

**The relative weight
of attitude and subjective norm
as determinants of behavioral intention:
The promotion-prevention dichotomy as a
measure for behavioral and individual moderators**

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Man sees your actions, but God your motives (*Thomas a Kempis c. 1380-1471*)

Not all people can be driven by the same stick (*Arabian proverb*)

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Abstract

In the context of intrapersonal motivation theory, the purpose of the present study was to further understand inconsistencies in empirical research on the theory of reasoned action (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980). Specifically, it attempted to provide a better understanding of variances in the relative weight of attitudes and subjective norm as determinants of behavioral intentions. We attempted to do this, by further clarifying the role of *behavior domain* and *individual differences* as moderators of the relative weight. The two moderators were operationalized according to the in motivation theories distinguished *promotion-prevention dichotomy* (Higgins, 1997, 1998; Ronen, 1994; Schwartz & Bilsky, 1987, 1990).

We proposed to refer to attitudes as a primarily promotion-directed antecedent of intention, while subjective norms would be referred to as a primarily prevention-directed antecedent of intention. Accordingly, we hypothesized that the relative weight of the intention antecedents would be moderated by the behavioral domain in question (promotion-directed behavior versus prevention-directed behavior). Further, we hypothesized that the relative weight would also be moderated by individual value preferences (promotion-values-directed persons versus prevention-values-directed persons). Finally, we hypothesized the existence of an interaction-affect of both proposed moderators on the intention antecedents. We did not find support for any of the hypotheses.

Theoretical framework: Intrapersonal Motivation

For centuries man has been attempting to explain human behavior. Social Science research has approached this attempt at many levels. These levels vary from concern with psychological processes at one extreme to concentration on social institutions at the other. Social and personality psychologists have tended to focus on an intermediate level. They have examined the fully functioning individual, whose processing of available information mediates the effects of biological and environmental factors on behavior.

The present study concentrates on the *psychological* processes involved in explaining and predicting human behavior. Research has proposed various theoretical frameworks to deal with these processes, called *intrapersonal motivation*.

1. The theory of reasoned action

An important role in these efforts have played models and theories in the field of attitudes.

Ajzen and Fishbein (1980; Fishbein & Ajzen, 1975) have developed such an attitude theory, that deals with the nature of human behavior. The theory is based on the assumption that human beings are usually quite rational and make systematic use of the information available to them. In other words, Ajzen and Fishbein argue, that people consider the implications of their actions before they perform or not perform them. For this reason, they refer to their approach as “a theory of reasoned action”.

The ultimate goal of the theory is to predict and understand an individual’s behavior. These predictions and understandings have been applied in different fields, in order to intervene and promote behaviors. Applications vary from attempts to increase safety-belt use (Trafimow & Fishbein, 1994), influencing career choice (Strader & Katz, 1990), understanding and predicting gambling behavior (Moore & Ohtsuka, 1999), women’s career choice (Vincent, Peplau, & Hill, 1998) and condom use for HIV-prevention intervention (Fishbein, Middlestadt & Trafimow, 1992), to the process of homelessness (Wright, 1998).

1.1 Behavior

As mentioned previously, the ultimate goal of the theory is to predict and understand an individual's behavior. The first step toward this goal is, to identify and measure the concerning behavior. Ajzen & Fishbein (1980) propose to include action, target, context, and time elements in the definition of the behavior under question. For instance, in operationalizing the consumer behavior we want to investigate, we do not just define it as 'buying a computer program', but we define it as 'buying (action) a computer program (target) within the next two months (time) for private use (context). Once the behavior has been clearly defined, it is possible to ask what determines the behavior.

1.2 Determinants of behavior: intentions, attitudes, subjective norms

The theory of reasoned action defines three determinants of human behavior: behavioral intention, and its antecedents attitudes and subjective norms. We will describe each of them shortly.

1.2.1 Behavioral intention

The theory of reasoned action assumes, that most actions of social relevance are under volitional control. . Volitional control means, that a person can decide at will to perform or not perform the behavior; that he has the ability to control it. Consistent with this assumption, the theory views a person's *intention to perform* (or not perform) a given behavior as the immediate determinant of the action. Ajzen and Fishbein (1980, p. 43) define behavioral intention as 'a measure of the *likelihood* that a person will engage in a given behavior'. Ajzen (1991) explains: 'Intentions are assumed to capture the motivational factors that influence a behavior. They are indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior'.

Thus, the theory suggests that empirical data concerning a person's intention toward a certain behavior will be a valid measure for predicting his actual behavior. Barring unforeseen events, a person will usually act in accordance with her or his intention to do so.

Researchers have collected evidence concerning the relation between intentions and behaviors with respect to many different types of behaviors. These behavior types range from very simple strategy choices in laboratory games to

actions of personal or social significance (e.g. having an abortion, smoking marijuana, choosing among candidates in an election). The general findings are that intentions can predict behaviors with considerable accuracy (see Ajzen, 1988, 1991).

Intention antecedents: attitudes and subjective norms

The notion that intentions predict behavior does not provide much information about the *reasons* for, or the *why* of the behavior. Since the goal of the theory is to *understand* human behavior, not merely predict it, identification of the determinants of intentions is necessary.

According to the theory of reasoned action, a person's intention is a function of two basic determinants, one personal in nature and the other reflecting social influence.

1.2.2 Personal determinant of intention: attitudes toward the behavior

The personal factor is the individual's positive or negative *evaluation* of performing the behavior. This factor is termed *attitude toward the behavior*. Attitudes refer to the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question (Ajzen, 1991). They refer to the person's judgment that performing the behavior is good or bad; that he is in favor or against performing it. People may differ, for instance, in their evaluations of buying computer programs, some having a favorable attitude and others unfavorable attitudes toward this behavior.

1.2.3 Social determinant of intention: subjective norms

The second, social, determinant of intention is the person's perception of the social pressures put on him to perform or not perform the behavior in question. Since it deals with perceived prescriptions, this factor is termed *subjective norm*. In the case of buying computer programs, a person may believe that most people who are important to him think he should buy a computer program or he may believe that they think he should not.

Thus, as an empirically tested general rule, the more favorable the attitude and subjective norm with respect to a behavior, the stronger should be an individual's intention to perform the behavior under consideration (Ajzen, 1991).

1.3 Determinants of attitudes and subjective norms: beliefs

Thus, it is possible to gain some understanding of a person's behavioral intention, by measuring his attitude toward performing the behavior, and his subjective norm. However, for a more complete understanding of intentions, the theory argues for the need to explain *why* people hold certain attitudes and subjective norms. The determinants of attitudes and subjective norms that bear this explanation, are behavioral and normative *beliefs*, respectively.

Fishbein and Ajzen (1975) define a *belief* as the subjective probability that the object (behavior) has a certain attribute.

1.3.1 Behavioral beliefs

Accordingly, the theory of reasoned action claims that attitudes are a function of *beliefs*. Ajzen and Fishbein (1980) explain: 'Generally speaking, we form beliefs about an object by associating it with various characteristics, qualities and attributes. Automatically and simultaneously, we acquire an attitude toward that object. More specifically, we learn to like (or have favorable attitudes toward) objects we believe have positive characteristics'. In contrast, they claim, 'we acquire unfavorable attitudes toward objects we associate with negative characteristics'. Thus, a person who believes that performing a given behavior will lead to mostly positive outcomes, will hold a favorable attitude toward performing the behavior. In contrast, a person who believes that performing the behavior will lead to mostly negative outcomes, will hold an unfavorable attitude. The beliefs that underlie a person's attitude toward the behavior are termed *behavioral beliefs*.

For example, a person may believe that there is a 70% chance that buying a computer program would make his wife happy, would permit him to spend more time at home, and would provide him the opportunity to help friends who do not have facilities themselves. A person holding such beliefs, is likely to hold a favorable attitude toward buying a computer program. The belief object (behavior) "buying a computer program" is linked to the attributes, or consequences, "causes my wife to be happy", "causes me to spend more time at home" and "provides me the

opportunity to help friends” . In contrast, a person is likely to hold an unfavorable attitude toward the behavior, if he believes that buying a computer program would be too expensive, would be unnecessary because of existing facilities at work, or would decrease the quality of his family’s time together.

Outcome evaluations

In determining the attitude from behavioral beliefs, it is necessary to ask how the different beliefs, both positive and negative, combine. The first step is to assess *outcome evaluations*. Outcome evaluations refer to how the person evaluates each of the consequences. These evaluations are simply his attitudes toward the consequences in question (Ajzen & Fishbein, 1980). In our example, the first person evaluates the consequence “causes me to spend more time at home” positively. Another person, however, could evaluate the same consequence as less positive, or even negative.

Belief strength

The next step is to assess the *belief strength* toward each consequence. Belief strength refers to how confident the person is that the behavior does indeed lead to each of the consequences. The subjective probability, or belief strength, of this relation is 0.70 for the person in the first example. With respect to any consequence, people may differ in terms of their belief strength (Ajzen, 1980). Therefore, a person evaluating the consequences of buying a computer program identically to the person in the first example, may hold a less strong belief toward these relationships. Such a person will indicate that the likelihood that buying a computer program will lead to the previously mentioned consequences, is less than 0.70. Therefore, two persons holding identical outcome evaluations may still differ in their attitude toward the behavior.

According to the theory of reasoned action, it is possible to predict a person’s attitude by multiplying his evaluation of *each* of the consequences by the strength of his belief that performing the behavior will lead to that consequence. The sum of the products for the total set of beliefs reflects the person’s attitude.

1.3.2 Normative beliefs

Subjective norms are also a function of beliefs, though beliefs of a different kind. These are the person's beliefs that specific individuals or a group think he should or should not perform the behavior. These beliefs, underlying a person's subjective norm, are termed *normative beliefs*. The specific individuals or group are called referents. These referents may differ from behavior to behavior. So, a person who believes that the people who are relevant referents for him in buying a computer program think he should do so, will perceive pressure to do so.

Motivation to comply

Knowing a person's beliefs about the relevant referents is, however, not sufficient to predict or understand his subjective norm. In order to do this, it is also necessary to assess his *motivation to comply* with each of the referents. Motivation to comply refers to a person's willingness to behave according to his perception of how referents think he should behave.

Generally speaking, a person who believes that most referents with whom he is motivated to comply think he should perform the behavior, will perceive social pressure to do so. In contrast, a person who believes that most referents with whom he is motivated to comply think he should *not* perform the behavior, will have a subjective norm that puts pressure on him to avoid performing the behavior. For instance, suppose that in the case of buying computer programs a person is motivated to comply to what he perceives to be the wishes of his wife, his children, his father and his close friends. If he believes that these referents think he should buy a computer program, his subjective norm will put pressure on him to act accordingly. In contrast, a person who believes that his wife, children, father and close friends all think he should not buy a computer program, will perceive social pressure not to buy.

According to the theory of reasoned action, it is possible to predict a person's subjective norm from the index obtained by multiplying his normative beliefs by the corresponding motivations to comply, and then sum the products (Ajzen & Fishbein, 1980). Therefore, two persons with identical normative beliefs may still hold different subjective norms, due to differences in their motivation to comply. Similarly, two persons with identical subjective norms may differ in their beliefs about relevant referents and / or their motivation to comply with them.

Thus, the subjective norm may exert pressure to perform or not perform a given behavior, independent of the person's own attitude toward the behavior in question.

1.4 The relative importance of attitude and subjective norm as determinants of intention

As described previously, the more favorable the attitude and subjective norm with respect to a behavior, the stronger should be an individual's intention to perform the behavior under consideration (Ajzen, 1991). However, attitudes and subjective norm may be in conflict with each other. For instance, a person may hold positive attitudes toward buying computer programs, but perceive social pressure not to do so. To predict the person's intention, it is necessary to know the *relative importance*, or *weight* of the attitudinal and normative factors for this person.

The example of two people holding identical attitudes and subjective norms illustrates this; their attitudes toward buying a computer program are positive, while they perceive social pressure of important referents not to buy. In this example, one person intends to buy a computer program, whereas the other does not intend to do so. Since the two persons held identical attitudes and subjective norms, we can not explain their differing intentions by these factors alone. The different intentions would occur, if attitudinal considerations primarily determined the first person's intention and subjective norm primarily determined the intention of the second person.

