

Chapter #14

PREDICTING AND CHANGING BEHAVIOR: THE SOCIAL PSYCHOLOGY PERSPECTIVE

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ABSTRACT

The issue of the relations of attitudes to behavior has been of central importance in social psychology. The frequent failure of studies to prove the expected relations of attitudes to behaviors has prompted several major theoretical attempts to explain the failure and to create conditions under which attitudes would prove to be related to behaviors. These attempts finally culminated in several models explicating the relations of cognitive contents to behaviors. The major shortcomings of these models were their emphasis on rational decision making as the basis for the emergence of behavior and reliance on self-reports of behavior rather than actual behaviors. These shortcomings are overcome in the described model of cognitive orientation which is a general cognitive-motivational approach to understanding, predicting and changing behaviors. Its major assumption is that behavior is a function of a motivational disposition, based on beliefs of four types (about oneself, about others and reality, about norms and about goals) referring to themes relevant for the behavior in question, and of a behavioral program. The procedures of predicting behavior and changing behavior are described and illustrated.

Keywords: attitudes, Behavior prediction, Behavior change, Cognitive orientation.

1. INTRODUCTION

Predicting behavior is an issue of paramount importance for many disciplines and domains, inside and outside social psychology, including marketing, education, persuasion, opinion polls, political science, health and social policy. These and similar and affiliated professions are interested in predicting and changing behavior. This theme is of great theoretical and practical importance. However, very often one learns about failures in regard to behavior prediction and change. Common examples are expectations that fail to materialize in predicting opinion polls, health behavior in regard to losing weight or physical exercise, and behavior of children at school.

1.1. Attitudes and Behavior

Failure of behavior predictions constitutes a problem mainly because it sets in doubt major assumptions shared by many ideologies, religions and social systems that if individuals get the right kind of information and instruction they will behave accordingly. If they don't do so, then either we must change our assumptions or improve our training. Not surprisingly it is the later course that is mostly preferred. This issue has been studied extensively in social psychology under the heading of attitudes and behavior.

The problem surfaced very early with the findings of studies which showed that racist attitudes were not necessarily related to racist behaviors (LaPierre, 1934) or that honesty attitudes were often related to deceptive behaviors (Corey, 1937). Negative results of this kind led to considerations concerning the construct of attitude. Some (Wicker, 1971) suggested to abandon it altogether, others (McGuire, 1969) suggested playing down the connection between attitudes and behavior at the expense of emphasizing the evaluative component. Still others initiated a series of attempts to overcome the disturbing inconsistency by defining conditions under which attitudes could be shown to be related to behavior. Some of the better known suggestions were to control the time interval between assessment of attitudes and of behaviors (Davidson & Jaccard, 1979); to base attitudes on direct experience (Fazio & Zanna, 1978); and to select participants low in self-monitoring (Snyder & Monson, 1975).

The study of the relation of attitudes and behavior gave rise to the issue of the cognitive motivational guidance of behavior. This important development was attended first, by a growing awareness of the motivational role of cognition, as promoted by the distinction drawn between cognitive and motivational information processing (Kuhl, 1986), and the principle of conscious experience as basic for a theory of motivation (Weiner, 1980). And second, by an increased interest in clarifying the social and motivational role of concepts, such as the self (Higgins, 1987), goals (Emmons, 1989), values (reflecting social demands) (Feather, 1988), expectancy (Rotter, 1966) as well as different concepts relating to representations of the environment, such as causal schemata (Kelley, 1972), attributions (Weiner, 1980, pp. 327-406) and personal constructs (Kelly, 1955). Constructs of this kind turned out to be soon incorporated in models binding cognitions to behavior.

One of the earliest models focused on achievement motivation (Atkinson & Feather, 1966). It described the tendency to achieve as the function of the achievement motive, the expectancy in regard to performance results, and the value of success at that task. Carver & Scheier (1990) added to these the concept of goals, by describing behavior as moving towards goals by an internal self-regulation system clarifying the available behavioral options.

A more elaborate model was proffered by Gollwitzer (1993) who described the process from the predecisional phase, through decision making, action initiation, and goal achievement down to the post-actional phase of evaluating the outcomes. Similarly, the theory of reasoned action or planned behavior (Ajzen, 1985) deals with the relations of attitudes and behavior. Its major tenet is that intentions cause behaviors, whereby intentions are shaped by attitudes, norms and perceived control and reflect as well additional personality and demographic variables. This theory has been applied in a wide variety of domains, such as dieting, physical training, ecological behavior and entrepreneurship (e.g., Marcoux & Shope, 1997).

