# The Psychology of Non-Kinetic Activities by Military Forces: A Review of Themes, Implications, and Unresolved Issues in the Study of Attitudes, Persuasion, and Social Influence

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# Abstract

The goal of this report is to provide an overview of research on the psychology of attitudes, persuasion, and social influence as it relates to the design, implementation, and evaluation of non-kinetic activities.

However, many important unresolved issues remain. Many of the unresolved issues have clear implications for the application of findings to non-kinetic activities. Some of these issues are unique to specific literatures. Others tend to re-occur across multiple literatures.

The three most significant issues include:

- The role of cultural variables in attitudes, persuasion, and social influence has only recently begun to receive serious attention;

- Many of the techniques and measures that have been discussed within the literature were developed for study primarily within the context of laboratory settings; and,

- While the effects of key variables are sometimes well established, the underlying psychological processes responsible for these effects are not always well understood.

# Résumé

Le présent rapport offre un survol de la recherche sur la psychologie des attitudes, de la persuasion et de l'influence sociale en ce qui a trait plus précisément à la conception, à la mise en œuvre et à l'évaluation des activités non cinétiques.

Dans ce domaine, bon nombre de questions importantes demeurent sans réponse. Plusieurs de celles-ci ont des implications évidentes pour la généralisation des conclusions aux activités non cinétiques. Parmi ces questions, certaines sont propres aux domaines précis des travaux recensés, tandis que d'autres chevauchent de multiples domaines de recherche.

Voici les trois questions les plus importantes :

- On vient tout juste de commencer à s'intéresser au rôle des variables culturelles dans les attitudes, la persuasion et l'influence sociale;

- Bon nombre des techniques et des mesures étudiées dans les travaux recensés ont été élaborées en vue d'études menées principalement dans un contexte expérimental;

- Alors que les effets des variables clés sont parfois bien établis, les processus psychologiques sous-jacents à l'origine de ces effets ne sont pas toujours bien compris.

# Executive summary

## The Psychology of Non-Kinetic Activities by Military Forces: A Review of Themes, Implications, and Unresolved Issues in the Study of Attitudes, Persuasion, and Social Influence

**Leandre R. Fabrigar; DRDC  CR 2012-096; Defence R&D Canada – Toronto.**

The recent experiences of the Canadian Forces in their operations in Afghanistan have served to highlight the importance of non-kinetic activities by military forces. Such activities take a wide range of different forms.  However, many of these seemingly disparate activities share the common feature that they are designed to shape the attitudes and behaviours of enemy forces, friendly populations, and / or uncommitted populations in effort to facilitate the success of military operations.

Although comparatively little attention has been accorded to the study of non-kinetic activities by military forces within the academic community of the social sciences, at a more general level, many key issues related to non-kinetic activities have been extensively studied.  Indeed, the study of how attitudes are formed, changed, and influence behaviour has been the focus of extensive theorizing and empirical investigation in the social sciences for more than 80 years (e.g., see Allport, 1935; Thurstone, 1928).  Thus, there is large scholarly literature with the potential to inform the practice of non-kinetic activities.

The goal of the present report is to provide an overview of research on the psychology of attitudes, persuasion, and social influence as it relates to the design, implementation, and evaluation of non-kinetic activities. The intent of this report is not to provide a traditional scholarly review of these literatures. Rather, this report will highlight important theoretical and empirical themes that have emerged in these literatures that have direct relevance to the challenges faced in conducting non-kinetic activities.

In formulating this report, the primary research literatures that will be examined are those comprising the study of attitudes, persuasion, and social influence. These literatures serve as the focus for the present review because they are arguably the literatures with the most direct and broadest application to non-kinetic activities.  These literatures also have a very long history in the social sciences and thus are at a very mature phase with respect to their theories, findings, and methods.  Moreover, they have come to span a number of disciplines.  The present review will draw primarily from the domain of social psychology.  This domain will be the primary source for the present review because the focus of this field has been on uncovering basic principles that can be generalized across various social contexts.  In contrast, many other fields that explore attitudinal processes (e.g., political science, marketing, and health psychology) have

focused on the context-specific factors within their domain of study that can be less readily applied outside that context.

This caveat notwithstanding, where appropriate, the review will draw upon research from fields outside of social psychology. Indeed, the boundaries between disciplines within the context of attitudes, persuasion, and social influence research have become rather permeable. Researchers in marketing, political science, health, and other fields often draw quite extensively on social psychological theories of attitudes. In fact, many researchers working within these fields have formal training in social psychology. Moreover, many of the findings reported by scholars within in these fields have implications beyond their specific context and have influenced theorizing on attitudinal processes more generally.

# Sommaire

## La psychologie des activités non cinétiques menées par les forces militaires :
## thèmes, implications et questions non résolues dans l'étude des attitudes, de la persuasion et de l'influence sociale

**Leandre R. Fabrigar; RDDC CR 2012-096; R et D pour la défense Canada – Toronto**

Les expériences récentes vécues par les Forces canadiennes dans leurs opérations en Afghanistan ont permis de mettre en lumière l'importance des activités militaires non cinétiques. Tout en prenant des formes très variées et en apparence disparates, ces activités ont en commun un aspect : elles visent à façonner les attitudes et les comportements des forces ennemies, des populations amicales et/ou des populations non engagées en vue de faciliter la réussite des opérations militaires.