According to the theory, both attitudes and subjective norms receive a weight, reflecting their relative importance as a determinant of the concerning intention. The assignment of these *relative weights* to the two determinants of intention greatly increases the explanatory value of the theory (Ajzen & Fishbein, 1980). Knowledge of the relative weight of attitudes and subjective norms may also have practical implications. For instance, Trafimow (1996) found, that only attitudes are important in the prediction of college students' intentions to drink. Anti-alcohol strategies and communication should therefore focus on attitudinal components, not on normative components.

1.4.1 Previous research on the intention antecedents and their relative weight

Sheppard, Hartwick and Warshaw (1988) conducted two meta-analyses to investigate the effectiveness of the theory of reasoned action in empirical research. They found strong overall evidence for the predictive utility of the theory.

However, based on their findings and these of later research, Ajzen (1991) has extended the theory by adding the factor 'perceived behavioral control' as a predictor of behavioral intention. The extended theory, called the 'theory of planned behavior', deals also with behaviors over which people have incomplete volitional control. Perceived behavior control measures people's perception of the ease or difficulty of performing the particular behavior; their confidence in their ability to perform it. Sheeran and Taylor (1999) conducted a meta-analysis and comparison of the theories of reasoned action and planned behavior, concerning intentions to use condoms. Attitudes and subjective norms from the theory of reasoned action demonstrated medium to strong effect sizes.

In the context of the theory of planned behavior, Ajzen (1991) has summarized the results of sixteen studies that, among others, assessed the relations between the two intention- determinants, their weight and intention. He found that a considerable amount of variance in intentions can be accounted for by the three predictors. The multiple correlations ranged from a low (significant) .43 to a high .94, with an average correlation of .71. With only one exception, attitudes toward the various behaviors made significant contributions to the prediction of intentions. The results for subjective norms, however, were mixed, with no clearly discernible pattern. These findings suggest that, for the behaviors considered, personal considerations tended to overshadow the influence of perceived social pressure.

Similarly, Ajzen and Fishbein (1980) have shown that most behaviors are more affected by attitudes than by subjective norm. Likewise, Fishbein, Middlestadt and Trafimow (1992) found, that only some behaviors are mainly under normative control.

Part of these inconsistent results may be caused by measurement problems (Trafimow & Fishbein, 1994a). Other findings indicate that the relative weights may change from behavior to behavior and from person to person (Ajzen & Fishbein, 1980, Trafimow & Fishbein, 1994b).

1.4.2 Variations in weight as a function of behavior domain

For some behaviors, normative considerations may be more important than attitudinal considerations in determining the intention toward these behaviors. For other behaviors the opposite may be true. These variations in relative weight may be explained by variations in any of the four elements defining behavior (i.e., action, target, context, time). For instance, there is some evidence that attitudes are more important for competitive behaviors than for cooperative behaviors, and vice versa. Similarly, there is evidence that subjective norms are important determinants of intentions to buy specific products, but not others (Ajzen & Fishbein, 1980). Ellis and Arieli (1999), for instance, have applied the theory of reasoned action in predicting intentions to report administrative and disciplinary infractions in the Israeli Defense Force. They found that the effect of subjective norm was much stronger than the effect of the attitude component, due to the specific situation.

1.4.3 Variations in weight as a function of individual differences

In addition, the relative weights of the intention antecedents may vary from person to person. These *individual differences* may occur because of demographic variables (i.e. age, sex, status), personality traits (i.e. authoritarianism, introversion-extroversion), and other factors. For example, for some behavioral intentions, women may emphasize attitudinal considerations more than men. The opposite may be true for other behaviors. Similarly, persons high in authoritarianism may emphasize subjective norms more than persons high in this personality trait (Ajzen & Fishbein, 1980).

Figure 1 summarizes the theory of reasoned action in the form of a structural diagram. It shows how the theory explains behavior in terms of the previous described concepts: behavioral intention; attitudes and subjective norms and their relative importance; behavioral beliefs and outcome evaluations; and normative beliefs and motivation to comply. The figure traces the causes of behavior back to the person's beliefs, through a series of intervening factors. Each successive step in this (right-to-left) sequence from behavior to beliefs, provides a deeper

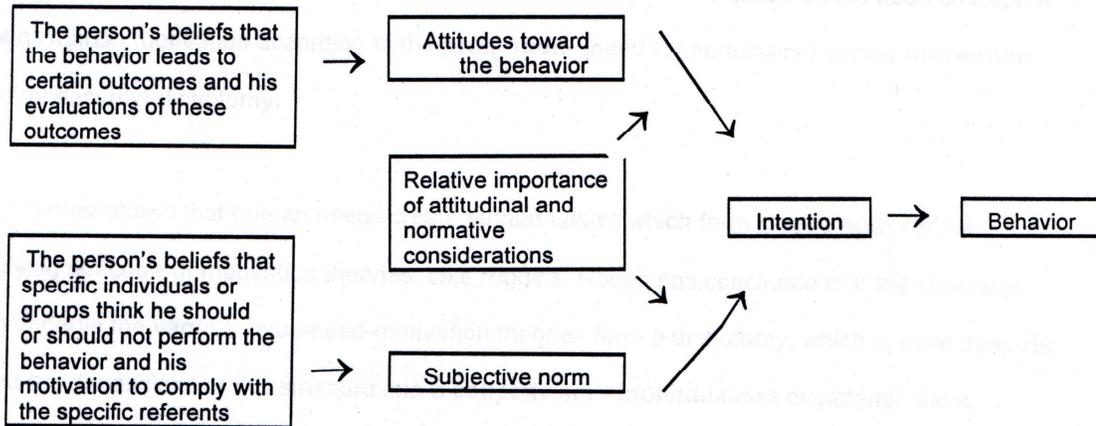
understanding of the causes underlying behavior. For ease of presentation, possible feedback effects of behavior on the antecedent variables are not shown.

1.5 The purpose of this study

Thus, findings on variances in the relative weight of attitudes and subjective norms have been inconsistent. Past research has attempted to explain this inconsistency by investigating the moderating role of two factors: behavior domain and individual differences. These attempts, however, should still be further clarified.

The purpose of the present study is to acquire a better understanding of variances in the relative weight of attitudes and subjective norm as determinants of behavioral intentions. We attempt to do this by further clarifying the role of behavior domain and individual differences as moderators. In the next chapter we introduce a theoretical framework of intrapersonal motivation, which we will use to define and manipulate variances in behavior domain and individual differences.

Figure 1
The theory of reasoned action:
factors determining a person's behavior



2. Motivation theories: the promotion-prevention dichotomy

As we mentioned before, this study attempts to further explore **the relative weight of attitudes and subjective norm** as determinants of behavioral intention. In order to do this, we will attempt to further clarify the role of **behavior domain** and **individual differences** as moderators of the relative weight. This section describes different motivation theories, which we will integrate and use to define and manipulate variances in behavior domain and individual differences

We will begin with Ronen's (1994) integration of existing **motivation theories**. Ronen concentrates on the group of theories that explains human motivation by the concept of human **needs**, which we refer to shortly. Ronen empirically shows that the major need-motivation theories are compatible and universal.

Then we will present the theory of Higgins (1997, 1998), which is also based on the need concept. It explains human motivation according to the **promotion-** (need for nurturance) versus **prevention** (need for security) dichotomy.

Ronen further shows that human needs create human *values* which form a valid basis for the underlying structure of motivation theories. Like Higgins, Ronen has concluded that the structures which underlie the various value-need-motivation theories form a dichotomy, which is even dual. He divides the dimensions of this structure into a **collectivism - individualism** dichotomy and a **humanism- materialism** dichotomy.

Finally, we will present the value theory validated by Schwartz and Bilsky (1987, 1990), which structures values according to a comparable dual dichotomy. Their theory distinguishes between types of values (value contents) and organizes the relations among value types (value structure) into two dichotomies: **conservation** versus **openness to change** and **self-transcendence** versus **self-enhancement**.

In explaining the relative importance of the intention antecedents, we will concentrate on one of the two dichotomies: the prevention-promotion dichotomy (Higgins), i.e., the collectivism-individualism dichotomy (Ronen), i.e., the conservation-openness to change dichotomy (Schwartz & Bilsky).

2.1 The hedonic principle

The major motivation theories have been based on the assumption of the pleasure-, or hedonic, principle. The hedonic principle states that human motivation is determined by the desire to *approach* pleasure and *avoid* pain. According to this principle, people approach desired end states (pleasure) and avoid undesired end states (pain). Historically, the hedonic principle has dominated the research on human motivation. It has served as a basic assumption underlying classic theories in many areas of (social) psychology (see Ronen, 1994; Higgins, 1997, 1998).

Higgins (1997, 1998) has convincingly argued for the need to go beyond the hedonic principle. According to Higgins, the assertion that people approach pleasure and avoid pain does not explain *how* people approach pleasure and avoid pain. To *understand* human motivation and behavior, i.e. the relative importance of attitude and subjective norm, he sought to identify the *different ways* or *strategies* in which people seek pleasure and avoid pain. He did this by distinguishing between different human needs.

2.2 Need theories

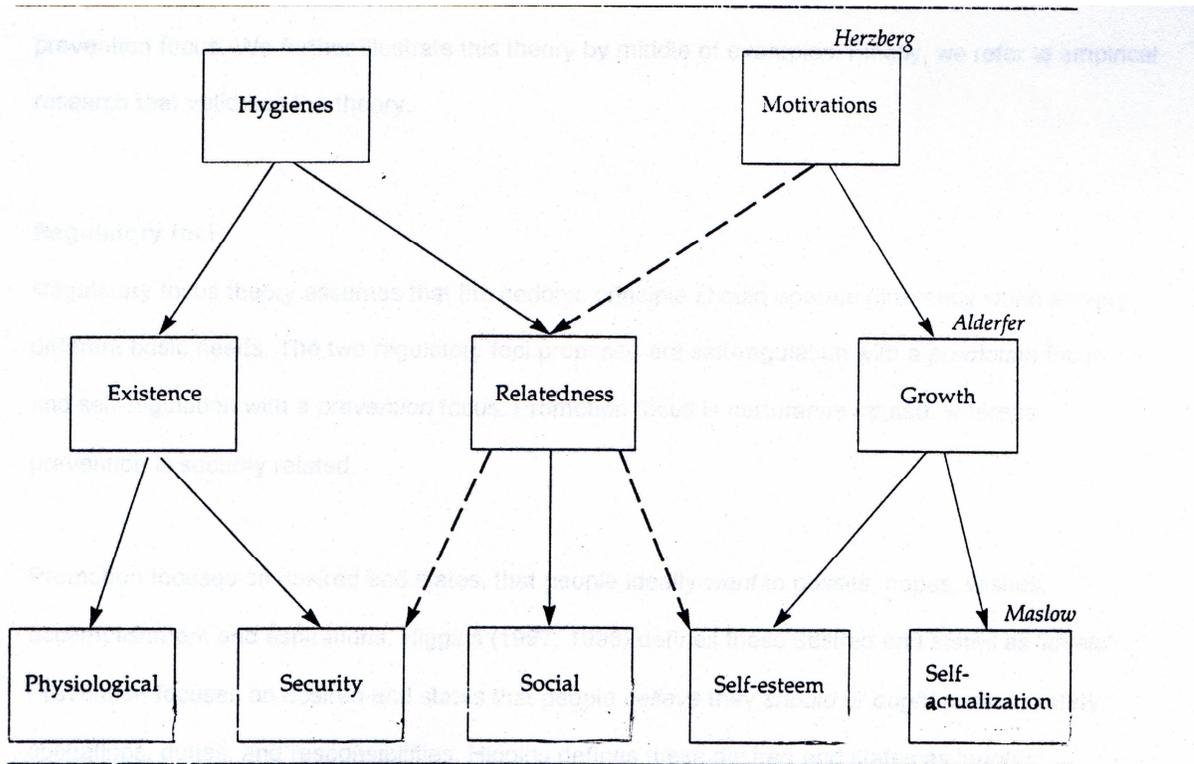
Human survival requires adaptation to the surrounding and environment, especially the social environment. Herefore, children must learn how to behave in order to approach pleasure and avoid pain. However, what they learn about regulating pleasure and pain can be different for distinct needs (Higgins, 1997).

