses:

> Hypothesis 4-a. An individual with an active promotion focus will evaluate a promotion framed message more positively than a prevention framed message.
>
> Hypothesis 4-b. An individual with an active prevention focus will evaluate a prevention-framed message more positively than a promotion framed message.

Regulatory Fit Hypothesis: Depersonalization vs Compliance

In the previous discussion, three conflict resolution processes (depersonalization, compliance, and self-preservation) were proposed as psychological strategies consumers can utilize when they experience the incongruence between group orientation and their own trait regulatory focus. Among those three psychological processes, two of them (i.e., depersonalization and compliance) generate the same result (i.e., following group orientation) even though we discussed the theoretical distinction between the two processes based on the difference in the locus of self-perception.

We proposed that the depersonalization process is a rather automatic activation of the collective identity and the actor sees the collective as a part of his self-definition. On the other hand, when an actor follows a compliance process, he/she maintains an individual self perception but sees the group as an effective instrument to achieve the desired end state. Such an instrumentality of the group provides enough motivation to surrender self-regulatory process to the group orientation.

Regulatory fit (Higgins 2000, 2002) is the relation between a person's regulatory orientation (prevention or promotion) and the means used to pursue one's goal. People experience a regulatory fit (i.e., feeling right) when they use goal pursuit means that fit their regulatory orientation, and this regulatory fit increases the value of what they are doing (i.e., value from fit).

The theoretical distinction between depersonalization and compliance provides an interesting perspective concerning the application of the regulatory fit hypotheses in collective situations. The key theoretical distinction between the two conflict resolution processes is the instrumentality of the collective. When the locus of self-perception is on individual self-perception (i.e., following compliance due to high collective efficacy), the actor treats the collective as an instrument through which he/she can achieve the desired end state. Consequently, in a compliance process, the actor experiences the regulatory "unfit" between the trait regulatory focus and the characteristics of the instrumentality (i.e., group orientation). If it is placed on the collective, however, the actor sees him/herself as a "true" member of the group and the group membership becomes not an instrument to achieve the goal but a part of his/her self definition. In such situation, the

actor does not experience any uneasy feeling because there is no conflict between the self and the instrument.

Consider the following example that Kitayama et al. (1997) use to explain the cultural difference between collective and individual societies;

> "Leo, an American undergraduate studying in Japan, once told us that many seemingly identical events "felt" very different in Japan. It seemed to him that an event that was fairly common in both cultures, such as playing volleyball with a group of friends, was often simply not the same event in the two cultures. In the United States, playing volleyball with classmates was usually *fun*: people cheered, were loud, apparently relaxed, and most of all, appeared *to enjoy the activity*. But in Japan, volleyball seemed to be a more serious matter: It was often organized as *a win or lose situation*. People seemed sober and competitive and, most of all, they "ganbaru" (effortfully persevered and hung in) until the end. Leo also claimed that when he joined his Japanese peers, he often ended up *behaving like them* although doing so did not always feel "right" and he did not feel like himself" (p. 1245, emphasis added).

In the story above, Leo experienced not only general cultural differences between two countries but also a regulatory conflict between the collective (i.e., volleyball team) orientation and his trait regulatory focus for playing volleyball game.

Through his social experience in the United States, Leo developed a promotion like orientation (having fun as an individual) when he was playing volleyball with his friends. On the other hand, when he was playing the same kind of game in Japan, he found that people take very serious the *responsibility* to contribute to the team's efforts to win (i.e., avoidance orientation). As a member of the volleyball team, he found himself following the group's goal orientation (i.e., behave like them: trying very hard to meet the expectation/responsibility as a group member) but experienced uneasy feelings of "not-

right" from the inconsistency between his trait regulatory focus (promotion) and the group orientation (avoidance).

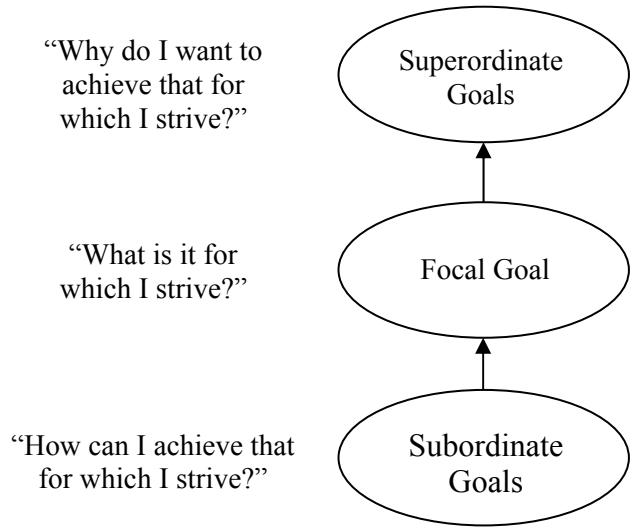
We believe such an uneasy feeling from regulatory non-fit is more noticeable in a compliance process than in a depersonalization process. When group commitment is high, a group member experiences a relatively complete depersonalization process, and the group identity becomes the phenomenal self working in the current social context to guide the member's actions. In contrast, when a group member does not possess a strong group commitment to activate a depersonalization process, such as Leo's situation of being an exchange student, a group member often construes the collective as an instrument to achieve a desired personal end state. Even though the actor still follows the group orientation, he/she does not undergo a full depersonalization process. Such an incomplete depersonalization due to low level of commitment leads the actor to maintain his/her personal self-perceptions and to experience uneasy feelings of "not-right" from the regulatory non-fit between group orientation (as an instrument) and his personal trait regulatory focus.

The above example describes a "general" non-fit between a group goal and a personal goal. In this section, a more specific framework of regulatory fit hypotheses between a collective and individuals will be developed based on the interaction between two perceived collective variables: group commitment and collective efficacy. The key conceptual component of the regulatory fit hypotheses suggested here is the instrumentality of collective goals and group orientation in an individual's goal hierarchy, which is determined by the locus of selfhood (i.e., collective vs personal identity).

In their presentation of a goal hierarchy (see Figure 3-1), Bagozzi and Dholakia (1999) differentiate a focal goal from a subordinate goal. They argue that a focal goal is in the center of the goal hierarchy and represents the actor's desired end state and subordinate goals are the means of achieving the focal goal. Superordinate goals that occupy highest status in goal hierarchy, refer to the abstract values that provide reasons and motivations to strive for the focal goal. In this discussion, we borrow the concepts of focal goal and subordinate goal to develop regulatory fit hypotheses between group orientation and trait regulatory focus.

FIGURE 3-1

GENERAL REPRESENTATION OF GOAL HIERARCHY
(Bagozzi and Dholakia 1999)

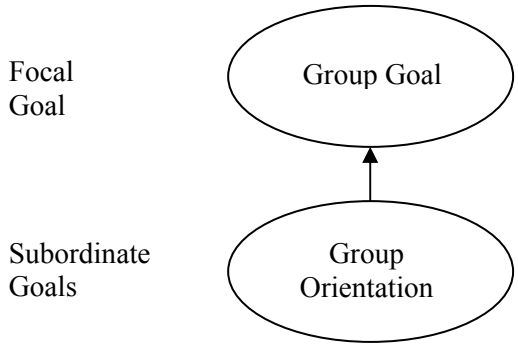


In a group context, an individual often shares the same goal with other group members but the status of the group goal may be different in the person's goal hierarchy

depending on his commitment toward the group (i.e., the strength of his social identity). When the person possesses strong group commitment, the depersonalization process expands the boundary of selfhood, and the collective identity becomes an active agent of the actor's psychological processes and behavior. Consequently, the group goal becomes the person's focal goal (see Figure 3-2.), and the group's behavioral strategy (i.e., goal orientation works as an instrument to achieve the goal, and becomes the subordinate goal). Since the actor's self-perception has completely shifted from individual to the collective, there exists no conflict between the focal goal (group goal) and subordinate goal (group orientation).

FIGURE 3-2

THE REPRESENTATION OF GROUP GOAL WITH HIGH GROUP COMMITMENT

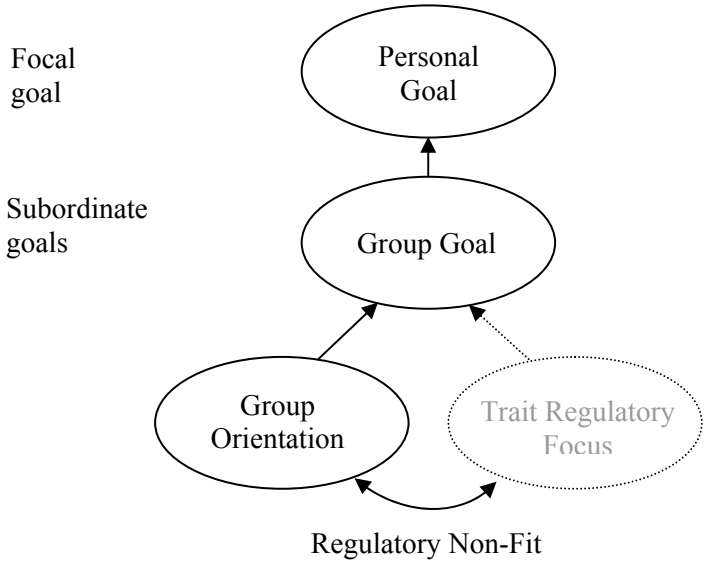


However, when a member does not have a strong enough group commitment to induce a depersonalization process but possesses a high level of collective efficacy (i.e., he/she believes that one has a high chance of reaching the desired end state through collective endeavors), the person people may regard the collective goal as an instrument

for achieving their own individual aspirations. Therefore, the person's own aspiration becomes the higher order focal goal and the group goal becomes an instrumental subordinate goal (see Figure 3-3). In such a situation, he/she maintains his/her own individual self-hood, including trait regulatory focus, and both group goal and group orientation become subordinate goals to achieve the person's focal goal (personal aspirations). Consequently, the person experiences uneasy feeling of following the group orientation because of the inconsistency between group orientation and trait regulatory focus.

FIGURE 3-3

THE REPRESENTATION OF GROUP GOAL AND PERSONAL GOAL
WITH LOW GROUP COMMITMENT AND HIGH COLLECTIVE EFFICACY



Consider a situation where an individual can achieve his/her desired end state through a collective endeavor. For instance, a professional basketball player can win an

NBA championship through a collective team effort. Imagine there is an NBA team that plays very well during the season and shows good promise of winning the championship (i.e., providing high collective efficacy).

When a player on the team has a strong group commitment toward the basketball team, the depersonalization process ensures that the group identity will be the player's active self-concept and the group goal ("we, as a team, want the NBA championship") becomes the focal goal in his goal hierarchy. In such situation, even though group orientation (e.g., focusing on defense to win a game – avoidance orientation) is different from trait regulatory focus (e.g., he, as an individual, prefers offense oriented strategy – promotion focus), individuals often shift the locus of self-hood from individual to collective and do not experience any uneasy feeling from the inconsistency between group orientation and trait regulatory focus.

On the other hand, if another player on the team has as his focal goal getting more salary or the MVP award for the year, the group goal (winning the NBA championship) can be a mere instrument to achieve his personal aspirations (i.e., his focal goal in the goal hierarchy). Even though the player hands over regulatory control voluntarily to the group orientation (i.e., following the team's defense oriented tactics, even though he possesses a very aggressive mindset, and does not like their tactics), he still experiences an uneasy feeling of "not right." The regulatory fit hypothesis predicts the former player would have a more positive experience because the latter will transfer the negative feelings from regulatory non-fit to his evaluation of playing for the team.

A depersonalization process induced by a high level of group commitment may automatically shift the locus of regulatory focus from an individual self to a collective one, since people experience a very high sense of belonging and define themselves using the collective identity. Such a strong cognitive connection and emotional attachment toward the group often enhances an automatic activation of the group identity.[8] Therefore, when people experience a high level of group commitment, collective efficacy should play a less important role because of the automatic activation of a strong group identity. Moreover, it has been suggested (Ellemers et al. 2002) that people with a strong collective identity often display perseverance to protect the group membership, even though their chance of achieving the desired end state through the group endeavor is very slim (i.e., low collective efficacy).

On the other hand, when the level of group commitment is low, people become more opportunistic, and consider other variables to determine their regulatory strategies. We proposed compliance as the regulatory strategy people implement when they experience a low level of group commitment but a high level of collective efficacy. Even though people do not experience a high sense of belonging or emotional attachment toward their group under low group commitment, they consciously recognize the high possibility of attaining their goals through group endeavor under high collective efficacy and shift their regulatory focus from an individual regulatory focus to group orientation.

In such a situation, people follow the group's goal orientation and use it as their active regulatory focus, but they still maintain individual self-concepts since they

[8] In their extensive review of category activation, Macrae and Bodenhausen (2000) suggest category activation depends on the interplay between cognitive and motivational forces.

perceive the group not as part of their self-definition but as a tool to accomplish their individual goals. Consequently, the incompatibility between the individual's personal self concept (i.e., trait regulatory focus) and the group identity (i.e., group orientation) cause people to experience uneasy feelings from such a conflict.

Although both compliance and depersonalization processes generate a regulatory shift from personal to collective, the two processes undergo distinct cognitive and motivational processes. While depersonalization is a result of a rather automatic shift in the locus of identity and emotional attachment toward the group, compliance is a product of the individual's personal achievement motivation. As a result, the group is often treated as an instrument for achieving the present goal in compliance process. .

It has been shown that regulatory fit enhances the persuasiveness of messages and such a positive impact of regulatory fit is due to the misattribution of "right feelings" to attitude toward the presented message (e.g, Cesario, Grant, and Higgins 2004; Lee and Aaker 2004). Therefore, following the same line of reasoning, we propose that group members with high collective efficacy and low group commitment will experience stronger uneasy feelings from regulatory unfit compared to group members with high collective efficacy and high group commitment. The concept of "value from fit" proposes that people often transfer such an uneasy feeling to other psychological processes, and generate and transfer negative values toward the message evaluation process. Therefore the following hypothesis of regulatory fit results concerning the evaluation of the message consistent with group orientation in two different conflict resolution processes (depersonalization vs compliance):

> Proposition 5. In a conflict resolution process, an individual following compliance will experience regulatory unfit and evaluate a consistent message consistent with group orientation less favorably than an individual following depersonalization.

Summary

This chapter presented a conceptual framework of a conflict resolution process people undergo when they experience the inconsistency between group orientation and trait regulatory focus. Three psychological processes, depersonalization, compliance, and self-preservation, were proposed as conflict resolution strategies. Two socio-cognitive variables, group commitment and collective efficacy, were proposed to be the mediating variables determining an individual group members' psychological strategy to resolve the psychological discord.

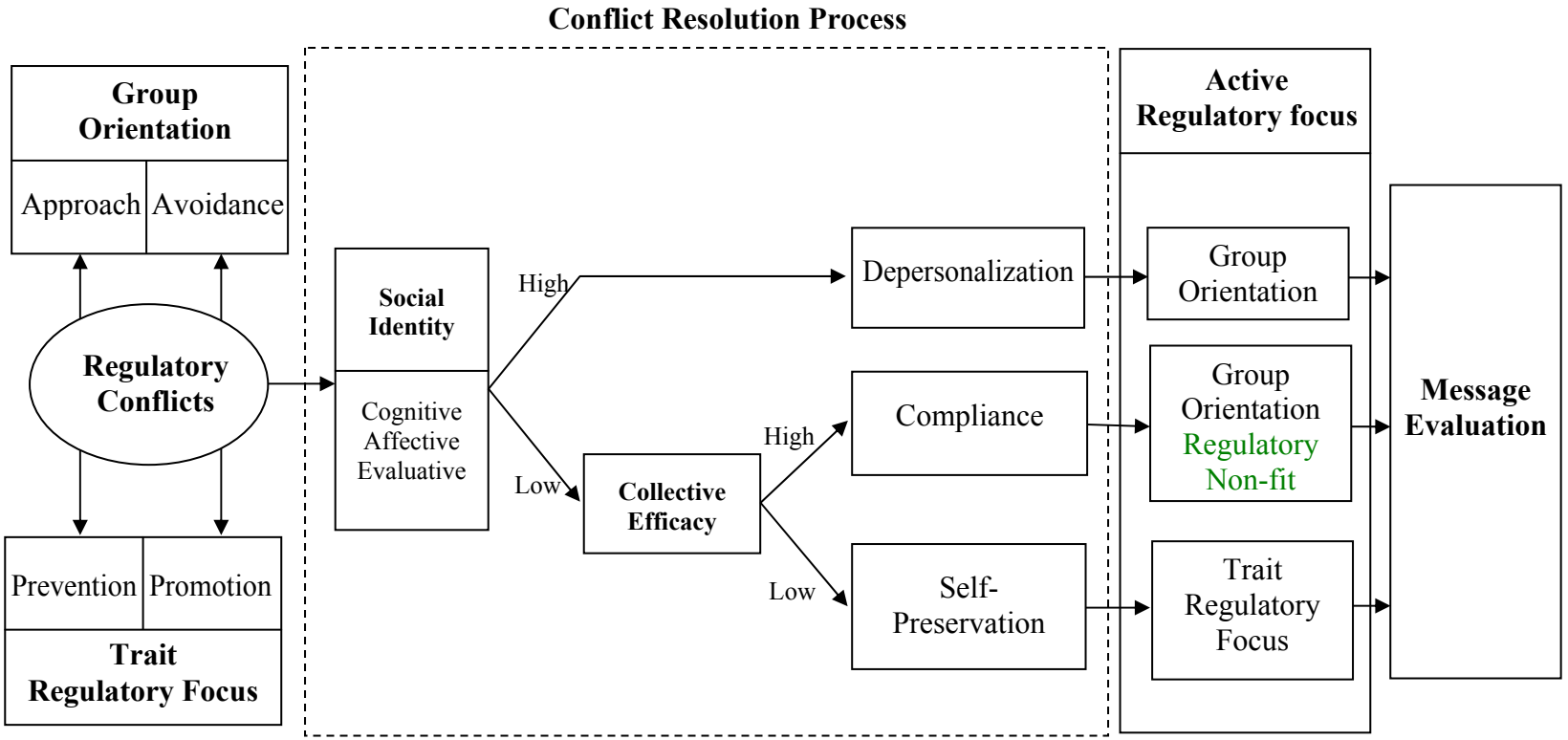
Figure 3-4 displays the theoretical frameworks suggested in this chapter. The figure illustrates three psychological routes of conflict resolution process. When the level of group commitment is high, people experience a complete or high depersonalization process and group orientation becomes their own active regulatory focus. However, when the level of group commitment is low, people reflect on other social contexts such as coercive power, authorities, etc to decide which regulatory orientation they should follow – group orientation or trait regulatory focus. We propose collective efficacy as a social variable people will consider in such a situation. If a group member perceives a high level of collective efficacy, he/she should surrender their regulatory function to the group and follow the group orientation to reach the desired personal end state. On the other hand, when both group commitment and collective efficacy are low, a group member does not

have any motivation or reason to follow the group orientation, and therefore follow his/her own trait regulatory focus.

Regulatory fit hypotheses between group orientation and trait regulatory focus were also developed to provide a theoretical distinction between depersonalization and compliance. When an individual undergoes a compliance process, he/she sees the group as a separate agent from his/her self definition, not as a part of self. Therefore, the person experiences an uneasy feeling when following group orientation (even though it is voluntary process) because it differs from his/her own trait regulatory focus. Such an uneasy feeling can be misattributed to the message evaluation process thus lowering the persuasiveness of the message congruent with group orientation.

FIGURE 3-4

THE CONCEPTUAL FRAMEWORK OF CONFLICT RESOLUTION PROCESS



CHAPTER IV

METHODOLOGY AND RESULTS

In the previous chapter, we proposed a theoretical framework for explaining how a consumer's collective self-perceptions influence his/her regulatory system and subsequent evaluative and decision-making processes. When an individual group member experiences incompatibility between his/her own goal orientation (i.e., trait regulatory focus) and the group's goal orientation, he/she will experience a regulatory conflict between the two. To maintain a sound regulatory system that helps consumers achieve their consumption goals, while maintaining healthy social relationships, an individual must resolve the conflict between the two self-agencies (i.e., between collective identity and personal identity).

A series of six experiments, focused on the interaction between collective orientations and trait regulatory foci, were conducted to test the underlying mechanism of conflict resolution processes. Experiment 1 demonstrated the *depersonalization* process generates a regulatory shift from trait regulatory focus to group orientation, and functions as a psychological strategy people implement to resolve a regulatory conflict. Experiment 2 examines the interaction between the message framing and group orientation to test message congruent hypotheses. While experiment 2 treated depersonalization process as the default process to resolve the conflict between group orientation and trait regulatory focus, the following experiments provides a closer look at the conflict resolution process by introducing group commitment and collective efficacy as moderating variables

determining the magnitude of collective influence on a consumer's self-regulatory system and following message evaluations.

In experiment 3, we manipulated the level of group commitment using the bogus pipeline manipulation, and tested the moderating role of group commitment in the message congruence hypothesis. Experiment 4 attempts to replicate the findings from experiment 3 by manipulating group commitment with a pre-existing social identity. Experiment 5 examines the moderating role of another perceived collective variable, collective efficacy, which plays a pivotal role in activating another conflict resolution process: *compliance*. Experiment 6 tests the regulatory fit hypotheses between group orientation and trait regulatory focus to empirically demonstrate the conceptual distinction between depersonalization and compliance.

Experiment 1

The main objective of this experiment is to test if a regulatory shift can be generated through depersonalization as an attempt to resolve a regulatory conflict between group orientation and trait regulatory focus when a particular group identity is made salient. The focal prediction of the experiment is that when a consumer encounters a social context that makes a group membership salient, depersonalization process induces a regulatory shift, whereby the group orientation supersedes an individual's trait regulatory focus and becomes the person's active regulatory focus. The expected pattern of regulatory shift is formally stated in the following hypothesis:

> Hypothesis 1: When a group membership is made salient, group members shift their locus of selfhood from personal to individual, and use the group orientation as their active regulatory focus.

To test the regulatory shift hypothesis, a 2 (group orientation: avoidance vs. approach) × 2 (individual's trait regulatory focus: prevention vs. promotion focus) between subjects design was employed. A total of 149 participants were recruited from Texas A&M University, and extra credit was used to encourage their participation. In this experiment, group orientation was manipulated by asking participants to play a collective game with different goal orientations (i.e., approach vs avoidance) and two distinct orientations (i.e., prevention and promotion) of trait regulatory focus were measured with Behavioral Inhibition System/Behavioral Activation System scale (BIS/BAS; Carver and White 1994) and Regulatory Focus Questionnaire (RFQ; Higgins et al. 2001).

Manipulation and Measures of Independent Variables

Trait regulatory focus. At the beginning of the experiment, participants completed 20-item BIS/BAS and 11-item RFQ to measure individuals' personal tendency of regulating their behaviors (i.e., trait regulatory focus). Table 4.1 and 4.2 present means, standard deviations, and correlations of these items from the two scales. A series of Confirmatory Factor Analyses (CFA) were conducted with LISREL 8.7 to assess the reliability and construct validity of the items. From these analyses, we encountered a few problems in fit indices and factor loadings of BIS and Promotion RFQ items.

In BIS items, one factor model, suggested by Carver and White, showed unsatisfactory fit (χ^2 (14) = 31.093 p=0.00538, RMSEA = 0.0953, NNFI = 0.940, CFI = 0.960, and Standardized RMR = 0.0563) [9] and low factor loading with the 6th item (bis6;

[9] Criteria for a good model fit:
① Not significant result from the chi-square test
② RMSEA < 0.08
③ NNFI > 0.90

0.44). We suspected that this unsatisfactory fit is due to the hidden sub-dimensions within BIS items. Even though Carver and White (1994) proposed one factor model for BIS and three factor model for BAS (Reward Responsiveness, Drive, and Fun Seeking) from their exploratory factor analysis from their original scale development, they also implied the possibility of multi-dimensionality of the BIS items. They stated, "(W)e attempted to create statements that reflected a concern over the possibility of a bad occurrence…or a sensitivity to such events when they do occur… (p. 322)" In other words, they developed these items based on two different situations, 1) possible future situations and 2) current situations actually happening, which inhibit people's behaviors.

TABLE 4-1

MEAN, SD, AND CORRELATIONS OF RFQ ITEMS

Items	Mean	SD	Correlations										
pm1	3.83	1.16	1										
pm2	4.25	0.72	.08	1									
pm3	4.13	0.65	.17	.43	1								
pm4	3.46	1.18	.24	.21	.33	1							
pm5	4.34	0.67	.23	.25	.38	.22	1						
pm6	3.93	1.15	.19	.15	.28	.30	.28	1					
pv1	3.50	1.34	-.07	-.07	-.05	.09	.07	.16	1				
pv2	3.70	1.27	-.03	-.12	.00	.13	.16	.15	.70	1			
pv3	4.14	0.97	-.03	.07	-.05	.02	.07	.05	.65	.50	1		
pv4	3.48	1.28	.01	.02	.00	.17	.17	.18	.57	.58	.45	1	
pv5	3.02	1.36	.10	-.03	-.05	.22	.09	.12	.63	.52	.42	.53	1

④ CFI > 0.90
Standardized RMR < 0.05

Note: Chi-square test is very sensitive to the sample size, and often showed significant results even the proposed model possesses strong theoretical and empirical foundations.

TABLE 4-2

MEAN, SD, AND CORRELATIONS OF BIS/BAS ITEMS

Items	**Correlations**																			
bis1	1																			
bis2	.47	1																		
bis3	.28	.50	1																	
bis4	.24	.47	.48	1																
bis5	.54	.47	.29	.32	1															
bis6	.29	.36	.20	.30	.26	1														
bis7	.30	.43	.39	.41	.39	.22	1													
bas1	.18	.09	.04	.10	.21	.16	-.01	1												
bas2	.22	.14	.02	.11	.24	.13	.00	.57	1											
bas3	.24	.17	.12	.16	.27	.13	-.01	.59	.63	1										
bas4	.07	-.02	-.01	.02	.19	.09	.05	.48	.46	.49	1									
bas5	.11	.00	.02	.06	.17	.14	-.03	.54	.49	.53	.62	1								
bas6	.13	.05	-.05	.04	.08	.15	-.01	.30	.30	.24	.27	.52	1							
bas7	.12	.15	.07	.00	.17	.12	-.07	.33	.33	.28	.32	.43	.75	1						
bas8	.18	.10	.06	.05	.24	.20	.00	.32	.36	.33	.35	.56	.70	.73	1					
bas9	.03	-.03	.06	-.06	.01	.04	-.01	.25	.21	.12	.27	.31	.56	.60	.57	1				
bas10	-.13	-.09	.01	.04	-.13	-.05	-.21	.13	.09	.08	.19	.30	.17	.26	.11	.27	1			
bas11	-.01	-.12	-.03	.05	.03	.05	-.21	.21	.19	.17	.10	.32	.22	.31	.27	.29	.49	1		
bas12	-.06	.05	.09	.03	-.02	.04	-.03	.17	.10	.09	.22	.32	.23	.35	.27	.22	.54	.47	1	
bas13	-.10	-.08	-.01	.02	-.18	-.09	-.25	.11	.05	.04	.12	.23	.17	.28	.21	.14	.53	.55	.49	1
Mean	5.14	5.28	4.71	5.41	5.33	5.32	4.05	6.25	6.32	5.95	6.20	5.91	5.51	5.22	5.32	4.54	4.91	5.36	5.46	4.79
SD	1.41	1.37	1.44	1.34	1.23	1.37	1.53	0.75	0.79	0.86	0.88	0.91	1.07	1.21	1.08	1.30	1.54	1.19	1.21	1.55

Close examination of BIS items also revealed another possible sub-dimension among items representing current situations. Among the five items developed to measure current situations, three of them are asking questions related to the *social situations* of behavioral inhibition (i.e., criticism or scolding hurts me quite a bit, I feel pretty worried or upset when I think or know somebody is angry at me, I have very few fears compared to my friends) whereas the other two items are more related individual's personal traits (i.e., I worry about making mistakes, I feel worried when I think I have done poorly at something).

TABLE 4-3

χ^2 TESTS OF BIS AND RFQ-PROMOTION MEASUREMENT MODELS

		χ^2	χ^2 Test of Difference	*P*
BIS	One Factor Model	31.093 (df=14)		
	Two Factor Model (Carver & White 1994)	29.921 (df=13)	One factor vs Two factor χ^2_d = (31.093-29.921) = 1.172 (df=1)	.279
	Three Factor Model (Shin 2006)	8.375 (df=11)	One factor vs Three factor χ^2_d = (31.093-8.357) = 22.736 (df=3)	≈ 0
			Two factor vs Three factor χ^2_d = (29.921 – 8.357) = 21.564 (df=2)	≈ 0
RFQ Promotion	One Factor Model	6.247 (df=5)		
	Two Factor Model	2.756 (df=4)	χ^2_d = (6.247-2.756) = 3.491 (df=1)	.062

In this dissertation, we propose a three factor measurement model for BIS items (Future, Social, and Current) and conducted Chi-square difference tests to compare these three

alternative models (i.e., one-factor model, two-factor model with future, current inhibitions, and three-factor model with future, current, and social inhibitions). The results from Chi-square difference tests for competing models (see Table 4.3) reveals superior fit of three factor model over the other two models, showing significant differences between models (p-values are close to "0" for both tests). Figure 4.1 illustrates the graphical representation of the resulting three factor measurement models of BIS/BAS which includes path loadings and error estimates.[10]

Higgins et al. (2001) proposed two factor model (Prevention and Promotion) for their RFQ measurement items. As you can see from Figure 4-2, all factor loadings of one factor Prevention measurement model are bigger than 0.5 and the model also showed good fit indices (χ^2 (4) = 2.756 p=0.599, RMSEA = 0.0, NNFI = 0.979, CFI = 1.000, and Standardized RMR = 0.0275). One factor model of Promotion measurement items also showed a good fit from fit indices (χ^2 (9) = 12.129 p=0.206, RMSEA = 0.0549, NNFI = 0.964, CFI = 0.978, and Standardized RMR = 0.0483). However, further examination of the Promotion measurement model revealed that three items have factor loadings lower than the desired level (pm1, pm4, and pm6; factor loadings 0.32, 0.48, and 0.44 respectively).[11]

[10] Even though bis6 item still shows a low factor loading, we decided to keep the item to show the underlying dimensions of the BIS construct.
[11] It is desirable to have all factor loadings greater than 0.5 or so.