Bien que la communauté universitaire des sciences sociales ait accordé relativement peu d'attention à l'étude des activités non cinétiques des forces militaires, bon nombre des questions clés liées aux activités non cinétiques, à un niveau plus général, ont fait l'objet d'études approfondies. En effet, depuis plus de 80 ans, des recherches théoriques et empiriques en sciences sociales se sont penchées sur la façon dont les attitudes se forment, évoluent et influencent les comportements (voir Allport, 1935; Thurstone, 1928). De ce fait, nous disposons d'une abondante littérature universitaire pour éclairer la pratique des activités non cinétiques.

Le présent rapport offre un survol de la recherche sur la psychologie des attitudes, de la persuasion et de l'influence sociale en ce qui a trait plus précisément à la conception, à la mise en œuvre et à l'évaluation des activités non cinétiques. Il ne vise par à faire une recension classique des recherches universitaires mentionnées précédemment. Il mettra plutôt en évidence les thèmes théoriques et empiriques importants qui ressortent de ces écrits et qui ont un lien direct avec les difficultés inhérentes à la poursuite d'activités non cinétiques.

Dans le cadre de ce rapport, nous examinerons d'abord et avant tout les recherches qui portent sur les attitudes, la persuasion et l'influence sociale. Nous nous concentrerons sur ces travaux car, comme nous le soutenons, ce sont eux qui s'appliquent de la façon la plus directe et la plus étendue aux activités non cinétiques. Ces recherches font corps avec les sciences sociales depuis longtemps et ont donc atteint un état de maturité sur le plan des théories, conclusions et méthodes, sans compter qu'elles recoupent un grand éventail de disciplines. La présente étude s'appuiera principalement sur le domaine des sciences sociales, car les recherches dans ce domaine sont axées sur la découverte de principes de base qui peuvent être généralisés à divers contextes sociaux. À l'inverse, de

nombreux autres domaines qui ont exploré les attitudes (p. ex. les sciences politiques, le marketing et la psychologie de la santé) ont concentré leurs efforts sur des facteurs propres au contexte de leur champ d'étude, facteurs moins faciles à généraliser à des contextes différents.

Néanmoins, lorsque cela s'y prêtera, nous nous appuierons également sur des recherches relevant d'autres domaines que celui de la psychologie sociale. En effet, les frontières entre les disciplines, dans le contexte de la recherche sur les attitudes, sur la persuasion et sur l'influence sociale, sont devenues relativement perméables. Il arrive souvent que les chercheurs en marketing, en sciences sociales, en santé et dans d'autres domaines puisent largement aux théories de la psychologie sociale sur les attitudes. En fait, de nombreux chercheurs de ces domaines ont une formation en bonne et due forme en psychologie sociale. Par ailleurs, bon nombre des conclusions présentées par ces chercheurs ont des implications qui dépassent largement le contexte précis de leurs travaux et ont ainsi, de façon plus générale, enrichi les théories sur les attitudes.

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# INTRODUCTION

## Background

The recent experiences of the Canadian Forces in their operations in Afghanistan have served to highlight the importance of non-kinetic activities by military forces. Such activities take a wide range of different forms. However, many of these seemingly disparate activities share the common feature that they are designed to shape the attitudes and behaviours of enemy forces, friendly populations, and/or uncommitted populations in effort to facilitate the success of military operations.

Although comparatively little attention has been accorded to the study of non-kinetic activities by military forces within the academic community of the social sciences, at a more general level, many key issues related to non-kinetic activities have been extensively studied. Indeed, the study of how attitudes are formed, changed, and influence behaviour has been the focus of extensive theorizing and empirical investigation in the social sciences for more than 80 years (e.g., see Allport, 1935; Thurstone, 1928). Thus, there is large scholarly literature with the potential to inform the practice of non-kinetic activities.

## Objectives and Scope

The goal of the present report is to provide an overview of research on the psychology of attitudes, persuasion, and social influence as it relates to the design, implementation, and evaluation of non-kinetic activities. The intent of this report is not to provide a traditional scholarly review of these literatures. Rather, this report will highlight important theoretical and empirical themes that have emerged in these literatures that have direct relevance to the challenges faced in conducting non-kinetic activities. In reviewing each theme in these literatures, an emphasis will be placed on three key considerations:

- What are the insights and lessons from the research literature that might be directly applied to conducting non-kinetic activities?

- What are current controversies in the research literature that are yet to be resolved and that might affect the successful application of theory and findings in the context of non-kinetic activities?

- What are issues unique to the context of non-kinetic activities that need to be resolved in order to successfully apply theory and findings from the scholarly literature?

In formulating this report, the primary research literatures that will be examined are those comprising the study of attitudes, persuasion, and social influence. These literatures serve as the focus for the present review because they are arguably the

literatures with the most direct and broadest application to non-kinetic activities. These literatures also have a very long history in the social sciences and thus are at a very mature phase with respect to their theories, findings, and methods. Moreover, they have come to span a number of disciplines. The present review will draw primarily from the domain of social psychology. This domain will be the primary source for the present review because the focus of this field has been on uncovering basic principles that can be generalized across various social contexts. In contrast, many other fields that explore attitudinal processes (e.g., political science, marketing, and health psychology) have focused on the context-specific factors within their domain of study that can be less readily applied outside that context.

This caveat notwithstanding, where appropriate, the review will draw upon research from fields outside of social psychology. Indeed, the boundaries between disciplines within the context of attitudes, persuasion, and social influence research have become rather permeable. Researchers in marketing, political science, health, and other fields often draw quite extensively on social psychological theories of attitudes. In fact, many researchers working within these fields have formal training in social psychology. Moreover, many of the findings reported by scholars within in these fields have implications beyond their specific context and have influenced theorizing on attitudinal processes more generally.