Ronen (1994, p.242) quotes two definitions of needs: '...a force which organizes perception, apperception, intellection, conation and action'. Such forces organize and motivate through the creation of a state of tension that an individual attempts to relieve through appropriate actions. They are also 'specific in their ability to influence the perceived attractiveness of various outcomes in terms of their ability to relieve tension...'.

The concept of needs has been fundamental to major need-motivation models. The most widely used models are need and expectancy theories, such as the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), and reinforcement models (see Ronen, 1994). Not only Higgins has urged for the use of need models in explaining human motivation. In order to structure the various motivation theories, Ronen (1994) has compared the three main need theories of Herzberg, Alderfer and Maslow (see Ronen, 1994, for a review).

Ronen (1994) has empirically supported the use of need models in motivation theory, by showing them to be compatible and universal. Figure 2 provides an overview of the comparison between the need theories.

Figure 2
Comparison of three theories of need categorization



From "A Nonmetric Scaling Approach to Taxonomies of Employee Work Motivation" by S. Ronen, A. I. Kraut, J. C. Lingoes, and N. Aranya, 1979, *Multivariate Behavioural Research*, 14, p. 391. Copyright 1979 by Multivariate Behavioral Research. Reprinted by permission.

2.2.1 Regulatory Focus Theory

The motivational theory of Higgins (1997) is also directly based on the need concept. It explains human motivation in terms of a promotion-prevention dichotomy, based on different needs. Higgins distinguishes between two survival needs; nurturance (e.g. nourishment) and security (e.g. protection). Nurturance is comparable to Maslow's self-actualization category; security to Maslow's physiological and security categories.

The next section describes Higgins' Regulatory Focus Theory. We first describe the regulatory foci which explain the hedonic principle: promotion and prevention. Then, we introduce the existence of a positive and negative reference point, which explain the difference between a promotion and prevention focus. We further illustrate this theory by middle of examples. Finally, we refer to empirical research that validates the theory.

Regulatory foci

Regulatory focus theory assumes that the hedonic principle should operate differently when serving different basic needs. The two regulatory foci proposed are self-regulation with a *promotion* focus, and self-regulation with a *prevention* focus. Promotion focus is nurturance related, whereas prevention is security related.

Promotion focuses on desired end states, that people ideally *want* to possess; hopes, wishes, accomplishment and aspirations. Higgins (1997, 1998) defines these desired end states as '*ideals*'. Prevention focuses on desired end states that people *believe* they *should* or *ought* possess; safety, obligations, duties, and responsibilities. Higgins defines these desired end states as '*oughts*'.

In other words, the approach-avoid principle operates differently when serving goals with a different regulatory focus (promotion versus prevention). These goals can be chronically or momentarily.

Regulatory reference points

The two strategies seem to be merely two opposites; a focus on promotion seems to be simply the opposite of a focus on prevention. However, Higgins has provided arguments and evidence to support the distinction between the two (Higgins, 1997, 1998; Foerster et al, 1998). Promotion and prevention foci appear to be associated with different behavioral patterns and different emotional reactions.

Promotion: positive reference point

Higgins and his colleagues (Higgins, 1997, 1998; Foerster et al, 1998) have illustrated the difference between a promotion and prevention focus by examples of different forms of caretaker-child interactions. Children with a *promotion* focus experience pleasure when, for instance, caretakers reward a behavior by hugging the child or by encouraging the child to seek opportunities to engage in rewarding activities. The child experiences pain when, for instance, caretakers stop telling a story because the child is not paying attention. Here, the child's regulatory reference point is *positive*. The child experiences the pleasure or pain from these interactions as the presence or absence of positive outcomes, i.e. a desired end state. This focus is one of promotion; it concerns with advancement and accomplishment, hopes and aspirations. Here, the motivation is one of *approach* (to desired end states).

Prevention: negative reference point

Children with a *prevention* focus experience pleasure when, for instance, caretakers train the child to be alert to potential dangers or teach the child to mind his manners. These children experience pain when, for instance, caretakers yell at or punish the child for being irresponsible. Here, the regulatory reference point is *negative*. The child experiences pleasure or pain as the presence or absence of negative outcomes, i.e. an undesired end state. This focus is one of prevention; it concerns with protection and safety, duties, and responsibilities. Here, the motivation is one of *avoidance* (of *mismatches from* desired end states).

Illustration of the theory: child-caretaker interactions

Thus, regulatory focus theory distinguishes between two kinds of goal attainment that vary in motivational focus: attainment of aspirations and accomplishments (promotion or ideal focus) and attainment of responsibilities and safety (prevention or ought focus).

So, both the promotion and the prevention focus involve pleasure and pain. The difference between them is, that the *motivational goal* or desired end state differs, and therefore the *type* of pleasure or pain is different. In case of promotion directed child-caretaker interactions, for example, the child learns to approach the pleasure of the presence of positive outcomes and to avoid the pain of the absence of positive outcomes. This learning is based on the child's experience with bolstering versus love-withdrawal interactions. These show him that to obtain nurturance, he needs to attain accomplishments and to fulfill hopes and aspirations (ideals). In contrast, in the case of prevention directed child-caretaker interactions, the child learns to approach the pleasure of the absence of negative outcomes and to avoid the pain of the presence of negative outcomes. This learning is based on the child's experience with prudent versus punishment/criticism interactions. These show him that to obtain security he needs to insure safety, be responsible, and meet obligations (oughts). Table 1 gives an overview of Regulatory Focus Theory.

Table 1
Regulatory Focus Theory

Orientation	Survival need	Desired end state (motivational goal)	Regulatory anticipation	Regulatory reference point	Regulatory focus (motivational strategy)
Approach	Nurturance (support, encouragement)	Ideals: hopes, wishes, aspirations, accomplishment	Approach anticipated pleasure	Positive: presence or absence of positive, desirable end states	Promotion: approach to desired end states (and to mismatches to undesired end states)
Avoidance	Security (protection, defense)	Oughts: duties, obligations, responsibilities	Avoid anticipated pain	Negative: presence or absence of negative, undesirable end states	Prevention: avoidance of mismatches to desired end states (and of matches to undesired end states)

Empirical evidence

Empirical research has supported the theory (see Higgins, 1998). Regulatory focus was shown to have a major impact on people’s feelings, thoughts, and actions. The results of several studies indicate, for instance, that strategic differences based on regulatory foci can determine how people solve problems and make decisions in their lives (Higgins, 1998). Other studies (see Higgins, 1998) have shown that regulatory foci moderate which dimensions of evaluation determine people’s preferences and choices. In an additional study Higgins, Shah and Friedman (1997) found that strength of regulatory focus moderates emotional responses to goal attainment. We did not find explicit research on the moderating affect of regulatory focus on attitude and subjective norm. Based on the previous findings, however, we expect regulatory focus to affect the intention antecedents. More specifically, we expect people with a promotion focus to value attitude more than subjective norm, because their motivational goals concern ideals (like/dislike). In contrast we expect people with a prevention focus to value subjective norm more than attitude, because their motivational goals concern oughts (social pressure).

Table 2 further illustrates different approach-avoidance orientations in the case of job promotion.

Table 2
Illustration of different approach-avoidance orientations

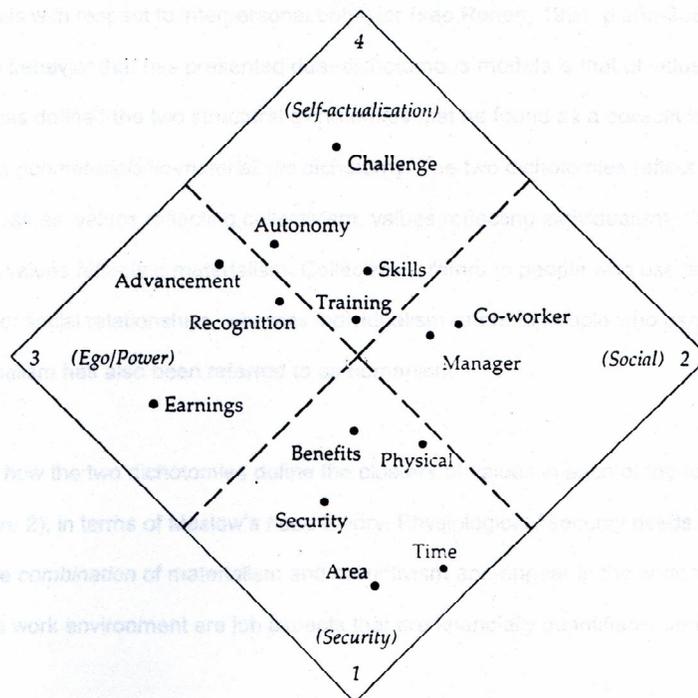
Regulatory focus and regulatory anticipation	Regulatory focus	
	Desired end state reference point	Undesired end state reference point
PROMOTION FOCUS	ACCOMPLISHMENT	NONFULFILLMENT
Anticipate pleasure	I receive promotion because I pursue so many means for advancement	I avoid non-promotion because I pursue enough means for advancement
Anticipate pain	I do not receive promotion because I pursue too few means for advancement	I receive non-promotion because I omit too many means for advancement
PREVENTION FOCUS	SAFETY	DANGER
Anticipate pleasure	I receive promotion because I am so responsible	I avoid receiving non-promotion because I am responsible enough
Anticipate pain	I do not receive promotion because I am too careless	I receive non-promotion because I commit too many mistakes

2.3 Relating needs to values

Ronen (1994) has further proposed that human needs create human *values* which help explain human need-motivation. Researchers have defined human values as desirable goals, varying in importance, that serve as guiding principles in people's lives (Kluckhohn, 1951; Rokeach, 1973; Schwartz, 1992). They are assumed to be patterned and organized according to cognitive categories.

The in the previous chapter described need models are based on the assumption that people long for need satisfaction, which affects human motivation. Depending on interactions with the environment, people form basic needs. According to their needs, they subjectively determine the level of relative importance of various valences associated with certain outcomes. For instance, a person seeking for security or existence (figure 2), will value physical -and security goals more than advancement or challenge. Specifically, he will seek safe working conditions and benefits and will less care about personal promotion or a sense of accomplishment. This example is comparable with Ronen's explanation of this person's motivation by a prevention focus.

Figure 3
An example of value structure with Maslow's needs inserted



Ronen (1994) has empirically shown that (work) values form a valid basis for the underlying structure of need-motivation theories. Figure 3 depicts an example of the value structure of a German sample (N=800), with Maslow's needs inserted into the appropriate places. Values relating to security and benefits (security) are placed opposite those relating to challenge and autonomy (self-actualization). Similarly, values relating to promotion / advancement (self-esteem) are placed opposite to those relating to social interaction (social).

2.4 The underlying structure of need-motivation theories: dual dichotomy

Ronen has conducted this value analysis in different countries and cultures. After comparing the outcomes, he concluded that the structure that underlie various need-motivation theories is consistent among cultures. This structure consists of two dichotomies, based on different needs and values (see figure 2). According to Ronen these dimensions can help to integrate the various categorizations of needs.