FIGURE 4-1

MEASUREMENT MODELS OF BIS/BAS

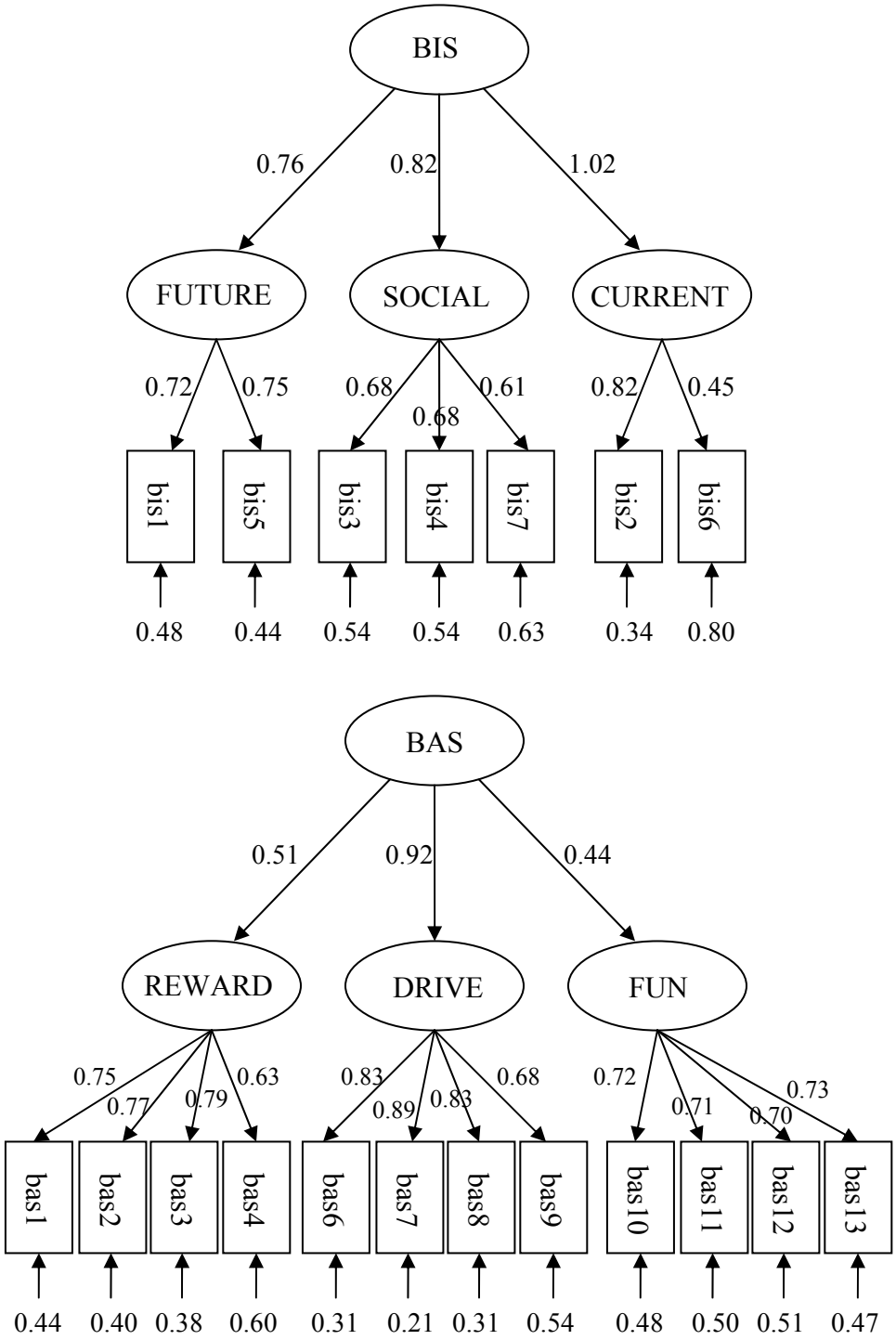
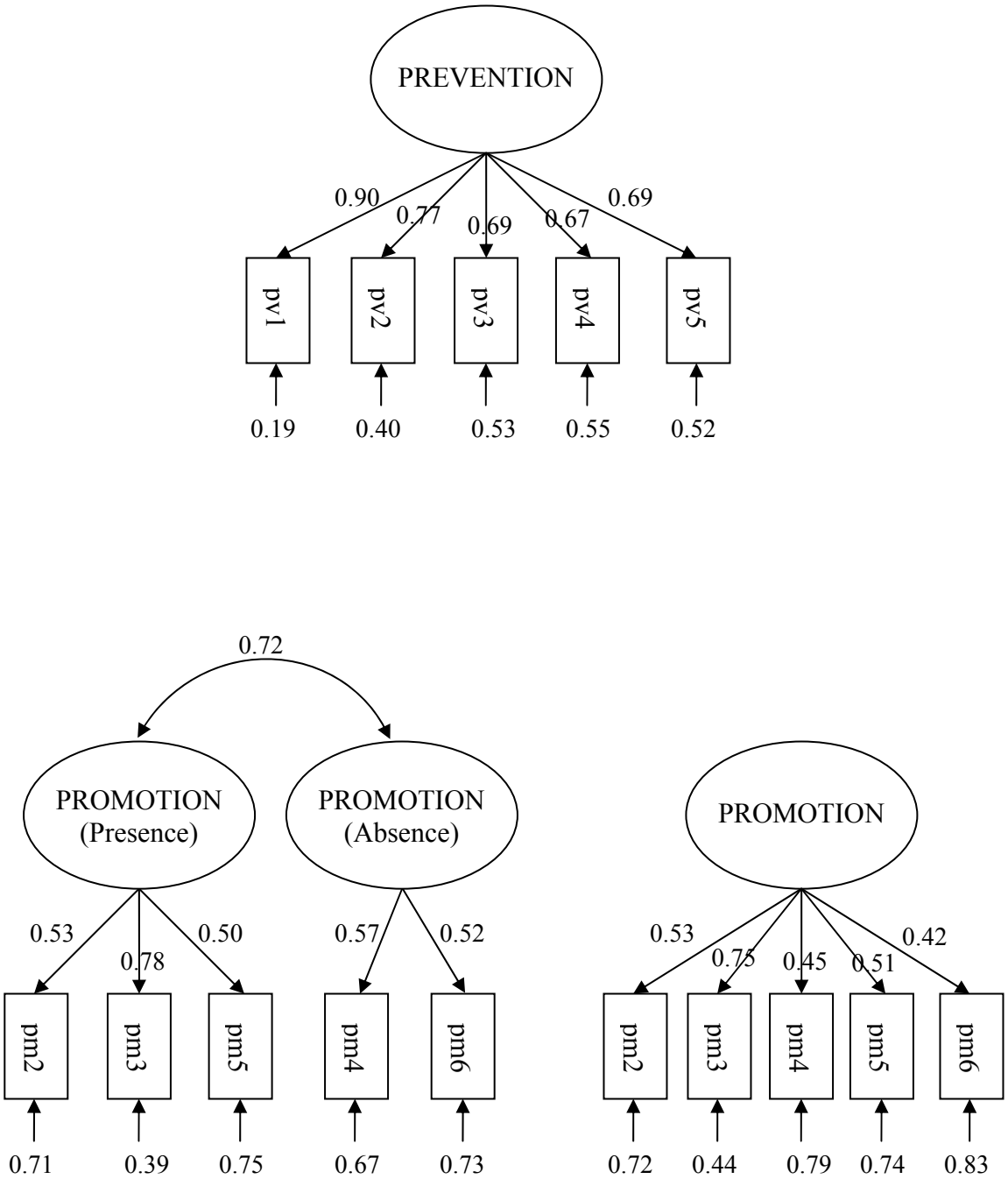


FIGURE 4-2

MEASUREMENT MODELS OF RFQ



Two Factor Model **One Factor Model**

We suspect these low factor loadings are partly due to the dual characteristics of promotion focus. One of the main characteristics of promotion focus is a person's tendency of emphasizing *the presence and absence of positive outcomes*, and we believe those three items with low factor loadings are more tuned to capture the *absence* of positive outcomes (e.g., Compared to most people, I typically am *unable* to get what I want out of life) compared to the other three items which is more focused on the *presence* of positive outcome.

The possibility of the existence of two sub-dimensions (Presence and Absence) in these items leads us to try a CFA with two factors (Presence and Absence; χ^2 (8) = 5.845 p=0.665, RMSEA = 0.0, NNFI = 1.028, CFI = 1.000, and Standardized RMR = 0.0353). While such attempt improved the factor loadings of two items (pm4 and pm6; 0.60 and 0.52 respectively), it did not improve pm1's factor loading (0.38) noticeably. Consequently, we decided to drop the item from the measurement model and ran another CFA with two factors, and the resulting measurement models of Prevention/Promotion RFQ are showed in Figure 4-2.

Even though Chi-square test of difference (χ^2_d = 3.491, df=1, p-value = 0.062) does not show a significant difference between the two competing models (one factor model and the two factor model with the same five items: pm2, pm3, pm4, pm5, and pm6), two factor model showed some improvements in raising low factor loadings which provides a reasonable advantage over the five-item one factor model which still has problems with low factor loadings in pm4 and pm6 (factor loadings 0.45 and 0.42 respectively).

TABLE 4-4

FIT INDICES FOR BIS/BAS AND RFQ MEASUREMENT MODELS

	Fit Indices
BIS (Three Factor Model)	χ^2 (11) = 8.357 (P=0.681) RMSEA = 0.0 NNFI = 1.012 CFI = 1.000 Standardized RMR = 0.0296
BAS (Three Factor Model)	χ^2 (51) = 54.168 (P=0.355) RMSEA = 0.0 NNFI = 0.997 CFI = 0.997 Standardized RMR = 0.0477
PREVENTION (One Factor Model)	χ^2 (5) = 9.970 (P=0.0761) RMSEA = 0.0783 NNFI = 0.979 CFI = 0.989 Standardized RMR = 0.0293
PROMOTION (Two Factor Model)	χ^2 (4) = 2.756 (P=0.599) RMSEA = 0.0 NNFI = 0.979 CFI = 1.000 Standardized RMR = 0.0275
Active Regulatory Focus with BIS (Current) items	χ^2 (4) = 2.141 (P=0.710) RMSEA = 0.0 NNFI = 1.150 CFI = 1.000 Standardized RMR = 0.0265

Table 4.4 summarizes the goodness-of-fit indices for the measurement models used in this dissertation. As shown in the table, each of the measurement models demonstrated a good fit with the data. Since both BIS/BAS and RFQ scales displayed acceptable goodness-of-fit indices and evidences of construct validity, we used both measures in two separate occasions (one with BIS/BAS and the other with RFQ) to create two groups with distinct trait regulatory focus (i.e., prevention vs. promotion) by

performing a median split on each of the scales. Therefore, two different series of analyses were conducted depending on which scale was used to create the two groups.

Group Orientation. After entering the experiment lab, all participants were told that the purpose of the study is to evaluate different types of online gaming products and were asked to read the following instruction.

> We are conducting a pilot study to develop a new kind of an online game. A major online gaming developer is planning to introduce a game which family members and friends can play together online. You will play a simplified version of a family game and evaluate the elements and characteristics of the game. Each of you will receive 4 points of extra credit for participating in this study.

After reading the instructions, participants were randomly assigned into a group of three people to create collective units subject to the group orientation manipulation. Then, each group was randomly assigned to one of the two group orientation conditions (avoidance/approach) where a variation of Onorato and Turner's (2004) group priming manipulation was implemented.

Participants were asked to play in a quiz game (College Team Jeopardy!) as a group. The game was selected because the rule of the game can be constructed to create collective tasks (i.e., people must play as a group to play the game) with different goal orientations (approach a positive end state and avoid a negative end state). To create the approach group orientation, the participating groups were instructed to answer as many questions as possible without any penalty for providing wrong answers. The scenario is also constructed to reflect psychological and financial gains. The following instructions were used to frame the game with the *approach group orientation*.

> Imagine you and your team members as contestants playing 2005 College Team Jeopardy! representing Texas A&M University. You and your team members must work as a group and reach a consensus before answering each question. Your team will be asked to answer 20 questions and your team's task is solving as many questions as possible in 10 minutes. Furthermore, if your team scores $1,000 or more points than the last year's national average, all of your group members will gain the chance of moving to the next round, where teams will compete for the regional championship.

Participants in the avoidance group orientation condition were asked to play the same game but with a different goal framing. To create the avoidance group orientation, the participating groups were instructed to make as few mistakes as possible by penalizing them for providing wrong answers. The scenario is also constructed to reflect psychological and financial losses. Except for the goal orientation and the reward framing, the avoidance orientation was manipulated with an almost identical instruction as with the approach orientation. The following instruction was used to manipulate the *avoidance group orientation*.

> Imagine yourself and your team members as contestants playing 2005 College Team Jeopardy! representing Texas A&M University. You and your team members must work as a group and reach a consensus before answering a question. Your team will be asked to answer 20 questions and your team's task is not committing mistakes in answering the questions. You will have 10 minutes and your team will lose $500 for each question you answered wrong. Furthermore, if your team scores $1,000 or less points than the last year's national average, all of your group members will lose a chance of moving to the next round, where teams will compete for the regional championship.

After finishing playing the game, each participant was asked to complete a questionnaire that includes the dependent measures, personality measurement items, and a checklist for the evaluation of the game. Participants were then debriefed and thanked for their participation.

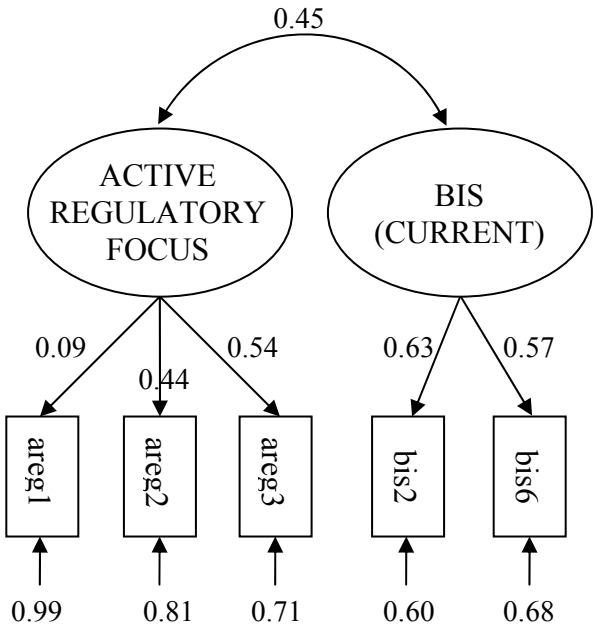
Measures of Dependent Variables

To show the regulatory shift from trait regulatory focus to group orientation caused by the depersonalization process, Pham and Avnet's (2004) regulatory focus items, which were developed as a tool for a manipulation check to test the effectiveness of the priming manipulation of regulatory focus, were applied as measures of Active Regulatory Focus (ARF). Three different items each of which is anchored by two different statements representing ideal and ought self were presented to participants. Since a measurement model with three items will generate an exactly identified model with "zero" degrees of freedom, a CFA for these items are conducted with two items measuring the BIS CURRENT construct. A graphical representation of this model is presented in Figure 4-3.

The results of the analyses revealed a serious problem in the measurement model of ARF items. Even though their CFA model showed a good fit (χ^2 (4) = 2.141 with *p-value* = 0.710, RMSEA = 0.0, NNFI = 1.150, CFI = 1.000, and Standardized RMR = 0.0265), the factor loadings for the three items measuring active regulatory focus are low (see Figure 4.3), especially the first item (arf1, factor loading: 0.09, SE: 0.123) which anchored with "do what is right" (ought) and "do whatever I want" (ideal). The other two items, each of them anchored by two sets of different choices "take a trip around the world" (ideal) and "pay back my loans" (ought) for one, and "go wherever my heart takes me" (ideal) and "do whatever it takes to keep my promises" (ought), also showed relatively low factor loadings (0.44 and 0.54 respectively).

FIGURE 4-3

MEASUREMENT MODEL OF ARF AND BIS



Another concern from this measurement model is the moderately high correlation (0.45) between ARF and BIS CURRENT that measures trait regulatory focus of participants. This high correlation between two supposedly independent factors suggests that the ARF construct may measure not people's active regulatory foci but trait regulatory foci reflecting their personal regulatory orientation.

After close examinations of the ARF items, we found some inherent differences between items. We suspect only arf1 item has the potential to measure the active regulatory focus. Whereas arf1 used more general statements as anchoring points which may more suitable to measure the individual's current state of mind (i.e., do what is right vs do whatever I want), the other two items used more specific situations likely stored in

people's memory structure (i.e., taking a trip or paying back loans). When people retrieve these specific situations from their memory, they may also bring a self-schema related to the situations and activate trait regulatory focus connected to the schema.

The high correlation between ARF and BIS CURRENT constructs support this speculation. Moreover, a near zero factor loading of arf1 item from ARF measurement model and the low values of simple correlations between arf1 and the other two items also support this argument (.043 with arf2 and .031 with arf3, see Table 4.5) also provides additional evidence for its qualification as phenomenal active regulatory focus measure.

TABLE 4-5

CORRELATIONS BETWEEN ARF ITEMS

	arf1	**arf2**	**arf3**
arf1	1		
arf2	.043	1	
arf3	.031	.230*	1

* significant at α= 0.05, *n*=152

Results and Discussion

Group Orientation vs BIS/BAS. Hypothesis 1 predicts that the group's currently salient goal orientation will override individual's trait regulatory focus, and generate a regulatory shift. Promotion/Prevention trait regulatory conditions were created with a median split on BIS/BAS items. Between the two scales (BIS/BAS and RFQ) measuring individuals' trait regulatory focus, the BIS/BAS scale is first used to create promotion and prevention groups since the scale displayed better model fit and sound construct

validity. The scores of BIS and BAS subscales were each averaged to form a BIS (prevention) score and a BAS (promotion) score. Then, participants were assigned to two different trait regulatory focus groups using the median split on the difference between the averages of two subscales (i.e., BAS-BIS).[12]

Then three items measuring active regulatory focus were all entered into an ANOVA model to compare their outputs. The convention for forming the dependent variable is to average all three items thought to measure the same construct (i.e., active regulatory focus). However, as we already discussed in the previous section, the three ARF items did not show satisfactory levels of reliability and construct validity, so each of the three items were separately examined in the analysis as distinct dependent variables. Each of the items was rescaled so that higher values represent a prevention oriented mindset and lower values refer to a promotion oriented mindset. Gender and age did not show significant effects and were dropped from this analysis.

Three ANOVAs were run on each ARF measurement item. The results from these ANOVAs are presented in Table 4-6. As we can see from the table, while arf3 did not show any significant result, arf1 and arf2 showed a couple of significant main effects. An ANOVA on arf1 displayed a significant main effect for Group Orientation (p=.028), whereas an ANOVA on arf2 showed a statistically significant result for Trait Regulatory Focus (p=.012).

[12] This procedure was originally suggested by Higgins et al. (2001) with their RFQ promotion/prevention measurement items.

TABLE 4-6

ANOVA RESULTS FOR ARF (MEDIAN SPLIT ON BIS/BAS)

	Source	df	Mean Square	F value	*p*
arf1 R2 = 0.037	Group Orientation	1	7.550	4.940	**.028**
	Trait Regulatory Focus	1	0.380	0.249	.619
	GO×TRF	1	0.442	0.289	.591
	Error	145	1.528		
arf2 R2 = 0.060	Group Orientation	1	4.845	1.113	.293
	Trait Regulatory Focus	1	28.442	6.536	**.012**
	GO×TRF	1	10.001	2.298	.132
	Error	145	4.352		
arf3 R2 = 0.021	Group Orientation	1	2.306	0.685	.409
	Trait Regulatory Focus	1	6.801	2.020	.157
	GO×TRF	1	1.452	0.431	.512
	Error	145	3.336		

Table 4-7 summarizes cell means and standard deviations for these ANOVAs. For arf1, people in the Avoidance Group Orientation condition showed higher means (6.06) than people in Approach Group Orientation (5.60). This is consistent with the pattern expected from hypothesis 1 (i.e., following group orientation), and provides additional evidence for the regulatory shift hypothesis. On the other hand, the results from arf2 displayed the opposite pattern: people followed their own trait regulatory focus rather than following their Group Orientation even when a group membership was made salient. The average of people in the Prevention condition (3.71) was higher than that of people in the Promotion condition (2.88).

TABLE 4-7

CELL MEANS AND SD (MEDIAN SPLIT ON BIS/BAS)

	Group Orientation	**Trait Regulatory Focus**		
		Promotion	**Prevention**	**Total**
Average	Approach	4.23 (1.22) n=40	4.63 (1.07) n=38	4.42 (1.16) n=78
	Avoidance	4.10 (0.98) n=33	4.64 (1.20) n=38	4.39 (1.13) n=71
	Total	4.17 (1.11) n=73	4.63 (1.13) n=76	4.41 (1.14) n=149
arf1	Approach	5.50 (1.55)	5.71 (1.27)	5.60 (1.47)
	Avoidance	6.06 (0.93)	6.05 (1.04)	6.06 (0.98)
	Total	5.75 (1.33)	5.88 (1.17)	5.82 (1.25)
arf2	Approach	3.28 (2.01)	3.63 (2.33)	3.45 (2.17)
	Avoidance	2.39 (1.90)	3.79 (2.05)	3.14 (2.09)
	Total	2.88 (2.00)	3.71 (2.18)	3.30 (2.13)
arf3	Approach	3.90 (1.77)	4.53 (1.80)	4.21 (1.80)
	Avoidance	3.85 (2.11)	4.08 (1.68)	3.97 (1.88)
	Error	3.88 (1.91)	4.30 (1.74)	4.09 (1.84)

* Note: Higher score represents more prevention oriented mindset.

These conflicting findings can be reconciled by adopting our previous arguments concerning the quality and characteristics of individual ARF items. If we accept arf1 as the only item measuring individual's phenomenal active regulatory focus and the other two items (arf2 and arf3) are more correlated with individual's personal trait regulatory focus, we can explain the conflicting findings discussed above. Since arf1 reflects group members phenomenal active regulatory focus, it showed a pattern consistent with group orientation when the group membership was made salient. However, since arf2 used a real situation as two anchor statements (i.e., "take a trip around the world" vs "pay back my loans"), exposing the item to participants may have activated self-schemas related to the situation which was closely related to their trait-regulatory focus rather than reflecting

the current active regulatory focus. The following analyses using BIS/BAS as a covariate provide additional evidence for this argument.

Since it has been suggested that conducting median splits on a continuous variable may lead to the loss of information (e.g., Cohen et al. 2003), we tried an ANCOVA model which treats trait regulatory focus as a covariate (i.e., without median split and used the difference between BAS and BIS as a continuous variable in the model). The test results from the ANCOVA model are mostly consistent with the findings from the previous ANOVA model (see Table 4-8) except the main effect of BIS/BAS on arf3 item. Even though Trait Regulatory Focus created by the median split on BIS/BAS scale in the previous ANOVA model, the BIS/BAS scale showed a significant main effect on arf3 (p=0.027) when it was entered into a model as a continuous variable (i.e., a covariate).

These ANCOVA results demonstrated that trait regulatory focus (i.e., BIS/BAS) has statistically significant effects on both arf2 and arf3, whereas Group Orientation shows a statistically significant effect on arf1. Given the possible statistical superiority of using a continuous variable instead of using median split, it is very likely the improved statistical power from ANCOVA detected the relationship between trait regulatory focus and arf3 which ANOVA failed to do so. These findings from the ANOCVA analysis provide additional evidence for the argument that arf2and arf3 items may measure not active regulatory focus but individuals' trait regulatory focus, and arf1 is only item actually measuring phenomenal active regulatory focus.

TABLE 4-8

ANCOVA RESULTS FOR ARF (BIS/BAS AS A COVARIATE)

	Source	df	Mean Square	F value	p
arf1 R2 = 0.044	Group Orientation	1	8.338	5.494	**.020**
	BIS/BAS	1	1.639	1.080	.300
	GO × BIS/BAS	1	0.818	0.539	.464
	Error	145	1.518		
arf2 R2 = 0.083	Group Orientation	1	0.698	0.164	.686
	BIS/BAS	1	47.545	11.194	**.001**
	GO × BIS/BAS	1	5.245	1.235	.464
	Error	145	4.247		
arf3 R2 = 0.042	Group Orientation	1	3.661	1.111	.294
	BIS/BAS	1	16.539	5.020	**.027**
	GO × BIS/BAS	1	2.099	0.637	.426
	Error	145	3.295		

Group Orientation vs RFQ. First, for the RFQ items with Promotion and Prevention subscales, we also followed the same procedure used in the previous section with BIS/BAS scale to create two distinct groups of promotion vs prevention trait regulatory focus. The results from the ANOVA analyses with a median split on the RFQ difference (i.e., Promotion score – Prevention score) are presented in Table 4-9. Table 4-10 displays cell means from the ANOVA analyses with a median split on the RFQ. When arf1 is used as the dependent variable, the Avoidance condition showed a higher cell mean (6.06) than the Approach condition (5.65) displaying a consistent pattern with regulatory shift hypothesis. However, neither ANOVA models on arf2 and arf3 nor one on the average of the three items generated any significant main or interaction effects.

TABLE 4-9

ANOVA RESULTS FOR ARF (MEDIAN SPLIT ON RFQ)

	Source	df	Mean Square	F	p
arf1 R2 = 0.028	Group Orientation	1	6.345	4.096	**.045**
	Trait Regulatory Focus	1	0.069	0.045	.833
	GO×TRF	1	0.229	0.148	.701
	Error	147	1.549		
arf2 R2 = 0.008	Group Orientation	1	2.545	0.557	.457
	Trait Regulatory Focus	1	0.624	0.137	.712
	GO×TRF	1	1.584	0.347	.557
	Error	147	4.569		
arf3 R2 = 0.004	Group Orientation	1	0.768	0.222	.638
	Trait Regulatory Focus	1	0.170	0.049	.825
	GO×TRF	1	0.901	0.261	.610
	Error	147	3.454		

TABLE 4-10

CELL MEANS AND SD (MEDIAN SPLIT ON RFQ)

	Group Orientation	Trait Regulatory Focus		
		Promotion	**Prevention**	**Total**
Average	Approach	4.32 (1.14) n=38	4.46 (1.16) n=42	4.40 (1.15) n=80
	Avoidance	4.46 (1.21) n=33	4.32 (1.07) n=38	4.39 (1.13) n=71
	Total	4.39 (1.17) n=71	4.40 (1.11) n=80	4.39 (1.14) n=151
arf1	Approach	5.63 (1.49)	5.67 (1.39)	5.65 (1.42)
	Avoidance	6.12 (1.08)	6.00 (0.90)	6.06 (0.98)
	Total	5.86 (1.32)	5.83 (1.18)	5.84 (1.25)
arf2	Approach	3.24 (2.21)	3.57 (2.12)	3.41 (2.16)
	Avoidance	3.18 (2.23)	3.11 (2.00)	3.14 (2.09)
	Total	3.21 (2.20)	3.35 (2.06)	3.28 (2.12)
arf3	Approach	4.08 (1.82)	4.17 (1.83)	4.13 (1.82)
	Avoidance	4.09 (1.96)	3.87 (1.83)	3.97 (1.88)
	Error	3.88 (1.91)	4.30 (1.74)	4.09 (1.84)

* Note: Higher score represents more prevention oriented mindset.

We also entered RFQ as a covariate, and the results from the ANCOVA analyses with RFQ are presented in Table 4-11. From these two tables, arf1 showed results consistent with the findings from the previous ANOVA/ANCOVA models with BIS/BAS items. Both ANOVA and ANCOVA on arf1 show significant main effects for Group Orientation (p=.045 and .029 respectively).

TABLE 4-11

ANCOVA RESULTS FOR ARF (RFQ AS A COVARIATE)

	Source	**df**	**Mean Square**	**F**	***p***
arf1 R2 = 0.041	Group Orientation RFQ GO×RFQ Error	1 1 1 147	7.398 1.337 1.668 1.528	4.841 0.875 1.092	**.029** .351 .298
arf2 R2 = 0.028	Group Orientation RFQ GO×RFQ Error	1 1 1 147	4.600 16.072 1.002 4.473	1.029 3.593 0.224	.312 .060 .637
arf3 R2 = 0.004	Group Orientation RFQ GO×RFQ Error	1 1 1 147	0.829 0.953 0.000 3.454	0.240 0.276 0.000	.625 .600 .989

Please note that only arf1 showed consistent findings across two series of analyses (one with BIS/BAS and the other with RFQ), but arf2 and arf3 displayed non-significant results for RFQ main effect while exhibiting significant results for BIS/BAS main effects. We believe such an inconsistency between the two series of analyses is due to relatively higher measurement errors for RFQ items. As we found out from the CFA models for RFQ, the measurement items showed low reliability and construct validity with considerable measurement error. It is very likely that the large amount of measurement

error embedded in the RFQ items influenced the median split procedure and screened the relatively weaker effect from individual's trait regulatory focus on arf2 and arf3 items while the model was able to capture a relatively stronger effect from group orientation on arf1 item.