Some of the better known models of attitudes have been developed in regard to health behaviors. One of the best known is the health belief model (e.g., Becker, 1974) which assumes that behavior is the function of attitudes in regard to benefits, barriers and efficacy of the behavior, and the perceived threat of the situation., complemented by demographic, situational and personality variables, added on an ad hoc basis. Similarly, the subjective expected utility theory (e.g. Ronis, 1992) assumes motivation for behavior to be based on attitudes based on detailed calculation of probability estimates and severity judgments in regard to particular health outcomes, precautions, current behaviors as well as perceived costs and barriers to action.

1.2. Some Critical Remarks of the Attitude-Behavior Models

Most of the models describing the motivational role of attitudes in regard to behavior are based on the value-expectancy assumption according to which individuals will take action when they think that the behavior leads to an outcome they value and that this outcome can be attained. The underlying conception is that humans are "reasonable animals" who prior to taking action systematically process and utilize the available information, weighing carefully the expected benefits and costs of the behavior (Fishbein & Middlestadt, 1989). However, the fact that human beings could be reasonable and could utilize available information is not sufficient basis for assuming that these characteristics are major components of human motivation. A large body of research shows that people hardly ever behave according to the information they get about what is best for them (e.g. Stevens, Hatcher & Bruce, 1994).

Further, most of the models assume that behavior elicitation is due to a person's deliberate decision. Again, the fact that individuals are able to make decisions should not mislead us into assuming that most behaviors are grounded in decisions. Indeed, very few are and these are often based on unreasonable considerations (Kahneman, Slovic & Tversky, 1982) and do not represent the best alternative in terms of costs and benefits (Baron, 1994). Again, many of the models assume implicitly that cognitive motivation is conscious. Since most cognitive processes occur without consciousness, it is not justified to assume that precisely those involved in motivation would be conscious.

Further, this assumption introduces the expectation of volitional control over behavior, which has no empirical basis. Additionally, most of the models do not deal with predicting or changing actual behavior. Instead, they replace behavior either with self-reports of behavior or with intentions for behavior, both of which were shown not to be identical with actual behavior (e.g., Heckhausen & Kuhl, 1985).

1.3. Cognitive Orientation: the Theory

Cognitive orientation (CO) (Kreitler, 2004; Kreitler & Kreitler, 1976, 1982) is a cognitively-based theory of motivation that represents an attempt to deal differently with some of the mentioned shortcomings of the other models. The CO provides an account of major processes intervening between input and output designed to enable understanding, predicting and changing behavior. It shares with the other cognitive models the basic assumption that cognitive contents, viz. attitudes, beliefs, and meanings guide behavior. But it does not assume that behavior is guided by logical decision-making, or is subject to conscious voluntary control, but rather that behavior proceeds from meanings and clustered beliefs. The beliefs may represent rational or irrational contents, and the outcome may seem rational or not regardless of the beliefs that oriented toward it. Further, the theory focuses on actual, observable overt behaviors as distinct from intentions, self-reported behaviors and commitments or decisions to act.

The CO theory consists of a central core model that refers to molar observable behavior but includes also further specific models that deal with physical health, emotional behavior, cognitive behavior and psychopathology. In the present context only the core model will be presented.

The major theoretical assumption of the CO approach is that cognitive contents and processes play an active-dynamic role in regard to behaviors. Behavior is considered a function of a motivational disposition, which determines the directionality of behavior, and a performance program, which determines the manner in which the behavior is carried out.

The processes intervening between input and output can be described in terms of four stages, each of which is characterized by metaphorical questions and answers.

The first stage is initiated by an external or internal input and is focused on the question “What is it?” which guides the processes involved in identifying the input by means of a limited ‘initial meaning’ as a signal either for a defensive, adaptive or conditioned response, a molar action, an orienting response, or as irrelevant.