2.4.1 Two dichotomies: collectivism-individualism & humanism-materialism

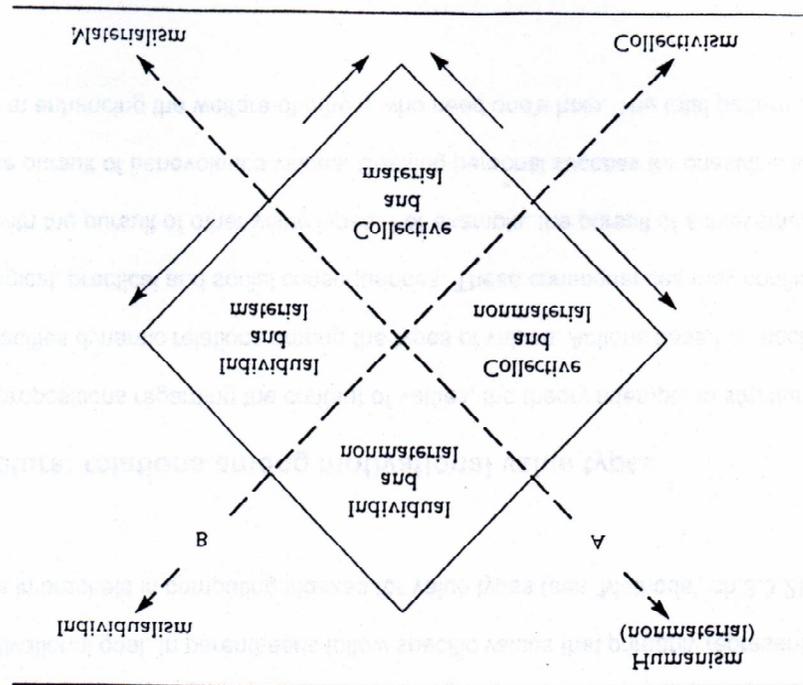
There is considerable literature on dual-dichotomous (two-dimensional) models in human behavior. Previous research has shown that a two-dimensional model can adequately explain the variation among individuals with respect to interpersonal behavior (see Ronen, 1994, p.255-258). One of the areas of human behavior that has presented dual-dichotomous models is that of values. Based on this theory, Ronen has defined the two structural dichotomies that he found as a *collectivism-individualism* dichotomy and a *nonmaterialistic-materialistic* dichotomy. The two dichotomies reflect the *orientation* of the concerning values; values reflecting collectivism, values reflecting individualism, values reflecting humanism, and values reflecting materialism. Collectivism refers to people who use the group as the unit of analysis of social relationships, whereas individualism refers to people who use individuals for this. Non-materialism has also been referred to as humanism.

Figure 4 shows how the two dichotomies define the clusters of values in each of the four need categories (figure 2), in terms of Maslow's need theory. Physiological / security needs have their orientation in the *combination* of materialism and collectivism and appear in the bottom of the model. Examples in the work environment are job aspects that are financially quantifiable and that are usually given to employees because they belong to the group (e.g. fulfilling similar tasks, having similar seniority).

The left-hand part of the model is associated with the ego-, or esteem, need. It is materialistic and based on individual differences. Examples in the work environment are job aspects such as recognition and promotion. The right-hand part of the model consists primarily of interpersonal relations and is therefore primarily non-materialistic and group or system oriented (collectivism). Examples in the work environment are job aspects such as concern for the welfare of the team. The top part of the model (self-actualization) consists of individualism and non-materialism. Examples in the work environment are challenge and autonomy.

Figure 4 represents the two dichotomies, and the resulting composition of need categories (see figure 2). The extreme points on each continuum reflect the orientation of the values. They also define the composition of these values in terms of the four need categories. Combining figure 3 and 4, illustrates the two dichotomies and the four categories by using the sample presented in figure 3.

Figure 4
The dimensions and their combined contribution in forming need categories



2.4.2 A theory of value content and structure

Schwartz and Bilsky (1987, 1990) have presented a comparable dual-dichotomous model of values. Their theory distinguishes between types of values (value contents) and organizes relations among value types (value structure). The two dichotomies that this theory distinguishes are openness to change versus conservation and self-enhancement versus self-transcendence. In the next section we will summarize this theory of value content and structure.

Value contents: motivational value types

Following Kluckhohn (1951) and Rokeach (1973), Schwartz (1992) and his colleagues (Schwartz & Bilsky, 1987, 1990; Schwartz & Sagiv, 1995) have presented and validated a theory of universals in the content and structure of value systems. According to the theory, the *content* aspect that distinguishes among values, is the type of *motivational goal* they express. Schwartz (1992) reasoned that values, in the form of conscious goals, represent three universal requirements of human existence, to which all individuals and societies must be responsive. These requirements are biological needs, needs based on coordinated social interaction, and survival- and welfare needs of groups (Schwartz & Bilsky, 1987, 1990). In order to cope with reality in a social context, individuals and groups represent these requirements cognitively as specific *values* about which they communicate.

From these universal requirements, or needs, Schwartz derived and validated ten types of values, according to the motivations that underlie them. Table 3 lists the value types, each defined in terms of its central motivational goal. In parentheses follow specific values that primarily represent it. We did not use the values in brackets in computing indexes for value types (see 'Methods', ch.3.3.2).

Value structure: relations among motivational value types

In addition to propositions regarding the content of values, the theory attempts to *structure* value systems. It specifies dynamic relations among the types of values. Actions based on each value type have psychological, practical and social consequences. These consequences may conflict or may be incompatible with the pursuit of other value types. For example, the pursuit of achievement values may conflict with the pursuit of benevolence

values. Seeking personal success for oneself is likely to restrict actions aimed at enhancing the welfare of others who need one's help. The total pattern of likely

Table 3
Definitions of types of values in term of their motivational goals
and the single values that represent them

Value type:	Definition in terms of central motivational goal. (specific values) [values not used in present study]
Power:	Social status and prestige, control or dominance over people and resources. (Social power, Authority, Wealth) [Preserving my public image, Social recognition]
Achievement:	Personal success through demonstrating competence according to social standards. (Successful, Capable, Ambitious, Influential) [Intelligent, Self-respect]
Hedonism:	Pleasure and sensuous gratification for oneself. (Pleasure, Enjoying life).
Stimulation:	Excitement, novelty, and challenge in life. (Daring, A varied life, An exciting life)
Self-direction:	(Creativity, Freedom, Independent, Curious, Choosing own goals) [Self-respect]
Universalism:	Understanding, appreciation, tolerance, and protection for the welfare of all people and for nature. (Broadminded, Wisdom, Social justice, Equality, A world at peace, A world of beauty, Unity with nature, Protecting the environment)
Benevolence:	Preservation and enhancement of the welfare of the people with whom one is in frequent personal contact. (Helpful, Honest, Forgiving, Loyal, Responsible) [True friendship, Mature love]
Tradition:	Respect for, commitment to, and acceptance of the customs and ideas that traditional culture or religion impose on the self. (Humble, Accepting my portion in life, Devout, Respect for tradition, Moderate)
Conformity:	Restraint of actions, inclinations, and impulses likely to upset or harm others and to violate social expectations or norms. (Politeness, Obedient, Self-discipline, Honoring parents and elders)
Security:	Safety, harmony, and stability of society, of relationships, and of self. (Family security, National security, Social order, Clean, Reciprocation of favors) [Sense of belonging, Healthy]

conflicts and compatibility among value priorities forms a *structure* for value systems; it organizes them. Figure 5 represents this pattern, that has been supported both on the individual level and in cross-cultural work (Schwartz,

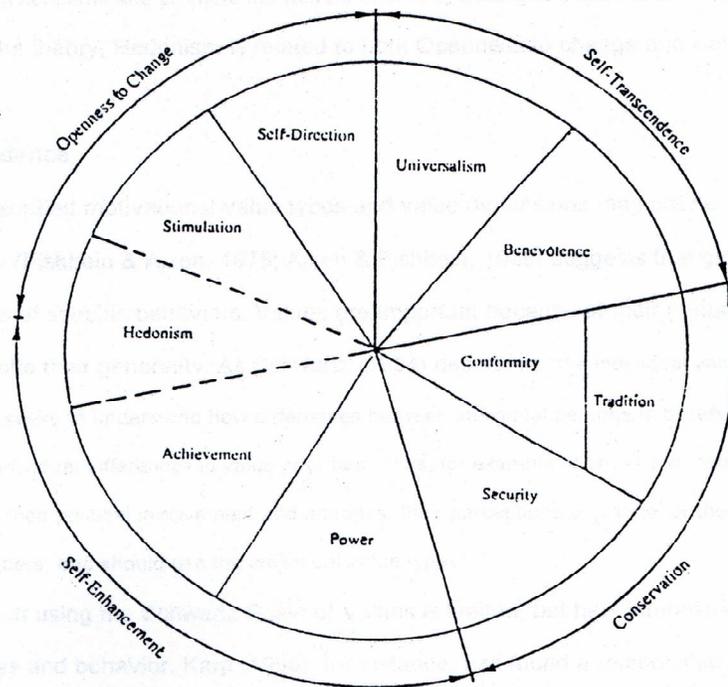
1992, 1994). From the figure it is easy to recognize the dual dichotomy of the structure, which is comparable to the previous described theories.

Although the theory discriminates 10 value types, it argues that, at a more basic level, values form a *continuum* of related motivations. This continuum gives rise to the circular structure. Therefore, values near the boundaries of closer related value types overlap somewhat in their motivational meaning (i.e. Power and Achievement).

Consequently, in empirical studies, such values may intermix rather than emerge in clearly distinct regions. These complementary types are shown next to one another in the circle.

In contrast, values and value types that express *opposing motivations* should be discriminated clearly from one another (i.e. Self-direction and Security). As figure 5 shows, the theory orders this kind of values and value types along two bipolar dimensions. Competing value types issue from the center in opposing directions. Each pole constitutes a higher-order value type, that combines two or more of the ten types.

Figure 5
Theoretical model of relations among motivational value types,
the 4 higher-order value types, and the 2 dichotomy value dimensions



The first dimension contrasts *openness to change* with *conservation*. Openness to change refers to values emphasizing own independent thought and action, and favorite change (Stimulation, Self-direction). Conservation refers to values emphasizing self-restriction, preservation of traditional behavior, and protection of stability (Security, Conformity, Tradition). As Schwartz (1992) describes: “It arrays values in terms of the extent to which they motivate people to follow their own intellectual and emotional interests in unpredictable and uncertain directions versus to preserve the status quo and the certainty it provides in relationships with close others, institutions, and traditions” (p.43).

The second dimension contrasts *self-enhancement* with *self-transcendence*. Self-enhancement refers to values emphasizing one's own relative success and dominance over others (Power, Achievement). Self-transcendence refers to values emphasizing acceptance of others as equals and concern for their welfare (Universalism, Benevolence).

Schwartz (1992) explains: “It arrays values in terms of the extent to which they motivate people to enhance their own personal interests (even at the expense of others) versus the extent to which they motivate people to transcend selfish concerns and promote the welfare of others, close and distant, and of nature” (p.43-44).

According to the theory, Hedonism is related to both Openness to change and Self-enhancement.

Empirical evidence

The above described motivational value types and value dimensions may predict individual behavior. Attitude theory (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980) suggests that global attitudes are poor predictors of specific behaviors. Values are important because of their measurable impact on behavior, despite their generality. As Schwartz (1994) describes: “the individual value types should be used when one seeks to understand how differences between individual persons in beliefs, attitudes, or behavior are related to individual differences in value priorities. Thus, for example, if one is interested in how people’s values relate to their political involvement and attitudes, their perceptions of justice, or their aggression toward out-group members, one should use the individual value types”.

Recent research using the Schwartz Scale of Values is limited, but has demonstrated the link between values and behavior. Karp (1996), for instance, has found a relationship between personal values and environmental behavior. Feather’s (1995) study showed that alternatives-choice behavior was a function of, among others, individual value types.

2.5 Linking motivation theories: promotion-prevention dichotomies in various theories

When comparing the various theories described in the previous chapters, we can conclude as follows:

⇒ Various intra-personal motivation theories have proposed and validated that the underlying structure of motivation theory forms a **dual-dichotomy**. Each dichotomy reflects a potential intra-personal conflict that may predict and explain human motivation, represented by motivational areas.

Figure 6 depicts the two dichotomies and the four motivation areas, as defined in the previous described theories.

Table 4 provides an overview of promotion-prevention dichotomies, as defined in the various theories.

Table 4
Promotion-prevention dichotomies in various theories

THEORY	MOTIVATIONAL APPROACH	
	PROMOTION	PREVENTION
Ajzen - A theory of reasoned action		
Intention antecedents	Attitudes Personal considerations; Like / dislike	subjective norms perceived social pressure; have to / do not have to
Higgins - Regulatory focus theory		
- needs	Nurturance Support, encouragement	Security protection, defense
-Selfguides (desired endstate)	Ideal - approach (eagerness promotion): advancement, growth, accomplishment	ought - avoidance (vigilance prevention): protection, safety, responsibility
Ronen- Theory of the underlying structure of motivational need taxonomies		
- needs	Self-actualization Challenge, autonomy, skills, Training	Security physical condition, benefits, security
Schwartz- Theory of value content and structure		
- values	Openness to change Stimulation, self- direction, hedonism	Conservation security, tradition, conformity

Figure 6
Two dichotomies and the four areas of motivation



2.6 The relative importance of intention antecedents: promotion-prevention dichotomy as moderator

In further understanding the relative importance of attitude and subjective norm as predictors of behavioral intention, we propose to investigate the affect of the promotion-prevention dichotomy as a possible moderator. As described earlier, we propose to refer to attitudes as a primarily promotion directed antecedent of intention, while subjective norms can be referred to as a primarily prevention directed antecedent of intention.