The results from the ANCOVA model provide additional evidence for this argument. As we mentioned earlier, conducting a median split on continuous variables may create a large sum of measurement errors, since the procedure discards information contained in the continuous variable by breaking it down into a binary variable. Adding a large amount of measurement error on the top of the embedded measurement errors in RFQ measurement items worsens the problem in these analyses. Therefore, using the original continuous variable (RFQ) as a covariate can remove some of the measurement errors from the model and generate more statistical power. Such an improvement in statistical power was also observed in the ANCOVA with the BIS/BAS where we were able to capture a significant effect on the arf1 item, which we were unable to detect in the ANOVA analysis.

The regulatory shift hypothesis that the group's goal orientation takes over individuals' mind set and causes a shift from a trait regulatory focus to a group goal orientation was the focus in Experiment 1. Even though there were some issues in reliability and construct validity of the ARF items, we were able to demonstrate that one of the three items (arf1) used in this experiment is the best tool for measuring people's active regulatory focus. Throughout four series of analyses, we found consistent and robust patterns of regulatory shift with the arf1 item and presented strong empirical

support for regulatory shift: an important role of social identity in people's self-regulatory system, which enables individuals to incorporate group identity in guiding their social behaviors.

Experiment 2

The main focus of this experiment is testing the message congruence hypothesis (i.e., the congruence between group orientation and message framing). The main premise of the hypothesis is that when people experience a regulatory conflict between their group orientation and trait regulatory focus, the group orientation will override the individual's active regulatory focus through the depersonalization process. Then, the group orientation becomes one's regulatory focus which determines the congruence with message framing and influence the persuasive effectiveness of the delivered messages. Consequently, the message congruence hypothesis proposes that group members prefer a messages framed consistently with their group orientation (i.e., approach group – promotion framing and avoidance group – prevention framing). The expected pattern of message congruence is formally stated in the following hypothesis:

> Hypothesis2-a: With an approach group orientation, people will evaluate a promotion framed message more favorably than a prevention framed one.
> Hypothesis 2-b: With an avoidance group orientation, people will evaluate a prevention framed message more favorably than a promotion framed one.

In this experiment, we attempt to test if the activation of a group membership on a minimal level (i.e., putting participants in a group situation where they do not have any previous history or social interactions) can generate a regulatory shift strong enough to influence participants' message evaluations.

The interaction between a group orientation and message framing is the focal point to test the proposed hypothesis. Four dependent variables (attitude toward advertising, attitude toward product, attitude strength, and behavioral intention) were introduced to measure the persuasive effectiveness of the displayed messages, and a 2 (group orientation: avoidance vs. approach) × 2 (message framing: prevention vs. promotion) between subject design is implemented to exam the interaction between group orientation and message framing (i.e., it is expected that the message congruent with the group orientation will receive a more favorable evaluation than the one incongruent with the group orientation).

A total of 149 participants were recruited from Texas A&M University and received extra credit for their participation. After being randomly assigned into a group of three people to create collective units, participants in the same group were asked to work together as a team in two seemingly unrelated tasks. One involves performing a collective task, where group orientation was manipulated by asking participants to play a quiz game as a group, and the other involves evaluating differently framed print advertisements.

Manipulation of Independent Variables

Goal Orientation and Message Framing Manipulations. Group Orientation was manipulated by using the same procedure implemented in Experiment 1. However, to maintain a minimal exposure to the group membership, we dropped the name of the participants' school (i.e., Texas A&M University) from the scenario. For message framing, a variation of Lee and Aaker's (2004) procedure for manipulating prevention/promotion advertisement is applied here. Participants were randomly assigned

TABLE 4-12

MEAN, SD, AND CORRELATIONS OF BI, AAD, APD, AND AST ITEMS (EXP 2)

Items	Correlations																					
aad1	1																					
aad2	.59	1																				
aad3	.49	.64	1																			
aad4	.47	.53	.59	1																		
aad5	.41	.25	.26	.28	1																	
aad6	.56	.28	.35	.33	.60	1																
aad7	.71	.61	.61	.51	.52	.61	1															
aad8	.71	.72	.65	.58	.39	.55	.84	1														
aad9	.54	.51	.55	.40	.39	.35	.62	.63	1													
bi1	.60	.67	.58	.46	.32	.44	.63	.76	.50	1												
bi2	.61	.62	.56	.50	.37	.47	.61	.73	.46	.88	1											
bi3	.49	.41	.47	.45	.41	.51	.58	.53	.34	.61	.69	1										
bi4	.12	.26	.22	.22	.08	.08	.13	.19	.15	.37	.35	.25	1									
apd1	.52	.40	.46	.39	.45	.50	.64	.64	.57	.55	.53	.47	.19	1								
apd2	.55	.46	.46	.44	.41	.52	.63	.68	.52	.58	.56	.47	.21	.83	1							
apd3	.53	.41	.50	.41	.33	.38	.54	.60	.66	.51	.50	.44	.21	.74	.74	1						
apd4	.53	.33	.37	.27	.37	.38	.45	.52	.48	.55	.54	.37	.23	.70	.75	.64	1					
apd5	.31	.21	.29	.19	.44	.46	.41	.36	.43	.38	.38	.35	.20	.56	.51	.51	.51	1				
ast1	.10	.03	.19	.21	.09	.19	.13	.17	.12	.22	.21	.10	.11	.27	.23	.27	.23	.24	1			
ast2	.07	.03	.05	.13	.04	.18	.03	.08	.05	.06	.01	-.05	.05	.13	.17	.10	.09	.09	.65	1		
ast3	.00	.04	.04	.13	.15	.11	.01	.00	.02	.01	-.01	-.08	.16	.10	.01	.04	-.04	.14	.39	.53	1	
ast4	.19	.21	.12	.10	-.03	.13	.15	.19	.06	.29	.23	.00	.18	.11	.11	.11	.18	.15	.39	.35	.46	1
Mean	3.76	2.89	4.07	2.74	4.09	4.20	3.69	3.50	4.56	2.87	3.04	4.15	3.16	4.56	4.41	4.82	4.28	5.66	4.48	4.61	4.58	4.21
SD	1.63	1.57	1.28	1.63	1.93	1.55	1.51	1.65	1.42	1.68	1.70	1.66	1.58	1.32	1.48	1.28	1.58	1.25	1.31	1.45	1.36	1.26

into two groups (promotion frame vs prevention frame) and asked to evaluate print advertisements for "9 to 5," a fictitious sunscreen brand created for the experiment. In the prevention framing condition, they read an advertisement copy framed as "Golf, tennis, or at the beach, worrying about sunburns and skin irritation is a bummer. Keep your skin safe with "9 to 5" and prevent harmful sunburn, premature, and pre-cancerous spots. Safety first. "9 to 5"." In the promotion framing condition, they read a message framed as "Golf, tennis, or at the beach, "9 to 5" lets you stay in the sun longer and promotes good times. Live life to the fullest with "9 to 5"." Both the messages were presented with a black and white picture of "9 to 5" product.

Measures of Dependent Variables

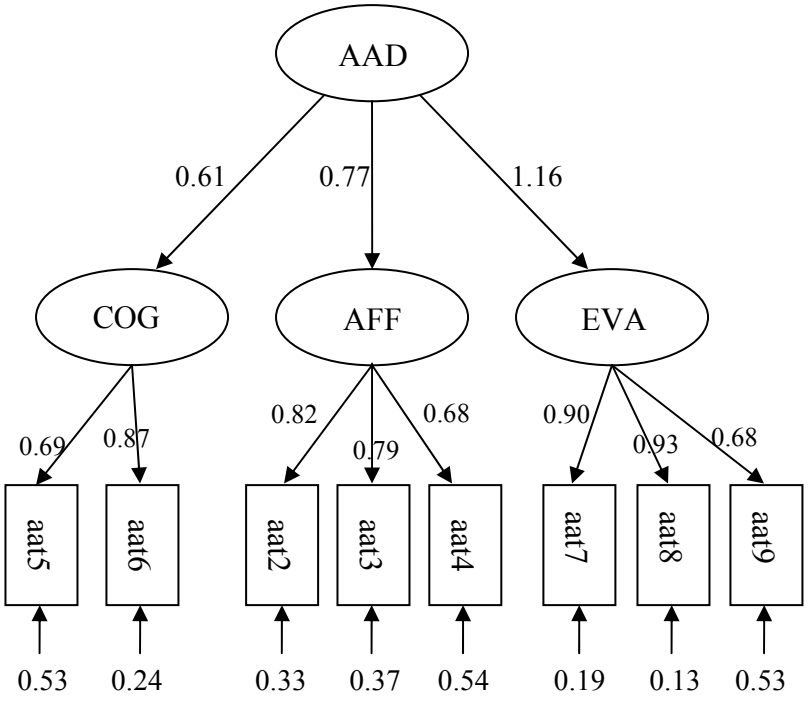
After the experimenter showed participants the framed advertisements, he asked them to complete a questionnaire containing items measuring the four dependent variables: Attitude toward Advertisement (AAD), Attitude toward Product (APD), Attitude Strength (AST), and Behavioral Intention (BI). While answering these questionnaire items, participants were instructed not to communicate with their group members. Table 4-12 presents means, standard deviations, and correlations of these items.

Attitude toward Advertisement. Attitude toward Advertisements (AAD) was measured with 9 items – three items for each of three (cognitive, affective, evaluative) attitude sub-dimensions used in various advertisement studies (e.g., Burton and Lichtenstein 1988; Goodstein 1993; Miniard, Bhatla, and Rose 1990; Yi 1993). A second order CFA on these items revealed three first order factors (cognitive, affective, and evaluative sub-dimensions) suggested by the literature. However, the first item (aad1) of

cognitive factor was dropped from the analysis due to strong cross loadings with the other two (affective and evaluative) factors, which suggested by modification indices. The resulting CFA showed an acceptable fit (χ^2 (17) = 38.898 p = 0.002, RMSEA = 0.0878, NNFI = 0.968, CFI = 0.981, and Standardized RMR = 0.0364) and all the path loadings in the model are strong and statistically significant (see Figure 4-4).

FIGURE 4-4

MEASUREMENT MODEL OF AAD (EXP 2)

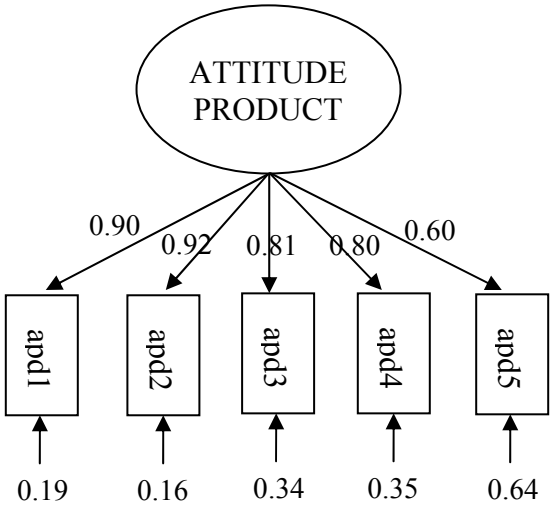


Attitude toward Product. Attitude toward Product (APD) was measured with the five seven-point semantic differential scales used in Wheeler et al. (2005). Participants were instructed to indicate their attitudes toward the advertised sunscreen brand (9 to 5) along the scale anchors were good-bad (apd1), favorable-unfavorable (apd2), positive-

negative (apd3), desirable-undesirable (apd4), and beneficial-harmful (apd5). The CFA with these five items showed a very good fit (χ^2 (5) = 2.946 p = 0.708, RMSEA = 0.0, NNFI = 1.008, CFI = 1.000, and Standardized RMR = 0.0150) with strong and statistically significant factor loadings (see Figure 4-5).

FIGURE 4-5

MEASUREMENT MODEL OF APD (EXP 2)

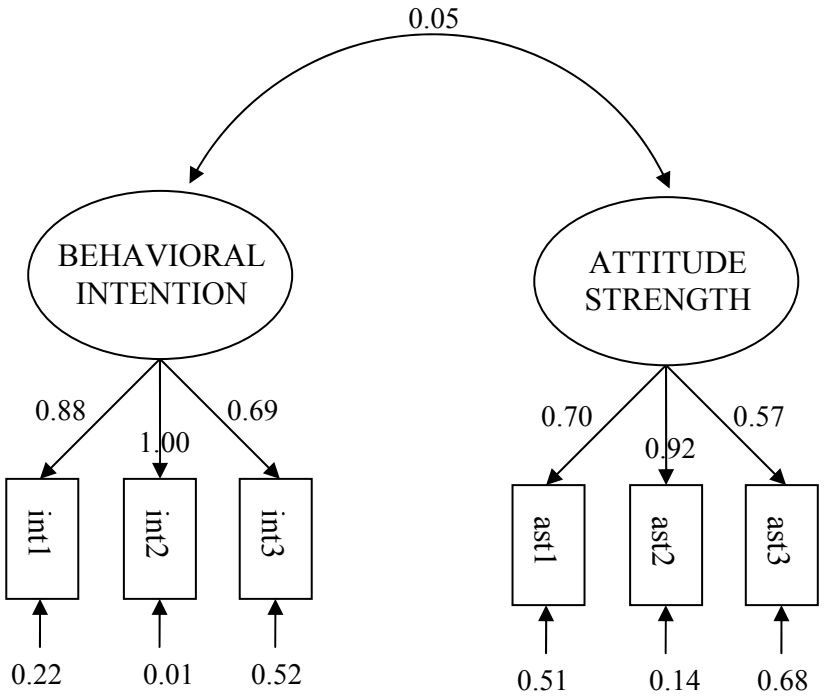


Attitude Strength and Behavioral Intention. Attitude Strength (AST) toward 9 to 5 brand was assessed with four 7-point Likert scale items used in Priester et al.'s experiment 1 (2004). One scale (ast1) is anchored with "not at all important" and "extremely important," the second (ast2) with "not at all self-relevant" and "extremely self-relevant," the third (ast3) with "not certain at all" and "extremely certain," and the fourth scale (ast4) with "have not thought about it at all" and "have thought about it a great deal." A CFA with these four items did not show acceptable fit indices (χ^2 (2) =

15.545 p = 0.000, RMSEA = 0.202, NNFI = 0.789, CFI = 0.930, and Standardized RMR = 0.0586) and modification indices suggested correlating error terms. Instead of doing so, we decided to drop ast4 showed the lowest factor loading (.49).

FIGURE 4-6

MEASUREMENT MODEL OF BI AND AST (EXP 2)



Behavioral Intention (BI) is measured with four items used in Yi (1990) and Urbany et al. (1997). Participants was asked to rate the probability of purchasing the advertised sunscreen in each scale. One scale (int1) was anchored with "likely" and "unlikely," the second (int2) with "improbable" and "probable," the third (int3) with "impossible" and "possible," and the fourth (int4) with "uncertain" and "certain." Among these four items, int4 was dropped from the analysis since it showed very low factor

loading (0.36) in their measurement model (χ^2 (2) = 2.413 p = 0.299, RMSEA = 0.0368, NNFI = 0.996, CFI = 0.999, and Standardized RMR = 0.0157).

After dropping these two items (ast4 and int4), another CFA was performed with the remaining items of BI and AST since a CFA with three measurement items would generate a saturated model. The two-factor model with BI and AST items showed a satisfactory fit (χ^2 (8) = 14.495 p = 0.070, RMSEA = 0.0720, NNFI = 0.967, CFI = 0.982, and Standardized RMR = 0.0667). Factor loadings of items displayed strong and statistically significant coefficients while the correlation (0.05, SE: 0.09) between BI and AST constructs was low and statistically not significant (see Figure 4-6). Table 4-13 summarizes fit indices of these measurement models used in this experiment.

TABLE 4-13

FIT INDICES OF MEASUREMENT MODELS (EXP 2)

	Fit Indices
BI and AST Measurement Model	χ^2 (8) = 14.495 (p=0.070) RMSEA = 0.0720 NNFI = 0.967 CFI = 0.982 Standardized RMR = 0.0667
APD Measurement Model	χ^2 (5) = 2.946 (p = 0.708) RMSEA = 0.0 NNFI = 1.008 CFI = 1.000 Standardized RMR = 0.0150
AAD Measurement Model (Cognitive, Affective, and Evaluative)	χ^2 (17) = 38.898 (p=0.002) RMSEA = 0.0878 NNFI = 0.968 CFI = 0.981 Standardized RMR = 0.0364

Results and Discussion

The main goal of this experiment is to test the message congruence hypothesis between message framing (promotion vs prevention) and a group's current goal orientation (approach vs avoidance) as active regulatory focus. To test the congruence hypothesis, a 2 × 2 MANOVA with four dependent variables (AAD, APD, AST, and BI) was conducted. These four dependent variables are composite variables of four sets of items (eight AAD, five APD, three BI, and three AST) which demonstrated reliability and construct validity through CFA in the previous section.

TABLE 4-14

MANOVA AND ANOVA RESULTS OF AAD, APD, AST, AND BI (EXP 2)

Multivariate Tests on AAD, APD, AST, and BI			
Source	**Hotelling's T**	**F-statistic**	***p***
Group Orientation (GO)	0.016	0.545	.703
Message Framing (MF)	0.014	0.495	.740
GO × MF	0.016	0.550	.700
Gender	0.074	2.582	**.040**

ANOVA Tests for Each AAD, APD, AST, and BI				
	Source	**Mean Square**	**F-statistic**	***p***
AAD R2 = 0.072	Goral Orientation	0.000	0.000	.991
	Message Framing	2.487	1.893	.171
	GO × MF	1.372	1.044	.309
	Gender	9.294	7.073	**.009**
APD R2 = 0.026	Goral Orientation	1.106	0.796	.374
	Message Framing	1.609	1.157	.284
	GO × MF	1.587	1.142	.287
	Gender	1.283	0.923	.338
AST R2 = 0.018	Goral Orientation	0.10	0.075	.784
	Message Framing	0.366	0.281	.597
	GO × MF	1.762	1.351	.247
	Gender	0.952	0.730	.394
BI R2 = 0.055	Goal Orientation	0.876	0.393	.532
	Message Framing	2.740	1.228	.270
	GO × MF	1.754	0.786	.377
	Gender	12.301	5.515	**.020**

In this MANOVA model, Gender showed a significant effect (p=.040) on the dependent variables, and was included in the model as a covariate to control its effect. As we can see from Table 4-14, none of the experimental factors – Group Orientation (p = .703), Message Framing (p=.740), and the interaction between the two (p=.700) – showed statistically significant results on the dependent variables. After finding no significant results from this MANOVA model, we conducted four independent ANOVAs to further examine the experimental factors' impact on individual dependent variables, and did not find any statistically significant effects from any of the experimental factors except two statistically significant effects from the covariate (gender) on Behavioral Intention and on Attitude toward Advertisement (*p-values* are .020 and .009 respectively). The summary of the MANOVA and ANOVA results is presented in Table 4-14.

Based on the findings from Minimal Group Paradigm, we expected that a simple cognitive categorization of an artificial group membership would be enough to activate depersonalization process and the following regulatory shift. However, from these results from MANOVA and ANOVA models, we found that a mere cognitive activation of a group membership does not induce full fledged depersonalization process or a shift in participants' regulatory mind set to group orientation.

Since a key variable, Attitude toward Advertisement (AAD), is treated as a single dimensional construct and its sub-dimensions (Cognitive, Affective, and Evaluative) are ignored in the initial analysis, we conducted another MANOVA on the three sub-dimensions of AAD construct to examine if congruence between message framing and

goal orientation has a significant impact on these specific sub-dimensional variables (these are also composite variables created by two cognitive, three evaluative, and three affective items).

This MANOVA model with three AAD sub-dimensions (Cog, Aff, and Eval) showed a significant interaction effect (p= .034) between Group Orientation and Message Framing, which is predicted from the congruence hypothesis. We also found a significant main effect from Message Framing (p=.007) as well as a significant effect from Gender covariate (p=.001). Individual ANOVA models on three dependent variables (Cognitive, Affective, and Evaluative) are also conducted to further examine the nature of two-way interaction found from MANOVA model. Among three sub-dimensions of AAD, only the Cognitive dimension showed the expected pattern (see Table 4-15) and the other two sub-dimensions did not showed significant interaction effects.

For the ANOVA model on Cognitive sub-dimension, the main effect of Message Framing (p=.004) and the interaction between Group Orientation and Message Framing (p=.010) displayed significant effect, but Gender covariate, which was significant in the MANOVA model, became non-significant (p=.960) for this model. On the other hand, ANOVA models on Affective and Evaluative dimensions of AAD showed significant effects from Gender covariate only (*p-values* .000 and .009 respectively) and all other main and interaction effects were not significant. The summery of these findings are presented in Table 4-15.

TABLE 4-15

MANOVA AND ANOVA RESULTS OF COG, AFF, AND EVA (EXP 2)

Multivariate Tests on COG, AFF, EVA Dimensions			
Source	**Hotelling's T**	**F statistic**	***p***
Group Orientation	0.008	0.379	.768
Message Framing	0.090	4.225	**.007**
GO × MF	0.063	2.976	**.034**
Gender	0.118	5.561	**.001**

ANOVA Tests for Each COG, AFF, EVA Dimensions				
	Source	**Mean Square**	**F Statistic**	***p***
COG R2 = 0.101	Group Orientation	1.103	0.492	.484
	Message Framing	19.236	8.592	**.004**
	GO × MF	15.310	6.838	**.010**
	Gender	0.006	0.002	.960
AFF R2 = 0.103	Group Orientation	0.291	0.196	.658
	Message Framing	0.685	0.462	.498
	GO × MF	0.013	0.008	.927
	Gender	20.440	13.776	**.000**
EVA R2 = 0.051	Group Orientation	0.015	0.008	.927
	Message Framing	0.206	0.113	.737
	GO × MF	0.393	0.217	.642
	Gender	12.665	6.972	**.009**

These results from the analyses on sub-dimensions of AAD provide an interesting insight concerning the nature of group influence found from minimal group paradigm. The major manipulation implemented in the minimal group paradigm is the cognitive self and/or other categorization. In other words, the experimental procedure from the minimal group paradigm generates a condition where all other social variables are kept minimal (hence minimal group paradigm) and information only can be used for the cognitive categorization of self and others. It has been suggested that cognitive self categorization is one facet of complicated concept of social identity, and emotional and evaluative dimensions also play very important roles in shaping group member's psychological processes and behaviors (Bergami and Bagozzi 2000; Ellemers et al.

2002). It is very likely that stronger group commitment with emotional and evaluative involvement is needed to generate a full fledged regulatory shift. Thus, minimal group paradigm implemented in this experiment failed to induce a regulatory shift for overall message evaluation procedures because it utilize only a minimal level of social categorization and ignores two other important facets of social identity: emotional and evaluative dimensions of group membership.

TABLE 4-16

ADJUSTED CELL MEANS AND SD OF COG, AFF, AND EVA (EXP 2)

	Approach		**Avoidance**	
	Promotion n= 38	**Prevention n=40**	**Promotion n=39**	**Prevention n=31**
COG	4.23 (1.66)	4.31 (1.41)	3.40 (1.41)	4.79 (1.48)
AFF	3.11 (1.16)	3.26 (1.45)	3.21 (1.19)	3.34 (1.25)
EVA	3.92 (1.35)	3.89 (1.43)	3.83 (1.52)	4.01 (1.12)

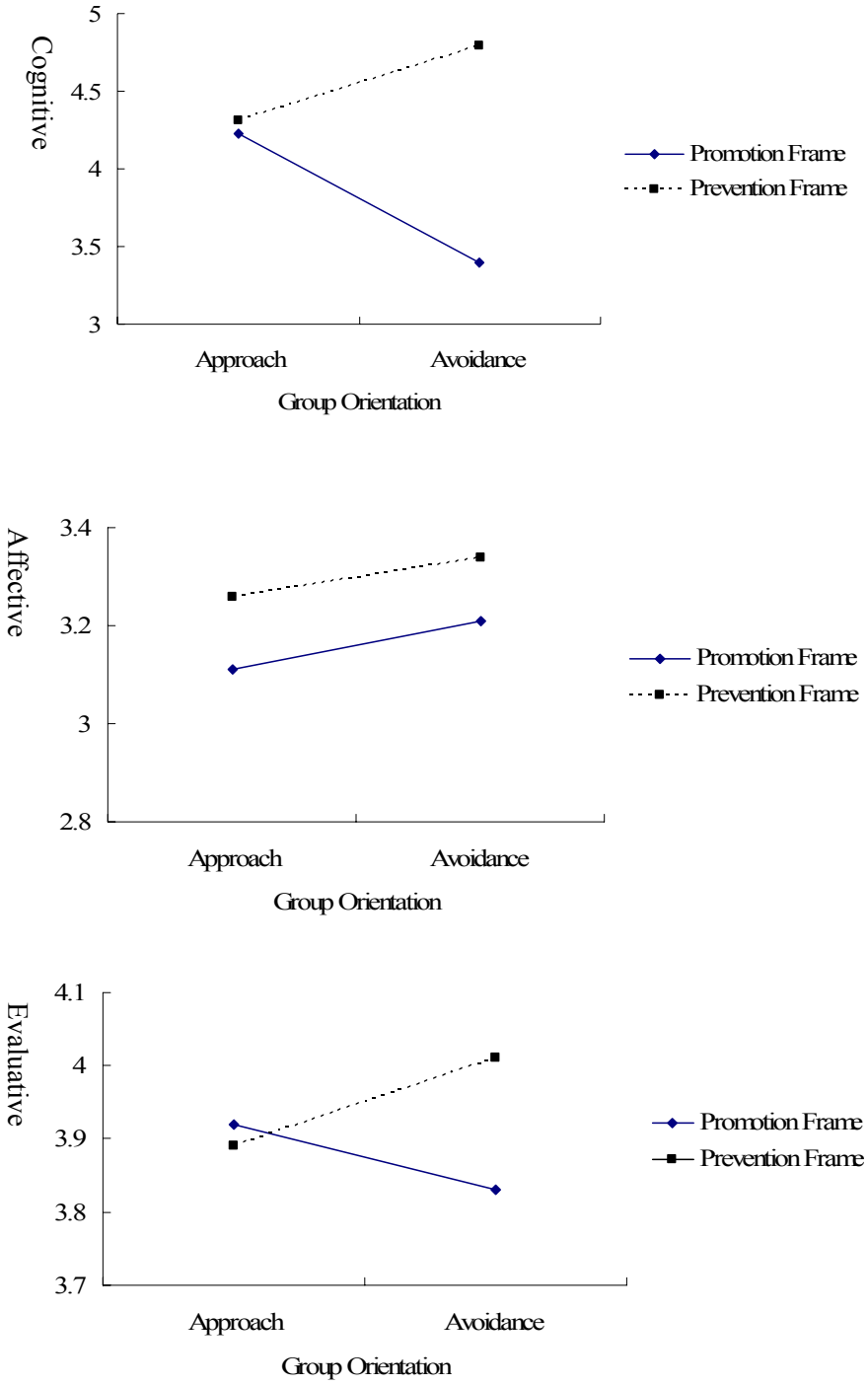
Note: All the variables in the above table range from 0 to 7. Standard deviations are shown in parentheses. These cell means are adjusted by Gender at its mean (0.68).

Even though there was only one statistically significant interaction effect from ANOVA on these three dependent variables, it is worthwhile to exam the interaction pattern on each dependent variable. The adjusted averages[13] of three sub-dimensions (cognitive, affective, and evaluative) of AAD construct are presented in Table 4-16, and the plots of these means are displayed in Figure 4-7. While interaction plots from ANOVA models are created based on adjusted cell means of each dependent variable

[13] Since Gender covariate was statistically significant in the model, these means are adjusted by Gender at its mean (.68)

FIGURE 4-7

INTERACTIONS BETWEEN GO AND ME ON AAD SUB-DIMENSIONS (EXP2)



and do not reflect the multivariate dimensionality of the MANOVA results, they still can provide meaningful insights for understanding the nature of the interaction effect we found from the MANOVA model. However, we should pay extra caution in interpreting the meaning of these plots.

As we can see from these plots, the affective dimension of AAD did not show the expected pattern of interaction, whereas the evaluative and cognitive dimensions showed patterns consistent with the message congruence hypothesis. For the cognitive dimension, which displayed a significant interaction effect between group orientation and message framing, the prevention framed message received a more positive evaluation in avoidance group condition (4.79) than Approach Group (4.31) and the promotion framed message received higher evaluation in Approach Group (4.23) than Avoidance Group (3.40). Event though the effect was not statistically significant, the evaluative dimension also showed a similar interaction pattern that both prevention framed (Avoidance=4.01 and Approach=3.89) and promotion framed (Avoidance=3.83 and Approach=3.92) messages received higher evaluation when they were congruent with group orientation.

After finding a significant interaction effect from the MANOVA model on three sub-dimensions of AAD, we conducted simple effect tests to explore the nature of the multivariate interaction effect.[14] The significant interaction found in the MANOVA model is further decomposed into two simple effects, the differences between promotion and prevention framing in approach and avoidance group orientations. The results of these tests are presented in Table 4-17. Statistical tests of these simple effects showed

[14] Simple effects tests explore the nature of the interaction by examining the conditional difference between groups (i.e., given each level of experimental factor A, it examines the difference in experimental factor B).

some partial support for the message congruence hypothesis. From the Hotelling's T^2 test of simple effects, the avoidance group showed a statistically significant difference (p = .000) between group members evaluations on promotion and prevention framed messages, whereas the approach group did not show any significant differences in message framing (p =. 791).

TABLE 4-17

MULTIVARIATE SIMPLE EFFECTS OF MF

	Hotelling's T^2	**F-statistic**	**Hyp. df**	**Error df**	***p***
Approach	.007	0.348	3	141	.791
Avoidance	.142	6.674	3	141	**.000**

Even though this multivariate testing has its own merits, one of its drawbacks is the absence of indices or techniques that can provide further information concerning the characteristics of simple effects. In other words, the test can tell if there exist a difference between two groups but it cannot provide information concerning which group has higher scores compared to the other since it uses a linear combination of the dependent variables.