## RESEARCH THEMES: ASSESSING ATTITUDES

Assessing the attitudes of a target population, be that population a hostile group, friendly group, or uncommitted group, is an important task in conducting many non-kinetic operations. Attitude assessment of target populations within the context of non-kinetic activities is important for several reasons. First, knowing the attitudes of the target population can often be useful in predicting the reactions of the group to the operations (both kinetic and non-kinetic) of military forces. Such information can also sometimes be useful in sensitizing military personnel to issues of concern within the target group so that personnel can avoid actions likely to antagonize the group and pursue actions likely to evoke positive responses. In cases in which military personnel plan to undertake informational operations, attitudinal assessment can be an essential guide in constructing communications. Finally, attitude assessment is also extremely helpful after military operations. Once a kinetic or non-kinetic activity has been undertaken, knowing the impact of that activity on the attitudes of the target population is often essential. Researchers in the attitudes domain have long been interested in issues related to attitude assessment. Broadly speaking, this research can be categorized as addressing two very general questions: What should be assessed and how should it be assessed?

### What to Assess?

Within the social psychology and related disciplines, the term attitude is typically used to refer to people's relatively general and enduring evaluations of persons, objects, or ideas on a dimension ranging from negative to positive. Attitudes have been the topic of extensive investigation because these general evaluations of objects in our social world have long been presumed to play in important role in guiding people's behaviours, judgments, and decisions. For example, marketing researchers have long known that attitudes toward products and companies are important determinants of purchasing behaviour. Likewise, political scientists have recognized that attitudes towards political leaders, political parties, and policy positions play an important role in voting and other forms of political action. Thus, the assessment of people's attitudes has been common practice in both the basic and applied literatures of many domains of social behaviour. Attitudes are likely to be equally relevant to the context of non-kinetic activities by military forces. For instance, knowing a local population's attitudes toward the Canadian Forces, specific policies being carried out by the Canadian Forces, and local leaders either supportive of the Canadian Forces or opposed to them could provide valuable insights into predicting and understanding the behaviour of that population.

Although knowing people's attitudes is certainly important, attitude researchers have come to recognize that to be truly effective in understanding, predicting, and ultimately influencing behaviour, it is necessary to go beyond simply assessing people's attitudes. One must also assess why people hold the attitudes they do and the strength with which they are held (Eagly & Chaiken, 1998; Fabrigar, MacDonald, & Wegener, 2005; Fabrigar & Wegener, 2010). Obviously, across the wide range of issues that might be studied, there is a virtually infinite number of reasons (many specific to a given issue) for why a person might support or oppose a given issue stand. One central theme of attitudes research has been to try to develop more general categories to classify the reasons for people's attitudes that can be applied to nearly any object for which people might form an attitude. Two such categorization systems have been especially influential: attitude functions and affective/cognitive bases. Beyond knowing why people hold the attitudes they do, it is also essential to know the strength with which their attitudes are held. In some cases, people might hold attitudes that are likely to be important determinants of behaviour and very resistant to attempts to change them. In other cases, people might hold attitudes that are transitory and inconsequential. Researchers have identified a number of properties of attitudes that can be used to determine the strength with which an attitude is held.

## Attitude Functions

**Themes and implications.** Attitude theorists have long postulated that people form attitudes to serve different psychological functions (e.g., Smith, Bruner, & White, 1956; Katz, 1960; Pratkanis, Breckler, & Greenwald, 1989; Maio & Olson, 2000). The core premise of attitude function theory is that two people could appear to have identical attitudes toward a given attitude object, but the underlying functional foundations for these attitudes could be quite different. For example, one person might support capital punishment because that person believes this policy has very practical benefits such as deterring crime (a utilitarian function). A second person might support the policy not

because of any belief in its practical utility, but rather because that person believes that on some moral level it is the only punishment that is truly proportional to certain extremely serious crimes (a value-expressive function). Researchers have postulated a number of different functions that attitudes might serve, and some debate remains regarding the number and nature of attitude functions that exist. These differences notwithstanding, several functions in particular have been widely accepted and have received substantial empirical attention. Most notably, theorists have proposed that attitudes may be formed in the service of obtaining rewards and avoiding punishments (utilitarian function), as a means of expressing core values (value-expressive function), to facilitate social interaction and group cohesion (social-adjustive function), or to enhance self-esteem (ego-defensive function).

One important lesson that has come from attitude functions research is that knowing the functions an attitude serves can provide valuable guidance regarding the type of persuasive arguments that are likely to be most effective in changing that attitude. This research has suggested that persuasive messages that focus on the function an attitude serves are generally more successful than messages that focus on an irrelevant function. This enhanced persuasion is a result of the fact that people more extensively attend to and think about functionally-relevant messages (Petty & Wegener, 1998a) and are more likely to be positively biased in their processing of functionally-relevant messages (Lavine & Snyder, 1996) than they are functionally-irrelevant messages. In summary, one might derive two key recommendations from the attitude functions literature:

- Measures of attitude functions should be included as a supplement to measures of the attitudes themselves, both when initially assessing the attitudes of a target population and subsequently when assessing the impact of a given non-kinetic operation.

- When constructing communications designed to either strengthen or change attitudes, these messages should include content that is relevant to the function the targeted attitude serves.