In our study we attempt to investigate the role of the promotion-prevention dichotomy as a moderator of the intention antecedents in two ways. First we will investigate the moderating role of promotion versus prevention according to the behavioral domain in question (promotion-directed behavior versus prevention-directed behavior). Then, we will investigate the moderating role of promotion versus prevention as individual value preferences (promotion-values-directed persons versus prevention-values-directed persons). Finally, we will study the interaction-affect of both proposed moderators.

Accordingly, we will attempt to prove the following hypotheses:

H1: There will be an interaction between **intention antecedents** and **behavior domain**. Specifically, the attitude-intention link will be stronger in a promotion domain, whereas the subjective norm-intention link will be stronger in a prevention domain.

In other words, in understanding the relative importance of attitude and subjective norm as predictors of intention, we propose to look at the affect of the *type of behavior* in question, which is a situational factor. We distinguish between promotion-directed behavior (i.e. attending a meditation course, changing profession) and prevention-directed behavior (i.e. having a life-insurance, wearing a safety-belt) We speculate that in the case of promotion-directed behavior attitude will affect intention more than subjective norm, because such behavior concerns ideals (like /dislike). In the case of prevention-directed behavior we expect subjective norm to affect intention more than attitude, because such behavior concerns oughts (have to).

H2: There will be an interaction between **intention antecedents** and **individual value preferences**.

Specifically, the attitude-intention link will be stronger for persons who value promotion more than prevention, whereas the subjective norm link will be stronger for persons who value prevention more than promotion.

In other words, in understanding the relative importance of attitude and subjective norm as predictors of intention, we propose to look at the *value preferences of the person* intending to perform the behavior, which is an individual factor. We distinguish between promotion-directed value preferences (of persons who value promotion as more important than prevention) and prevention-directed value preferences (of persons who value prevention as more important than promotion). A person with promotion-directed value preferences will be motivated by promotion, nurturance, approach, self-actualization, and / or openness to change. Therefore, we expect the person's intention to be affected more by attitude than by subjective norm. In contrast, a person with prevention-directed value preferences will be motivated by prevention, security, avoidance, and / or conservation. Therefore, we expect that subjective norm will affect the person's intention more than attitude.

H3: There will be an interaction between **behavior domain** and **individual value preferences**.

Specifically, individual value preferences will have a stronger affect on the intention antecedents in a promotion domain than in a prevention domain.

In other words, in understanding the relative importance of attitude and subjective norm as predictors of intention, we propose to look at the *combination* of the situational factor *behavior domain* and the individual factor *value preferences*. When the behavior is extremely prevention-directed, intentions to (not) perform the behavior are expected to be motivated by oughts for any person, independent of his or her individual value preferences. It concerns behaviors everybody has to perform, if he likes it or not, a situation of almost no-choice. Possible examples of such extreme preventive behaviors are wearing a seat-belt or finishing highschool.

In contrast, when the behavior is promotion-directed, intentions to (not) perform the behavior need not be motivated by ideals for any person. Even though the behavior may be ideals-directed, a person may intend to (not) perform the behavior out of ought-reasons. In this case the choice to (not) perform the behavior may still be motivated by individual values. Examples of such behaviors are attending a meditation course or searching for a new job. A person who intends to search for a new job (promotion-directed behavior) may be motivated to search because he *wants* to advance and grow (promotion-value preferences). Another person, however, could have the

same intentions (toward the promotion-directed behavior), because he *should* in order to have financial and social security (prevention-value preferences). Therefore, in case of a promotion-directed behavior, we expect that individual value preferences will influence attitude and subjective norms more than in the case of a prevention-directed behavior.

3. Methods

Two matters required preliminary study:

- the selection of relevant promotion- versus preservation behaviors (pilot study 1);
- the selection of determinants of the attitudes and subjective norms towards the chosen behaviors, and the elicitation of salient beliefs about each of them (pilot study 2).

3.1 Pilot study 1: selecting examples of promotion and preservation behaviors

First, we had to select examples of behaviors of both promotion and preservation, which would be relevant for the research population. Examples of relevant behaviors were searched for by a free-response format technique.

Participants in this pilot study were students at the Hebrew University of Jerusalem, Israel (N=40), randomly approached. In choosing the behaviors, we wanted to leave the second conflict (self-enhancement versus self-transcendence) aside. We therefore looked for examples of behaviors that were either both self-enhancement directed or that were both self-transcendence directed.

3.1.1 Eliciting examples of promotion and prevention behaviors

Respondents verbally answered the following questions, based on Schwartz's (1992) definitions of both promotion and preservation in terms of their goals:

Promotion behavior

What do you *want* to do in order to:

- a) obtain novelty, challenge and/or a varied life? (stimulation)
- b) enjoy life? (hedonism)

Preservation behavior

What do you *have to* do:

- a) to obtain safety, order and/or security in your life? (security)
- b) out of self-discipline, politeness, honor, and/or obedience? (conformity)

In the *promotion domain* out of the 19 respondents (11 male, 8 female), 12 mentioned wanting to leave for a vacation abroad. 4 of the respondents mentioned this behavior for stimulation only, 3 for hedonism only, and 5

respondents mentioned the behavior for both stimulation and hedonism. Other responses were unrelated to each other and could not be grouped into categories.

The responses for the *prevention domain* were somewhat less similar than these for promotion. Out of the 21 respondents (10 male, 11 female), 15 mentioned behaviors that were connected to their studies (starting or finishing assignments, working according to deadlines and schedules). 11 respondents mentioned study-connected behaviors for conformity only, 2 for security only, and 2 for both conformity and security. For security the respondents mostly mentioned behaviors directed at their physical security . 12 respondents mentioned behaving according to traffic rules; 4 respondents mentioned preventing accidents or burglary at home, others mentioned different behaviors. Besides the study-connected behaviors, none of these behaviors was mentioned for conformity.

For both promotion and preservation, we selected the behaviors that were most frequently mentioned by the respondents (‘travel’ and ‘study’, respectively). This selection criterion may limit the generalizability of the results, but was necessary for methodological reasons. As previously mentioned, we wanted to leave the second conflict (self-enhancement versus self-transcendence) aside. The ‘travel’ and ‘study’ behaviors were both primarily self-enhancement directed.

3.1.2 Operationalization of behaviors

Table 6 shows the final definitions of the two behaviors constructed according to Ajzen & Fishbein’s (1980, pp. 64) proposal to include action, target, context, and time elements.

Both *actions* chosen are single actions (‘travel’ versus ‘accomplishing assignments’), not behavioral categories (leisure time versus (study) persistence). We chose to be specific, because respondents had specifically mentioned ‘travel’ and ‘assignments’ in the pilot study.

Table 6
Operationalization of behaviors according to elements

	Travel	Study
Action	leave	Accomplish all assignments
Target	Vacation	BA degree (graduation)
Context	Abroad	-required by the university -according to university time schedules
Time	until 31.10.00	until 31.08.00

Accordingly, both *targets* chosen are a single instance of a category ('vacation' versus 'BA degree'), not general categories (leisure motivation, general travel motivation versus commitment, general study motivation). Defining the travel target as vacation also excludes other travel targets, such as job (Fontaine, 1994) or kinship, i.e. visiting relatives (Fisher & Price, 1991).

Last year students were chosen (finishing 'degree', not just finishing academic year), because the target is both clear and bears additional consequences.

Specifying single *contexts* (given destination, type of country versus specific assignment, such as seminar or papers) was not necessary and could even subjectively direct respondents. Therefore, for both behaviors a range of contexts ('abroad' versus 'required', 'until 31.08.00', see also "time") were chosen. This left the opportunity for the respondents to think about the for them personally relevant destination or required assignments.

According to the faculties' deadline, August 31st 2000 was chosen as the final point in *time* for accomplishing the study assignments. This date is actual for the respondents and implicitly emphasizes the presence of the university's schedules and deadlines (obligation). In spite of consistency, another time range ('until October 31st 2000') was chosen for leaving for a vacation abroad. This time range was more actual for students, who would have time to finish their studies before, and would have days off in October, because of Jewish holidays. Trip length was not defined, because the action 'leaving for a vacation abroad' was what matters, independent from the length of the vacation.

Thus, we defined the promotion-behavior 'travel' as:

Leaving for a vacation abroad until 31.10.00.

We defined the preservation-behavior 'study' as:

To accomplish all required assignments of the BA degree until 31.08.00.

For convenience and time's sake, we will refer to both behaviors as 'travel' and 'study', respectively.

3.2 Pilot study 2: determining the attitudinal and normative components

Secondly, the selection of determinants of the attitudes and subjective norms towards the chosen behaviors, and the elicitation of salient beliefs about each of them needed further study.

Salient behavioral beliefs¹

Although a person may hold a large number of beliefs about any given behavior, it appears that he can attend to only a relatively small number of beliefs (perhaps five to nine) at any given moment. According to Ajzen and Fishbein's theory, these are the so-called *salient beliefs*, the immediate determinants of the person's attitude or subjective norm at a given moment (Ajzen & Fishbein, 1980). The strength or salience of beliefs has become a major research focus in recent years. Petkova, Ajzen and Driver (1995), for instance, have found that salient anti-abortion beliefs significantly predict anti-abortion attitudes and intentions. Ajzen et al (1995), investigated the influence of the *degree* of salience of behavioral leisure beliefs. They found that the more salient the belief, the better it tended to correlate with the concerning attitude.

As previous research has recommended, we conducted a pilot study in which salient behavioral and normative beliefs about the 'travel' and 'study' behaviors were elicited in a free-response format. This method is simple and the most direct one (Ajzen & Fishbein, 1980).

Participants in the second pilot study were undergraduate students at the Hebrew University of Jerusalem, Israel (N =24). They were all studying in the last year of their studies and came from different faculties.

¹ The role of *salient beliefs* as determinants of attitudes is described in the expectancy- value model, as summarized by Fishbein (1963, 1967). According to the model, the attractiveness of buying a computer program, for instance, should be related to its perceived benefits, as well to its perceived costs.

3.2.1 Eliciting salient beliefs

Determinants and salient beliefs were elicited by a free-response format technique, provided by Ajzen & Fishbein (1980, pp. 62-65; Fishbein & Ajzen, 1975).

Attitude

To elicit the beliefs underlying the respondents' attitude toward the promotion behavior, they answered the following questions (in Hebrew):

1. Which things come to mind when you think about leaving for a vacation abroad until 31.10.00?
2. What do you see as the *advantages* of leaving for a vacation abroad until 31.10.00?
3. What do you see as the *disadvantages* of leaving for a vacation abroad until 31.10.00?

The respondents were asked to briefly list the beliefs that come to mind.

Accordingly, to elicit the beliefs underlying the respondents' attitude toward the preservation behavior, respondents answered the same questions, concerning their finishing all the required assignments of their BA until 31.08.00.

Subjective norm

To elicit the beliefs underlying the respondents' subjective norm toward the behaviors, they answered the following questions:

1. Which *individuals or groups of persons* come to mind when you think about leaving for a vacation abroad until 31.10.00?
2. Which individuals or groups of persons think you *should* leave for a vacation abroad until 31.10.00?
3. Which individuals or groups of persons think you *should not* leave for a vacation abroad until 31.10.00?