Testing simple effects may provide more intuitive analysis when it is conducted on each single dependent variable rather than on a linear combination of the dependent variables since we can actually compare the scores (i.e., adjusted means) between groups. The summary of simple effects on Cognitive sub-dimensions of AAD is displayed in Table 4-18.

TABLE 4-18

UNIVARIATE SIMPLE EFFECTS OF MF[15]

Cognitive				
	Mean Square	**Error MS**	**F-statistic**	***p***
Approach	0.131	2.239	.058	.809
Avoidance	33.451	2.239	14.941	**.000**

TABLE 4-19

MANOVA AND ANOVA RESULTS OF APD ITEMS (EXP 2)

Multivariate Tests for APD Items				
Source		**Hotelling's T**	**F-statistic**	***p***
Group Orientation		0.035	0.999	.420
Message Framing		0.075	2.214	.066
GO × MF		0.060	1.688	.141
ANOVA Tests for Each APD Items				
	Source	**Mean Square**	**F-statistic**	***p***
apd1	Group Orientation	0.030	0.017	.895
	Message Framing	1.050	0.593	.442
	GO × MF	1.083	0.612	.435
apd2	Group Orientation	2.288	1.072	.302
	Message Framing	10.874	5.095	**.025**
	GO × MF	0.075	0.035	.852
apd3	Group Orientation	2.967	1.800	.182
	Message Framing	2.552	1.549	.215
	GO × MF	0.064	0.039	.844
apd4	Group Orientation	0.672	0.265	.608
	Message Framing	0.884	0.349	.556
	GO × MF	0.727	0.287	.593
apd5	Group Orientation	0.613	0.406	.525
	Message Framing	0.514	0.340	.561
	GO × MF	9.566	6.335	**.013**

[15] Simple effect tests are conducted only when there is a significant interaction effect. Consequently, only the results of simple effect tests on Cognitive dimension are presented here.

For the cognitive dimension, while the prevention framed message generated a more favorable assessment (4.79) than the promotion framed message did (3.40) in Avoidance group orientation, the difference between the two messages in the Approach Group Orientation did not show a statistically significant result (p=.809). This pattern is consistent with the one we found from the Multivariate simple effect, and we suspect that the interaction effect from the MANOVA analysis was mainly driven by the cognitive aspect of AAD construct.

Since it is possible that a MANOVA on a set of multiple items may reveal some patterns unrecognized in ANOVA on the composite variable of the items, we also performed a series of MANOVA on Attitude toward Product, Behavioral Intention, and Attitude Strength with their measurement items as the dependent variables. The results from MANOVA and ANOVA models on APD items are presented in Table 4-19. Gender and Age did not show significant effect on APD items, and dropped from the analysis. Multivariate tests did not revealed any statistically significant effects from Group Orientation (p=.420), Message Framing *(*p=.066), or the interaction between the two (GO×MF, p=.141). From the ANOVA analyses on individual items 'apd2' showed a significant effect from Message Framing (p=.025), and 'apd5' showed a significant interaction between Group Orientation and Message Framing (p=.013). Cell means for the five APD measurement items are presented in Table 4-20. The cell means of 'apd5,' which showed a significant interaction effect, are plotted Figure 4-8, and it reveals the crossover interaction expected from the message congruence hypothesis (Approach-

TABLE 4-20

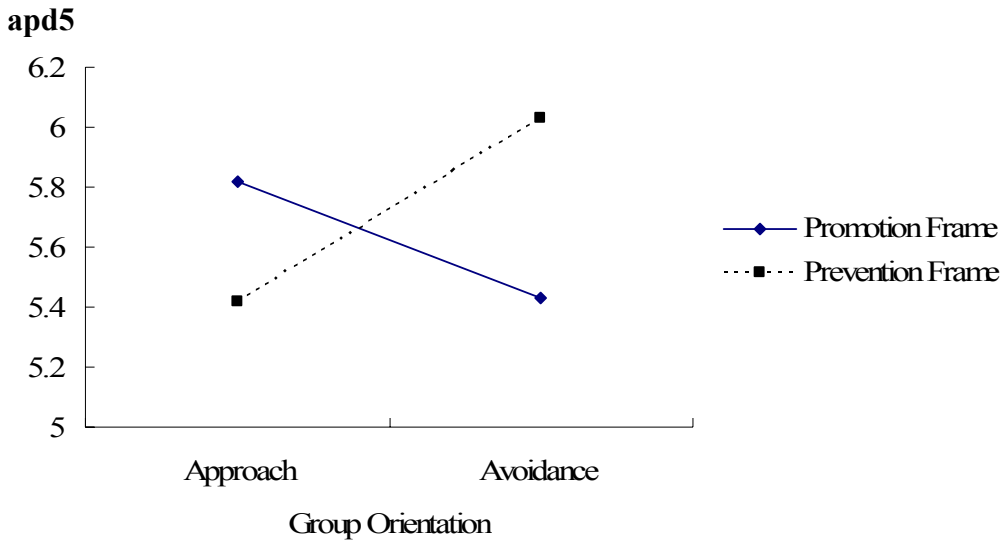
CELL MEANS AND SD OF APD ITEMS

	Approach		Avoidance	
	Promotion n= 38	**Prevention n=40**	**Promotion n=39**	**Prevention n=32**
apd1	4.55 (1.309)	4.55 (1.319)	4.41 (1.428)	4.75 (1.244)
apd2	4.05 (1.394)	4.55 (1.501)	4.26 (1.551)	4.84 (1.370)
apd3	4.58 (1.106)	4.80 (1.344)	4.82 (1.374)	5.12 (1.289)
apd4	4.21 (1.455)	4.23 (1.544)	4.21 (1.720)	4.50 (1.646)
apd5	5.82 (1.310)	5.42 (1.130)	5.44 (1.430)	6.06 (0.948)

Note: All the variables in the above table range from 0 to 7. Standard deviations are shown in parentheses

FIGURE 4-8

INTERACTION BETWEEN GO AND MF ON APD5 (EXP 2)



Promotion = 5.82 vs Approach-Prevention = 5.42 and Avoidance-Prevention = 6.06 vs Avoidance-Promotion =5.44).

The test of simple effects on this interaction term showed that the Avoidance Group showed a significant difference between promotion and prevention framed message, whereas the Approach Group did not (see Table 4-21). This result of simple effects testing is consistent with the patterns found in our previous analyses of the Cognitive sub-dimension of the AAD construct.

TABLE 4-21

SIMPLE EFFECTS OF MF ON APD5

	Mean Square	**Error MS**	**F-statistic**	***p***
Approach	2.976	1.510	1.971	.162
Avoidance	6.901	1.510	4.570	**.034**

MANOVA and ANOVA models on the BI items also showed a similar pattern and their summary results are presented in Table 4-22. Gender showed a statistically significant effect from multivariate testing (p=.001), and included in the model. However, none of the experimental factors showed statistically significant results from both the multivariate testing and individual ANOVA analyses. Even though it was not statistically significant, the interaction between the two experimental factors in ANOVA on 'bi3' displayed a *p-value* (p=.051) close to the critical level and it also showed a pattern expected from the congruence hypothesis (see Table 4-23 and Figure 4-9).

TABLE 4-22

MANOVA AND ANOVA RESULTS OF BI ITEMS

Multivariate Tests on BI Items			
Source	**Hetelling's T**	**F-statistic**	***p***
Group Orientation	.033	1.540	.207
Message Framing	.018	0.828	.480
GO × MF	.039	1.859	.139
Gender	.117	5.558	**.001**
ANOVA Tests for BI Items			
	Source	**Mean Square**	**F-statistic**	***p***
bi1	Group Orientation	0.074	0.026	.871
	Message Framing	1.142	0.407	.524
	GO × MF	0.041	0.015	.904
	Gender	11.451	4.086	**.045**
bi2	Group Orientation	1.556	0.541	.463
	Message Framing	3.707	1.289	.258
	GO × MF	0.946	0.329	.567
	Gender	4.632	1.611	.206
bi3	Group Orientation	4.440	1.777	.185
	Message Framing	4.696	1.879	.173
	GO × MF	9.694	3.879	.051
	Gender	28.887	11.560	**.001**

TABLE 4-23

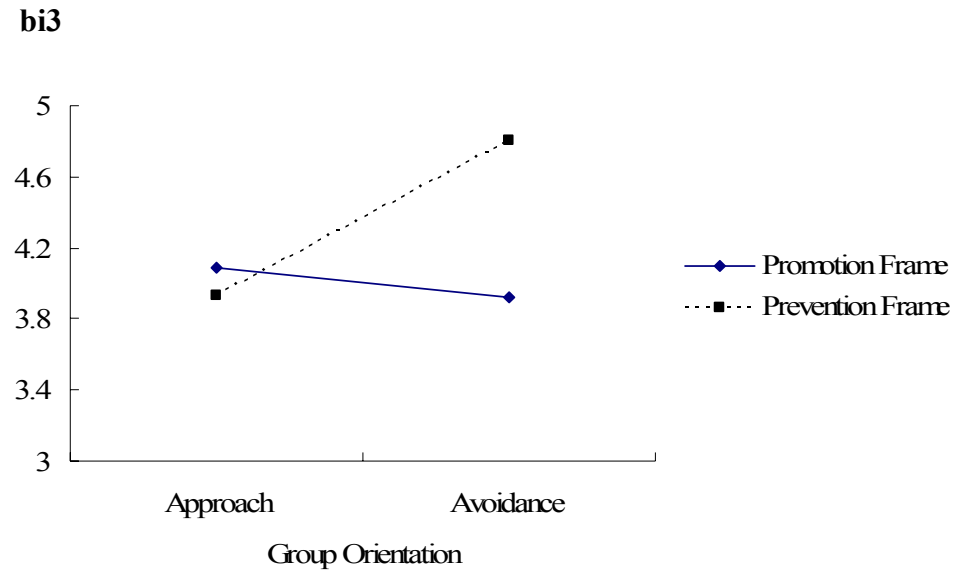
ADJUSTED CELL MEANS AND SD OF BI ITEMS

	Approach		**Avoidance**	
	Promotion n= 38	**Prevention n=40**	**Promotion n=39**	**Prevention n=32**
bi1	2.83 (1.86)	2.97 (1.70)	2.75 (1.67)	2.96 (1.49)
bi2	2.87 (1.78)	3.03 (1.69)	2.92 (1.57)	3.40 (1.76)
bi3	4.09 (1.64)	3.93 (1.68)	3.91 (1.75)	4.80 (1.42)

Note: All the variables in the above table range from 0 to 7. Standard deviations are shown in parentheses. These cell means are adjusted by Gender at its mean (0.68).

FIGURE 4-9

INTERACTIONS BETWEEN GO AND MF ON BI3 (EXP 2)



Since there is some evidence for an interaction effect on the bi3 item, a test of simple effects is conducted. One of the bases for this attempt is its superior statistical power generated by focusing on conditional differences between experimental factors. From the test results, we found that message evaluations of two different advertisements showed a significant difference in the Avoidance condition (p=.021; see Table 4-24), which is consistent with the previous findings described above.

TABLE 4-24

SIMPLE EFFECTS OF MF ON BI3

	Mean Square	**Error MS**	**F-statistic**	***p***
Approach	0.429	2.499	0.172	.679
Avoidance	13.613	2.499	5.447	**.021**

Unlike the previous variables, which showed some evidence of being influenced by the interaction between the group's goal orientation and message framing, AST did not show any pattern consistent with the proposed message congruence hypothesis (see Table 4-25). Gender and Age did not have any statistically significant impact on the model, and were dropped from the analysis. Only Group Orientation showed a statistically significant result in the multivariate testing (p = .018) and the same result was found from ANOVA on ast3. The comparison between marginal means of ast3 revealed that people in Approach condition (4.82) showed higher score in attitude strength than those in Avoidance condition (4.31).

TABLE 4-25

MANOVA AND ANOVA RESULTS OF AST ITEMS

Multivariate Tests on AST Items			
Source	**Hotelling's T**	**F-statistic**	***p***
Group Orientation	0.073	3.456	**.018**
Message Framing	0.004	0.174	.914
GO × MF	0.018	0.870	.458
ANOVA Tests for Each BI Items			
	Source	**Mean Square**	**F-statistic**	***p***
ast1	Group Orientation	1.659	0.950	.331
	Message Framing	0.020	0.012	.915
	GO × MF	0.330	0.189	.665
ast2	Group Orientation	0.309	0.146	.703
	Message Framing	0.630	0.298	.586
	GO × MF	4.268	2.019	.157
ast3	Group Orientation	9.329	5.192	**.024**
	Message Framing	0.002	0.001	.973
	GO × MF	2.127	1.184	.278

From this experiment, we found that the impact of message congruence on people's evaluation process was most prominent on the Cognitive sub-dimension of the

AAD construct. We believe such a unique effect is due to the cognitive categorization emphasized in the group orientation manipulation implemented in this experiment. Even though further analyses on other dependent variables and sub-dimensions of AAD construct revealed minor impacts from message congruence, the effect was not significant or was limited to only a few individual items. It is also possible that participants have different levels of group commitment even though they followed the same procedure. It is more likely that people with low level of group commitment are less influenced by group orientation, and therefore fail to generate regulatory shifts. Therefore, such an uncontrolled confounding variable might have screened the effect of regulatory focus on the message congruence hypothesis except for the Cognitive sub-dimension of AAD construct.

Experiment 3

Experiment 3 is designed to test the effect of group commitment in consumers' conflict resolution process. In this experiment, we explore a more complicated process of regulatory shift by examining the moderating role of group commitment in regulatory shift, and its consequences on message evaluations (i.e., message congruence hypothesis). In this dissertation, it was proposed that when people experience regulatory conflicts between their group's goal orientation and their personal trait regulatory focus, group commitment plays a crucial role to resolve such a conflict.

An individual with a high level of group commitment may go through a complete depersonalization process, see the group as a part of his/her self-definition, and use the group's goal orientation as his/her active regulatory focus. On the other hand, an

individual with low level of group commitment may see the group as a separate entity and follow a self-preservation process which activates his/her own regulatory focus as his/her active regulatory focus. When these two different conflict resolution processes are connected with a message congruence hypothesis, the following formal hypotheses are generated;

> Hypothesis3-a: People with high group commitment will evaluate a message congruent with their group orientation more favorably than one congruent with their trait regulatory focus.
>
> Hypothesis 3-b: People with low group commitment will evaluate a message congruent with their trait regulatory focus more favorably than one congruent with their group orientation.

Instead of using the measured trait regulatory focus, trait regulatory focus is manipulated in experiment 3 using promotion and prevention priming (e.g., Molden and Higgins 2004) in this experiment. Since there is no theoretical implication of demonstrating a depersonalization process when an individual's trait regulatory focus is consistent with the group's goal orientation, this experiment focuses on the conditions where a conflict exists between a group's goal orientation and an individual's regulatory focus, and introduces a new variable (regulatory conflict) by mismatching participants' group orientations with their trait regulatory foci (i.e., avoidance-promotion and approach-prevention). Hence, a 2 (regulatory conflict: avoidance-promotion vs. approach-prevention) × 2 (group commitment: high vs. low) × 2 (message framing: promotion vs. prevention) between subjects factorial design is implemented to test the suggested hypotheses.

304 Texas A&M University students participated in experiment 3, and received course credits for volunteering for the study. Upon arriving, participants were greeted by an experimenter and told that they were participating in two allegedly different studies. Participants then received an instruction from the experimenter for the first study and were led to believe that the study was conducted by the school's career service center to better understand Texas A&M University students. In this session, participants were asked to write essays focused on either their *hopes and aspirations* (promotion) or *duties and obligations* (prevention) in order to prime their trait regulatory foci.

After completing their writing tasks, participants were instructed to move on to the next study. At this point, participants were told that the purpose of the second study was to develop simple but intriguing online gaming products, which people can play together as a group. Then, they were asked to play a collective game constructed to manipulate their group orientations. Before playing the game, participants were asked to wear medical wristbands that allegedly had a wireless connection with a computer to implement the bogus pipeline manipulation (e.g., Ellemers, Spears, and Doosje 1997). After finishing the collective game and the bogus pipeline manipulation, participants were asked to evaluate differently framed advertisements, and then debriefed and thanked for their participations.

Manipulations of Independent Variables

Regulatory Conflict. Regulatory conflicts (RC) between group orientation and trait-regulatory focus were created by mismatching between group goal priming and trait priming with different goal characteristics. Therefore, RC has two possible conditions

(i.e., avoidance-promotion and approach-prevention) depending on the characteristics of trait regulatory focus priming and group orientation.

For trait regulatory focus priming, a priming procedure developed by Higgins and his colleagues (e.g., Molden and Higgins 2004) was applied. Higgins and his colleagues (Higgins 1997) suggested that an individual's regulatory focus can be both a situational variable and a trait, personality variable and developed various manipulation methods including this priming manipulation with writing tasks. The assumption underlying this manipulation is that, by asking participants to write essays concerning different facets of self-schemas, researchers can activate corresponding regulatory foci: writing about their hopes and aspirations (i.e., ideals) should activate promotion-focused schemas and writing about their duties and obligations (i.e., oughts) should activate prevention-focused schemas. The essay writing task was described as a part of a larger scaled study that was being performed by the career service center of Texas A&M University. For the group orientation manipulation, a variation of Plaks and Higgins' (2000) group priming procedure was applied. Participants were randomly assigned into two conditions. Participants were exposed to manipulations that induce a promotion (trait) vs avoidance (group) conflict in one condition and a prevention (trait) vs approach (group) conflict in the other.

Those two manipulation procedures were mismatched to create two RC conditions. Participants were told that they were participating in two allegedly separate studies (one for the study of the school's career service center and the other for the experimenter's study) to keep them from speculating about the real purpose of these

manipulations. For promotion-avoidance conflict, participants were first asked to write an essay outlining their current hopes and aspirations and describing how these hopes and aspirations differed from the ones they had when they were growing up. The following written instruction was given to the participants in promotion-avoidance RC condition.

> The career service center of Texas A&M University is conducting a pilot study for better understanding of students' opinions and self-perceptions. You will be asked to perform a writing task. The purpose of this task is to understand your views concerning your lifetime *achievements*. Please describe your current *hopes and aspirations* in your own words and describe how they are different (or the same) from your hopes and aspirations when you were a child. Please think about them for a few minutes before you start writing.

Upon completing the essay, participants were randomly assigned to form groups of three people. Then, they were asked to play a collective game which involves solving a series of Tangram puzzles as a team. The game is framed to emphasize financial and other losses when they could not achieve their group goal (i.e., focusing on loss and nonloss). Before starting the game, the experimenter verbally provided the following instruction: "We are conducting a study on developing a new kind of an online game. A major online gaming developer considers introducing a game which family members or friends can play together online. You will play a simplified version of a family game and evaluate the elements and characteristics of the game." Then, the following written instruction was distributed with a booklet that contains the puzzles.

> Imagine you and your team members as contestants playing 2006 College Team Tangram! in the first round. On your table, there is a wooden square divided into *seven pieces* with different sizes and shapes, which can be put together again in hundreds of different figures and forms. Your team will be asked to reproduce the silhouettes shown in this booklet with these seven wooden pieces. You must work as a group, and your team's goal is to *avoid* a situation

> where you *fail to advance* to the next round. Your team starts with $7,000 and *loses $1,000* for each puzzle you *fail to* solve. Furthermore, if your team scores *lower* than *the last year's national average*, all of your team members will *lose an extra $1,000* and *lose* a chance to move to the next round.

Participants in the prevention-approach RC condition were given similar instructions but with different essay tasks and goal framing. For prevention priming, instead of hopes and aspirations, they were asked to write about their *duties and obligations*. The following instruction was given to the participants for prevention essay writing.

> The career service center of Texas A&M University is conducting a pilot study for better understanding of students' opinions and self-perceptions. You will be asked to perform a writing task. The purpose of this task is to understand your views concerning your lifetime *responsibilities*. Please describe your current *duties and obligations* in your own words and describe how they are different (or the same) from your duties and obligations when you were a child. Please think about them for a few minutes before you start writing.

Then, they were instructed to play the collective game with a different framing – focusing on approach orientation with financial and other gains. After providing the same verbal instruction about the game, the experimenter distributed a puzzle booklet with the following instruction:

> Imagine you and your team members as contestants playing 2006 College Team Tangram! in the first round. On your table, there is a wooden square divided into *seven pieces* with different sizes and shapes, which can be put together again in hundreds of different figures and forms. Your team will be asked to reproduce the silhouettes shown in this booklet with these seven wooden pieces. You must work as a group and your task is to reproduce *as many silhouettes as possible*. Your team's goal is to *gain* a chance to *move to the next round*. Your team will *gain $1,000* for each puzzle you solve together with your group. Furthermore, if your team scores *higher* than *the last year's national average*, all of your team members will *gain extra $1,000* and a chance to move to the next round.

Group Commitment. The strength of experimentally induced Group Commitment (GC) was manipulated using a variation of the bogus pipeline procedure suggested by Ellemers, Spears, and Doosje (1997). Before playing the collective game, participants were asked to what extent they agree with a number of general statements that indirectly refer to group membership. The experimenter provided participants an instruction that he wishes to measure to what extent participants felt involved with their groups. Then, each participant was asked to wear a medical wristband which measures blood pressure, heart rate, and other physiological indices.

Participants were led to believe that each wristband has wireless connection with a computer program that calculates the strength of their group membership from various indicators, including, their answers to the questionnaire, the way they collaborated with their fellow group members during the group task, and the physiological indices collected through the wristband while they were working on the group task and questionnaire.

Then, the level of GC was manipulated by providing participants a false feedback concerning their involvement toward the group activity. In the low GC condition, participants received a feedback form indicating their group involvement score (25.2 points) was lower than the average score (74.3 points) for people who participated in similar kinds of studies, whereas participants in the high GC condition were told that their score (82.6 points) is higher than the average score (14.3 points).

Participants were asked to write their involvement score on a form where the average score was preprinted. The effectiveness of this manipulation was evaluated with

TABLE 4-26

MEAN, SD, AND CORRELATIONS OF AAD, BI, APD, AND AST ITEMS (EXP 3)

Items	Correlations																					
aad1	1																					
aad2	.48	1																				
aad3	.41	.64	1																			
aad4	.41	.45	.45	1																		
aad5	.42	.31	.25	.35	1																	
aad6	.42	.27	.24	.22	.48	1																
aad7	.58	.60	.56	.46	.45	.56	1															
aad8	.60	.63	.54	.42	.42	.52	.81	1														
aad9	.51	.54	.57	.34	.34	.38	.64	.67	1													
bi1	.58	.49	.44	.33	.36	.45	.60	.65	.50	1												
bi2	.51	.46	.43	.39	.40	.45	.58	.63	.47	.89	1											
bi3	.46	.37	.42	.28	.32	.42	.50	.53	.45	.67	.69	1										
bi4	.29	.30	.28	.31	.33	.25	.39	.36	.29	.48	.49	.36	1									
apd1	.51	.38	.38	.29	.39	.51	.60	.60	.55	.54	.52	.54	.24	1								
apd2	.52	.34	.39	.23	.32	.43	.51	.57	.52	.54	.53	.56	.20	.79	1							
apd3	.46	.30	.38	.28	.31	.36	.47	.48	.60	.45	.44	.52	.23	.75	.73	1						
apd4	.54	.41	.37	.33	.31	.36	.48	.53	.48	.57	.53	.49	.24	.68	.71	.63	1					
apd5	.34	.16	.27	.16	.34	.45	.40	.38	.42	.38	.38	.48	.18	.65	.57	.62	.55	1				
ast1	.17	.01	.00	.16	.17	.02	.05	.09	.06	.18	.19	.11	.14	.12	.08	.16	.20	.15	1			
ast2	.06	-.05	-.03	.04	.11	.10	.00	.03	-.02	.15	.17	.16	.07	.07	.08	.10	.13	.16	.52	1		
ast3	.02	-.08	-.11	-.01	.19	.01	-.02	-.03	-.06	.01	-.03	-.03	.08	-.02	-.10	-.04	-.03	.01	.38	.45	1	
ast4	.07	-.01	-.02	.07	.06	.03	.03	.03	-.01	.11	.12	.06	.04	.02	-.02	.06	.09	.04	.37	.35	.41	1
Mean	4.13	3.26	4.18	2.95	4.17	4.24	4.06	3.67	4.48	3.08	3.27	4.35	2.99	4.53	4.47	4.78	4.15	5.41	4.37	4.59	4.59	4.17
SD	1.36	1.32	1.15	1.35	1.57	1.41	1.32	1.45	1.22	1.52	1.50	1.32	1.38	1.23	1.23	1.19	1.42	1.22	1.22	1.31	1.19	1.19

the measure of social identity developed by Bergami and Bagozzi (2000). A t-test on the composite variable of social identity showed significant difference between the two groups (p=.004). The mean of low group commitment condition was 3.70 and that of high group commitment condition was 4.06.

Message Framing (MF). After completing the manipulation procedures, participants will be asked to read and evaluate two differently framed advertisements following the same procedure used in experiment 2.

Measures of Dependent Variables

Attitudes toward Advertisement (AAD), Attitude toward Brand (APD), Attitude Strength (AST), and Behavioral Intention (BI) were measured with composite measurement items and the same advertisement material used in experiment 2. The means, standard deviations, and correlations of these measurement items are presented in Table 4-26. Table 4-27 summarizes goodness of fit indices for two CFA with these measurement items.

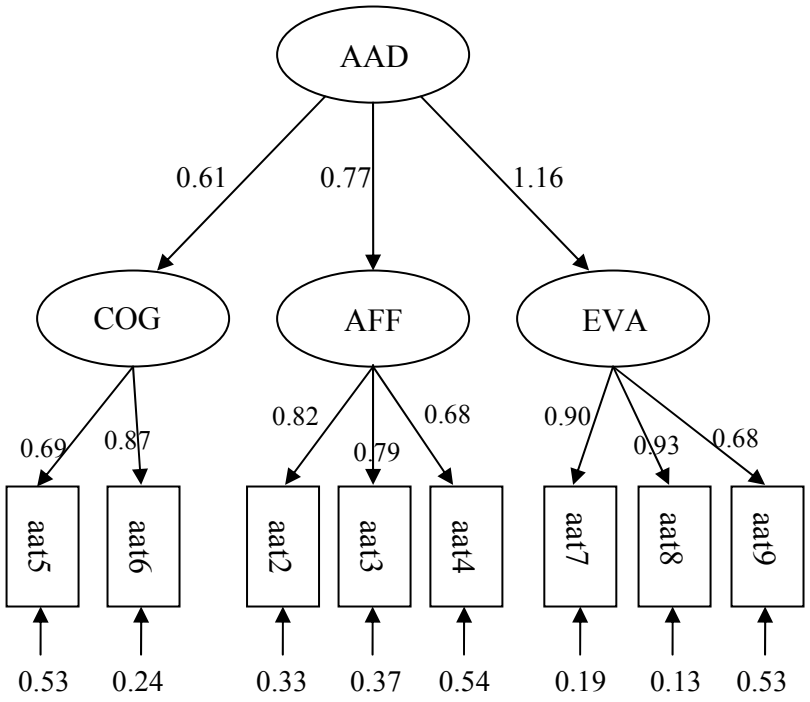
TABLE 4-27

FIT INDICES OF MEASUREMENT MODELS (EXP 3)

	Fit Indices
BI, AST, and APD Measurement Model	χ^2 (62) = 140.509 (p=0.000) RMSEA = 0.0644 NNFI = 0.973 CFI = 0.978 Standardized RMR = 0.0582
AAD Measurement Model with Three Sub-Dimensions	χ^2 (17) = 38.898 (p=0.002) RMSEA = 0.0878 NNFI = 0.968 CFI = 0.981 Standardized RMR = 0.0364

FIGURE 4-10

MEASUREMENT MODEL OF AAD (EXP 3)

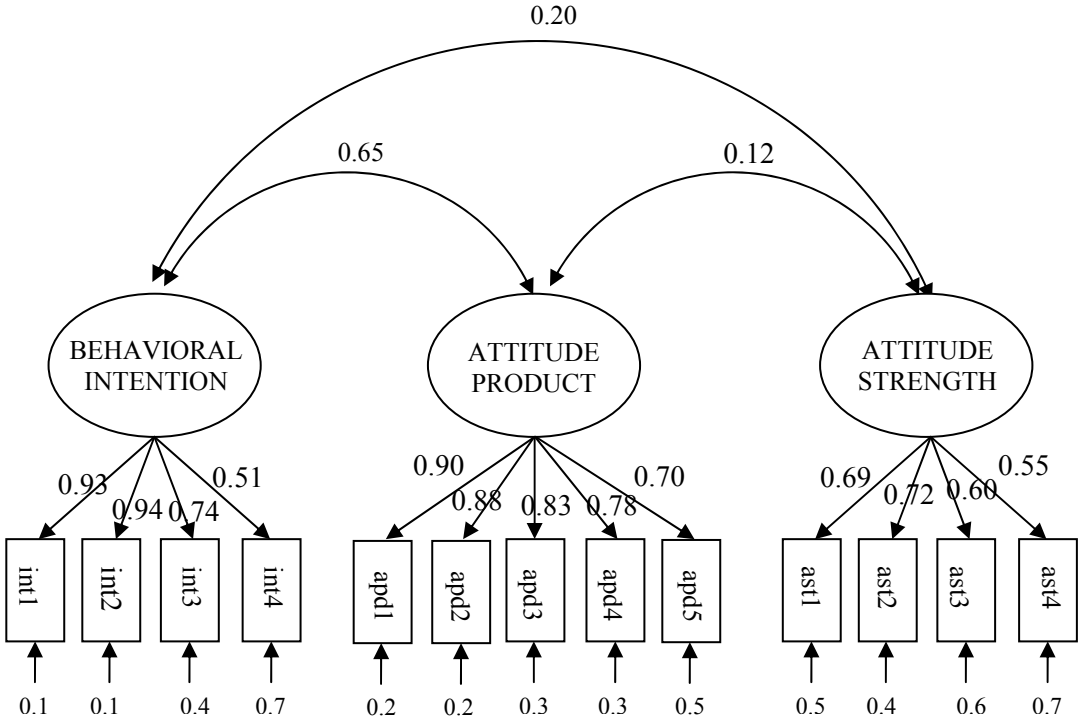


Attitude toward Advertisement. A CFA with eight items[16] of AAD revealed a second order model with three sub-dimensions (Cognitive, Affective, and Evaluative). The model showed an acceptable fit (χ^2 (17) = 38.398 p = 0.002, RMSEA = 0.0878, NNFI = 0.968, CFI = 0.981, and Standardized RMR = 0.0364) with strong and significant factor loadings (all the factor loadings were greater than 0.5). Figure 4-10 shows the dimensionality and parameter estimates of the model.