**Unresolved issues.** Although the attitude functions literature certainly has useful lessons that might be applied to conducting non-kinetic activities, it is also important to recognize that a number of significant issues remain unresolved. Many of these unresolved issues present challenges for applying this body of work to the domain of non-kinetic activities. First, although there are at least four functions that have received significant attention in the empirical and theoretical literature, debate remains regarding the nature of the relationships among these functions (e.g., are some functions more specific subcategories of others) and whether other functions exist. Equally important, much remains to be done in developing approaches to measure what function an attitude serves. To date, much of the research testing functions has done so by comparing attitude objects that are thought to differ in the attitude functions they tend to elicit or by comparing people who vary on personality traits thought to be related to attitude functions. Neither of these approaches is wholly satisfactory for purposes of application or theory testing. In many cases, the attitude object of interest might produce attitudes

with differing functions for different people. Likewise, personality traits constitute only a very imprecise index of attitude functions. Unfortunately, more direct and clear cut measures of functions that can be applied across different attitude objects have yet to be fully developed and validated. Yet another issue that has not been addressed is the implications of attitude functions for understanding attitude-behaviour consistency. For instance, are certain types of behaviours more relevant to particular attitude functions and if so are attitudes that match the functional basis of the behaviour more powerful determinants of the behaviour than attitudes of differing functions? Researchers have speculated about such possibilities, but have not yet tested these ideas (e.g., see Fabrigar et al. 2005; Fabrigar, Petty, Smith, & Crites, 2006; Fabrigar & Wegener, 2010; Fabrigar, Wegener, & MacDonald, 2010). Finally, there is some evidence that the prevalence of certain attitude functions may vary across cultures (e.g., see Han & Shavitt, 1994). However, comparatively little is known about the precise psychological nature of these variations and most cultural groups have yet to be investigated at all with respect to attitude functions. In summary, four broad issues remain unresolved that have clear relevance for the application of attitude function theory to the domain of non-kinetic activities:

- The number of attitudes functions and their relationships to one another.

- The development of general measures for assessing attitude functions.

- The role of attitude functions in attitude-behaviour consistency.

- The role of culture in the prevalence and operation of attitude functions.


## Affective/Cognitive Bases of Attitudes

**Themes and implications.** Attitude theorists have long theorized that some attitudes may be primarily derived from the beliefs people have about the positive and negative attributes of an object (i.e., cognitive attitudes). For example, some people might form positive attitudes toward a particular political leader primarily on the basis of that leader having policy positions with which they agree and having background experiences that they believe give the leader expertise to handle the challenges of office. In contrast, others might form their attitudes primarily on the basis of the positive and negative emotional reactions they have in response to an object (i.e., affective attitudes). For instance, people might form positive attitudes toward a political leader primarily because that leader provides inspiration or communicates a feeling of comfort and security. Attitude theorists have hypothesized that knowing if an attitude is based primarily on cognition or affect is important for at least two reasons (see Katz & Stotland, 1959; Chaiken, Pomerantz, & Giner-Sorolla, 1995; Petty, Fabrigar, & Wegener, 2003; Fabrigar, et al., 2005; Fabrigar & Wegener, 2010; Fabrigar et al., 2010). First, research has suggested that the affective and cognitive bases of attitudes are important determinants of the types of persuasive messages that are likely to be effective in changing these attitudes. For instance, persuasive appeals that focus on

emotions tend to be more effective when targeted against attitudes that are primarily based on affect than when targeted against attitudes that that are primarily cognitive in nature (e.g., see Edwards, 1990, Fabrigar & Petty, 1999). Likewise, belief-based persuasive appeals tend to work better against attitudes based primarily on cognition than they do against attitudes based primarily on affect.

Second, research has suggested that attitudes based primarily on affect versus cognition tend to influence different types of behaviours (Millar & Tesser, 1986; 1989). More specifically, some researchers have distinguished between behaviours that are consumatory in nature versus instrumental in nature. Consumatory behaviours are performed for their own intrinsic rewards (e.g., a person who plays golf on a regular basis because that person enjoys golf). Instrumental behaviours are performed to obtain some reward extrinsic to the behaviour itself (e.g., a person playing golf on a regular basis in order to facilitate business contacts). Research suggests that affective attitudes tend to exert a stronger influence on consumatory behaviours than they do instrumental behaviours. In contrast, cognitive attitudes tend to be more powerful determinants of instrumental behaviours than consumatory behaviours. Thus, in summary, the recommendations from the affective/cognitive bases literature in many respects parallel those from the attitudes functions literature:

- Measures of affective and cognitive bases of attitudes should be included as a supplement to measures of the attitudes themselves both prior and subsequent to conducting non-kinetic operations.

- When constructing communications designed to either strengthen or change attitudes, these messages should include content that is primarily affective or cognitive in nature depending on the primary basis of the attitude being targeted.

**Unresolved issues.** In some respects, the affective/cognitive bases literature has fewer unresolved issues than the attitude functions literature. There is little dispute regarding the fact that these bases, although related, are distinct from one another. Likewise, the measurement of affective and cognitive bases has received some attention in the literature and several approaches to measuring attitude bases have enjoyed wide spread usage (e.g., Crites, Fabrigar, & Petty, 1994; Eagly, Mladinic, & Otto, 1994). That being said, these measurement approaches might prove somewhat cumbersome to implement in some contexts involving non-kinetic activities.