3.2.2 Organizing modal behavioral beliefs

As Ajzen & Fishbein (1980, pp. 68-73) proposed, we first performed an analysis of the various beliefs emitted by each respondent, analogous to a content analysis. It organized the responses by grouping together beliefs that refer to similar outcomes, and counting the frequency with which each outcome in a group was elicited. Tables 7 to 10 contain the organized behavioral beliefs underlying attitude and subjective norm, for the two behavior domains. In some instances, the differences between beliefs within a given group were merely semantic. The outcomes "high

expense” and “costs lot of money” for travel clearly refer to the same outcome. In other cases, this decision was less obvious. Here, we used Ajzen & Fishbein’s (1980) rule of thumb by asking ourselves whether the same person could have reasonably emitted the two outcomes. We checked the original responses to see whether individual respondents did in fact list both outcomes separately. For example, if many of the respondents who said that leaving for a vacation abroad makes them relax also said that it makes them rest, the two outcomes would be treated as separate beliefs. However, in this example no individual listed both outcomes, so we could decide that different respondents used different labels to refer to the same outcome. We treated cases like these as one outcome. Different labels are shown in the tables between brackets. The wording used for a given category is the most frequently mentioned outcome in the category (“high expense”, not “costs a lot of money”).

Table 7
Identification of modal salient beliefs underlying attitude toward travel
(N=11)

advantages	Frequency	disadvantages	frequency
*fun (nice, enjoyment)	7	*high expense	10
*rest (relax)	7	*miss time at work	4
*freedom	5	time loss for studies	2
*new things (places, knowledge)	4	time loss for other things	2
*cultural experience (museums, archeology, photography)	3	stress before leaving	2
shopping	2	hard to find kosher food	2
vacation	2	tiring flight	1
time fits (summer vacation)	1	feel bad back home	1
different world	1	miss friends, relatives	1
new people	1		
come loose, be freed	1		
scenes, view	1		
hobbies	1		
use foreign languages	1		
cut off, switch,	1		
visit relatives	1		
total beliefs			64

Table 8
Identification of modal salient beliefs underlying attitude toward study
 N=11

advantages	Frequency	disadvantages	frequency
*promotion at work (better work)	5	*pressure (stress)	8
*safe money	4	time investment	2
*freedom	3	seems impossible	2
*not linger studies	3	hard work	1
*recognition (degree)	3	give up work time (job)	1
close chapter in life	2	give up other interests	1
opportunity to go on (2nd degree)	2	not enjoy studies	1
		have to decide what to do after	1
total beliefs			39

Table 9
Identification of modal salient referents
underlying subjective norms toward travel
 N=13

Referents	Total	should	should not	other referents
*friends	10	5	3	2
*parents	8	3	5	
*other relatives	6	3	2	1
*partner	5	3	2	1
Employee	2	1	1	
university staff	2		2	
study friends	1		1	
total referents	34			

Table 10
Identification of modal salient referents
underlying subjective norms toward study
 N=13

Referents	Total	should	should not	other referents
*family, relatives	4	3	1	
*friends	3	1	2	
*university staff	3	3		
study friends	1			1
friends at work	1		1	
Partner	1		1	
total referents	13			

3.2.3 Selecting modal salient beliefs

The final decision to be made, concerned which of the beliefs to include in the modal salient set. Ajzen & Fishbein (1980, pp.70-71) propose three different decision rules. The first rule is to take the first so many, i.e. 5, most frequently mentioned outcomes. This rule results in a set of beliefs which is likely to include at least some of the beliefs emitted by each respondent in the sample. While applying this rule, we found out that for our results this rule had a too rough character. Obviously relevant beliefs would have been excluded. The second rule is to use those beliefs that exceed a certain frequency. We decided that we wanted to include the beliefs mentioned by at least 20% of the sample. Applying this rule lead to the same choices as applying the third rule. This rule, which is perhaps the least arbitrary decision rule, is to choose as many beliefs as necessary to account for a certain percentage of all beliefs (or referents) emitted. In our modal salient sets we wanted to include at least 60% of the total beliefs or referents. The beliefs we have included in the modal salient sets are marked by * in tables 7-10. We applied the decision rules as follows:

Behavioral beliefs toward travel

To reach the 20% of the second rule, at least 2.6 respondents should have mentioned the belief. According to the 60% of the third rule, the sum of the frequency of the beliefs chosen should be at least 39. Both rules made us select the first seven beliefs, counting for 23% of the sample and 63% of the total beliefs (see tables 7 and 11).

Behavioral beliefs toward study

To reach the 20% of the second rule, at least 2.2 respondents should have mentioned the belief. According to the 60% of the third rule, the sum of the frequency of the beliefs chosen should be at least 24. Both rules made us select the first six beliefs, counting for 27% of the sample and 67% of the total beliefs (see tables 8 and 11).

Normative beliefs toward travel

To reach the 20% of the second rule, again at least 2.6 respondents should have mentioned the referent. According to the 60% of the third rule, the sum of the frequency of the referents chosen should be at least at least 21. The first

rule made us select the first four referents, counting for 38% of the sample. However, the second rule proposed us to select only the first three referents, not including partner in the modal salient referents set. Because of the big gap in frequency between “partner” (5 times mentioned) and the following categories (2 times mentioned), we decided to include also “partner” in the set. This counted for 85% of the total referents (see tables 9 and 11).

Normative beliefs toward study

To reach the 20% of the second rule, again at least 2.2 respondents should have mentioned the referent. According to the 60% of the third rule, the sum of the frequency of the referents chosen should be at least at least 8. Both rules made us select the first three referents, counting for 27% of the sample and 77% of the total referents (see tables 10 and 11).

Table 11
Application of the decision rules

Decision rule	Beliefs		referents	
	travel	study	travel	study
% of sample (>20)	23.07	27.27	38.46	27.27
% of total beliefs/referents (>60)	62.50	66.67	85.29	76.92

3.3 Main study

3.3.1 Subjects

The 192 respondents (71 males, 121 females) were last year BA-students at the Hebrew University of Jerusalem, Israel. The respondents studied at different faculties of the university; Social Science (N=50), Humanities (N=52), and Natural Sciences (N=50), or studied at the Bezalel Art School of Jerusalem (N=40).

3.3.2 Materials

We asked the students to complete a questionnaire that assessed their individual values (section 1), intention and intention-antecedents (section 2), and standard demographic items (section 3).

Each section was introduced by a written instruction.

Section 1: Schwartz's value survey

The first section included the previously developed and refined value questionnaire (Schwartz, 1992). In order to express directly the definition of values as guiding principles in the respondents' life, the survey asked them to rate each value as '*a guiding principle in my life*'. It consisted of a 9-point rating scale from 0 (*not important*), 3 (*important*), 6 (very important) to 7 (*of supreme importance*) and -1 (*opposed to my values*). Included were 56 single values, selected to represent the 10 individual-level value types (see table 3, chapter 2.4.2). A short explanatory phrase in parentheses further specified the meaning of each value. The 56 value items were divided into two lists. The first assessed values as abstract terminal values (i.e. 'politeness' or 'freedom'); the second assessed values as instrumental behaviors (i.e. 'independent', or 'curious'). Each list asked respondents to first choose the value that is most important to them and value it. Similarly, they were asked to choose the value that is opposed to their values and value it -1. In case there was no value like that, the respondents were asked to choose the value that is less important to them and value it 0 or 1. Afterwards, respondents were asked to value the importance of the remaining values. This method performed as an anchoring technique.

Section 2: Intention and intention-antecedents

We designed two different versions for this section. One assessed the promotion-directed behavior domain 'travel', whereas the second assessed the prevention-directed behavior domain 'study'. Each of the two versions identically assessed intention toward the behavior, 3 measures of (direct) attitude toward the behavior, behavioral beliefs, outcome evaluations, (direct) subjective norm, normative beliefs and motivation to comply, according to Ajzen and Fishbein (1980). Behavioral beliefs, outcome evaluations, normative beliefs and motivation to comply were based on the set of salient beliefs and referents identified in the second pilot study. Definitions of the different measures were matched, according to the definitions of the two behaviors in the first pilot study. This, to ensure correspondence in the measures' level of specificity of the action, target, context, and time elements (Ajzen & Fishbein, 1980; Ajzen 1996), in order to be valid predictors.

Most of the questions consisted of a 7-point rating scale with 'likely' and 'unlikely' on the two extremes, rating from *extremely likely* (-3), *quite likely* (-2), *slightly likely* (-1), *neither likely nor unlikely* (0), to *extremely unlikely*

(3). The respondents did not see the values in parentheses, which were used for statistical processing only.

Respondents were asked to make a check mark in the place that best reflected the (perceived) likelihood of each statement. The 3 questions concerning direct attitude consisted of a similar 7-point rating scale with respectively 'good-bad', 'wise-foolish', and 'beneficial-harmful' on the two extremes. Questions concerning outcome evaluations also consisted of a 7-point rating scale with 'good-bad' on the two extremes. In these cases respondents were asked to make a check mark in the place that best reflected their evaluation of the concerning statement.

Respondents were asked to indicate their **intentions** by marking the likelihood of their intention to perform the behavior, with respect to the concerning behavior. For instance, for 'travel', they were asked to mark the likeliness of the statement: 'I intend to leave for a vacation abroad until 31.10.00'.

Then, respondents were asked to indicate their direct **attitude** toward the behavior by their evaluation of three different statements. For instance, for 'travel', they were asked to mark their evaluation of the statement 'Leaving for a vacation abroad until 31.10.00 is good-bad (wise-foolish, beneficial-harmful)'.

Outcome evaluations were assessed by the respondents' evaluation of each outcome. In the 'travel'-questionnaire, for instance, respondents evaluated the statement 'Fun is a good-bad thing'. Further, respondents were asked to indicate all other measures by marking the likelihood of each statement. For instance, in the 'travel' questionnaire the to the example of outcome evaluations belonging **behavioral belief** was assessed by 'Leaving for a vacation abroad until 31.10.00 will be fun'.

Then, respondents were asked to mark their direct **subjective norm**. The 'travel'-questionnaire assessed it by the statement: 'Most people who are important to me think I should leave for a vacation abroad until 31.10.00'.

Accordingly, for 'study' the statement was: 'Most people who are important to me think I should accomplish all required assignments of my BA degree until 31.08.00'.

Normative beliefs were assessed accordingly for each relevant referent. An example in the 'travel' questionnaire was: 'My partner thinks I should accomplish all required assignments of my BA degree until 31.08.00'.

Finally, the concerning **motivation to comply** for each of the normative beliefs was assessed. In the example of the partner as referent, the concerning motivation to comply appeared as follows: ‘Generally speaking, I want to do what my partner thinks I should do’.

The **Bezalel** sample received questionnaires with a different *date* concerning ‘study’ (July 31st in stead of August 31st for the different faculties). Although this may have led to a bias because of different time perspectives, we wanted to stay as close as possible to the sample’s reality, which is July, not August.

Section 3: Standard demographic items

Finally, the respondents were asked to list three standard demographic items; main study subject, sex, and birth year.

Appendix A shows an example of the two versions of the questionnaire.

3.3.3 Procedure

We approached the students during the last two weeks before the end of the 1999-2000 study year, at coffee bars of the different faculties and the Bezalel School of Art. The respondents received a free coffee and cake reward for completing a questionnaire, on spot.

A student who showed interest in filling out a questionnaire and assted to be a last-year student², randomly received either a study- or travel questionnaire. Besides the written introductory instructions at the different sections, the students did not receive any instruction. They were allowed to fill out the questionnaire on their own speed. Responses were anonymous.

² Only last-year students were able to fill out the study-questionnaire, asking about the students’ intention to finish his studies until the end of August (for Bezalel-students until the end of July). Therefore we decided to sample only last-year BA students.

4. Results

4.1 Descriptive statistics and internal reliability

Descriptive statistics tests showed that all variables had valid means, standard deviations, variations and normal deviations.

Internal reliability of intention antecedents

Table 12 contains internal reliabilities per behavior domain for the different measures of attitude and subjective norm. Note 'a' (table 12) defines the different measures of the intention antecedents. Chronbach's internal reliability tests showed that the most reliable measure of attitude, for both 'travel' and 'study', was *direct attitude* ($\alpha=.79$ and $\alpha=.70$ respectively).

For both 'travel' and 'study' *direct subjective norm* and *direct averaged subjective norm* ($\alpha=.87$ for both) appeared to be the most reliable measures of subjective norm. To improve internal reliabilities, we did not include behavioral beliefs and outcome evaluations concerning 'time at work' (travel) and 'stress' (study) in the correlation analyses of indirect attitude.