[16] The first item of the cognitive dimension showed strong cross loadings with the evaluative dimension again, and dropped from the analysis.

FIGURE 4-11

MEASUREMENT MODEL OF BI AND AST (EXP3)



Attitude toward Brand, Attitude Strength, and Behavioral Intention. A CFA with measures of these three constructs showed a good fit (χ^2 (62) = 140.509 p = 0.000, RMSEA = 0.0644, NNFI = 0.973, CFI = 0.978, and Standardized RMR = 0.0582) with strong (> 0.5) and statistically significant factor loadings. The correlations between constructs are 0.20 (BI and AST), 0.65 (BI and APD), and 0.12 (APD and AST). The first two are statistically significant (SE: 0.04 and 0.07 respectively) and the last was not (SE 0.07). Their dimensionality and parameter estimates are presented in Figure 4-11.

Results and Discussion

To test the proposed hypotheses, a 2 × 2 × 2 MANOVA with four dependent variables (AAD, APD, AST, and BI) was performed. Gender and Age did not show any significant effect in this model, and were dropped from the analysis. Table 4-28 presents the summary results from the analysis. Multivariate tests on four dependent variables showed a significant three-way interaction (p=.002) among RC, GC, and MF providing strong evidence for the moderating effect of group commitment on message congruence hypothesis. None of the other terms in the model was significant.

TABLE 4-28

MANOVA RESULTS OF AAD, APD, AST, AND BI (EXP 3)

Source	Hotelling's T	F-statistic	*p*
Regulatory Conflict (RC)	.009	0.689	.600
Group Commitment (GC)	.002	0.173	.952
Message Framing (MF)	.022	1.537	.182
RC × GC	.014	1.038	.388
RC × MF	.022	1.614	.171
GC × MF	.019	1.349	.252
RC×GC×MF	.058	4.211	**.002**

Then, the three-way interaction effect was decomposed into four simple effects, and multivariate testing of simple effects (see Table 4-29) showed that, in the low GC condition, both approach-prevention and avoidance-promotion RC groups showed significant difference in message evaluations on promotion/prevention framed messages (*p-values* are .013 and .035 respectively). In the high GC condition, participants in avoidance-promotion RC group showed a significant difference (p=.046) whereas people in approach-prevention RC group did not (p=.761).

TABLE 4-29

MULTIVARIATE SIMPLE EFFECTS OF MF (EXP 3)

		Regulatory Conflict	Hotelling's T^2	F-statistic	Hyp. df	Error df	*p*
GC	**Low**	Approach-Prevention	.044	3.205	4	291	**.013**
		Avoidance-Promotion	.036	2.623	4	291	**.035**
	High	Approach-Prevention	.006	0.466	4	291	.761
		Avoidance-Promotion	.034	2.460	4	291	**.046**

To better understand the nature of the three-way interaction in the previous MANOVA model and to assess the influence of group commitment on the individual dependent variables, four independent ANOVAs on each of AAD, APD, AST, and BI were conducted. The cell means from those models are displayed in Table 4-30 and the summary results from these four models are also presented in Table 4-31.

TABLE 4-30

CELL MEANS AND SD OF AAD, APD, AST, AND BI (EXP 3)

	Regulatory Conflict		Approach-Prevention		Avoidance-Promotion	
	Message Framing		Promotion	Prevention	Promotion	Prevention
GC	**Low**	AAD	4.01 (1.15)	3.85 (0.94)	3.67 (1.02)	4.07 (0.91)
		APD	4.42 (1.32)	4.87 (1.01)	4.60 (1.34)	4.84 (1.01)
		AST	4.19 (1.09)	4.43 (0.84)	4.73 (0.98)	4.25 (0.92)
		BI	3.51 (1.55)	3.41 (1.07)	3.09 (1.28)	3.64 (1.20)
	High	AAD	3.95 (0.95)	3.93 (1.01)	3.67 (0.86)	4.08 (0.96)
		APD	4.80 (0.87)	4.61 (1.04)	4.26 (0.90)	4.87 (0.99)
		AST	4.34 (0.80)	4.45 (0.78)	4.27 (0.90)	4.77 (0.94)
		BI	3.30 (1.06)	3.40 (1.10)	3.21 (1.16)	3.78 (1.11)

Note: All the variables in the above table range from 0 to 7. Standard deviations are shown in parentheses.

TABLE 4-31

ANOVA RESULTS OF AAD, APD, AST, AND BI (EXP 3)

	Source	Mean Square	F-statistic	*p*
AAD R2 = 0.022	Regulatory Conflict (RC)	0.040	0.028	.868
	Group commitment (GC)	0.011	0.007	.932
	Message Framing (MF)	5.746	4.006	**.046**
	RC × GC	1.122	0.782	.377
	RC × MF	5.796	4.041	**.045**
	GC× MF	0.234	0.163	.687
	RC×GC×MF	0.160	0.112	.738
APD R2 = 0.038	Regulatory Conflict (RC)	0.083	0.063	.801
	Group commitment (GC)	0.157	0.137	.712
	Message Framing (MF)	5.856	5.091	**.025**
	RC × GC	0.918	0.798	.372
	RC × MF	1.615	1.404	.237
	GC× MF	0.339	0.295	.588
	RC×GC×MF	4.722	4.105	**.044**
AST R2 = 0.045	Regulatory Conflict (RC)	1.733	2.100	.148
	Group commitment (GC)	0.257	0.312	.577
	Message Framing (MF)	0.627	0.760	.384
	RC × GC	0.049	0.060	.807
	RC × MF	0.485	0.588	.444
	GC× MF	3.308	4.009	**.046**
	RC×GC×MF	5.772	6.995	**.009**
BI R2 = 0.028	Regulatory Conflict (RC)	0.274	0.285	.594
	Group commitment (GC)	0.009	0.009	.924
	Message Framing (MF)	1.913	1.987	.160
	RC × GC	0.000	0.000	.991
	RC × MF	4.488	4.662	**.032**
	GC× MF	0.124	0.128	.720
	RC×GC×MF	0.073	0.076	.783

An ANOVA on APD showed a significant three-way interaction (p=.044), which was expected from the moderating hypothesis of group commitment, and a significant main effect of MF (p=.025). Univariate testing of simple effects on this three-way interaction effect (see Table 4-32) revealed that people in the high GC and avoidance-promotion RC condition showed a significant difference (p=.019) in evaluating two different messages (i.e., prevention or promotion MF).

TABLE 4-32

SIMPLE EFFECTS OF MF ON APD

	Regulatory Conflict	Mean Square	Error MS	F-statistic	*p*
Low GC	Approach-Prevention	4.298	1.150	3.737	.054
	Avoidance-Promotion	1.048	1.150	0.911	.341
High GC	Approach-Prevention	0.668	1.150	0.581	.447
	Avoidance-Promotion	6.362	1.150	5.531	**.019**

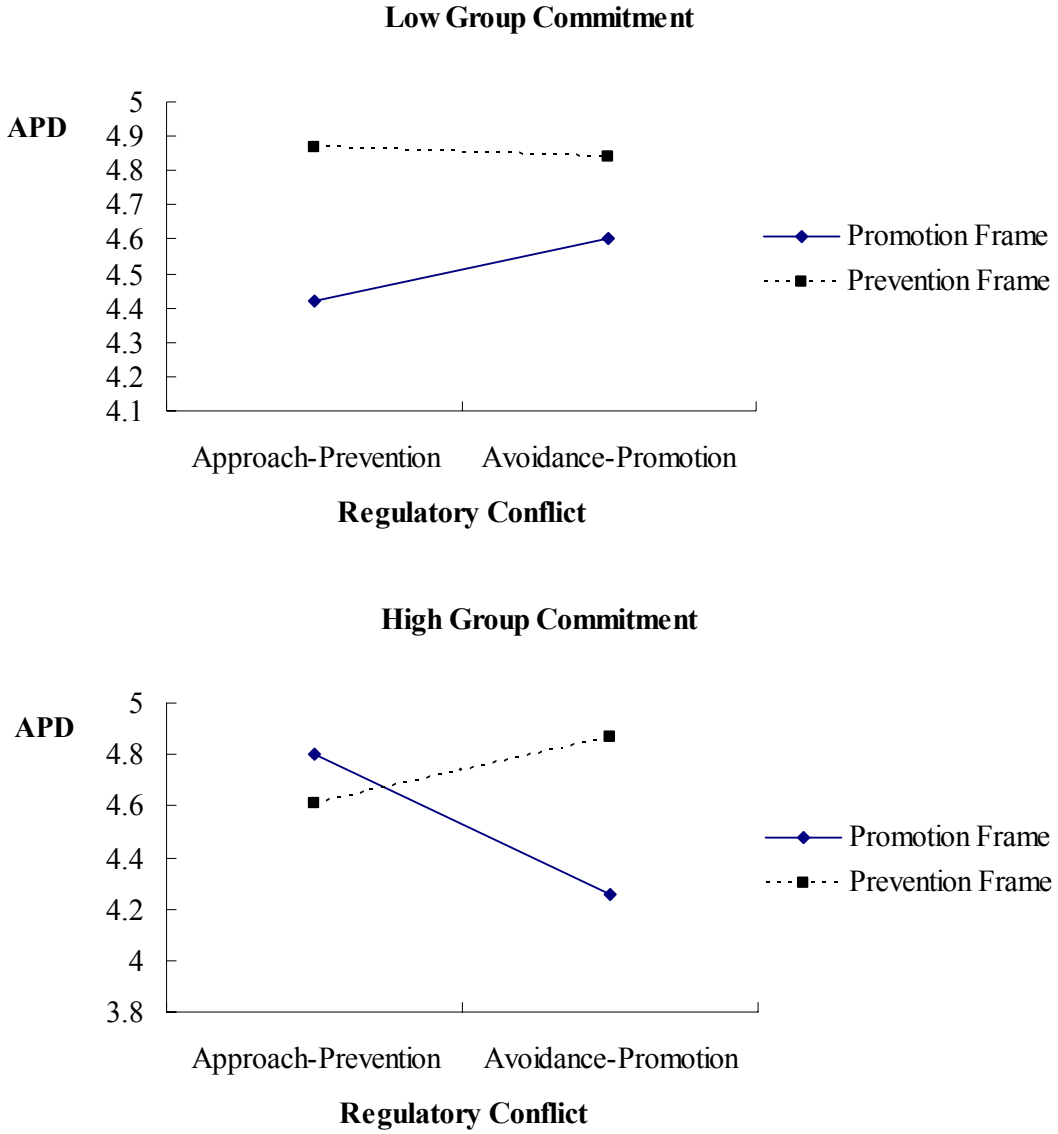
The advertised brand received higher evaluations when the framing of the advertisement was consistent with people's group orientation (i.e., avoidance-promotion RC vs prevention MF; mean=4.87), than when the framing was consistent with their trait regulatory foci (i.e., avoidance-promotion RC vs promotion MF; mean=4.26).

In the low GC and approach-prevention RC condition, even though the testing of a simple effect on MF did not show statistically significant result, the *p-value* was very close to significance (p=.054), and means of the two cells also showed the expected pattern – the prevention framed message that was consistent with trait regulatory focus produced a higher attitude toward the product (mean=4.87) than the promotion framed message did (mean=4.42).

Figure 4-12 shows the three-way interaction plots from the ANOVA model on APD. In the high GC situation, we can see a clear crossover interaction between MF and RC, which is consistent with the predictions generated by the moderating hypothesis of group commitment. This interaction pattern suggests that people with high group commitment follow their group's goal orientation as their active regulatory focus and evaluate the message congruent with the group orientation more positively. For people

FIGURE 4-12

MODERATING EFFCT OF GC ON APD (EXP 3)



with low group commitment, however, we did not find a crossover interaction pattern, and we suspect that this is partly due to the significant main effect of message framing (p=.025).

Further analyses on this main effect showed that, overall, people evaluate prevention framed message (mean=4.80) more positively than promotion framed message (mean=4.52). We suspect that the sunscreen product category is usually perceived as a preventive product (e.g., blocking harmful sunray) in our everyday life, and we believe that such a conventional perception played a role in generating the significant main effect of MF. However, even though the plot failed to show the crossover interaction, it still displayed an interaction pattern that supports the moderating hypothesis of social identify.

From the interaction plot of low GC, if we compare APD of promotion framed message in two different RC situations, avoidance-promotion RC condition, where individuals' trait regulatory focus is consistent with MF, showed more positive evaluations toward the advertised product (mean=4.60) than approach-prevention RC condition (mean=4.42).

We also found some interesting interaction patterns from the ANOVA on the AST construct. The results displayed not only a significant three-way interaction (p=.009) among the three experimental factors but also a significant two-way interaction (p=.046) between GC and MF. The hypotheses predict that the strength or confidence in people's attitude will be stronger when MF is congruent with people's active regulatory focus, where the congruence between MF and active regulatory focus is determined by the

strength of people's perceived group membership (i.e., GC). The three-way interaction found in this ANOVA provides strong support for the hypothesis.

TABLE 4-33

SIMPLE EFFECTS OF MF ON AST

	Regulatory Conflict	**Mean Square**	**Error MS**	**F-statistic**	***p***
Low GC	Approach-Prevention	1.211	0.825	1.467	.227
	Avoidance-Promotion	4.047	0.825	4.905	**.028**
High GC	Approach-Prevention	0.212	0.825	0.257	.613
	Avoidance-Promotion	4.250	0.825	5.150	**.024**

Tests of simple effects for this three-way interaction revealed two situations where the differences in AST are statistically significant (see Table 4-33). We observed a significant difference (p=.028) in the low GC and avoidance-promotion RC condition where participants showed stronger attitude (mean=4.73) toward the promotion framed advertisement (i.e., the message consistent with trait-regulatory focus) than toward the prevention framed advertisement (mean=4.25). Participants in the high GC and avoidance-promotion RC condition also showed a significant difference in their AST. The prevention framed advertisement (i.e., the message consistent with group orientation) received stronger evaluations (mean=4.77) than promotion framed message (mean=4.27) did.

The remaining two experimental conditions showed mixed results. Participants in the low GC and approach-prevention RC condition showed a pattern consistent with predictions. They expressed stronger attitudes toward the prevention framed advertisement (mean=4.43) than promotion framed message (mean=4.19), but the

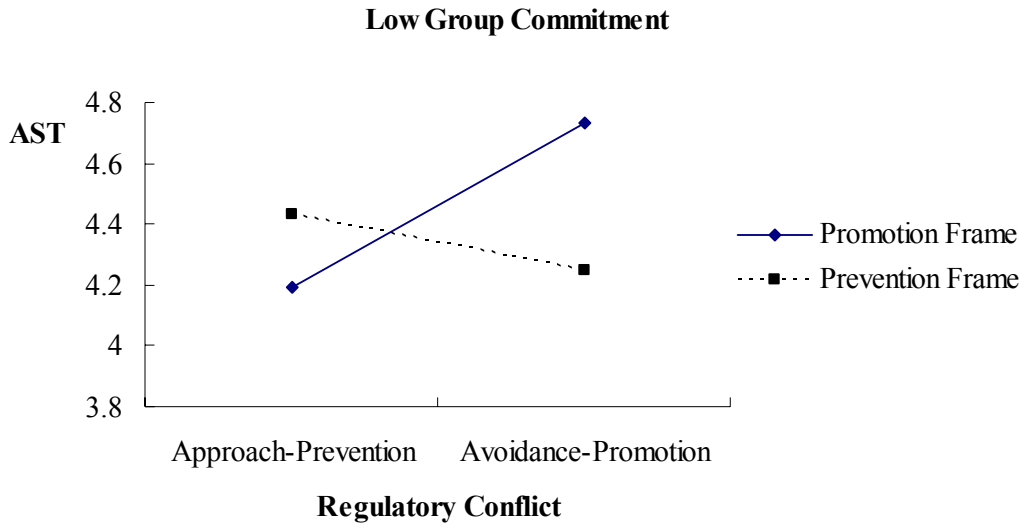
difference was not statistically significant (p=.341). Participants in the high GC and approach-prevention RC condition showed the opposite pattern of prediction. They showed stronger attitudes toward the prevention framed advertisement (mean=4.45), which is consistent with trait regulatory focus, than toward the promotion framed advertisement (mean=4.34) but again, the difference was not statistically significant (p=.613).

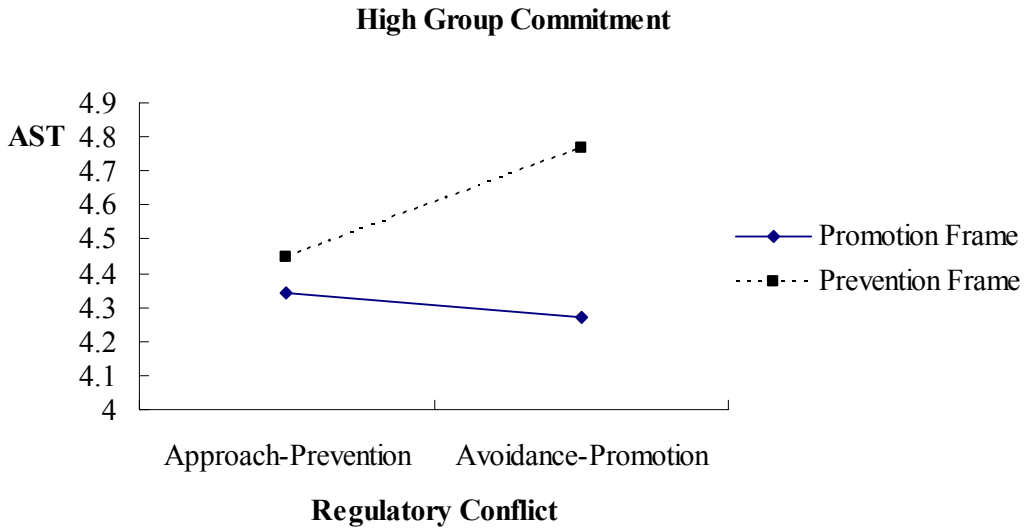
Figure 4-13 displays the three-way interaction on AST discussed above. In the low GC condition, the plot shows a clear crossover interaction between RC and MF: the message framed consistent with people's trait regulatory focus received stronger evaluations. This interaction pattern confirms the hypothesis that people with low group commitment should follow their own trait regulatory focus rather then their group orientation to guide their behaviors, when they experience regulatory conflict between the two.

In the high GC condition, however, the plot did not show the expected crossover interaction but displayed an interaction pattern consistent with the suggested hypothesis. People in the high GC and the avoidance-promotion RC condition showed a clear difference in evaluating two different kinds of messages; prevention framed message received higher evaluations than promotion framed one, which is consistent with the proposed prediction (i.e., in the high GC condition, people are hypothesized to use group orientation as their active regulatory focus). Also, if we consider the differences within the MF factor in this high GC interaction plot, participants followed the pattern consistent with the regulatory shift hypothesis: the promotion framed advertisement received

FIGURE 4-13

MODERATING EFFECT OF GC ON AST (EXP 3)





stronger evaluations in approach-prevention RC condition (mean=4.34) than in avoidance-promotion RC condition (mean=4.27) whereas prevention framed message received stronger evaluations in avoidance-promotion RC (mean=4.77) than in approach-prevention RC (mean=4.45).

Instead of showing three-way interactions, as predicted, ANOVAs on AAD and BI showed somewhat different interaction patterns. The model on AAD showed a significant MF main effect (p=.046) and a significant two-way interaction effect between MF and RC (p=.045), but the three-way interaction was not significant (p=.738). The ANOVA on BI also showed a significant two-way interaction (p=.032) between RC and MF, but failed to show a significant result for the three-way interaction term (p= .783).

Further analyses on these significant two-way interactions revealed that people followed a group orientation, rather than a trait regulatory focus, to resolve the conflict between the two showing interaction patterns. The examination of cell means revealed that these interaction patterns are consistent with the congruence hypothesis between message framing and group orientation tested in experiment 2. For the avoidance-prevention RC, the averages of the promotion framed advertisement were 3.15 (BI) and 3.67(AAD), and those of the prevention framed advertisement were 3.71 (BI) and 4.08 (AAD). Regardless of the level of GC, both AAD and BI variables received higher evaluations when the message was framed congruent with the group's goal orientation rather then trait regulatory focus. The approach-prevention RC condition also showed similar patterns. The average AAD for the promotion framed message, which is consistent with the group orientation, was 3.98 and higher than that of prevention framed

message (3.89). BI showed no difference in its averages between the two different messages. Both advertisements received almost identical scores (3.41). These interaction patterns for BI and AAD are portrayed in Figure 4-14 and 4-15.

FIGURE 4-14

INTERACTION BETWEEN RC AND MF ON BI (EXP 3)

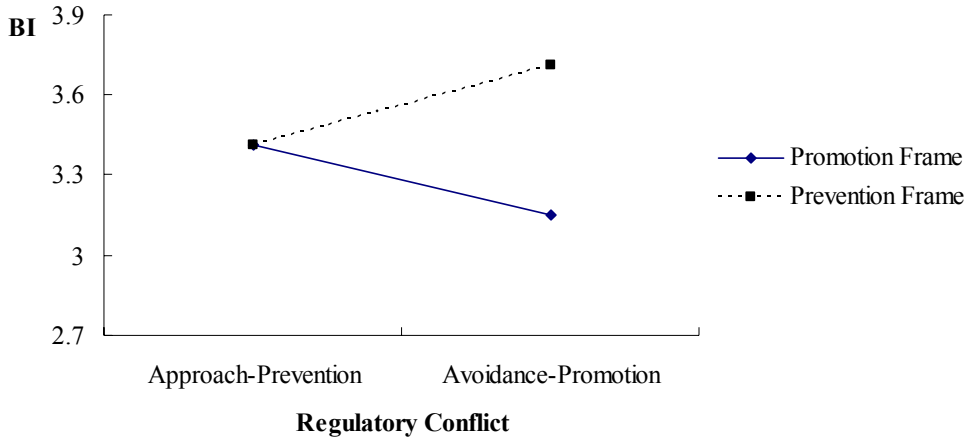
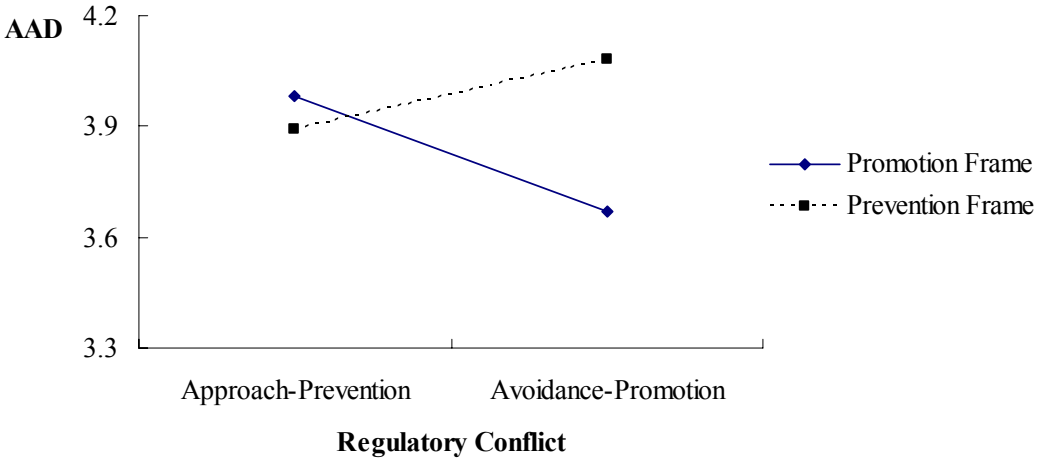


FIGURE 4-15

INTERACTION BETWEEN RC AND MF ON AAD (EXP 3)



Univariate testing of simple effects on these two significant two-way interaction effects showed that, for both AAD and BI constructs (see Table 4-34), only avoidance-promotion RC conditions showed significant differences between MF factors (*p-values* are .015 and .007 respectively), whereas approach-prevention RC conditions did not show significant differences (*p-values* are .582 and .995 respectively). Similar simple effects were found in experiment 2: only the avoidance group orientation condition showed significant simple effects on AAD, APD, and BI.

TABLE 4-34

SIMPLE EFFECTS OF MF ON AAD AND BI

AAD				
Regulatory Conflict	**Mean Square**	**Error MS**	**F-statistic**	***p***
Approach-Prevention	0.292	0.963	0.303	.582
Avoidance-Promotion	5.709	0.963	5.931	**.015**
BI				
Regulatory Conflict	**Mean Square**	**Error MS**	**F-statistic**	***p***
Approach-Prevention	0.000	1.434	0.000	.995
Avoidance-Promotion	10.749	1.434	7.494	**.007**

These consistent findings are probably due to the different characteristics between strategies that people with different regulatory focus implement. With a prevention/avoidance mindset, people prefer using vigilance strategies which insures correct rejections and insures against errors of commission. Compared to eagerness strategies, which promotion oriented people prefer, vigilance strategies should require more cognitive resources to implement, and such a heightened level of cognitive activity

created strong differences in prevention (or avoidance) oriented people in evaluating different kinds of advertisements and building behavioral intentions from them.

It seems that group commitment influences each of four dependent variables somewhat differently. While significant three-way interactions from ANOVA on AST and APD demonstrated strong evidence for the moderating hypothesis of group commitment, the two-way interaction between MF and RC on BI and AAD were consistent with the congruence hypothesis between goal orientation and message framing showed a strong influence of group membership on people's message evaluation.

We suspect that the strong influence from the high group commitment condition screens the moderating effect on AAD and BI, generating two-way interaction effects rather than the expected three-way interaction effect. Moreover, even though we were able to generate some variations in the strength of group commitment, it is possible that people classified into the low group commitment condition may have had more than enough awareness of group membership, and generated a certain level of regulatory shift for a few psychological activities producing conflicting results on four different dependent variables.

However, even though individual ANOVAs on the four dependent variables generated somewhat conflicting results, the most significant finding in this experiment is that, when those four variables are considered simultaneously in an MANOVA, the results showed a clear three-way interaction, as suggested from the moderating hypothesis of group commitment, and all other experimental effects, including the two-way interaction between RC and MF became non-significant. This is probably due to

superior statistical power that the techniques possess (e.g., Iacobucci 1994), which enables us to capture the true essence of the moderating effect of group commitment and eliminate screening effects from the other experimental factors. This strong three-way interaction in the MANOVA analyses (on AAD, APD, AST, and BI), combined with the results from the four independent ANOVA models, provides strong evidence for the moderating role of group commitment in the regulatory shift process.

Experiment 4

The primary purpose of experiment 4 is to examine if a preexisting social identity (i.e., a schema based collective identity) can generate a regulatory shift equivalent to that of an experimentally induced group identity in a conflict resolution process, and thus replicate the findings from experiment 3. In this experiment, the strength of group commitment is manipulated not with the bogus pipeline manipulation implemented in experiment 3 but with the participating students' own school identity. A participant's trait regulatory focus is manipulated using the writing task manipulation used in experiment 3 and the group's goal orientation is manipulated with another variation of Onorato and Turner's (2004) group priming procedure.

262 participants were recruited from Texas A&M University, and extra credit points were used to encourage their participation. They were asked to participate in three allegedly different studies: one study was conducted by the school's career service center, and the other two were conducted by an independent researcher. In the first session, each participant wrote an essay focused on either their hopes and aspirations (promotion) or duties and obligations (prevention) to crate individual regulatory focus priming. After

finishing the essay writing, participants were instructed to move on to the next study, where they were told to play and evaluate different kinds of online gaming scenarios.

In the second session, group orientation and the strength of group commitment were manipulated with a different kind of game show scenario (College Team Jeopard!). To manipulate the strength of group commitment, participants' preexisting collective identity (i.e., being a Texas A&M University student) was used to in this experiment. School identity was chosen because it is a well know fact that the student body of the university has a strong sense of group identity.

In the high Group Commitment (GC) condition, participants were asked to play the game show as representatives of Texas A&M students competing with University of Texas student in a Texas regional championship. The University of Texas was included as a competitor because the existence of this out-group should strengthen participants' in-group identity. To further emphasize their group identity, The University of Texas is called Texas University (TU) since that is the name Texas A&M University students use when they recognize The University of Texas. On the other hand, in the low GC condition, participants were asked to play the game show as a member of an imaginary college team, and the scenario did not mention the existence of an explicit out-group in order to minimize the commitment level. A manipulation check on this manipulation showed a significance difference ($t=19.473$; $p=.000$) where participants in the high GC condition showed a higher average (5.64) than people in the low GC condition (mean = 3.15).

To create regulatory conflicts (approach-prevention vs avoidance-promotion), each group orientation was mismatched with a trait regulatory focus condition with opposite tendencies (i.e., trait prevention-group approach and trait promotion-group avoidance). Participants who wrote essays focused on their hopes and aspirations (i.e., priming promotion regulatory focus) were asked to play the collective game as a group, and, to frame an avoidance group orientation, The scenario of the game show was constructed so as to emphasize psychological and financial *losses* and encouraging the use of vigilance means. This manipulation combined with the manipulation of the strength of group identity resulted in the following two scenarios. The first scenario was used to create an avoidance group orientation with a high GC condition, and the latter scenario was used to create an avoidance group orientation with a low GC condition.