Moreover, some issues remain a matter of debate within the affective/cognitive bases literature. For example, although the majority of studies in the literature have suggested that persuasion is most effective when the affective/cognitive nature of the message matches the affective/cognitive basis of the attitude, there have been a few demonstrations of the opposite effect: greater persuasion when the nature of the persuasion mismatches the basis of the attitudes (Millar & Millar, 1990). The precise conditions under which matching persuasion to bases of attitudes enhances versus inhibits persuasion has yet to be fully explored (see Petty et al., 2003). Likewise, some recent research has suggested that there may actually be two different types of

affective/cognitive attitude bases: structural bases and meta-bases (See, Petty, & Fabrigar, 2008). Traditionally, affective/cognitive bases have been conceptualized in structural terms. That is, bases have been defined in terms of the extent to which people's affective and cognitive responses are consistent with their overall attitudes. More recently, research has suggested that people's subjective impressions of the extent to which they rely on affect versus cognition in forming their attitudes (meta-bases) are also important. Interestingly, people's subjective impressions of reliance on affect and cognition are almost completely orthogonal to their actual reliance on affect versus cognition (i.e., their structural bases). However, research suggests both have distinct effects on judgments and susceptibility to persuasion. Research is now exploring the precise processes responsible for the distinct effects of these two types of bases. In summary, applications of the affective/cognitive literature to the context of non-kinetic activities would benefit from resolving at least three issues:

- Development of more efficient measures of the affective/cognitive bases of attitudes.

- Clarification of when matching versus mismatching persuasion to bases of attitudes leads to more or less persuasion.

- Clarification of the precise nature of the processes represented by structural bases versus meta-bases of attitudes and the conditions under which one is more versus less consequential.


## Attitude Strength

**Themes and implications.** Another research literature that has the potential to inform the design, implementation, and assessment of non-kinetic activities is the research on attitude strength. Attitude theorists have long noted that two people could have similar attitudes in terms of their valence and extremity, but these two attitudes could differ substantially in their underlying strength (see Petty & Krosnick, 1995). In other words, for one person, the attitude could be very stable over time, very resistant to attempts to change it, very influential in influencing the manner in which information is processed, and very important in directing behaviour. For the other person, a seemingly identical attitude might lack these defining features of strength. Attitude researchers have devoted considerable attention over the past 30 years identifying various characteristics of attitudes that can allow a research to differentiate among people with strong versus weak attitudes. Some of these characteristics involve aspects of the cognitive structure of attitudes (e.g., accessibility, amount of knowledge, ambivalence), others involve subjective beliefs regarding the attitude (e.g., perceived certainty, perceived importance), and still others the process by which the attitude was initially formed (e.g., amount of cognitive elaboration, direct versus indirect experience with the attitude object). Moreover attitude researchers have also begun to identify ways in which persuasive messages can be designed to produce attitudes that are likely to be strong.

There are a number of important practical implications that might be derived from the research on attitude strength. First, when conducting non-kinetic operations designed to influence attitudes, assessing not only the attitudes of the target population, but also the strength of these attitudes could help military personnel to more effectively focus their messages on target sub-groups most likely to respond to these messages. For example, attitude strength measures could be used to identify what subgroups of an enemy or neutral population hold weak attitudes and thus are promising targets for persuasion and what subgroups of an enemy or neutral population may have such strongly held attitudes that persuasive appeals are unlikely to be successful. Likewise, attitude strength measures can be used to identify subgroups of a friendly population whose desirable attitudes may be relatively weak and thus are unlikely to translate into desirable behaviours and may be at risk of being changed. These subgroups can then be targeted with communications designed to strengthen attitudes so they are resistant to subsequent counter-persuasion and are likely to engage in attitude-consistent behaviours.

On related point, these indices of attitude strength can also be used in the pre-testing of communications intended for use in non-kinetic activities as well as in final evaluation of the effects of messages after they have been used in non-kinetic activities. In many applied settings, messages are pre-tested to ensure that they produce the intended attitude prior to the widespread usage of a message. However, messages are seldom pre-tested to evaluate the extent to which they also produce an attitude with the underlying properties likely to make it strong. Likewise, inclusion of strength measures to assess the impact of non-kinetic operations is also important. As already noted, in some cases the ultimate goal of a message might not be to change the attitude per se, but instead to strengthen it. Indeed, sometimes messages might appear to have no effect on attitudes at the level of the attitude itself, but could have substantial influence on the underlying strength of the attitude (e.g., McGuire, 1964; Tormala & Petty, 2002).

A final practical implication of the attitude strength literature is that this research literature has identified a number of features of persuasive communications that can help the message to produced attitudes that are likely to be strong. Most of these features are a likely to enhance the strength of resulting attitudes by facilitating the extent to which a person engages in extensive thought about the message (i.e., cognitive elaboration, see Petty & Cacioppo, 1986; Petty & Wegener, 1998b; 1999). By building these features into messages (e.g., qualities of voice, number of messages sources, type of message sources, content of arguments), military personnel can construct persuasive communications that are more likely to produce attitudes that are enduring and consequential. In summary, there are several key recommendations that might be derived from the attitude strength literature.

- Attitude strength measures should be included as supplements to attitude measures to guide military personnel in terms of identifying which subgroups of hostile or neutral target populations are most likely to be open to attitude change.

- Attitude strength measures should be included as supplements to attitude

measures to guide military personnel in terms of identifying subgroups of friendly target populations whose attitudes are in need of strengthening.

- Attitude strength measures should be included as supplements to attitude measures when pre-testing messages prior to their usage in non-kinetic activities as well as when assessing their ultimate impact on the target population after they have been used.