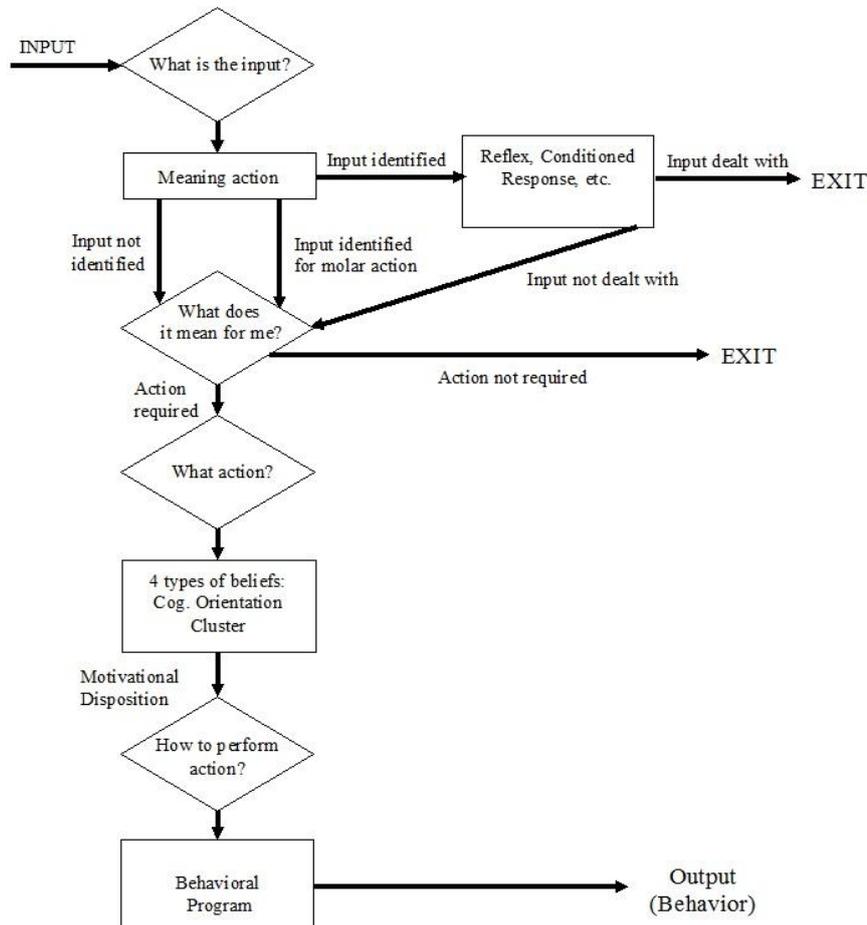
The second stage is initiated by a signal for molar action and focuses on the question “What does it mean in general and what does it mean to or for me?” This question evokes an enriched generation of interpersonally-shared and personal meanings in terms of beliefs, designed to determine whether these beliefs orient toward a behavioral action.

If an action is required, the third stage sets in. It is focused on the question “What will I do?” The answer is based on beliefs of the four following types: a) Beliefs about goals, which refer to actions or states desired or undesired by the individual (e.g., ‘I want to be esteemed by others’); b) Beliefs about rules and norms, which refer to social, ethical, esthetic and other rules and standards (e.g., ‘One should be assertive’); c) Beliefs about oneself, which express information about the self, such as one’s traits, behaviors, habits, actions or feelings (e.g., ‘I often get depressed’) and d) General beliefs, which express information about reality, others and the environment (e.g., ‘The world is a dangerous place’). The beliefs refer to deep underlying meanings of the involved inputs rather than their obvious and explicit surface meanings. The scoring of the beliefs is based on assessing the extent to which they support or do not support the indicated action. If the majority of beliefs in at least three belief types support the action, a cluster of beliefs is formed (“CO cluster”), orienting toward a particular act. It gives rise to a unified tendency which represents the motivational disposition orienting toward the performance of the action.

The next stage is focused on the question “How will I do it?” The answer is in the form of a behavioral program, which is a hierarchically structured sequence of instructions specifying the strategy and tactics governing the performance of the act. There are four basic kinds of programs: a) Innately determined programs, e.g., controlling reflexes; b) Programs determined both innately and through learning, e.g., controlling instincts or language behavior; c) Programs acquired through learning, e.g., controlling culturally shaped behaviors and d) Programs constructed ad hoc, in line with relevant contextual requirements.

Meaning is the major concept characterizing the unfolding of the processes culminating in the formation of the motivational disposition manifested in the output. Meaning plays a crucial role in identifying the input, in turning the input into a signal for molar behavior, in elaborating the signal in terms of beliefs expressing underlying meanings so that a CO cluster is formed, and in implementing the resulting motivational disposition by means of a behavioral program (see Figure 1).