> Imagine you and your team members as contestants playing 2005 College Team Jeopardy! representing *Texas A&M Aggies*. In the first round, you are competing against *TU Longhorns*. You and your team members must work as a group and reach a consensus before answering each question. Your team, named as *"Aggies Forever,"* will be asked to answer 20 questions and your team's task is *not committing mistakes* in answering the questions. You will have 10 minutes and your team will *lose $500* for each question you answered wrong. Furthermore, if your team scores $1,000 or less points than the last year's national average, all of your group members will *lose a chance of moving to the next round*, where teams will compete for the regional championship.

> Imagine you and your team members as contestants playing 2005 College Team Jeopardy! representing *Han University* in the first round. You and your team members must work as a group and reach a consensus before answering each question. Your team will be asked to answer 20 questions and your team's task is *not committing mistakes* in answering the questions. You will have 10 minutes and your team will *lose $500* for each question you answered wrong. Furthermore, if your team scores $1,000 or less points than the last year's national average, all of your group members will *lose a chance of moving to the next round*, where teams will compete for the regional championship.

On the other hand, participants who wrote essays focused on their duties and responsibilities (i.e., priming a prevention regulatory focus) were asked to play the same collective game, but the scenario of the game was constructed to emphasize psychological and financial gains and to encourage the use of eagerness means, creating a goal orientation with an approach frame. This approach group orientation, with two different levels of group commitment, produced the following two scenarios. The first scenario was used to create an approach group orientation with a high GC condition, and the latter scenario was used to create an approach group orientation with a low GC condition.

> Imagine you and your team members as contestants playing 2005 College Team Jeopardy! representing *Texas A&M Aggies*. In the first round, you are competing against *TU Longhorns*. You and your team members must work as a group and reach a consensus before answering each question. Your team, named as *"Aggies Forever,"* will be asked to answer 20 questions and your team's task is solving *as many questions as possible* in 10 minutes. Unlike a typical Jeopardy! Game show, this game will give you no penalty for making a wrong guess. Furthermore, if your team scores $1,000 or more points than the last year's national average, all of your group members will *gain the chance of moving to the next round*, where teams will compete for the regional championship.
>
> Imagine you and your team members as contestants playing 2005 College Team Jeopardy! representing *Han University* in the first round. You and your team members must work as a group and reach a consensus before answering each question. Your team will be asked to answer 20 questions and your team's task is solving *as many questions as possible* in 10 minutes. Unlike a typical Jeopardy! Game show, this game will give you no penalty for making a wrong guess. Furthermore, if your team scores $1,000 or more points than the last year's national average, all of your group members will *gain the chance of moving to the next round*, where teams will compete for the regional championship.

TABLE 4-35

MEAN, SD, AND CORRELATIONS OF AAD, BI, APD, AND AST ITEMS (EXP4)

Items	Correlations																						
aad1	1																						
aad2	.57	1																					
aad3	.41	.63	1																				
aad4	.36	.46	.54	1																			
aad5	.44	.20	.22	.21	1																		
aad6	.50	.33	.37	.33	.54	1																	
aad7	.58	.63	.57	.43	.39	.52	1																
aad8	.63	.64	.56	.49	.32	.49	.81	1															
aad9	.48	.44	.54	.32	.22	.35	.60	.65	1														
bi1	.58	.52	.41	.38	.34	.43	.58	.70	.49	1													
bi2	.54	.46	.42	.36	.34	.43	.59	.69	.51	.90	1												
bi3	.51	.35	.34	.26	.33	.44	.51	.54	.55	.65	.70	1											
bi4	.31	.20	.19	.23	.25	.15	.31	.29	.19	.49	.45	.36	1										
apd1	.54	.37	.40	.24	.37	.41	.48	.51	.47	.53	.50	.49	.20	1									
apd2	.49	.36	.36	.22	.32	.36	.44	.47	.45	.53	.50	.48	.18	.84	1								
apd3	.47	.35	.46	.25	.35	.35	.49	.49	.60	.47	.47	.52	.19	.77	.77	1							
apd4	.52	.37	.39	.19	.32	.34	.46	.51	.43	.55	.52	.51	.19	.67	.70	.64	1						
apd5	.24	.11	.17	.05	.30	.28	.23	.24	.25	.34	.35	.43	.11	.44	.41	.48	.40	1					
ast1	.15	-.02	.03	.02	.15	.10	.08	.10	.09	.17	.19	.14	.12	.13	.10	.14	.07	.13	1				
ast2	.18	.07	.03	.07	.14	.06	.10	.12	.06	.27	.33	.23	.15	.15	.14	.12	.15	.19	.68	1			
ast3	.09	-.08	-.13	-.01	.13	.06	.00	.01	-.04	.11	.13	.07	.15	.12	.10	.09	.03	.12	.58	.54	1		
ast4	.08	.00	-.07	.04	.08	.03	.01	.07	-.04	.19	.19	.14	.12	-.01	.04	.00	.01	.12	.50	.52	.53	1	
Mean	3.81	3.10	3.97	2.83	4.19	4.15	3.68	3.46	4.45	2.98	3.20	4.19	2.94	4.37	4.29	4.67	4.16	5.52	4.26	4.29	4.21	3.95	
SD	1.54	1.44	1.35	1.48	1.62	1.45	1.44	1.44	1.39	1.62	1.58	1.52	1.38	1.36	1.33	1.29	1.42	1.19	1.37	1.36	1.36	1.38	

After completing the regulatory conflict and group commitment manipulation procedures, participants were told to move to the last study and were asked to read and evaluate an advertisement of the sunscreen product used in previous experiments. In the promotion MF condition, the advertisement was constructed to emphasize the promotional characteristics of the product. In prevention MF condition, the message focused on the prevention elements of the product.

Measures of Dependent Variables

After reading the presented advertisement, participants were asked to complete a questionnaire that included composite measurement items of AAD, APD, AST, and BI which were used in experiments 2 and 3 in order to test the effectiveness of the messages. The means, standard deviations, and correlations of these measurement items are presented in Table 4-35 and the summary of fit indices of CFA models on these four variables is shown in Table 4-36.

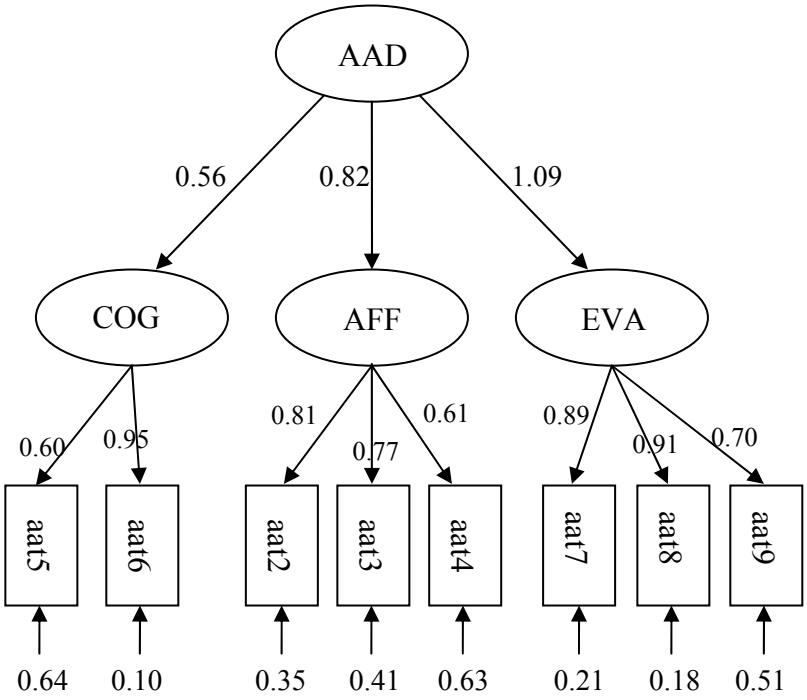
TABLE 4-36

FIT INDICES OF MEASUREMENT MODELS (EXP 4)

	Fit Indices
BI, AST, and APD Measurement Model	χ^2 (32) = 74.452 (p=0.000) RMSEA = 0.0662 NNFI = 0.976 CFI = 0.983 Standardized RMR = 0.0499
AAD Measurement Model with Three Sub-Dimensions	χ^2 (17) = 49.821 (p=0.000) RMSEA = 0.0805 NNFI = 0.969 CFI = 0.981 Standardized RMR = 0.0332

FIGURE 4-16

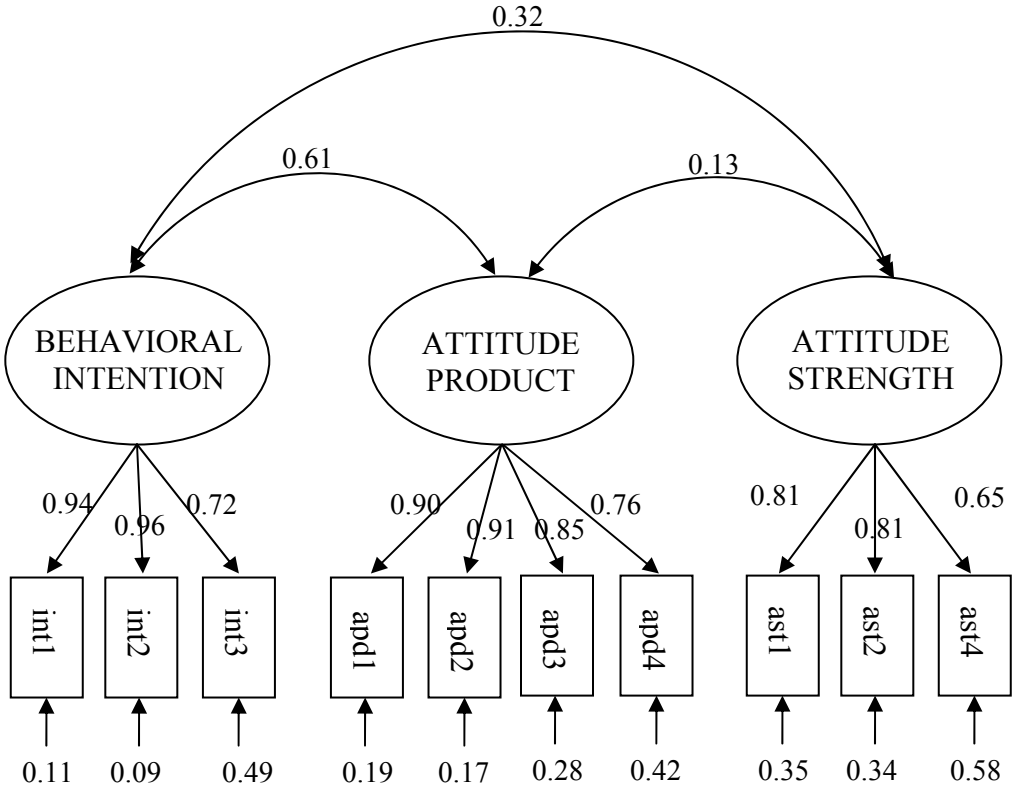
MEASUREMENT MODEL OF AAD (EXP 4)



Attitude toward Advertisement. A CFA with nine items of AAD revealed a second order model with three sub-dimensions (Cognitive, Affective, and Evaluative). However, the first item of the cognitive dimension (aad1) again displayed strong cross loadings with the evaluative construct and was dropped from the analysis. The model with eight AAD items showed an acceptable fit with a slightly high RMSEA (χ^2 (17) = 49.821 p = 0.000, RMSEA = 0.0805, NNFI = 0.969, CFI = 0.981, and Standardized RMR = 0.0332) with strong and significant factor loadings (all the factor loadings were greater than 0.5), and Figure 4-16 shows the dimensionality and parameter estimates of the model.

FIGURE 4-17

MEASUREMENT MODEL OF BI AND AST (EXP 4)



Attitude toward Product, Behavioral Intention, and Attitude Strength. A CFA with all indicators of these three constructs showed an acceptable fit (χ^2 (62) = 135.772 p = 0.000, RMSEA = 0.0649, NNFI = 0.970, CFI = 0.976, and Standardized RMR = 0.0567) but three indicators (bi1, apd5, and ast3) showed lower factor loadings (< 0.5) than desirable, and were dropped from the analysis. The resulting CFA model showed an excellent fit (χ^2 (32) = 74.452 p = 0.000, RMSEA = 0.0662, NNFI = 0.976, CFI = 0.983, and Standardized RMR = 0.0499) with strong and significant factor loadings (all the factor loadings were greater than 0.5), and their dimensionality and parameter estimates

are presented in Figure 4-17. The correlations between constructs were 0.32 (BI and AST), 0.61 (BI and APD), and 0.13 (APD and AST). The first two are statistically significant (SE: 0.04 and 0.06 respectively) but the last is not (SE 0.07).

Results and Discussion

A 2 × 2 × 2 MANOVA with the four dependent variables (AAD, APD, AST, and BI) was performed. Gender and age did not show statistical significance, and were dropped from the model. Table 4-37 shows a summary of results from the MANOVA. Multivariate tests on the four dependent variables showed a significant three-way interaction effect (p=.035) among the experimental factors, and none of the other two-way interactions and main effects were statistically significance.

These test results replicate the previous findings from experiment 3, thus providing strong evidence of the moderating role of group commitment. This three-way interaction was further decomposed into four simple effects, and the findings show one significant condition: approach-prevention RC and low GC condition, showed significant differences in evaluating two differently framed messages (see Table 4-38).

TABLE 4-37

MANOVA RESULTS OF AAD, APD, AST, AND BI (EXP 4)

Source	Hotelling's T	F-statistic	*p*
Regulatory Conflict (RC)	.011	0.674	.611
Group commitment (GC)	.007	0.470	.758
Message Framing (MF)	.019	1.200	.311
RC × GC	.028	1.806	.128
RC × MF	.017	1.068	.373
GC× MF	.017	1.053	.380
RC×GC×MF	.058	4.211	**.035**

TABLE 4-38

MULTIVARIATE SIMPLE EFFECTS OF MF (EXP4)

		Regulatory Conflict	Hotelling's T^2	F-statistic	Hyp. df	Error df	*p*
GC	**Low**	Approach-Prevention	.046	2.859	4	251	**.024**
		Avoidance-Promotion	.006	0.355	4	251	.841
	High	Approach-Prevention	.029	1.811	4	251	.761
		Avoidance-Promotion	.019	1.189	4	251	.316

Further analyses on each dependent variable with univariate ANOVAs showed somewhat perplexing results. Although AST showed a significant result (p=.047) for the three-way interaction, as expected from the moderating hypothesis of group commitment, none of the other dependent variables showed statistically significant effects in their three-way interactions. Moreover, the ANOVA on APD showed a significant two-way interaction between RC and GC (p=.010) that was not expected from the theoretical framework of this dissertation (see Table 4-39). Except for the two mentioned significant interaction terms, none of the experimental factors from the four ANOVAs were statistically significant. Table 4-40 shows the results from testing simple effects on the two significant interaction effects, and Table 4-41 displays cell means of the four ANOVA models.

TABLE 4-39

ANOVA RESULTS OF AAD, APD, AST, AND BI (EXP 4)

	Source	Mean Square	F-statistic	*p*
AAD R2 = 0.033	Regulatory Conflict (RC)	1.966	1.807	.180
	Group commitment (GC)	1.212	1.114	.292
	Message Framing (MF)	2.506	2.302	.130
	RC × GC	1.646	1.513	.220
	RC × MF	0.020	0.018	.893
	GC× MF	0.589	0.541	.463
	RC×GC×MF	2.591	2.381	.124
APD R2 = 0.044	Regulatory Conflict (RC)	0.083	0.063	.842
	Group commitment (GC)	0.157	0.137	.298
	Message Framing (MF)	5.856	5.091	.253
	RC × GC	0.918	0.798	**.010**
	RC × MF	1.615	1.404	.202
	GC× MF	0.339	0.295	.579
	RC×GC×MF	4.722	4.105	.515
AST R2 = 0.043	Regulatory Conflict (RC)	1.733	2.100	.670
	Group commitment (GC)	0.257	0.312	.896
	Message Framing (MF)	0.627	0.760	.293
	RC × GC	0.049	0.060	.470
	RC × MF	0.485	0.588	.347
	GC× MF	3.308	4.009	.077
	RC×GC×MF	5.772	6.995	**.047**
BI R2 = 0.017	Regulatory Conflict (RC)	1.199	0.575	.449
	Group commitment (GC)	0.295	0.141	.707
	Message Framing (MF)	0.405	0.194	.660
	RC × GC	6.722	3.226	.074
	RC × MF	0.466	0.223	.637
	GC× MF	0.488	0.234	.629
	RC×GC×MF	0.071	0.034	.854

TABLE 4-40

SIMPLE EFFECTS ON AST AND APD

MF on AST					
	Regulatory Conflict	**Mean Square**	**Error MS**	**F-statistic**	***p***
Low GC	Approach-Prevention	12.552	1.304	9.625	**.002**
	Avoidance-Promotion	0.003	1.304	0.003	.959
High GC	Approach-Prevention	0.927	1.304	0.711	.400
	Avoidance-Promotion	0.040	1.304	0.030	.862
RC on APD					
Group commitment		**Mean Square**	**Error MS**	**F-statistic**	***p***
Low		5.597	1.428	3.902	**.049**
High		4.046	1.428	2.833	.094

TABLE 4-41

CELL MEANS AND SD OF AAD, APD, AST, AND BI (EXP 4)

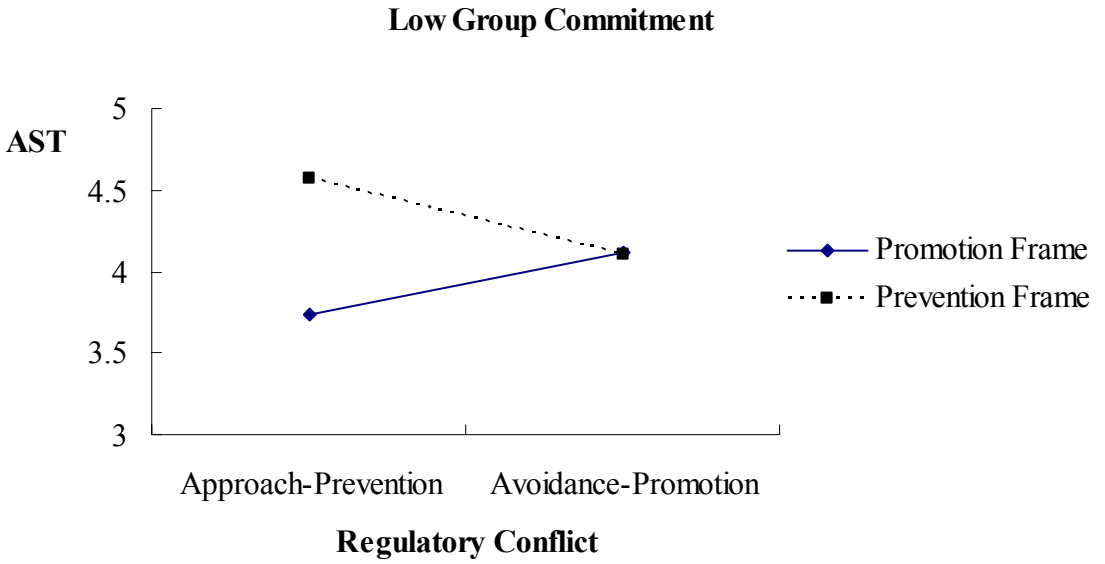
	Regulatory Conflict		**Approach-Prevention**		**Avoidance-Promotion**	
	Message Framing		Promotion	Prevention	Promotion	Prevention
GC	Low	AAD	3.86 (1.09)	3.78 (1.13)	3.34 (1.01)	3.63 (0.69)
		APD	4.48 (1.08)	4.48 (1.29)	3.97 (1.28)	4.16 (0.93)
		AST	3.74 (1.02)	4.57 (1.23)	4.12 (1.44)	4.10 (0.95)
		BI	3.70 (1.53)	3.57 (1.58)	3.12 (1.38)	3.23 (1.06)
	High	AAD	3.54 (1.06)	4.05 (1.02)	3.74 (1.06)	3.82 (1.14)
		APD	4.27 (1.14)	4.23 (1.29)	4.36 (1.37)	4.88 (1.06)
		AST	4.20 (1.13)	3.94 (0.93)	4.21 (1.15)	4.26 (1.17)
		BI	3.32 (1.57)	3.44 (1.31)	3.46 (1.50)	3.68 (1.45)

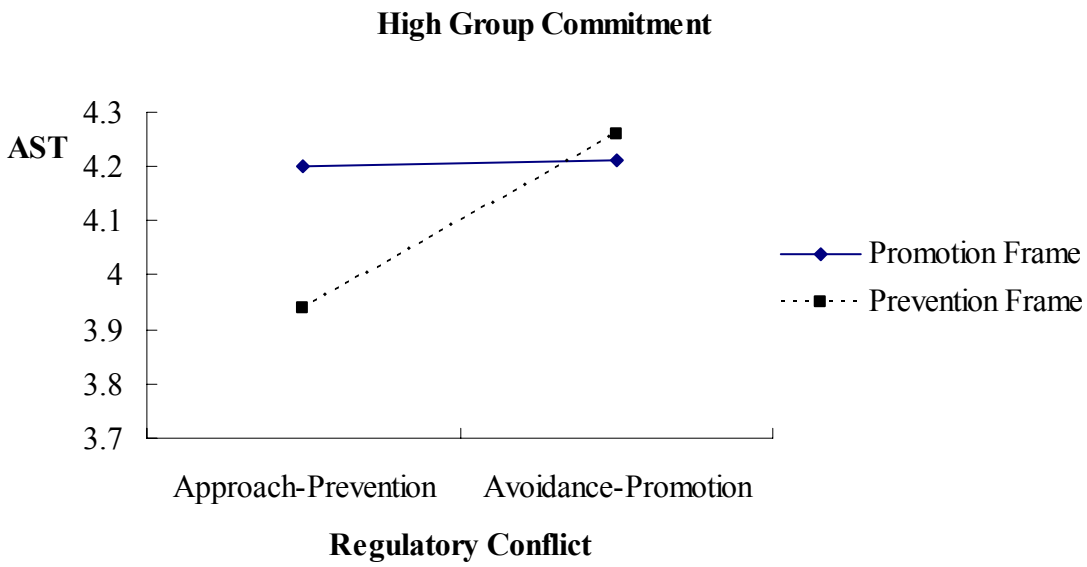
Note: All the variables in the above table range from 0 to 7. Standard deviations are shown in parentheses.

Figure 4-18 and 4-19 display the two significant interactions we found from the individual ANOVAs on AST and APD. The three-way interaction shown on Figure 4-18 showed patterns consistent with the moderating hypothesis of group commitment. In the *low* GC and approach-*prevention* RC condition, the *prevention framed message*

FIGURE 4-18

MODERATING EFFECT OF GC ON AST

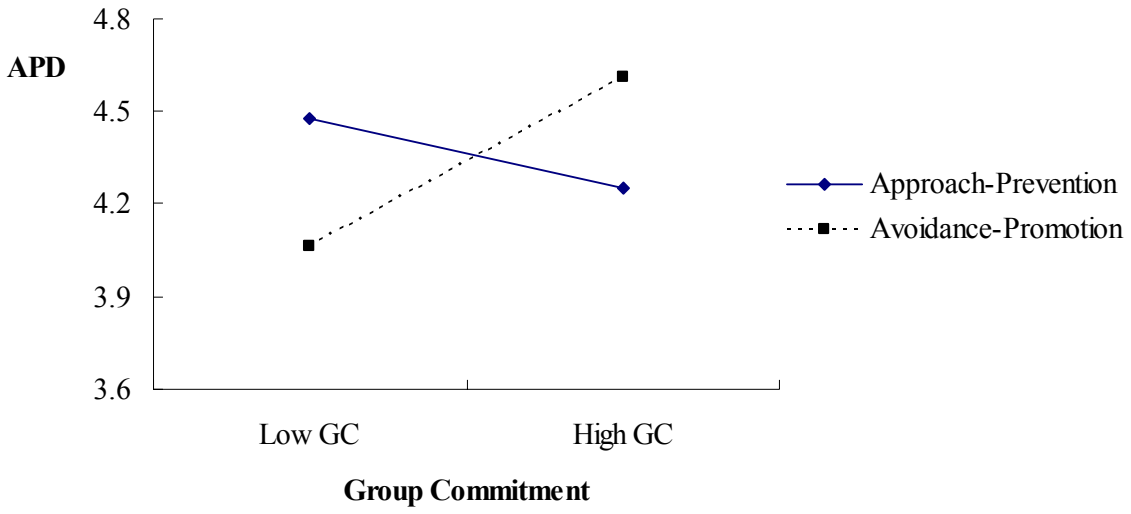




consistent with participants' trait regulatory focus received stronger scores on AST than the promotion framed message did, while MF did not show a significant difference in *low* GC and avoidance-promotion RC. Further comparisons of AST within MF factor showed another pattern expected from our hypothesis: the *prevention framed message* received a higher score in approach-*prevention* RC condition and the *prevention framed message* received higher score in avoidance-*promotion* RC condition. On the other hand, participants in the *high* group commitment condition showed stronger attitude to the message congruent with their *group* orientation in both RC conditions.

FIGURE 4-19

INTERACTION BETWEEN RC AND GC ON APD (EXP 4)



For the interaction between RC and GC displayed in Figure 4-19, we suspect that the conservative culture of the State of Texas and Texas A&M University produced unexpected interaction. The schools culture and value system emphasize honor and

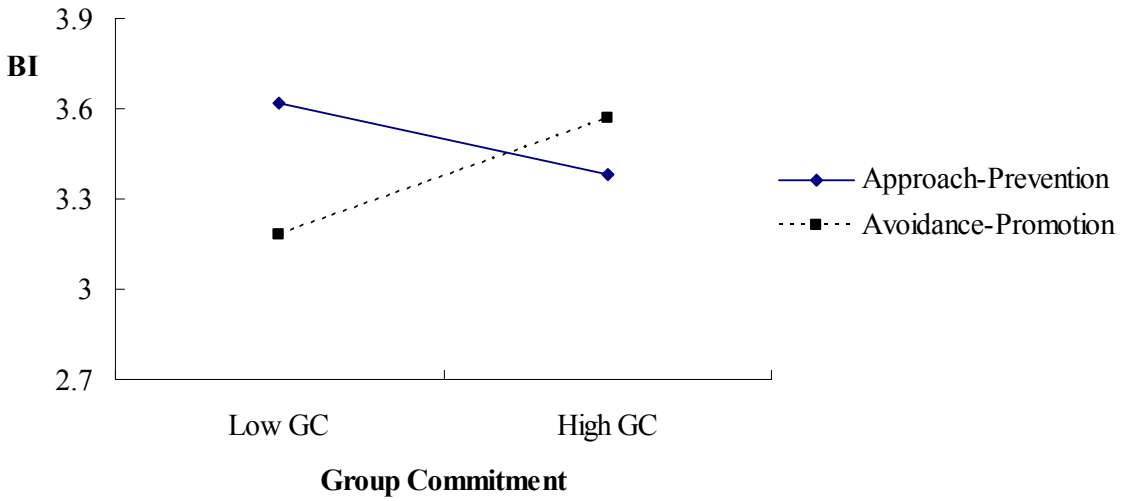
responsibilities which is more congruent with the characteristics of prevention regulatory focus (i.e., avoidance group orientation). Such a strong and conservative norm at Texas A&M University might have influenced the manipulation process of RC in the high GC condition where the conservative collective self-schema of Texas A&M University might have interacted with the manipulation of RC, especially the group orientation. In other words, in the high GC condition participants activated not only their strong group identity but also the school's unique culture and value system stored in their self-related schema. When such a conservative (i.e., prevention-oriented) schema is consistent with the manipulated group orientation (i.e., avoidance), the fit between the collective culture and the manipulation might have stimulated positive feelings in participants, and they might have transferred some of them to the evaluations of the presented messages generating more positive evaluations toward the product.

In the low GC condition, the opposite event might have happened among participants. Instead of producing a fit between group orientation and their collective self schema, participants in the *low* group commitment would be more focused on the fit between their own *trait-regulatory focus* and the manipulation of individual regulatory focus. Most of the students in Texas A&M University are raised by parents with conservative values, and many participants are likely to have a more prevention oriented trait-regulatory focus. When their prevention oriented trait regulatory focus is congruent with the priming manipulation (i.e., writing tasks focused on duties and responsibilities), participants should generate some positive feelings from fit, and transfer the positive feelings they experience to the evaluations of the product, thus showing higher attitude

toward the product in the approach-*prevention* RC condition. Although not statistically significant at the α = .05 level, the interaction between RC and GC on BI showed a relatively low *p-value* (.074) and an almost identical interaction pattern (see Figure 4-20), providing additional evidence consistent with the argument above.

FIGURE 4-20

INTERACTION BETWEEN RC AND GC ON BI



In this experiment, the manipulation of group commitment using participants' preexisting collective self-schema displayed interesting findings. Even though we suspect that such a manipulation process introduced some unintended noise in this experiment by activating norms and value systems related to the group identity (i.e., being a Texas A&M University student), and influenced some of the individual ANOVA findings (i.e., for AAD, APD, and BI), except for one result on AST, which showed a three-way interaction pattern as expected from hypotheses. However, superior statistical

power from the MANOVA again allowed us to detect a clear three-way interaction, as expected from the moderating hypothesis, thus replicating the findings from experiment 3.

The unexpected interaction between RC and GC we found in the ANOVA on APD might be the result of the fit between manipulation procedures and participants' schema based self-concepts (either collective or individual). Since we collapsed group orientation and individual regulatory focus to create the RC variable, it is impossible to tell if the suspected influence from the fit is the real cause of the interaction found in the ANOVA for APD. Further studies with separate group orientation and individual regulatory focus manipulations would be necessary to further explore the interaction between RC and GC that we found in this experiment.