**Unresolved issues.** Although the attitude strength literature has much to contribute to the domain of non-kinetic activities by military forces, some important questions remain to be addressed. In particular, two major and intertwined theoretical challenges have confronted researchers in the attitude strength literature. First, although researchers have identified a number of properties of attitudes that are known to be determinants of the strength of an attitude, in many cases, comparatively little is known regarding why these properties have an impact on attitude strength (see Fabrigar et al., 2005; 2010; Fabrigar & Wegener, 2010). Thus, it is difficult to know the precise conditions under which these properties will lead to differences in attitude strength. Moreover, researchers also lack a parsimonious structure to classify these different properties. It is now widely acknowledged that the many properties known to be determinants of attitude strength cannot be simply treated as alternative measures of the same construct (e.g., Visser, Bizer, & Krosnick, 2006). However, what is less clear is if they still might be more parsimoniously organized in terms of certain shared versus distinct features, either as function of common antecedents or consequences. Thus, any applied researcher currently seeking to measure attitude strength is faced with a wide array of options, and little clear guidance as to which constructs to assess. In most cases, measuring all the known determinants of attitude strength will not be possible. If choices must be made, are some constructs more redundant with one another than others? Thus, from the standpoint of non-kinetic operations, the resolution of two key issues would be invaluable to more effective application of the attitude strength literature:

- What are the psychological processes underlying the effects of different determinants of attitude strength and under what conditions will these determinants have their expected effects?

- To what extent are different determinants of attitude strength related to one another? Can these determinants be more parsimoniously represented in terms of the strength of their associations with one another, common antecedents, and common underlying processes?

## How to Assess It?

In the prior section, the focus of the discussion was on highlighting constructs in addition to attitudes that might be useful to assess when conducting non-kinetic activities. Of course, once one has determined what will be assessed, the next natural

question is how should the selected constructs be measured? Fortunately, attitude researchers have devoted considerable attention to the topic of constructing measures of attitudes and related constructs (see Fabrigar, Krosnick, & MacDougall, 2005; Krosnick, Judd, & Wittenbrink, 2005).

## Direct Measures of Attitudes

**Themes and implications.** By far, the most common approach to assessing attitudes and related properties is to use direct measures. Direct measures simply ask people to report their attitudes or related properties. Such measures often involve constructing a single question directly asking people to report their attitudes about some issue. However, research has shown this task can be far more complicated than one might realize. Indeed, researchers have identified many biases that can exist in single-item measures (e.g., see Krosnick, 1991; Krosnick & Fabrigar, 1997; Schuman & Presser, 1981; Sudman, Bradburn, & Schwarz, 1995; Visser, Krosnick, & Lavrakas, 2000). These biases are revealed when seemingly inconsequential variations in wording, format, or question order can have a dramatic effect on the answers that people give. Thus, people designing surveys using single measures should be aware of the possible biases that can emerge and ways in which they can be minimized.

Single-item measures are of course often used, because of their ease and efficiency. However, this ease and efficiency comes with certain costs. Thus, researchers often prefer multiple-item measures over single-item measures for two reasons. First, any single attitude measure can potentially have subtle biases and ambiguities in wording and format. Researchers obviously try to minimize such problems. However, even the best designed attitude item is unlikely to be perfect. The strength of multiple-item measures is that the impact of imperfections in individual items can be minimized by averaging or summing across a set of related attitude items. A second reason for using multiple-item measures is that a single-item measure may often be too narrow to fully capture the construct in question. Attitude researchers have developed numerous formal procedures for constructing multiple-item attitude measures. A comprehensive review of these procedures is beyond the scope of this report. However, detailed and comprehensive discussions are available (Edwards, 1957; Mueller, 1986; Summers, 1970). Thus, in summary, the literature on direct attitude measurement suggests two clear recommendations:

- When possible, attitudes should be measured using multi-item scales that use formal scaling procedures.

- If it is necessary to assess attitudes or related properties using single items, researchers should be attentive to the impact of subtle design features such as response order, question order, number of scale points, and labeling of scale points. Specific recommendations outlined in reviews of this literature should be followed.

**Unresolved issues.** Within the context of multi-item measures of attitudes, there are few if any true controversies. The reliability and validity of different scaling procedures have been extensively studied and the strengths and weaknesses of the approaches are generally understood. Research on biases in single items continues to generate much debate and research. Most notably, many effects of design features on responses to single items have been documented in the literature. However, the precise mechanisms responsible for some of these effects remain to be established. Thus, it is sometimes unclear under what contexts these effects will emerge and how they might be prevented. Thus, the major unresolved issue of the questionnaire design literature is:

- Developing and testing theories that can account for the emergence of questionnaire design effects on responses and provide practical recommendations regarding how to minimize or interpret such effects.

## Indirect Measures of Attitudes

**Themes and implications.** Social scientists in a variety of disciplines have long acknowledged that some topics may be sufficiently sensitive that people will be unwilling to accurately report their attitudes. To some degree, these concerns can be addressed by creating contexts in which people feel less pressure to respond in socially desirable ways such as making responses to survey questions anonymous (Paulhus, 1991). However, in other cases, it may not be practical to create such conditions or respondents' mistrust may be so great that even these optimal conditions do not eliminate socially desirable responding. In these cases, the only viable method to effectively assess attitudes might be to use "indirect" measures of attitudes (i.e., measures that assess attitudes without ever directly asking people to report attitudes). There is long empirical tradition in social psychology and related disciplines exploring the efficacy of such measures (e.g., see Hammond, 1948; Milgram, Mann, & Harter, 1965; Webb, Campbell, & Schwarz, 1966). These traditional indirect measures include methods such as the "Error Choice Method" and the "Lost Letter Technique."