Figure 1. A Schematic Flow-Chart of the CO Model



1.4. Cognitive Orientation: the Methodology of Behavior Prediction

A major advantage of the CO theory is that it provides the theoretical and methodological tools for predicting behavior. There is a large body of data demonstrating the predictive power of the CO theory in regard to various behaviors, such as achievement, responses to success and a failure, coming on time, undergoing tests for the early detection of breast cancer, smoking cessation, adherence to treatment, curiosity, ADHD etc. in different kinds of individuals, differing in age (4 to over 90), gender, ethnic background, education and IQ level (i.e., retarded individuals) and mental health (e.g., schizophrenics, paranoids) (Kreitler & Kreitler, 1988, 1997; Kreitler, Schwartz, & Kreitler, 1987). In most studies the prediction enabled correct identification of 70%-85% of the participants manifesting the behavior of interest (Drechsler, Brunner, & Kreitler, 1987; Figer, Kreitler, Kreitler, & Inbar, 2002; Kreitler & Casakin, 2009; Kreitler, Bachar, Cannetti, Berry, & Bonne, 2003; Kreitler & Kreitler, 1991; Kreitler, Shahar & Kreitler, 1976; Kreitler & Yaniv, 2013; Lobel, 1982; Nuryberg, Kreitler, & Weissler, 1996; Tipton & Riebsame, 1987); Westhoff & Halbach-Suarez, 1989. The success of the predictions is based on applying the standardized procedure based on the CO theory (Kreitler, 2004).

The theoretical construct applied for predicting behavior is the motivational disposition. The strength of the motivational disposition for the behavior is assessed by means of a CO questionnaire, which examines the degree to which the participant agrees to relevant beliefs orienting toward the behavior in question. The relevant beliefs are characterized in terms of form and contents. In form, they refer to the four types of beliefs, namely, beliefs about goals (e.g., "I would like to come always on time"), about rules and norms (e.g., "One should try never to be late"), about oneself (e.g., "Sometimes I come late to a lesson or meeting"), and general beliefs (e.g., "Coming late produces a bad impression on others"). In contents, the beliefs refer to the meanings underlying the behavior in question (called "themes").

The themes of a particular CO questionnaire are identified by means of a standard interviewing procedure applied in regard to pretest subjects who manifest the behavior in question and to control subjects who do not manifest it. The procedure consists of interviewing the participants about the meanings of relevant key terms of the behavior followed by sequential (three times) questions about the personal-subjective meanings of the given responses (Kreitler & Kreitler, 1990). Repeating the questions about the meanings reveals deeper-layer meanings. Those meanings that recur in at least 50% of the interviewees with the behavior of interest and in less than 10% of those without it are selected for the final questionnaire. The outcome of this procedure is that the beliefs in a CO questionnaire do not refer directly or indirectly to the behavior in question but only to the themes that represent the underlying meanings of this behavior. Validity of the CO questionnaire is confirmed if it enables the prediction of the behavior also in the second sample. For example, themes that concern coming late are 'respect for others', and 'deciding on priorities'.

The themes and belief types define together a prediction matrix, with the belief types as headings of the columns and the themes in the rows. Thus, a CO questionnaire usually consists of four parts presented together in random order. Each part represents one of the four belief types, and contains beliefs referring to different theme-contents. Participants are requested to check on a 4-point scale the degree to which each belief seems true (or correct) to them. The major variables provided by the CO questionnaire are scores for the four belief types and for each of the themes.

2. PREDICTING BEHAVIORS IN THE DOMAIN OF SOCIAL PSYCHOLOGY

Many of the studies presenting predictions of behaviors using the procedure of the CO theory could be considered as relevant for social psychology. This is not surprising for two reasons. The first is the commonplace argument that individuals are basically social beings, which implies that their behaviors are designed so as to be meaningful in the social context. Prime examples are behaviors such as achievement, or coming on time all of which make sense primarily from the point of view of social interactions and contact. The second reason is that social psychological considerations and constructs are built into the theory and prediction procedure of the CO theory. The major constructs that are used by the CO theory for understanding and predicting behavior are meanings and beliefs (see 3. Beliefs and Meanings).