Experiment 5

In this dissertation, we proposed collective efficacy as another social variable an individual considers when he/she encounters a regulatory conflict in a social environment. It is hypothesized that the level of collective efficacy is another moderating variable influencing a person's choice between two conflict resolution processes: compliance and self-preservation. High collective efficacy would provide a person enough incentive to comply with the conflicting group orientation, since they are aware of the high possibility of achieving their goal through group activities (i.e., compliance). On the other hand, an individual with low collective efficacy lacks such a motivation because of the low possibility of achieving their goals through group activities, and should thus follow his/her own trait regulatory focus (i.e., self-preservation).

This moderating hypothesis of collective efficacy, in conjunction with the message congruence hypothesis, generates the following hypotheses;

> Hypothesis4-a: People with high collective efficacy will evaluate a message congruent with their group orientation more favorably than one congruent with their trait regulatory focus.
>
> Hypothesis 4-b: People with low collective efficacy will evaluate a message congruent with their trait regulatory focus more favorably than one congruent with their group orientation.

Experiment 5 focuses on testing the moderating role of collective efficacy in determining which conflict resolution process an individual should implement when he/she experiences a regulatory conflict between individual and collective orientations, by testing the predictions proposed above.

309 Texas A&M University students participated in this experiment, and they received extra credit points for their participation. For the regulatory conflict manipulation, the procedure used in experiment 3 was implemented again. Participants were led to believe that they were participating in three allegedly different studies; one study conducted by the school's career service center, and the other two conducted by an independent researcher.

Regulatory Conflict. In the first session, participants were asked to write essays focused on either their *hopes and aspirations* (promotion) or *duties and obligations* (prevention) to prime their trait regulatory foci. After completing their writing tasks, they were instructed to move on to the next study. At this point, participants were told that the purpose of the second study was to develop simple but intriguing online gaming products,

which people can play together as a group. Then, they were asked to play a collective game constructed to manipulate their group orientations.

For the group approach condition, the following instruction was given to participants:

> We are conducting a study on developing a new kind of family game that family members or friends can play together online. You will play a simplified version of a family game and evaluate the elements and characteristics of the game. On your table, there is a wooden square divided into *seven pieces* with different sizes and shapes, which can be put together again in hundreds of different figures and forms. Your team's task is to create the silhouettes shown in your booklet with these seven wooden pieces. You must work as a group and your task is to reproduce as many silhouettes as possible. Your team's goal is to *gain* a chance to *move to the next round*. Your team will *gain 10 points* for each puzzle you solve together with your group. Furthermore, if your team scores *higher* than *the average score of previous studies*, your team will *gain* 10 extra points and a chance to move to the next round.

For the avoidance group condition, the following instruction was distributed to participants:

> We are conducting a study on developing a new kind of family game that family members or friends can play together online. You will play a simplified version of a family game and evaluate the elements and characteristics of the game. On your table, there is a wooden square divided into *seven pieces* with different sizes and shapes, which can be put together again in hundreds of different figures and forms. Your team's task is to create the silhouettes shown in your booklet with these seven wooden pieces. You must work as a group, and your team's *goal* is to *avoid* the situation where you *do not advance to the next round*. Your team will start with total 100 points and your team will *lose* 10 point for every puzzle you fail to solve. Furthermore, if your team *loses* more points *than the average points lost from previous studies*, your team will *lose* an extra 10 points and a chance to move to the next round.

Then, following the same procedure used in experiments 3 and 4, each trait regulatory focus was mismatched with the opposite group orientation to create two different regulatory conflict situations (i.e., promotion-avoidance and prevention-approach).

Collective efficacy. Collective efficacy (CE) was manipulated by adjusting the level of difficulty of the collective task and providing participants false feedback about their group performance. In the low collective efficacy condition, participants were asked, as a group, to solve 10 difficult puzzles within 10 minutes. After completing the quiz, they received a false feedback from the experimenter concerning their performance. Participants received a checklist form on which a bogus national average number of puzzles solved (7.92) was printed, and they were told that the number is from numerous previous studies that used the same procedure. Then, participants were asked to write down the number of puzzles they solved in the blank space under the fake average number. The average number of puzzles participants solved in this experiment was 1.76. In the high collective efficacy condition, participants will be asked to solve 10 easy puzzles, and received a phony feedback form with a fake national average (2.34). They were also asked to write down their numbers on the form. The average number of puzzles participants solved was 7.64, but two groups of people were dropped from analyses because they solved less puzzles than the fake national average.

Message Framing. After completing regulatory conflict and collective efficacy manipulation procedures, participants were be asked to read and evaluate two differently framed advertisements (promotion vs prevention) used in the previous experiments.

TABLE 4-42

MEANS, SD, AND CORRELATIONS OF AAD, BI, APD, AND AST ITEMS (EXP 5)

Items	Correlations																					
aad1	1																					
aad2	.57	1																				
aad3	.42	.63	1																			
aad4	.35	.46	.40	1																		
aad5	.37	.26	.25	.28	1																	
aad6	.42	.28	.28	.30	.50	1																
aad7	.59	.58	.55	.40	.45	.63	1															
aad8	.58	.61	.60	.43	.45	.53	.81	1														
aad9	.49	.49	.59	.38	.34	.50	.65	.70	1													
bi1	.58	.48	.43	.37	.39	.47	.60	.68	.53	1												
bi2	.52	.46	.40	.35	.37	.50	.63	.65	.57	.86	1											
bi3	.41	.33	.37	.25	.24	.44	.47	.52	.56	.62	.69	1										
bi4	.18	.18	.21	.21	.19	.24	.35	.32	.33	.38	.43	.31	1									
apd1	.55	.42	.45	.30	.34	.51	.57	.57	.61	.58	.56	.47	.30	1								
apd2	.50	.39	.42	.28	.31	.48	.54	.57	.58	.53	.54	.42	.25	.85	1							
apd3	.46	.35	.42	.27	.30	.46	.53	.56	.69	.54	.58	.48	.30	.80	.80	1						
apd4	.40	.38	.40	.27	.25	.35	.44	.51	.49	.48	.48	.41	.22	.67	.70	.64	1					
apd5	.35	.20	.30	.13	.31	.41	.39	.38	.49	.39	.43	.43	.22	.64	.63	.64	.52	1				
ast1	.12	.06	.02	.01	.14	.20	.08	.06	.05	.14	.09	-.02	.05	.15	.17	.14	.08	.15	1			
ast2	.05	.02	.01	.03	.12	.11	.06	.11	.12	.17	.15	.06	.18	.16	.19	.17	.13	.20	.60	1		
ast3	.00	-.04	-.01	-.03	.00	.11	.05	-.03	.07	.01	.03	.01	.15	.12	.15	.15	.10	.08	.50	.49	1	
ast4	.05	.04	.01	.01	.05	.06	.02	.01	.00	.08	.04	-.02	.06	.02	.03	.04	.07	.10	.48	.41	.48	1
Mean	3.71	3.03	3.89	2.86	4.18	4.00	3.78	3.41	4.27	2.90	3.13	4.05	2.87	4.31	4.29	4.53	4.16	5.21	4.32	4.51	4.46	4.17
SD	1.28	1.25	1.18	1.27	1.54	1.41	1.29	1.38	1.28	1.44	1.45	1.52	1.29	1.22	1.24	1.24	1.37	1.19	1.25	1.29	1.23	1.25

Measures of Dependent Variables

The same four dependent variables (AAD, APD, BI, and AST) used in previous experiments were used again in this experiment. Table 4-42 presents means, standard deviations, and correlations of these items and Table 4-43 summarizes fit indices from CFA models used in this experiment.

TABLE 4-43

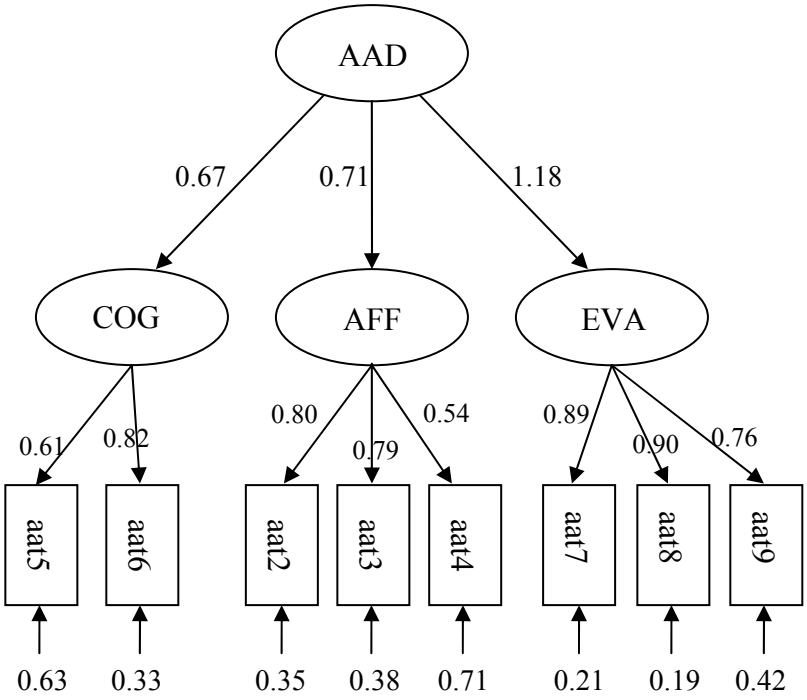
FIT INDICES OF MEASUREMENT MODELS (EXP 5)

	Fit Indices
BI, AST, and APD Measurement Model	χ^2 (51) = 98.073 (p=0.000) RMSEA = 0.0513 NNFI = 0.983 CFI = 0.987 Standardized RMR = 0.0387
AAD Measurement Model with Three Sub-Dimensions	χ^2 (17) = 51.317 (p=0.000) RMSEA = 0.0790 NNFI = 0.973 CFI = 0.983 Standardized RMR = 0.0363

Attitude toward Advertisement. Modification indices from a CFA model with nine AAD items again suggested that the first item (aad1) of cognitive sub-dimension had a strong cross loading with the evaluative sub-dimension. The item was dropped from the model, and the resulting CFA with eight items showed a good fit (χ^2 (17) = 51.317 (p=0.000), RMSEA = 0.0790, NNFI = 0.973, CFI = 0.983, Standardized RMR = 0.0363) with strong factor loadings. The dimensionality and parameter estimates of this CFA model are displayed in Figure 4-21.

FIGURE 4-21

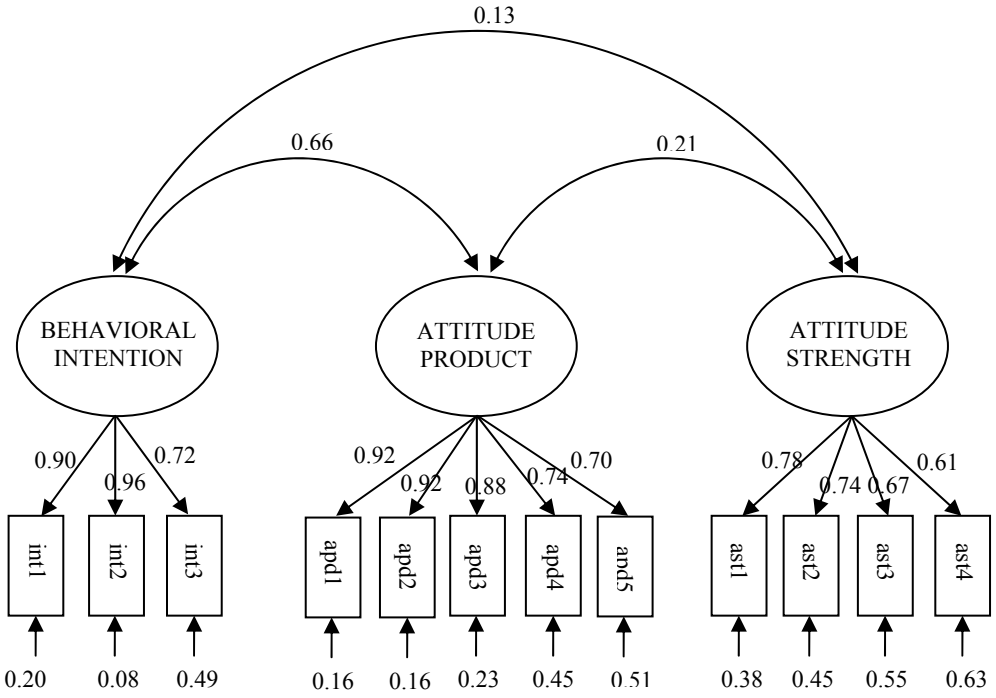
MEASUREMENT MODEL OF AAD (EXP 5)



Attitude toward Product, Behavioral Intention, and Attitude Strength. One of the BI items (bi4) showed a factor loading (.44) lower than the desired (.50) and was dropped from the model. The resulting CFA with APD, BI, and AST constructs showed a good fit ($\chi^2(51) = 98.073$ (p=0.000), RMSEA = 0.0513, NNFI = 0.983, CFI = 0.987, Standardized RMR = 0.0387) with strong factor loadings. The dimensionality and parameter estimates are displayed in Figure 4-22.

FIGURE 4-22

MEASUREMENT MODEL OF BI, APD, AND AST (EXP 5)



Results and Discussion

The summary results from a 2 × 2 × 2 MANOVA with the four dependent variables (AAD, APD, AST, and BI) are presented in Table 4-44. Gender and age did not show statistical significance and were dropped from the analysis.

Multivariate test (Hotelling's T^2) from the MANOVA showed a significant three-way interaction among RC, MF, and CE (p=.049), as expected from the moderating hypothesis of collective efficacy. A significant main effect of MF (p=.004) was also found from the test. To understand the nature of this three-way interaction, tests of simple

TABLE 4-44

MANOVA RESLUTS OF AAD, APD, AST, AND BI (EXP 5)

Source	Hotelling's T	F-statistic	*p*
Regulatory Conflict (RC)	.028	2.022	.091
Collective Efficacy (CE)	.021	1.534	.192
Message Framing (MF)	.054	3.985	**.004**
RC × CE	.022	1.598	.175
RC × MF	.008	0.592	.669
CE× MF	.021	1.512	.199
RC×CE×MF	.033	2.421	**.049**

TABLE 4-45

MULTIVARIATE SIMPLE EFFECTS OF MF (EXP 5)

		Regulatory Conflict	Hotelling's T^2	F-statistic	Hyp. df	Error df	*p*
CE	**Low**	**Approach-Prevention**	.028	2.072	4	293	**.084**
		Avoidance-Promotion	.039	2.872	4	293	**.023**
	High	**Approach-Prevention**	.020	1.478	4	293	.209
		Avoidance-Promotion	.006	0.460	4	293	.765

effects focused on MF were conducted and the test results are reported in Table 4-45. We found a significant difference between two differently framed messages (i.e., promotion vs prevention) in the low CE and avoidance-promotion RC condition. Also, even though it was not statistically significant, the low CE and approach-prevention also showed a relatively low p-value (.084), suggesting a strong crossover interaction pattern in the low CE situation. However, neither the high CE and avoidance-promotion RC condition nor the high CE and approach-prevention RC condition generated significant simple effects.

From these results, we suspect that the major source of the three-way interaction is the interaction between RF and RC in the low CE condition.

To further examine the pattern of the three-way interaction found in MANOVA, independent ANOVAs were conducted on the four dependent variables (see Table 4-46 for the summary of the results).

TABLE 4-46

ANOVA RESULTS OF AAD, APD, AST, AND BI (EXP 5)

	Source	**Mean Square**	**F-statistic**	***p***
AAD R2 = 0.068	Regulatory Conflict (RC)	3.799	4.288	**.039**
	Collective Efficacy (CE)	2.112	2.397	.123
	Message Framing (MF)	11.466	13.012	**.000**
	RC × CE	0.461	0.523	.470
	RC × MF	1.165	1.322	.251
	CE× MF	0.478	0.543	.462
	RC×CE×MF	0.482	0.547	.460
APD R2 = 0.064	Regulatory Conflict (RC)	3.825	3.397	.066
	Collective Efficacy (CE)	3.166	2.812	.095
	Message Framing (MF)	13.927	12.370	**.001**
	RC × CE	0.086	0.077	.782
	RC × MF	0.859	0.763	.383
	CE× MF	0.134	0.119	.730
	RC×CE×MF	2.173	1.930	.166
AST R2 = 0.047	Regulatory Conflict (RC)	2.286	2.400	.122
	Collective Efficacy (CE)	3.165	3.323	.069
	Message Framing (MF)	1.217	1.277	.259
	RC × CE	0.749	0.787	.376
	RC × MF	0.607	0.637	.425
	CE × MF	3.762	3.949	**.048**
	RC×CE×MF	0.955	1.003	.317
BI R2 = 0.056	Regulatory Conflict (RC)	3.558	2.088	.149
	Collective Efficacy (CE)	5.248	3.080	.080
	Message Framing (MF)	10.091	5.923	**.016**
	RC × CE	5.135	3.014	.084
	RC × MF	3.106	1.823	.178
	CE× MF	0.242	0.142	.706
	RC×CE×MF	1.001	0.588	.444

The cell means of these ANOVA models are reported in Table 4-47. Consistent with the findings from the MANOVA, MF displayed strong significant main effects across AAD, APD, BI variables (*p*-values are .000, .001, and .016 respectively). As we discussed in experiment 3, there is a strong possibility that the stereotypical preventive characteristic of the advertised product (i.e., a sunscreen product) generates differences in evaluations on two advertisements favoring prevention framed advertisement. The strong main effects of MF in MANOVA and three ANOVA models on AAD, APD, and BI can be understood from this perspective. The cell means showed that all three variables showed higher means in the prevention framing condition: the means of three variables for the promotion and the prevention framed messages were 3.43 and 3.85 (AAD), 4.24 and 4.68 (APD), and 3.12 and 3.52 (BI), respectively.

TABLE 4-47

CELL MEANS AND SD OF AAD, APD, AST, AND BI (EXP 5)

	Regulatory Conflict		**Approach-Prevention**		**Avoidance-Promotion**	
	Message Framing		**Promotion**	**Prevention**	**Promotion**	**Prevention**
CE	**Low**	AAD	3.42 (0.85)	3.85 (0.77)	3.22 (1.01)	3.75 (0.88)
		APD	4.38 (0.98)	4.58 (0.78)	3.83 (1.16)	4.60 (0.93)
		AST	4.02 (0.92)	4.40 (0.90)	4.12 (1.19)	4.46 (0.99)
		BI	3.16 (1.57)	3.15 (1.15)	2.88 (1.25)	3.52 (1.17)
	High	AAD	3.83 (0.88)	3.94 (1.04)	3.31 (0.99)	3.84 (1.01)
		APD	4.42 (1.17)	4.88 (1.20)	4.29 (1.12)	4.62 (1.10)
		AST	4.47 (0.67)	4.17 (1.04)	4.55 (0.87)	4.65 (1.07)
		BI	3.52 (1.17)	3.86 (1.39)	2.94 (1.39)	3.46 (1.28)

Note: All the variables in the above table range from 0 to 7. Standard deviations are shown in parentheses.

Interestingly, unlike the Multivariate test results, none of the univariate tests for the three-way interaction terms in the four ANOVA models showed significant results. Moreover, some of the main and interaction effects, which did not show significant results under the multivariate tests, showed significant test results for some univariate ANOVAs. RC showed a significant main effect on AAD construct, and we found an interaction effect between CE and MF (p=.048) in the ANOVA model on AST. The interpretation of another main effect of RC on AAD seems more complicated due to the nature of the RC variable (i.e., it is created by mismatching trait regulatory focus and goal orientation).

To examine the source of the main effect, we divided the sample into two groups (low and high collective efficacy) and run two ANOVAs with the RC and MF variables (see Table 4-48 for the summary of results). From these two ANOVAs, we did not find any significant main effects of RC (at α = .05) in both groups. However, the high collective efficacy condition showed a smaller *p-value* (.06) than the low collective efficacy group did (p=.32), thus demonstrating a stronger main effect for RC. If we accept the assumption that high collective efficacy should increase group influence, we may speculate that group orientation is the source of the main effect for RC, rather than individual trait regulatory focus, since the high CE condition showed a stronger effect. However, to further understand the real nature of this main effect, a series of experiments with separate group orientation and trait regulatory focus manipulations should be done.

TABLE 4-48

ANOVA RESULTS FOR HIGH AND LOW CE GROUPS

	Source	Mean Square	F-statistic	*p*
High CE	Regulatory Conflict (RC)	3.558	3.596	.060
	Message Framing (MF)	3.756	3.796	.053
	RC × MF	1.627	1.645	.202
Low CE	Regulatory Conflict (RC)	0.774	1.018	.315
	Message Framing (MF)	8.045	10.577	**.001**
	RC × MF	0.071	0.094	.759

Tests of simple effects on the interaction between CE and MF on AST (see Table 4-49) showed that the difference in the evaluations of prevention and promotion framed messages was statistically significant (p=.031) in the low CE condition, while the difference was not statistically significant in the high CE condition (p=.538). We suspect that this pattern is created by an interaction between the stereotypical image of the product and individual-oriented schema of participants activated in low CE condition.

TABLE 4-49

SIMPLE EFFECTS OF MF ON AST (EXP 5)

MF on AST				
Collective Efficacy	**Mean Square**	**Error MS**	**F-statistic**	***p***
Low	4.479	0.953	4.702	**.031**
High	0.362	0.953	0.380	.538

The stereotypical image of the advertised sunscreen product should be stored in a memory structure and should be activated when participants perceive the advertisement as a contextual cue. In the low CE condition, participants should implement their usual behavior regulatory strategies (i.e., trait regulatory focus), and the schema related to

sunscreen products that people have developed through their personal experiences should be ready to be activated when they encounter the advertisement. However, in the high CE condition, people tend to use group situation and should use group environment as their primary social context in that situation. Consequently such a group context should work as an inhibitory force against activating more person related memory schema, thus showing that a difference between message evaluations depends on the level of collective efficacy.

One of the consistent effects that social identity researchers have found is the discontinuity between individual self-concept and collective self-concept, when a certain social identity is activated. It is possible that participants in the high CE condition have a more group oriented mindset and shift their active self from individual ones that are closely related to their personal experience (i.e., they are more apt to use the stereotypical image of sunscreen product) to a collective identity that is separated from personal experience (i.e., they are less apt to use the stereotypical image of the sunscreen product).[17]

From this experiment, a three-way interaction from MANOVA provides strong evidence that collective efficacy can produce a regulatory, shift although the univariate ANOVA models revealed interfering effects between collective efficacy, regulatory conflict, and message framing. Some of these results (e.g., an interaction between CE and MF on AST, a couple of main effects of RC) might come from strong influence of

[17] See Macrae and Bodenhausen (2000) for further discussion concerning category activation and inhibition.

collective influence, but the complicated nature of the RC variables calls for further studies examining the true nature of regulatory shift.

It is interesting that we were able to find a significant three-way interaction in the MANOVA when none of three-way interaction terms were significant in the ANOVAs with AAD, APD, AST, and BI. Moreover, some of the significant results we found in individual ANOVA models disappeared in the MANOVA, where multivariate relationships were examined. One of the well known advantages of using MANOVA over running multiple ANOVAs on the same set of dependent variables is that by using multidimensional information drawn from a linear combination of the dependent variables, MANOVA is more sensitive and powerful to detect the difference(s) between groups. In other words, MANOVA is capable of looking at multidimensional distributions of groups and finding differences, which individual ANOVAs cannot detect because they consider unidimensional distributions only (Iacobucci 1994). Therefore, it is very likely that the effect of regulatory shift was captured by MANOVA, but not by the other independent ANOVAs because the influence of regulatory shift from trait regulatory focus to group orientation is displayed in different/distorted ways (such as significant main effect under the two-way interaction we found in these analyses) when we only consider unidimesional aspects of message evaluation.

Experiment 6

In this experiment, we attempt to demonstrate empirical distinctions between depersonalization and compliance processes by demonstrating the attitudinal differences generated from the difference of regulatory fit between the two regulatory shift processes.

The main premise of this experiment is that depersonalization and compliance follow distinctive cognitive and motivational processes, and in turn generate different levels of regulatory fit. It is proposed that the instrumental nature of group orientation from compliance process separates an individual's self definition from group identity, and the person experiences uneasy feelings from the difference between his/her trait regulatory focus and group orientation in a regulatory conflict situation. The regulatory non-fit generated from compliance process should produce a negative influence on people's message evaluation processes. Thus, the following hypothesis is proposed:

> Hypothesis 5: In a conflict resolution process, an individual with high group commitment and high collective efficacy will evaluate a message consistent with group orientation more favorably than an individual with low group commitment and high collective efficacy.

Since group commitment (GC) is the key element in differentiating depersonalization and compliance, only GC was experimentally manipulated here to test the regulatory fit hypothesis. Having collective efficacy, regulatory conflict, or message framing as manipulated variables should generate interesting hypotheses in terms of message evaluation and other decision processes. However, the main goal of this experiment is to demonstrate a difference between two conflict resolution processes (depersonalization and compliance), by using a simple design manipulating only the two key variables, we can achieve the main goal, while maintaining experimental efficiency in testing the regulatory fit hypothesis.

Consequently, collective efficacy, regulatory conflict, and message framing were set as constants (i.e., high collective efficacy, promotion-avoidance regulatory conflict

and prevention message framing were fixed). To create promotion-avoidance regulatory conflict, participants wrote essays concerning their hopes and aspirations (i.e., promotion trait regulatory focus) and played Team Jeopardy! focused on avoiding a satiation where they failed to achieve their group goals (i.e., avoidance group orientation).

To set the level of collective efficacy as a constant (i.e. high collective efficacy), participants were asked to solve 10 easy trivia questions as a group. After answering the trivia questions, group members graded their own performance, and received a checklist on which another bogus national average (39) was printed. The experimenter asked participants to write down their score in the blank space and the lowest number of questions correctly answered was seven (70 points).

The level of group commitment was manipulated with the participants' university identity. The following two instructions were used to induce high and low group commitment with approach group orientation.

> [High group commitment] Imagine yourself and your team members as contestants playing 2005 College Team Jeopardy representing Texas A&M University and compete with teams from University of Texas. Your team is asked to answer 10 questions and your team's task is solving *as many questions as possible*. You and your team members must work as a group and reach a consensus before answering a question. You have 10 minutes and your team *will receive 10 points for each question you answered right*. Furthermore, if your team scores *20 or more* points than the last year's national average, all of your group members will *gain* the chance of moving to the next round, where teams will compete with teams for the regional championship.
>
> [Low group commitment] Imagine yourself and your team members as contestants playing 2005 College Team Jeopardy representing "A" University. Your team is asked to answer 10 questions and your team's task is solving *as many questions as possible*. You and your team members must work as a group and reach a consensus before answering a question. You will have 10 minutes and your team *will*

> *receive 10 points for each question you answered right*. Furthermore, if your team scores *20 or more* points than the last year's national average, all of your group members will *gain* the chance of moving to the next round, where teams will compete with teams for the regional championship.

After finishing the experimental procedure, the experimenter asked participants to evaluate their experience of playing the game. Then, the participants were instructed to move to the next study where another experimenter measured effectiveness of different advertisement campaigns. Every participant was exposed to a *prevention* framed advertisement and completed a questionnaire contains a battery of items measuring the effectiveness of the advertisement.

Dependent Measures

To assess participants' evaluations of the displayed advertisements, four constructs (AAD, BI, APD, and AST) were measured with the same items implemented in previous experiments (experiments 3, 4, and 5). Although we did not conduct CFA on these dependent variables due to the small sample size (N= 54), the robust results we found from CFA models on these variables throughout the previous experiments provides confidence concerning their reliability and construct validity.

Results and Discussion

The results from a MANOVA with the four dependent variables (AAD, APD, BI, and AST) are presented in Table 4-50 where gender and age did not show statistical significance, and were dropped from the analysis. The suggested hypothesis predicts that participants would evaluate the presented advertisement (prevention framed message) more positively in high CE and high GC condition than high CE and low GC condition.

Against such a prediction, Multivariate tests (Hotelling's T^2) from MONOVA did not show a significant difference between the two conditions.

TABLE 4-50

MANOVA RESULTS OF AAD, APD, AST, AND BI (EXP 6)

Source	Hotelling's T	F-statistic	*p*
Group Commitment (GC)	0.131	1.603	.189

To further examine if the expected patterns can be found in univariate analyses, ANOVAs with the four dependent variables were conducted. The summary results of these four models are displayed in Table 4-51. ANOVAs on AAD, APD, and BI showed significant main effects (*p-values* are .043, .019, and .031 respectively). In the high GC condition, participants displayed more positive AAD (4.17), APD (5.04), and BI (3.65) than participants in the low GC condition (AAD = 3.57, APD = 4.31, and BI = 2.98). The summary cell means are displayed in Table 4-52.

TABLE 4-51

ANOVA RESULTS OF AAD, APD, AST, AND BI (EXP 6)

	Source	Mean Square	F-statistic	*p*
AAD R2 = .077	Group commitment (GC) Error	4.777 1.116	4.319	**.043**
APD R2 = .102	Group commitment (GC) Error	7.070 1.201	5.888	**.019**
AST R2 = .003	Group commitment (GC) Error	0.199 1.286	0.155	.696
BI R2 = .087	Group commitment (GC) Error	6.083 1.233	4.932	**.031**

TABLE 4-52

CELL MEANS AND SD OF AAD, APD, AST, AND BI (EXP 6)

	Group commitment	
	Low (*n*=28)	High (*n*=26)
AAD	3.57 (1.02)	4.17 (1.08)
APD	4.31 (1.10)	5.04 (1.09)
AST	4.33 (1.22)	4.45 (1.03)
BI	2.98 (1.12)	3.65 (1.10)

Note: All the variables in the above table range from 0 to 7.
Standard deviations are shown in parentheses

The results from the ANOVAs are consistent with the regulatory fit hypothesis: people experience more uneasy feelings when they follow a group orientation while maintaining their individual self-concept (i.e., compliance), and such uneasy feelings are transferred to their evaluation of a target advertisement.