More recently, interest in developing indirect measures of attitudes (often now called implicit attitude measures) has become a central topic of investigation within social psychology. Indeed, it has arguably become the single biggest topic in all of attitudes research. This renewed interest in indirect measures has resulted in the development of a number of new indirect measures of attitudes (see Fazio & Olson, 2003; Fabrigar, Krosnick, & MacDougall, 2005; Petty, Fazio, & Briñol, 2009). Among the new measures that have received extensive empirical attention are the Affective Priming Method, the Implicit Association Test (IAT), the Personalized Implicit Association Test (PIAT), the Go/No-Go Task, and the Affect Misattribution Procedure (AMP). A number of important questions have arisen in the study of these measures. First, a substantial amount of work has been conducted exploring when these indirect measures do and do not correlate with traditional direct measures and how a lack of association between direct and indirect measures should be interpreted. Other research has focused on whether direct and indirect measures differ in the outcomes they predict (e.g., do they predict different types of behaviours) and whether they are differentially responsive to varying ways of changing attitudes. Research has also explored applying these

methods to the assessment of other constructs. When considered in its entirety, the literature on indirect attitude measures suggests a number of possible benefits that might be realized by use of these measures in non-kinetic operations:

- Use of indirect measures could provide an effective means of gauging attitudes in contexts where the target population is unwilling to accurately report their views.

- Even if the target population is willing to honestly report its views, indirect measures may tap on evaluative responses that are not effectively captured by traditional direct measures (e.g., unconscious evaluations or automatic evaluations) and thus provide unique predictive power above and beyond traditional attitude measures.

**Unresolved issues.** The potential value of these indirect measures notwithstanding, the field of indirect attitude measurement remains an area of much debate and controversy. Central to this debate is how differences between direct and indirect measures should be interpreted. Broadly speaking, three different (and not entirely exclusive) views have been advocated. First, indirect measures might be viewed as assessing the same type of attitudinal response as direct measures, only less distorted by socially desirable responding. Second, some have suggested that direct measures tap people's conscious evaluations whereas indirect measures tap their unconscious evaluations. Finally, a number of researchers have suggested that direct measures tap people's more deliberate evaluations whereas indirect measures capture their automatic (but not unconscious) evaluations. Related to these issues, there has also been substantial evidence indicating that contrary to direct measures of attitudes that tend to be highly correlated with one another, many indirect measures are only weakly associated with one another. Substantial discussion has emerged regarding how lack of association among different indirect measures should be interpreted. It is also worth noting that comparisons between methods of indirectly versus directly assessing other characteristics of attitudes (e.g., attitude strength) are only now beginning to emerge. Finally, because some indirect measures can be rather cumbersome to apply in many contexts, there has been some attempt to develop indirect measures that are procedurally simpler. Thus, in summary, the resolution of several key issues will be important in the ultimate success of applying the indirect measurement literature to non-kinetic activities:

- Clarification of the extent to which indirect measures capture conscious versus unconscious evaluative responses and controlled versus automatic evaluative responses.

- Clarification of the strengths and weaknesses of newly developed indirect measures and the degree to which these measures assess similar versus different constructs.

- Development of more efficient methods of indirect methods.

- Extension of indirect measurement techniques to the assessment of characteristics of attitudes such as affective/cognitive bases, attitude functions, and attitude strength.

# RESEARCH THEMES:  INFLUENCING ATTITUDES AND BEHAVIOUR

Up to this point, the primary focus of this report has been on assessing attitudes and properties reflecting their underlying strength and origins.  In the remainder of this report, the focus will be on reviewing research that has attempted to understand how attitudes and behaviour might be changed.  To some degree, these issues have already been touched upon in various forms.  For example, it was noted that gaining insight into the functions of attitudes and their affective/cognitive bases might provide insights into constructing persuasive messages that are likely to be successful in changing attitudes.  However, in the sections that following, we will focus on research literatures whose primary emphasis has been on understanding how attitudes are formed and changed as well as on research that has explored the processes that determine when attitudes are likely to govern behaviour.  In the final sections of the present review, research examining methods of influencing behavior that do not necessarily involve attitude change will be reviewed.

## Theories of Attitude Formation and Change

The questions of when attitudes can be changed and the processes responsible for such change have been among the most central research questions in all of attitudes research.  More than 60 years of empirical research has amassed an extraordinarily long list of variables that have an impact on attitude formation and change (for comprehensive reviews, see Eagly & Chaiken, 1993; Petty & Cacioppo, 1981; Petty & Wegener, 1998b).  Given the vast array of factors now known to influence attitude change processes, one of the major goals of attitudes research has been to develop general theories of attitude formation and change that can organize these many variables into a coherent framework.

## The Message Learning Approach

**Themes and Implications.**  One of the first general theoretical frameworks to gain widespread popularity in persuasion research was the message learning approach to persuasion developed by Carl Hovland and his colleagues (Hovland, Janis, & Kelley, 1953; see also McGuire, 1985).  The message learning approach postulated that persuasion processes in many ways parallel learning processes. Thus, according to this perspective, persuasion can be seen as multi-step process consisting of:  exposure, attention, comprehension, acceptance/yielding, and retention/memory.  To the extent that any of these steps is not successfully accomplished, persuasion is presumed to be diminished.  The theory further postulates that any variable affecting persuasion does so via its impact on one or more of these steps in the persuasion process.  The theory organizes the many variables that might be expected to influence persuasion into four general categories:  source factors (characteristics of the source of the message), message factors (characteristics of the message itself), recipient factors (characteristics

of the recipient of the message), and channel factors (characteristics of the mode by which the message is communicated).