A large part of socially-meaningful behaviors are focused on the individual. Thus, the social dimension is embedded in the behavior itself. This is the case in regard to behaviors such as achievement or reactions to success and failure which are usually assessed only in terms of the behavior the individual does by himself or herself. The socially-relevant aspect

in the form of the other individual or individuals is represented in the individual's inner world, including one's emotions, motivations and cognitive map. For example, the achievement behavior of an individual may be assessed solely in terms of the individual's performance, regardless of whether one or more other persons are physically present in the experimental situation. Yet, achievement is a construct shaped primarily by social experiences and long-term contact with human beings in a variety of contexts, including schools, family and the media. The social aspect of the behavior is more salient in the case of another large group of socially-meaningful behaviors that are based on involving directly other individuals, for example, behaviors of team work, helping others, creating contact with others, or communicating with others. Behaviors of this kind are often assessed in terms of interactions between the individual and others who may be present in the situation.

The body of data created by the CO theory includes examples of both kinds of studies. From the point of view of the CO theory the two types do not differ in any essential way. In both types of studies actual behavior is assessed, rather than self-reports of behavior or intentions concerning behavior. Again, in both types of studies the prediction of behavior is based on a CO questionnaire that represents beliefs of four types (about oneself, reality, norms and goals) in regard to themes that have been identified as relevant for the assessed behavior. The themes are actually the only important component that differs across the studies.

2.1. Study: Predicting the Initiation of Contacts

In order to illustrate the application of the procedure of predicting behavior in line with the CO approach, one study with preliminary results will be briefly described. It deals with predicting the initiation of contacts with others (Kreitler, 2014). The objectives of the study were to compare the predictive power of three different measures in regard to the behavior of initiating contacts with others: CO Questionnaire of forming relationships, which included 10 items in each of the belief types referring to 10 themes (e.g., trust, self-disclosure, looking for new experiences, not shunning commitments, controlling one's emotions, curiosity) (Azuri, Tabak & Kreitler, 2013); the Affiliative Tendency Scale (Mehrabian, 1994) which is a personality measure of positive manifestations of affiliation (26 items, 9-point scale); and the Social Interaction Anxiety Scale (Mattick & Clarke, 1998) which assesses the negative impact of an emotional barrier like anxiety on social interactions (20 items, 5-point scale). The CO questionnaire has been used previously for predicting successfully the voluntary act of contact formation between the persons donating an organ for transplantation and the recipients (Azuri et al., 2013). The CO questionnaire provided scores for the four belief types. No differentiation was done between the themes since factor analysis showed all formed one factors accounting for 69% of the variance.

The participants (15 students of both genders, mean age 23.2 yrs, $Sd=2.2$) who were invited to participate in a psychological study, were requested first to sit in a waiting room for 10 minutes in the presence of other students whom they did not know. In each group there was one experimental subject and nine non-experimental students who were asked to play a passive role, and were engaged to participate in the 15 groups that were formed for the assessment of initiated communications with others. An experimenter, who was a hidden observer outside that room, noted the number of occasions when the experimental subjects initiated communications with the other students. This provided the data for the dependent variable. The subjects were then invited into the lab and examined on a perception task that was irrelevant in regard to the present study. The questionnaires were administered two months later in the context of an apparently other study.

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The results showed nonsignificant correlations between the number of initiated contacts and the scores on the Affiliative Tendency scale and the Social Interaction Anxiety scale and significant correlations with the four belief types (r ranging .52-.67). Additionally, the subjects who had a high number of initiated contacts (i.e., above the group's mean $M=2.53$, $Sd=1.50$) scored higher than those with fewer contacts on the CO in terms of belief types above the mean (i.e., 3 ($Sd=.89$) versus 1.22 ($Sd=.67$), respectively, $t=4.42$, $p<.05$).

The results of this preliminary study show that the behavior of communicating with unfamiliar others in a waiting-room situation was predicted significantly by the scores of four belief types defined by the CO theory, whereas it was not correlated with two personality measures of affiliation and anxiety of social interaction. These results have two major implications. The first is that the actual behavior of making contact with unfamiliar others is not dependent on personality tendencies, such as affiliation that is expected to have a positive impact, and anxiety of social interaction that is expected to have a negative impact. The second implication is that the behavior in question does depend on a motivational tendency that reflects deeper-lying meanings relevant for making contact with others.