Similarly, we did not include normative beliefs concerning the referents 'employee' (travel) and 'university staff' (study) in correlation analyses. The 'employee' referent was not included, because of improvement in internal reliability (see also second pilot study). Besides that, population size increased ($N = 62$), adding the missing values of students without a job. The 'university staff' referent was not included, because of improvement in internal reliability. In further analyses we used these measures of direct attitude and direct averaged subjective norms.

Indirect subjective norms appeared not to be related to subjective norm and intention, for both 'travel' and 'study'. This meant, that motivation to comply was not a reliable variable among the current population and was not included in statistical analyses (see table 12).

We will refer to direct attitudes as 'attitude', to direct subjective norm as 'sjn' and to direct averaged subjective norm as 'avSjn'.

Table 12
Internal reliabilities
and correlations per behavior domain
for different intention antecedents

DETERMINANT OF INTENTION a	BEHAVIOR DOMAIN			
	PROMOTION TRAVEL		PREVENTION STUDY	
ATTITUDE	r (Int)	α	r (Int)	α
Direct attitude	0.48**	0.79	0.38**	0.70
Indirect attitude b	0.33**	0.65	0.32*	0.54
SUBJECTIVE NORM	r (Int)	α	r (Int)	α
Direct subjective norm	0.37**	---	0.51* *	---
Direct averaged subjective norm c	0.44**	0.87	0.54**	0.87
Indirect subjective norm	0.01	---	-0.02	---
Indirect averaged subjective norm	0.15	---	-0.06	---

Note a: *Direct attitude* = mean of the evaluations of the 3 different scales ‘good-bad’, ‘wise-foolish’, ‘beneficial-harmful’.

Indirect attitude = mean of (all behavioral beliefs x all outcome evaluations).

Direct subjective norm = normative belief concerning ‘important people’, without motivation to comply.

Direct averaged subjective norm = mean of all normative beliefs, without motivation to comply.

Indirect subjective norm = direct subjective norm x direct motivation to comply (‘important people’ referent only).

Indirect averaged subjective norm = mean of (normative beliefs conc. all referents x belonging motivations to comply).

Note b: Behavioral beliefs and outcome evaluations concerning ‘time at work’ (travel) and ‘stress’ (study) were not included in the correlation analyses of indirect attitude.

Note c: Normative beliefs concerning the referents ‘employee’ (travel) and ‘university staff’ (study) were not included in correlation analyses.

* p<.05

** p<.001

Internal reliability and correlations of promotion and prevention behavior domains

According to Schwartz (1992), value types were measured by calculating the means of the concerning values.

Higher-order value types (change and conservation) consisted of the means of the concerning value types (see also chapter 2.4.2).

Because of a positive correlation between change and conservation, we suspected the existence of a respondents' bias of extreme responses for the value questionnaire. We corrected the change- and conservation values for the bias per respondent, by diminishing the mean of the total values from the means of change- and conservation measures. As table 13 shows, the correlation between change and conservation appeared negative now ($r = -.052$).

Chronbach's internal reliability test showed that the value types stimulation and self-direction were internally reliable measures of the behavior- domain promotion (i.e. 'travel' or 'change'; $\alpha = .37$). The value types security, conformity, and tradition appeared to be reliable measures of the prevention domain (i.e. 'study' or 'conservation'; $\alpha = .34$). In computing the indexes for value types, we did not include some of the values. These values were not found to have cross-culturally consistent meanings for individuals (see Schwartz & Bilsky, 1990; Schwartz & Sagiv, 1995) and / or they did not increase the value types' internal reliability for the current population. These values are shown in brackets in table 3 (chapter 2.4.2).

The main analyses involved the testing of the three hypotheses (see chapter 2.6), based on the most reliable measures of the different variables.

Table 13
Intercorrelations
of individual value preferences-determinants (change, conservation)
and individual value preferences

TOTAL POPULATION (N=192)			
	Change	conservation	ID
conservation	- 0.52***	---	- 0.84***
ID	0.91***	- 0.84***	---
STUDY (N=95)			
	change	conservation	ID
conservation	- 0.51***	---	- 0.84***
ID	0.70***	-0.84***	---
TRAVEL (N=97)			
	change	conservation	ID
conservation	- 0.54***	---	- 0.83***
ID	0.92***	- 0.83***	---

Note: *ID* = individual differences, or individual value preferences = (change - conservation).
Change = value-type 'change'.
Conservation = value-type 'conservation'. *** $p < .01$

4.2 H1: Interactions between intention antecedents and behavior domain

The first hypothesis concerned the interaction between intention (antecedents) and behavior domain. Regression analyses and general linear models for unbalanced designs showed, that none of the hypothesized interactions was significant (table 14).

Table 12 contains the concerning correlations with intention, per behavior domain. The correlations seemed to prove some support for the hypothesis, although marginal. As expected, the attitude weight was higher in the promotion domain ($r = 0.48$) than in the prevention domain ($r = 0.38$). Similarly, the subjective norm weight was higher in the prevention domain, for the reliable measures ($r = 0.51$ or $r = 0.54$) than in the promotion domain ($r = 0.37$ or $r = 0.43$).

Table 14
H1: intention antecedents (attitude, sjn, avSjn)
and behavior domain (domain) as predictors of intention

N=192	FIII SS	FI SS	T
Attitude	14.12****	52.24****	3.76****
Domain	0.41	1.03	- 0.64
Attitude X Domain	0.04	0.04	0.21
<hr/>			
N= 192			
Sjn	24.56****	47.50****	4.96****
Domain	1.34	2.18	- 1.16
Sjn X Domain	0.16	0.26	- 0.39
<hr/>			
N= 192			
avSjn	29.65****	64.31****	5.45****
Domain	1.45	1.32	- 1.21
avSjn X Domain	0.14	0.14	0.38

Note a: *Attitude* = direct attitude.

Sjn = direct subjective norm.

avSjn = direct averaged subjective norm.

Domain = Behavior domain, 'travel' (promotion) or 'study' (prevention).

Note b: *FIISS*= F-test of sum of squares.

FISS = F-test of sum of squares for each variable as entered one at a time.

* $p < .10$

** $p < .05$

*** $p < .001$

4.3 H2: Interactions between intention antecedents and individual value differences

Regression- and GLM procedures tested the second hypothesis, concerning the interaction between intention (antecedents) and individual value differences. According to the median split of the individual differences measure ID (change-conservation; med = 0.90), we divided the respondents into change-directed persons ('changeID'; > 0.90) and conservation-directed persons ('conservationID'; <0.99).

Table 15 contains the concerning findings, which provided no support for the hypothesis. The attitude-ID interaction was significant at the $p < .10$ level only ($T = -1.66$). However, the GLM-analysis did not prove the concerning F-value to be significant. The subjective norm-ID interaction was not significant for both procedures.

Table 16 contains the correlations of the two intention antecedents with intention for the two individual value preferences, change and conservation. The correlation of the attitude of promotion-directed individuals ($r = .50$) seemed similar to this of prevention -directed individuals ($r = 0.44$). For both measures of subjective norm there was no difference between promotion-directed individuals and prevention-directed individuals ($r = .44$ versus $r = .47$ for *sjn*; $r = .50$ versus $r = .51$ for *avSjn*).

Table 16
Correlations between intention antecedents (attitude, *sjn*) and intention for the two individual value preferences (change, conservation)

	ChangeID N=96	ConservationID N = 96
Attitude	0.50***	0.44***
Sjn	0.44***	0.47***
avSjn	0.50***	0.51***

Note: *Attitude* = direct attitude
Sjn = direct subjective
ChangeID = change-directed individuals
ConservationID = conservation-directed individuals
 *** $p < .001$

Table 15
H2: intention antecedents (Attitude, Sjn, avSjn)
and individual value preferences (ID) as predictors of intention

		FIII SS	FI SS	T
N=192	Intercep	---	---	- 3.20**
	Attitude	34.31***	54.25***	5.86***
	ID	6.30**	5.59**	2.51*
	Attitude X ID	2.74	2.74	- 1.66*
N=192	Intercep	---	---	2.61**
	Sjn	35.58***	47.97***	5.97***
	ID	3.65*	2.86*	1.91
	Sjn X ID	1.36	1.36	- 1.17
N=192	Intercep	---	---	2.73**
	avSjn	41.04***	65.13***	6.41***
	ID	3.84*	3.51*	1.96*
	avSjn X ID	0.36	0.36	- 0.60

Note a: *Attitude* = direct attitude
Sjn = direct subjective norm
avSjn = direct averaged subjective norm
ID = individual differences, or individual value preferences = (change- conservation)
 *p<.10
 **p<.05
 ***p<.001

4.4 H3: Interactions between intention antecedents, behavior domain, and individual value differences

GLM- and regression analyses tested the third hypothesis, concerning the interaction between behavior domain and individual value differences, and intention (antecedents). Table 17 contains the concerning findings. The findings provided no support for the hypothesis. Multiple regressions for both attitude and subjective norm with behavior domain and individual value differences were not significant.

Table 18 contains correlation analyses of attitude and subjective norm with intention, for the two individual value preferences (change and conservation). It contains the correlations per behavior domain (travel, study) and for the whole population. According to the hypothesis, the correlation of attitude of promotion-directed individuals in the promotion domain ‘travel’ ($r = .63$) was higher than the correlation of prevention -directed individuals ($r = .32$). However, opposed to the hypothesis, also the concerning subjective norm’s correlation was higher ($r = .53$ and $r = .40$, respectively), though slightly.

Table 17
H3: intention antecedents (attitude, sjn, avSjn),
behavior domain ('travel', 'study') and
individual value differences ('changeID', 'ConservationID')
as predictors of intention

N=192	F	F	T
	typeIII SS	typeI SS	
Intercep	---	---	- 1.73*
Attitude	14.96***	54.02***	3.67***
ID	3.43*	5.57**	1.65*
Attitude X ID	3.03*	2.73	- 1.74*
Domain	0.01	0.54	0.11
Attitude X Domain	0.55	0.00	- 0.74
ID X Domain	0.15	1.62	- 0.38
Attitu. X ID X Domain	1.03	1.03	1.02

N=192	F	F	T
	typeIII SS	typeI SS	
Intercep	--	--	2.11**
avSjn	20.43***	48.08***	4.52***
ID	1.02	2.87	1.01
avSjn X ID	2.13	1.37	- 1.46
Domain	1.04	1.78	- 1.02
avSjn X Domain	1.71	0.52	- 1.31
ID X Domain	0.35	0.81	0.59
avSjn X ID X Domain	1.30	1.30	1.14

N=192	F	F	T
	typeIII SS	typeI SS	
Intercep	--	--	2.91**
avSjn	20.64***	65.12***	4.54***
ID	0.23	3.51*	0.48
avSjn X ID	0.56	0.36	- 0.75
Domain	2.74*	1.17	- 1.65*
avSjn X Domain	0.15	0.06	- 0.38
ID X Domain	1.52	2.03	1.23
avSjn X ID X Domain	0.71	0.71	0.85

Note a: *Attitude* = direct attitude
Sjn = direct subjective norm
avSjn = indirect averaged subjective norm
ID = individual differences, or individual value preferences = (change- conservation)
Domain = behavior domain (travel, study)
 *p<.10
 **p<.05
 ***p<.001

According to the hypothesis, the correlation of the subjective norm of prevention-directed individuals in the prevention domain 'study' ($r = .61$) was higher than the correlation of promotion -directed individuals ($r = .47$). However, opposed to the hypothesis, also the concerning attitude's correlation was higher ($r = .53$ and $r = .25$, respectively).

For the whole population the correlation of attitude of promotion-directed individuals ($r = .50$) seemed, according to the hypothesis, higher than the correlation of prevention -directed individuals ($r = .44$). This difference, however, was very slightly and according to the procedures, not significant. The correlations of the subjective norms of individuals with different value preferences did not differ.