TABLE 4-53

ANOVA RESULTS OF COG, AFF, AND EVA (EXP 6)

	Source	**Mean Square**	**F-statistic**	***p***
COG R2 = .019	Group commitment (GC) Error	1.506 1.461	1.031	.315
AFF R2 = .069	Group commitment (GC) Error	5.000 1.297	3.854	.055
EVA R2 = .107	Group commitment (GC) Error	9.569 1.529	6.258	**.016**

The comparison of message evaluations (i.e., AAD, APD, AST, and BI) between high and low GC conditions empirically demonstrated the difference between compliance and depersonalization processes. Here, we ran three additional ANOVAs to examine how regulatory non-fit between goal orientation and trait-regulatory focus influences sub-

dimensions of AAD (i.e., COG, AFF, and EVA). Table 4-53 shows the results of these three ANOVAs.

TABLE 4-54

CELL MEANS AND SD OF COG, AFF, AND EVA (EXP 6)

	Group commitment	
	Low (*n*=28)	High (*n*=26)
COG	4.01 (1.04)	4.35 (1.37)
AFF	3.08 (1.21)	3.69 (1.05)
EVA	3.62 (1.25)	4.46 (1.22)

Note: All the variables in the above table range from 0 to 7.
Standard deviations are shown in parentheses

As we can see from Table 4-53, the EVA sub-dimension showed a significant difference between the two GC conditions. Moreover, the AFF sub-dimension showed a *p-value* close to significance ($p = .055$), while the COG sub-dimension of AAD showed a non-significant *p-value* (.315). All three sub-dimensions displayed higher cell means in the high GC condition (see Table 4-54). From these patterns, we can infer that regulatory non-fit people experience in compliance process has a stronger influence on evaluative and affective dimensions than the cognitive dimension.

These results from the ANOVAs provide additional supporting evidence for the regulatory fit hypothesis. People in both conditions are cognitively aware of their group membership, and such awareness generates an equal influence on the cognitive aspect of message evaluation for both conditions. On the other hand, the negative emotional and evaluative characteristic (e.g., I don't like/I don't feel right to follow group orientation) that the people experience from regulatory non-fit may have stronger impact on the

emotional and evaluative dimensions of message evaluation, thus generating the differences found between the COG sub-dimension and the other dimensions.

The fact that we did not find a significant difference between high and low GC conditions is also consistent with the results from experiment 2. In experiment 2, when group membership was manipulated using the minimal group paradigm, the COG sub-dimension of AAD was the only aspect of the evaluation process influenced by the manipulation. In this experiment 6, participants in the low GC condition were still (cognitively) aware of their group membership even though their commitment level was minimal. Consequently, it is very likely that such a cognitive awareness of group membership in the low GC condition might have generated enough influence on the COG dimension of AAD, thus producing the observed non-significant difference between the high and low GC condition.

CHAPTER V

DISCUSSION AND CONCLUSION

This dissertation explores the socio-cognitive system of collective influence on consumers' psychological processes by examining the regulatory role of social identities. Social identity theory suggests that consumers often use the group's norms, values, and goals to guide their consumption behaviors, when a certain social identity is made salient. However, it is also possible that people resist such a shift in the locus of self perceptions if the group's norms, values and goals create psychological conflicts with an individual consumer's own personal norms, values, and goals. Among many possible tensions between a group and its members, this dissertation focuses on regulatory conflict between an individual's own trait regulatory focus (i.e., promotion/prevention) and a group's goal orientation (i.e., avoidance/approach).

To understand how individuals deal with such a psychological tension, a theoretical framework (i.e., conflict resolution processes) focused on how people resolve a conflict between group's goal orientation and people's own trait regulatory focus was developed. Three distinctive psychological strategies (i.e., depersonalization, compliance, and self-preservation) are proposed, and it is hypothesized that people implement one of the three, depending on the level of two perceived collective variables (e.g., group commitment and collective efficacy).

Depersonalization is a strategy people implement when they have a strong feeling of belonging toward a group (i.e., high group commitment). In such a situation, people change their locus of self perceptions from personal to collective level, and thus shift

their regulatory focus from a trait regulatory focus to group orientation. We believe that the activation of depersonalization process is rather automatic because the collective identity with high level of commitment is more likely embedded in people's self schemas as a part of their self-definitions.

Compliance describes a process people use when they do not have a strong feeling toward a group, but believe that they have high chance of achieving their personal goals through pursuing group goals (i.e., low group identity and high collective efficacy). In this situation, people often place their personal goals in a higher level than the group goals in goal hierarchy, and treat groups as instruments to attain their personal goals. Even though compliance follows a distinct psychological process from depersonalization, it also generates a regulatory shift from trait regulatory focus to group orientation because they believe that following the group's strategies and goal orientation eventually leads them to attain their personal goals.

When people neither experience a strong feeling of belonging toward a group nor believe that they can achieve their personal goals through collective efforts (i.e., low group commitment and low collective efficacy), they implement self-preservation process to resolve the conflict between group orientation and trait regulatory focus. In this process people maintain and employ their trait regulatory focus (i.e., self-preservation) to guide their behaviors since the group membership provides neither the motivation to identify with the group nor the benefits from complying with the group's goal orientation.

In conjunction with message congruence hypothesis which suggest that the fit between the message framing and people's regulatory focus generate more positive

evaluations toward the message, the impact of these three distinctive conflict resolution processes on regulatory shift generated eight hypotheses. These eight hypotheses were then tested with six experiments designed to manipulate message framing, group orientation, trait-regulatory focus, group commitment, and collective efficacy. The proposed hypotheses and results of these experiments are summarized in Table 5-1.

Experiment 1 tests the foundation of this dissertation – regulatory shift hypothesis. It examined if the activation of a group identity can generate regulatory shift in participants active regulatory focus. With arf1 variable which demonstrate better characteristics in measuring active regulatory focus, we found a significant main effect for group orientation across two models using different trait-regulatory focus measurements (BIS/BAS and RFQ). These results suggest that having a different group orientation can shift participants' regulatory focus from their trait regulatory focus to group orientation.

Experiment 2 tests the message congruence hypothesis between group orientation and message framing. This experiment is designed to examine if a minimal level of group categorization can generate a regulatory shift, and thus influence consumers' message evaluation. From experiment 2, we found that only the cognitive dimension of AAD displayed a significant result for the expected interaction between group orientation and message framing (i.e., the fit between group orientation and message framing improves the evaluation of the displayed message), and none of other dependent variables showed significance interactions. These results suggest that a complete regulatory shift requires more than a simple cognitive categorization of group

TABLE 5-1

THE SUMMARY OF EXPERIMENT RESULTS

Exp.	Hypotheses	Results
1	Regulatory Shift from TRF to GO (H1)	With arf1 that displayed superior quality in measuring active regulatory focus, the result from analyses with both BIS/BAS and RFQ demonstrated regulatory shifts from trait regulatory focus to group orientation.
2	Congruence between GO and MF (H2-a and H2-b)	With a minimal level of group awareness induced in this experiment, the results showed incomplete regulatory shifts. The expected interaction pattern between GO and MF was found in COG dimension of AAD, suggesting a full fledged regulatory shift requires more than mere cognitive categorization of a group membership.
3	The moderating effect of GC on MC (H3-a and H3-b)	Three-way interactions found in this experiment distinguish *depersonalization* from *self-preservation*: high group commitment condition showed stronger group influence. The results also displayed simpler interaction patterns compared to compliance process tested in experiment 5.
4	The moderating effect of GC on MC (H3-a and H3-b)	Replicate the same pattern of three-way interaction found in experiment 3 with the MANOVA, but generate weaker effects in ANOVAs with each dependent variable. However, this experiment reproduces more empirical evidence distinguishes *depersonalization* from *self-preservation*.
5	The moderating effect of CE on MC: (H4-a and H4-b)	The MANOVA displayed the three-way interaction expected from regulatory shift, generating empirical evidence that separates *compliance* from *self-preservation*. However, the findings from individual ANOVAs suggest people experience more complicated psychological reactions (both cognitive and emotional) while they undergo compliance process.
6	Regulatory Non-fit in compliance: (H5)	The comparison between *depersonalization* and *compliance* support regulatory non-fit hypothesis: people experience negative emotional/evaluative reactions from regulatory non-fit between trait regulatory focus and group orientation in compliance process.

Note: TRF-Trait Regulatory Focus, GO – Group Orientation, MF – Message Framing, GC – Group Commitment, MC – Message Congruence, CE – Collective Efficacy

membership and emphasize the need to explore the impact of the strength of group membership which often determines by not only cognitive but also affective and evaluative dimensions of social identity.

Experiment 3 examines the moderating role of group commitment on the relationship between message framing and active regulatory focus, and attempts to establish an empirical distinction between depersonalization and self-preservation. The moderating hypothesis speculates that the level of group commitment is an important factor determining the characteristics of active regulatory focus; people with high group commitment follow group orientation and people with low group commitment follow trait regulatory focus. To test this moderating hypothesis, we examined the three-way interaction among regulatory conflict, group commitment, and message framing. The results from a series of analyses supported the hypothesis. In high group commitment condition, the messages framed to be consistent with group orientation were evaluated more favorably, providing strong evidence that group influence on active regulatory focus is more prominent in when group members' feeling of belonging toward the group is strong. In low group commitment condition, the messages framed to be consistent with trait-regulatory focus were evaluated more favorably, suggesting that people maintain their own trait regulatory focus rather than using group orientation when they do not feel strong commitment toward the group.

Experiment 4 attempts to replicate the findings from experiment 3 using pre-existing group identity (participants' university identity) to manipulate group commitment. We were able to replicate the three-way interaction among regulatory

conflict, group commitment, and message framing the MANOVA with AAD, APD, BI, and AST providing additional evidence for the moderating role of group commitment. However, individual ANOVAs on each dependent variable generated relatively weaker effects than ones we found in experiment 3. We suspect this inconsistency might be due to the less rigorous manipulation procedure for group commitment implemented in experiment 4. The embedded characteristics of participants' university identity probably generated considerable noise in the manipulation procedure, and screened the effect of group commitment in the individual ANOVAs. On the other hand, the MANOVA was able to overcome such noise with its superior statistical power, generating a three way interaction consistent with the one we found in experiment 3.

Experiment 5 examines the moderating effect of collective efficacy on the relationship between message framing and active regulatory focus and the difference between compliance and self-preservation. It is hypothesized that compliance was to be generated by having high collective efficacy but low group commitment. The results for the MONOVA with AAD, APD, BI, and AST demonstrated expected three-way interaction among regulator conflict, collective efficacy, and message framing. However, individual ANOVAs on each dependent variable did not generate any significant interaction patterns. It is suspected that the negative emotional reaction from negative feedback procedure used in low collective efficacy might polluted the findings, prevention ANOVAs from finding significant patterns while MANOVA was able to detect the significant three-way interaction with its superior statistical power.

Finally, experiment 6 demonstrates an empirical distinction between depersonalization and compliance with the concept of regulatory fit – the compatibility between an individual's active regulatory focus and the means to pursue the desired goal. While depersonalization redefines the self with a group membership and generates a complete shift in both the locus of self-perception and regulatory focus, compliance forces consumers to follow group orientation even though they construe group membership as an instrument separated from their self-hood. Such an instrumentality of group identity is the source of the conflict between group orientation and trait-regulatory focus, which in turn generates negative feelings in group members' minds. Consequently, in compliance process, group members transfer such uneasy feelings toward message evaluation. The result from experiment 6 confirms this hypothesis demonstrating that people undergo depersonalization process evaluate the same message more favorably than people following compliance process.

The results from these six experiments provide us strong evidence for our theoretical framework: individual people follow rather complicated process of conflict resolution process when they experience incompatibility between their own personal trait and their group characteristics. These findings suggest that consumers neither preserve their own trait-regulatory focus all the time nor simply follow group membership abandoning their personal characteristics. It is rather dynamic and dialectic process between personal and collective identities, and consumers consider various social variables from the immediate social and group contexts to determine the right regulatory strategies (i.e., whether they follow group orientation or trait regulatory focus).

Managerial Implications

To improve images of their organization, services, and products, marketers often attempted to activate a certain collective identity and related in-group favoritism in their marketing campaigns. MBNA and other credit card company attempted to create a strong link between their product and collective identity such as schools and professional associations. One of the major issues in sports marketing is to develop strong collective identity with the sports organization or utilized fully developed collective identity to generate more values to the customer.

Even though marketing practitioners have used collective identities to maintain enduring relationships with their customers for a long time, there have been only a few attempts in the marketing literature to understand the influence of a collective identity on various marketing activities (e.g., Bhattacharya and Sen 2003, 2004; Cornwell and Coote 2005; Hatch and Schultz 1997). Moreover, there has been virtually no attempt to examine the underlying socio-cognitive process of collective influence on individual consumers.

Traditionally marketers have treated group membership and social identities as one of static demographic variables. However, by understanding the dynamic process of conflict resolution processes proposed in this dissertation, marketers can generate better marketing plans which can effectively utilize the dynamic characteristics of group memberships and social identities. This dissertation provides a more detailed psychological framework of collective influences which can be used to understand and identify why, how, and when people experience strongest group influences. With these more detailed psychological information related to a certain group membership,

marketers can develop more effective marketing campaigns and better connections between with customers by using the characteristics of a group membership to match their product's characteristics and customers' mindset. For instance, when Apple develops a marketing campaign for a new IPod mp3 player, which primarily focused on promotion goals (listening favorite tunes everywhere: getting closer to a positive end state), the can develop a group membership connected to their brands (e.g., online communities) with approach goals (e.g., let's have fun together) compatible to IPod, and therefore improve the strength of customer relationship with their brand.

The findings from this dissertation also provide useful insight concerning how to construct a better social context for various preventive advertisement campaigns. For instance, traditional approach of anti-smoking or anti-drug use campaigns has focused on prevention framed message emphasizes the negative aspect of smoking and drug abuse. However, it has been suggested that most people in Western Culture including the United States have promotion orientation as their default trait regulatory focus (e.g., Lee and Aaker 2000). Such an incompatibility between the content of public advertisements (i.e., prevention framing) and the audience's mindset (i.e., promotion orientation) might have reduced the effectiveness of the campaign (e.g., Leinwand 2006).

Even though it has been shown that people shift their regulatory focus depending on their current goal framing, it requires considerable involvement of their psychological process which often cannot be obtained in advertisement context. To maximize the effectiveness of preventive campaigns against smoking or drug use, advertisers need to shift the mindset of audience from promotion to prevention focus, which can be achieved

through utilizing findings from regulatory shift between personal and collective identities. The regulatory shift hypothesis, with its genuine perspective concerning the interaction between group orientation and message framing, provides advertisers an effective tool that can manage regulatory shifts in the audience's mindset. By identifying appropriate group memberships and contexts which emphasizes avoidance goals (e.g., being a responsible family member), advertisers can obtain higher chance of shifting the audience's mindset from promotion trait regulatory focus to avoidance group orientation than when they simply put preventive messages.

It is also possible that advertisers framing the anti-smoking advertisement with promotion content (e.g., it is cool not to smoke and we can enjoy so many other fun activities) and connect the message with a group membership with approach goal. By doing so, they can improve the persuasiveness of preventive campaigns by generating congruence between message framing and the audience's active regulatory focus.

As we discussed in this section, understanding the dynamic nature of collective identities can provide marketing practitioners very insightful perspective not only to develop strong connection(s) between their product and customers, which can be used to establish long-term customer relationship, but also to shift customers' mindset congruent to the message delivered in a given advertisement, which can improve the persuasiveness of the delivered message.

Limitations and Future Research

Although this dissertation provides a new perspective concerning the regulatory role of collective identities and its impact on message evaluation processes, there also

exist some theoretical and empirical limitations in this research, which can be examined with extended future studies.

First, the theoretical framework suggested here only discusses the voluntarily process of regulatory shift. Even though most of consumers' consumption behaviors fell into voluntary behaviors, consumers are often enforced to surrender their self regulation over certain behaviors because the authorities impose rules/regulations on such behaviors. Recently, in Quakertown, PA, town council passed an ordinance banning underage smoking at so-called "Cancer Corner" near Quakertown High School, and teenage student showed very negative reactions toward the ordinance.[18] In such a situation, teenage students can develop very negative emotional and attitudinal reactions toward the regulation, and experience stronger regulatory conflict between their self-regulation and the ordinance, which will undermine the long-term effectiveness of regulating self-destructive behaviors such as smoking or drug addictions. To minimize the impact of such negative reactions toward some preventive actions taken by governments and other public organizations, the impact of mandatory directives on people's self-regulation and regulatory conflict should be further examined.

Second, even though we included all three elements (i.e., cognitive, evaluative, and affective) of social identity and attempted to test their impact on regulatory focus with experiment 3 and 4, we did not achieve empirical distinction between three dimensions of social identity in those studies. Although cognitive dimension plays a role as an antecedent of the others and all three of them are often highly correlated, it is

[18] Philadelphia Inquiry, 01/05/2007, "Quakertown bans smoking by minors on public streets"

possible that people have strong cognitive awareness of a group membership but very negative evaluative and/or affective responses toward the group membership. To understand and test the interactions between three dimensions of social identity, researchers need to develop genuine procedures that can experimentally manipulate three dimensions of social identity independently. Moreover, since we found evidence that mere cognitive categorization of a group membership is not sufficient to generate full fledged regulatory shift, developing such experimental procedures are crucial to more closely examine non-cognitive aspects (i.e., evaluative and affective dimensions) of social identity. It is also suspected that the manipulation procedure implemented to generate low collective efficacy condition also have some confounding effect by inducing negative emotions from the false feedback, which might have affected the affective/evaluative dimensions of social identity. Therefore, more refined procedures of manipulating emotional aspects of social identity will allow researchers to understand the relationship(s) between collective efficacy and non-cognitive aspects of social identity.

Third, the theoretical framework of this dissertation was developed from cross-sectional perspective, and treated collective efficacy and group commitment as independent constructs. However, from longitudinal perspective, collective efficacy may influence affective and evaluative dimensions of social identity, and thus change the level of group commitment. There have been anecdotal episodes showing that having low collective efficacy does not automatically lead to low group commitment. Therefore, examining the long-term relationship between collective efficacy and group commitment will generate very interesting research questions, and enrich our understandings of the

role collective identities in consumers' self- related psychological and behavioral functions

Fourth, this dissertation is mainly focused on the influence of collective identity on regulatory function of self-hood which determines the characteristics of active regulatory focus. The impact on active regulatory focus was then tested by examining the impact of congruence between active regulatory focus and message framing on message evaluation. Even though the impact of regulatory function on the message evaluation is a very important aspect of consumer behaviors, regulatory focus also impose profound impact on consumers' volitional processes: the process of planning and implementing actions. Therefore, examining the relationship between consumers' active regulatory focus and actual consumption behaviors will also generate interesting hypotheses and more dynamic theoretical framework to understand the regulatory function of collective identities.

Finally, the framework suggested here can be easily adopted and applied to inter- and intra- organization contexts. For instance, in a given business organization, a typical goal of sales department is generating more sales volume (i.e., approaching a positive end state). If a member of sales department possesses prevention trait-regulatory focus, he/she may experience conflict between the group orientation (i.e., approach) and trait-regulatory focus (i.e., prevention), and such a conflict may affect his/her performance in the department. Moreover, a business organization is often composed with multilevel hierarchies and the goal orientations of departments with different or same level in the hierarchy may be different from each other. For instance, even though overall goal

orientation of marketing department is approach orientation (e.g., develop a new product which can generate additional customer value: getting closer toward positive outcomes), the functional characteristics of customer service department, often placed under marketing department in the organizational hierarchy, may develop avoidance group orientation (e.g., minimize customer complaints: getting away from negative outcomes). The possible regulatory conflict between these two groups (i.e., marketing vs customer service) within the organization hierarchy may create serious inter-department conflicts, and impede the overall performance of the business organization. Understanding how people resolve such conflict may provide genuine perspective to develop new theoretical perspectives and hypotheses to exam how incongruence between goal orientations between two groups influence overall performance in a hierarchical organization.

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APPENDIX A

MEASURES OF TRAIT REGULATORY FOCUS

BIS/BAS

Please provide your responses to the following questions. For each of the statements or questions below, please indicate the extent to which it applies to you or describes you personally.

Section A

1. If I think something unpleasant is going to happen I usually get pretty "worked up."

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

2. I worry about making mistakes.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

3. Criticism or scolding hurts me quite a bit.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

4. I feel pretty worried or upset when I think or know somebody is angry at me.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

5. Even if something bad is about to happen to me, I rarely experience fear or nervousness.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

6. I feel worried when I think I have done poorly at something.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

7. I have very few fears compared to my friends.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

Section B

1. When I get something I want, I feel excited and energized.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

2. When I'm doing well at something, I love to keep at it.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

3. When good things happen to me, it affects me strongly.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

4. It would excite me to win a contest

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

5. When I see an opportunity for something I like. I get excited right away.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

6. When I want something, I usually go all-out to get it.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

7. I go out of my way to get things I want.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

8. If I see a chance to get something I want, I move on it right away.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

9. When I go after something I use a "no holds barred" approach.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

10. I will often do things for no other reason than they might be fun.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

11. I crave excitement and new sensations.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

12. I'm always willing to try something new if I think it will be fun.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

13. I often act on the spur of the moment.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

Prevention/Promotion Pride Scale

Please provide your responses to the following questions. For each of the statements or questions below, please indicate the extent to which it applies to you or describes you personally

Section A

1. Compared to most people, I typically am unable to get what I want out of life.

Does not describe me at all	1	2	3	4	5	Describe me very well

2. I often have accomplished things that got me excited to work even harder.

Does not describe me at all	1	2	3	4	5	Describe me very well

3. I often do well at different things that I try.

Does not describe me at all	1	2	3	4	5	Describe me very well

4. When it comes to achieving things that are important to me, I find that I don't perform as well as I ideally would like to do.

Does not describe me at all	1	2	3	4	5	Describe me very well

5. I feel like I have made progress toward being successful in my life.

Does not describe me at all	1	2	3	4	5	Describe me very well

6. I have found very few hobbies or activities in my life that capture my interest or motivate me to put effort into them.

Does not describe me at all	1	2	3	4	5	Describe me very well

Section B

1. Growing up, I did things that my parents would not tolerate.

Does not describe me at all	1	2	3	4	5	Describe me very well

2. I often got on my parents' nerves when I was growing up.

Does not describe me at all	1	2	3	4	5	Describe me very well

3. I often obeyed rules and regulations that were established by my parents.

Does not describe me at all	1	2	3	4	5	Describe me very well

4. Growing up, I acted in ways that my parents thought were objectionable.

Does not describe me at all	1	2	3	4	5	Describe me very well

5. Not being careful enough has gotten me into trouble at times.

Does not describe me at all	1	2	3	4	5	Describe me very well

APPENDIX B

MEASURES OF ATTITUDE TOWARD ADVERTISEMENT

Please mark (X) the blank that best indicates how accurately one or the other adjective describes the advertisement.

This advertisement is

Persuasive							Not at all Persuasive
Attractive							Unattractive
Pleasant							Unpleasant
Affectionate							Not affectionate
Informative							Uninformative
Believable							Unbelievable
Good							Bad
Like							Dislike
Positive							Negative

APPENDIX C

MEASURES OF BEHAVIORAL INTENTION

Please rate the level of intention that you would purchase the advertised product

Likely	1	2	3	4	5	6	7	Unlikely
Probable	1	2	3	4	5	6	7	Improbable
Possible	1	2	3	4	5	6	7	Impossible
Certain	1	2	3	4	5	6	7	Uncertain

APPENDIX D

MEASURES OF ATTITUDE TOWARD PRODUCT

Please mark (X) the blank that best indicates how accurately one or the other adjective describes the product (9 to 5).

This product (9 to 5) is

Good								Bad
Favorable								Unfavorable
Positive								Negative
Desirable								Undesirable
Beneficial								Harmful

APPENDIX E

MEASURES OF ATTITUDE STRENGTH

Please indicate the strength of your evaluation about the product you rated in section C.

Not at all important	1	2	3	4	5	6	7	Extremely important
Not at all self-relevant	1	2	3	4	5	6	7	Extremely self-relevant
Not certain at all	1	2	3	4	5	6	7	Extremely certain
Have not thought about it at all	1	2	3	4	5	6	7	Have thought about it a great deal

APPENDIX F

MEASURES OF ACTIVE REGULATORY FOCUS

Please provide us your preference for the following activities.

I would prefer to

Do what is right	1	2	3	4	5	6	7	Do whatever I want
Take a trip around the world	1	2	3	4	5	6	7	Pay back my loans
Go wherever my heart takes me	1	2	3	4	5	6	7	Do whatever it takes to keep my promises

APPENDIX G

MEASURES OF SOCIAL IDENTITY

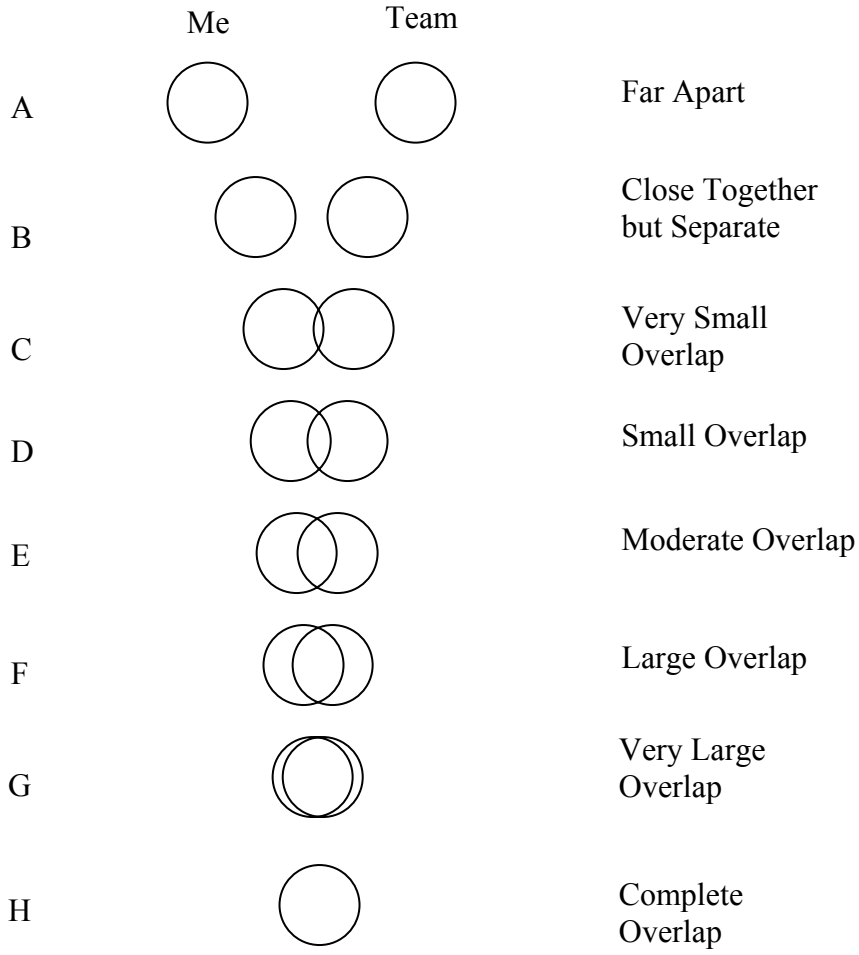
A. Cognitive Identification

Please provide us your opinions about your team in the game and yourself.

Please indicate to what degree your self-image overlaps with your team

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

Imagine that one of the circles at the left in each row represents your own self-definition or identity and the other circle at the right represents your team. Please indicate which case (A, B, C, G, E, F, G, or H) best describes the level of overlap between your own and the team's identities.



B. Affective Commitment

3. I enjoy being a member of this tem

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

4. I do not feel emotionally attached toward this team

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

5. I do not feel a strong sense of belonging toward this team

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

C. Organizational-based self-esteem

6. I feel confident about my abilities

1	2	3	4	5
Not at all	A little bit	Moderately	Quite a bit	Very much

7. I feel that others respect and admire me

1	2	3	4	5
Not at all	A little bit	Moderately	Quite a bit	Very much

APPENDIX H

PROMOTION MESSAGE

Golf, tennis, or at the beach, ***9 to 5***™ lets you stay in the sun longer and promotes good times.

Live life to the fullest with ***9 to 5.***™

APPENDIX I

PREVENTION MESSAGE

Golf, tennis, or at the beach, worrying about sunburns and skin irritations is a bummer. Keep your skin safe with ***9 to 5***™ and prevent harmful sunburn and pre-cancerous spots.

Safety first. ***9 to 5***™

VITA

DONGWOO SHIN

Work Address:
Department of Marketing
Loyola College in Maryland
4501 N. Charles St.
Baltimore, MD 21210-2699
Tel) 410-671-5451
Email) moosic89@gmail.com

Home Address:
3131 Walnut St. #344
Philadelphia
PA 19104

EDUCATION

- Ph.D., Marketing, Texas A&M University, May 2007
- M.A., Applied Statistics, University of Michigan, Ann Arbor, May 2001
- M.S., Marketing, Hanyang University, May 1998
- B.S., Marketing, Hanyang University, May 1995

RESEARCH INTERESTS

- Consumer self-perceptions and persuasive effectiveness
- Social identity and group behavior
- Goal-directed shopping behavior and self-regulation
- Applications of Structural Equation Modeling and multivariate statistics

TEACHING INTERESTS

- Consumer Behavior
- Marketing Research
- Advertising
- Principles of Marketing
- Service Marketing
- Retailing
- International Marketing
- Business Statistics