3. CHANGING BEHAVIOR

The CO approach has generated a procedure for changing behaviors. It is based on the basic assumption that changing behavior entails creating the proper conditions for the occurrence of a desired behavior. Thus, if the undesired behavior is aggression on the part of children in a school, then changing this behavior means creating a motivational disposition and a behavioral program supporting some non-aggressive behavior to replace the aggressive one. This procedure has been applied successfully in changing behaviors such as impulsivity (Zakay, Bar El, & Kreitler, 1984), eating disorders like bulimia and anorexia (Kreitler, 2011), and aggressive behavior (Carmel & Kreitler, 2010). Hence, the procedure does not entail weakening an undesirable behavior or its components (i.e., the motivational disposition and the behavioral program supporting it) but creating the conditions for promoting the desirable behavior(s) in the given situations(s).

Forming a motivational disposition for a behavior requires having a valid CO questionnaire for the desired behavior, say, cautious driving. Administering the relevant CO questionnaire to an individual or a group enables producing setting up the prediction matrix which consists of four columns representing the four belief types and rows representing the relevant themes. In this case the matrix shows which beliefs or themes the individual(s) already support and which they do not. In order to strengthen the motivational disposition orienting toward the desired behavior, it is necessary to elicit beliefs of the right

kind. Two further important principles of the procedure of mobilizing support for the right kind of motivational disposition are first, that none of the beliefs that the individuals support is rejected or criticized, they are simply ignored; and second, that the beliefs mobilized for the motivational disposition are only those the individuals themselves provide. The strategies used for this purpose include for example role playing of someone who apparently has the desired beliefs, or asking the individual to convince someone else of the desired beliefs, or more often elaborating the meanings of the beliefs until the required level of support is attained.

The mobilization of supporting beliefs is done with the target of getting at least half of the relevant themes for the behavior in question oriented in the desired direction. Therefore the first themes addressed are those that are supported by more belief types than the others. The goal is to get beliefs of all four belief types supporting each theme in the desired direction. The optimal situation is attained when all the relevant themes are supported by beliefs orienting in the desired direction. In this case the change in behavior is stable, durable and resistant to different obstacles. However, in most cases also cases when only the majority of themes are supported by beliefs in the right direction suffice. The threshold is defined by having half of the themes supported by the beliefs in the right direction. The procedures of mobilizing beliefs for the relevant themes may be applied in regard to individuals in individual sessions, or in group sessions or even in regard to large audiences through the internet.

The behavior in question expected to appear is assessed only at least two weeks after termination of the procedures of mobilizing supporting beliefs. Usually about 65-70% of the subjects who have undergone the change procedures actually manifest the change in behavior. The reason for not getting higher percentages is revealed by checking the responses of the subjects to the relevant CO questionnaire weeks or months later. This kind of follow-up shows that the subjects whose behavior has not changed did not have a strong enough motivational disposition for the behavior in question. Thus, the paradigm of studies of behavior change usually start with two groups, i.e., one undergoing the change procedures (viz. experimental group) and one not undergoing it (viz. control group), but end with three groups, whereby one group includes those subjects of the experimental group who have changed their responses in the right direction, those subjects of the experimental group who did not change their responses and the subjects of the control group who did not change their responses and were not expected to.

4. CONCLUSIONS/DISCUSSION

A major conclusion of the described theory and methodology of the CO approach is that the prediction of behavior is possible. The prediction is made by means of cognitive contents of a special kind. In order to provide a prediction of behavior the contents need to be of a special kind, namely, they need to represent beliefs of the four different kinds and to refer to themes of meanings underlying the behavior in question rather than directly to that behavior. Further, since actual behavior is not identical to self-reported behavior, the cognitive predictors of the latter cannot be the same as of the former. Notably, a careful analysis of the early attitude-behavior studies showed that in cases when the attitude questionnaires included statements referring to at least three of the belief types defined in the framework of the CO theory the predictions of behavior were at least partly significant (Kreitler, 2004).

Moreover, the CO questionnaires provide information about motivational bases of the investigated behavior that may improve both the theoretical models of the behaviors, as

well as be applied for targeted intervention, when necessary. As shown, the CO approach has generated also a methodology for the changing of behavior.

The precise definition of the cognitive contents which enable the prediction of behavior and its change is the major strength of the CO theory. It also defines the limitation of the CO approach: it targets actual behaviors and outputs rather than opinions, evaluations, self-reports of behavior or intentions.

Notably, the major constructs of the CO approach are beliefs and meanings, both of which are grounded in socio-culturally defined contexts and are products of social interactions. These constructs provide the means for the shaping of behaviors that in turn generate further socially meaningful beliefs that contribute to the shaping of the social contexts in which life proceeds and grows.

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