Table 18
Correlations between
intention antecedents (attitude, subjective norm)
and intention for the two individual value preferences (change, conservation)
per behavior domain (travel, study)
and for the whole population

TRAVEL (N=97)		
	Change N=44	Conservation N=53
Attitude	0.63***	0.32**
Sjn	0.45**	0.30**
avSjn	0.53***	0.40**
STUDY (N=95)		
	Change N=52	Conservation N=43
Attitude	0.25	0.53***
Sjn	0.41**	0.62***
avSjn	0.47***	0.61***
whole population (N=192)		
	Change N=96	Conservation N=96
Attitude	0.50***	0.44***
Sjn	0.44***	0.47***
avSjn	0.50***	0.51***

Note a: *Attitude* = direct attitude
Sjn = direct subjective norm
avSjn = direct averaged subjective norm
ChangeID = change-directed individuals
ConservationID = conservation directed individuals.

* $p < .01$
** $p < .05$
*** $p < .001$

5. Discussion

Throughout the years Fishbein and Ajzen's (1975; Ajzen & Fishbein, 1980) theory of reasoned action has been validated and applied in understanding and predicting human behavior. However, our review suggests, it is necessary to deeper understand variances in the relative weight of attitudes and subjective norms as determinants of behavioral intention. Past research has proposed two factors, which may affect the relative weight: behavior domain and individual differences. Our expectation was, that the in intrapersonal motivation theory distinguished promotion-prevention dichotomy (Higgins, 1997, 1998; Ronen, 1994; Schwartz & Bilsky, 1987, 1990) will be appropriate to define and manipulate the two moderators, behavior domain and individual differences.

Behavior domain

However, our results did not show a significant interaction between behavior domain and intention (antecedents). This could be due to definitions of the parameter 'travel' as a primarily promotion-directed behavior and the parameter 'study' as a primarily preservation-directed behavior. Although the first pilot study defined travel as being a promotion-behavior for the current student population, this does not mean that travel could not include preservation elements, and vice versa.

Travel

Previous research on international pleasure travel motivation has yield inconsistent results. Figler, Weinstein, Sollers III and Devan (1992) uncovered five motivational factors, which are partly promotion- and partly prevention directed, or may be both; anomie / authenticity seeking, culture / education, escape / regression, wanderlust / exploring the unknown, and jetsetting / prestige-seeking. Similarly, Fisher and Price (1991) summarized motives from previous research, which may be either promotion or prevention directed, or both; education, escape, coping, kinship, social adventure. Fontaine (1994) differs between presence seeking and sensation seeking as two important motives for international travel. These motives seem to be primarily promotion directed. Fisher and Price (1991) identify the need to develop more complete models of travel motivations. The significant correlations of intention and its antecedents in the present study (table 12) show, that further research in the context of the theory of reasoned action, whether or not in combination with promotion-prevention, could help in this development.

Study

Previous research in the field of study motivation has concentrated mainly on student attrition, not on study completion. Research close to study completion, however, is this on student persistence. Bank, Biddle and Slavings (1992) found three persistence motives in previous research: academic potential (ability and achievements), social influences, and personal and social expectations (hopes). These factors seem similar to the in the theory of planned behavior distinguished perceived behavioral control, social norms and attitudes. In Bank et al's study, expectancies more weakly predicted persistence than did self-labels (of academic potential) and norms, which points at a stronger prevention orientation. Motives found in attrition literature differ from personal considerations (e.g. financial, family or personal problems; Payne, Pullen & Padgett, 1996; Dunwoody & Frank, 1995), course considerations (Dunwoody & Frank, 1995), to investment variables (Hatcher, Krytzer, Prus, & Fitzgerald, 1992), which seem to emphasize promotion more than prevention. Thus, research has not provided a consistent motivational framework and, at least as far as we know, has not included the promotion-prevention dichotomy as possible predictor. Bank et al (1992) point at the growing emphasis on students' thoughts and opinions, including their perceptions of social influences, in research on study persistence. Seen the significant correlations of intention with its antecedents (table 12), further research in the context of the theory of reasoned action, whether or not in combination with promotion-prevention, could help conceptualize the area of study persistence.

Similarly, the in the second pilot study elicited behavioral beliefs, could be checked for promotion- and prevention emphasis. For instance, the 'travel' behavioral beliefs 'rest' and 'cultural experience' could be either promotion or prevention, depending on the individual relating to them. An individual may intend to rest in order to prevent himself from overwork or diseases, whereas another individual may intend to rest in order to promote the feeling or understanding of the self. The same considerations may be relevant to the for 'study' elicited behavioral beliefs. Here, some of the elicited beliefs seem to be more promotion- than prevention directed; 'promotion at work' and 'freedom', for instance.

Crossover effects

Furthermore, behavior domain was significantly correlated with attitude ($r = -.24, p = .0008$) and subjective norm (direct $r = -.18, p = .0124$ and direct averaged $r = -.21, p = .0039$). These correlations could have reduced the power to detect an interaction effect.

Individual differences

Similarly, our results did not show a significant interaction between individual differences and intention (antecedents). This could be due to the definition of the parameter 'individual differences' by Schwartz & Bilsky's (1987, 1990) individual value preferences. Individual value differences measure the variability of a person's *general* value preferences. However, the intentions and intention antecedents we measured were related to *specific* behaviors. Fishbein and Ajzen (1975; Ajzen & Fishbein, 1980) suggest, that global attitudes are poor predictors of specific behaviors. Linking this suggesting to value preferences, general value preferences may be poor predictors of specific intentions and specific intention antecedents. For instance, an individual who in general bears promotion- or change directed value preferences, could intend to finish his studies in order to prevent not receiving promotion at work, or in order to prevent problems with his girlfriend, who wants him to have a degree. Similarly, an individual who in general bears prevention- or conservation directed value preferences, could intend to leave for a vacation abroad because, for instance, he wants to promote his relationship, or his general knowledge. In contrast, Schwartz (1994) argues that individual values can be good explanators of differences between individual persons in beliefs, attitudes, or behavior (see chapter 2.4.2). Future research combining the two theories could clarify this question and may explain why the present study did not show significant interactions.

The theory of reasoned action

Ajzen (1991) extended the theory of reasoned action by adding perceived behavioral control as a predictor of behavior. Perceived behavior control expresses the perceived ease or difficulty of performing the behavior in question; peoples' confidence in their ability to perform it. It is not a motivational factor, but it expresses perceived ability. Perceived behavioral control is particularly relevant to situations where volitional control over behavior might be uncertain. Examples of this non-motivational factor are the availability of requisite opportunities and resources, such as time, money, skills, and cooperation of others. This seems to be important for the two behaviors

we investigated, 'travel' and 'study', which may not be totally controllable. In the case of 'travel', for example, only if a student will have enough money and time to leave for a vacation abroad, he will perceive to be able to act accordingly. In the 'study' domain examples of perceived obstacles may be grades, time or cooperation of study mates. Because we are unaware of the existence of previous research on 'travel' and 'study' in the context of the theory of reasoned action or the theory of planned behavior, this assertion is mainly based on common-sense. Seen our study purposes, we were only interested in the motivational factors attitude and subjective norm, and their relative weight. We have therefore not included perceived behavioral control in our study. However, this assumption seems unrealistic. Therefore, interaction effects of perceived behavioral control with intention and its antecedents may have influenced our findings (Ajzen, 1991).

Additional factors

Our inability to demonstrate the predicted moderating effect of behavior domain and individual differences may be due to other considerations:

Sample

Of course, it is important to keep in mind, that the sample used in the present study belongs to a student population at the Hebrew University of Jerusalem, which bears its own, specific characteristics. Our findings are therefore not generalizable to other populations. It may be that future studies, using samples from other populations, will provide different findings.

Furthermore, previous studies that revealed significant interactions between the two proposed moderators and intention antecedents (see Ajzen & Fishbein, 1980; Ellis and Arieli, 1999) have used considerably larger samples than ours. This suggests, that the present study may have lacked sufficient statistical power.

Time bias

Furthermore, for the present sample, time bias may have influenced the findings. First of all, 'travel' may momentary not have been a highly salient issue during the stressful study period, in which the students responded. Because of the same circumstances, respondents may have lost sight of their real reasons for 'study' intentions. They may have been confused between finishing studies and working on assignments, which is not the same. Probably for the same reason, the behavioral belief 'stress' for 'study' showed a low internal reliability, and was not included in statistical analyses.

Secondly, the earlier 'study' deadline for Bezelel (31.7.00 versus 31.08.00) and the fact that Bezelel studies are four years, not three like at faculties, may have led to a potential bias.

Third, we checked 'travel' for the longer-term (31.10.00) and 'study' for the shorter-term (31.07 / 31.08.00). Thus, because we preferred to stay as close as possible to the respondents' realities, we introduced another variable which may have increased the noise, relatively to the signals we needed. Differences in time perspectives may also have affected them. We suggest, if possible, not to include time bias in future studies.

Second dichotomy

As we described in chapter 3.1, we have left aside the second conflict distinguished in motivation theory; the power-benevolence dichotomy (Ronen, 1994; Schwartz & Bilsky, 1987, 1990). We did this by choosing behaviors, which were both primarily 'power' directed, not or less 'benevolence' directed. The assumption to leave the second dichotomy aside, as a neutral, unaffacting variable may have been a possible limitation of our research. First of all, the second dichotomy may further explain variances in the weight of attitudes and subjective norms. Furthermore, the assumption that 'travel' and 'study' are power directed could be (partly) wrong.

Future study may help to find ways to reliably define behavior domain according to the two dichotomies and linking the two to the theory of reasoned action.

Conclusion

Future research on variances in the weight of attitudes and subjective norms as determinants of behavioral intention is necessary. Specifically, research should further clarify the role of behavior domain and individual differences as possible moderators.

Lacking similar studies to compare with, our findings are somewhat difficult to interpret. . Future study is necessary to clarify possible relations between different motivation theories. For now, it is not clear if our unexpected findings mean that the behavior domain and individual differences-intention (antecedents) relationship did not exist, if the promotion-prevention dichotomy as a measure of behavior domain was inappropriate, or if other factors may have mediated. Nevertheless, we remain open to the possibility that more comprehensive measures of behavior domain and adjustments of the individual preference measure, administered to a larger sample, might reveal the hypothesized interactions. Additional research, possibly using different examples of promotion- and prevention directed behaviors among students, among other populations and bigger samples will therefore be necessary.

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Appendix A: Questionnaires

תקציר

במסגרת הרחבה של תיאוריית המוטיבציה הבין-אישית, מטרת העבודה היא להעמיק ולהרחיב את הבנת הבעייתיות במחקר האמפירי של תיאוריית הפעולה המנומקת (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980). בפרט, העבודה מנסה לספק הסבר טוב יותר לתנודות המתרחשות במשקל היחסי של עמדות ונורמות סובייקטיביות, כגורמים לכוונות התנהגותיות. אנו מנסים לעשות זאת על ידי הבהרת משמעות תפקיד המרחב התנהגותי והשוני האישי, כגורמים מתווכים של המשקל היחסי. שני מתווכים אלו הופעלו לפי הדיכטומיה "קידום-מניעה" שבתיאוריית המוטיבציה (Higgins, 1997, 1998; Ronen, 1994; Schwartz & Bilsky, 1987, 1990). אנו מציעים להתייחס אל עמדות כמקדמות כוונות בעלות אוריינטציה של קידום בעיקרן, ואל נורמות סובייקטיביות כמקדמות כוונות בעלות אוריינטציה של מניעה בעיקרן. בהתאמה, אנו מניחים כי המשקל היחסי של מקדמי כוונות יתווכו על ידי המרחב ההתנהגותי הרלוונטי (התנהגות בעלת אוריינטציה של קידום לעומת התנהגות בעלת אוריינטציה של מניעה). בנוסף, אנו סוברים כי המשקל היחסי יתווך גם על ידי העדפות ערכיות פרטיות (אנשים בעלי ערכים של קידום לעומת אנשים בעלי ערכי מניעה). לבסוף, אנו מניחים קיומה של השפעת אינטראקציה של שני המתווכים על מקדמי הכוונה. לא נמצא ביסוס לאף אחת מההנחות.

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כגורמים מכריעים לכוונה התנהגותית:
דיכוטומית הקידום-מניעה כמדד של
ואישיים מתווכים התנהגותיים

תזה הוגשה לבית הספר למנהל עסקים
מילוי חלקי של חובות התואר השני
באוניברסיטה העברית בירושלים

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