Although the message learning approach no longer enjoys widespread support among persuasion researchers, there are nonetheless a number of useful insights that can be derived from this perspective. First, research conducted within this framework has documented a substantial number of variables that influence persuasion processes. Thus, this perspective continues to exert influence in terms of having identified many "classic persuasion variables" that continue to be studied. Moreover, the four category typology of variables continues to be a useful framework with which to consider potential factors that might influence the success of a communication. Thus, at the practical level, this perspective can be useful as a guide for message construction by serving to highlight the sorts of characteristics that should be considered:

- When constructing communications to be used in non-kinetic activities, researchers should consider the potential impact of the source of their communication, characteristics of the message itself, characteristics of the likely recipients of the message, and the channel by which the communication will be distributed.

**Unresolved issues.** Strictly speaking, there are few "unresolved" issues in the message learning approach in the sense that theory is no longer investigated in is present form. The theory generally fell out of favour because research ultimately suggested that several of its steps were not always necessary for persuasion to occur. Moreover, many variables studied within the context of this theory ultimately produced much more complex findings than were expected and these patterns of findings could not always be readily explained within the message learning framework. Likewise, although its typology of persuasion variables is useful at a practical level, its conceptual utility has been challenged. That being said, many aspects of the theory have been incorporated into more recent theories of persuasion.

## Dual Process Theories of Persuasion

**Themes and implications.** Over the past 30 years, attitudes research (and many other areas of social psychology) has seen the emergence what are sometimes termed "dual process" theories (Chaiken & Trope, 1999). Of the dual process theories that have emerged in the field of attitudes, two of the first and most influential are the Elaboration Likelihood Model (ELM: Petty & Cacioppo, 1986; Petty & Wegener, 1998; 1999) and Heuristic-Systematic Model (HSM: Chaiken, Liberman, & Eagly, 1989; Chen & Chaiken, 1999). In many respects, these theories have emerged as successors to the message learning approach and they have incorporated and reinterpreted many aspects of this earlier perspective. Although the ELM and HSM differ in some respects, they also share a number of important assumptions. For purposes of brevity, the present discussion will present some of the key insights of these perspectives in terms of the ELM.

Briefly stated, contrary to earlier perspectives on attitude change, the ELM postulates that the processes underlying attitude change cannot be adequately explained by a single mechanism. Rather, this theory proposes two somewhat different processes by which attitude formation and change can occur. Under conditions in which people are either unmotivated or unable to engage in careful consideration of persuasive messages, people will look for simple peripheral cues in the persuasion context to guide them in whether they should accept or reject a message (e.g., a person may accept a message in the absence of careful scrutiny of the arguments simply because the source of that message is a highly trusted person). In other cases, people may be both able and motivated to engage in careful scrutiny of the arguments (i.e. cognitive elaboration of arguments). In these situations, the substantive content of the messages and the evaluative responses that content elicits will be the primary determinant of attitude formation and change.

Importantly, the ELM postulates that the process by which persuasion variables (e.g., source of a message, characteristics of the message itself, characteristics of the message recipient, and characteristics of the channel by which the message is communicated) influence attitude formation and change will not be the same across varying levels of cognitive elaboration. Rather, the theory postulates that a persuasion variable can potentially influence attitudes via one or more of five different roles (i.e., processes). Under conditions of low elaboration, a variable can potentially influence persuasion by serving as a peripheral cue (i.e., a simple judgmental cue to accept or reject the advocacy in the absence of careful scrutiny of the message). Under conditions of high elaboration, a variable can potentially serve as an argument (if it provides information directly relevant to evaluating the merits of the attitude object), a biasing factor (i.e., a variable that biases the manner in which people evaluate the arguments in the message), or a self-validation factor (i.e., a variable that influences people's confidence in their reactions to the message). Finally, under conditions in which elaboration is not constrained to be either high or low, variables can potentially affect motivation and/or ability to carefully elaborate the message. One important implication of this multiple role perspective is that variables will not necessarily have the same effects on persuasion under different levels of elaboration. In some cases, variables might have a substantial positive impact on persuasion, in other cases no effect at all, and in still other cases a negative impact on persuasion. ELM researchers have now documented the differing effects of many variables on persuasion processes under different levels of elaboration.

A final important aspect of the ELM is that it postulates that attitudes formed or changed via varying levels of cognitive elaboration will differ in their underlying strength. More specifically, attitudes that are formed or changed via high elaboration have been found to be more stable over time, resistant to persuasion, and influential on behaviour and judgments. In contrast, attitudes formed on the basis of peripheral cues (i.e., low elaboration) tend to be less stable, more easily changed, and less predictive of judgments and behaviours. Thus, one useful feature of the ELM is it helps to explain why some attitudes are strong whereas others are weak. Moreover, the theory has

identified variables that might be expected to influence the strength of attitudes as a result of their effects on motivation or ability to elaborate a message.

When considered as a whole, the ELM has a number of important lessons for persuasion researchers. First, the theory highlights the importance of recognizing that factors affecting persuasion can have differing effects and thus it is important to consider the context in which a communication will be processed. Failure to do so might result in a feature of a communication having either no effect or an opposite effect to what is intended. The theory provides a powerful framework in which to predict how variables will operate in different contexts. Second, the theory highlights the need to recognize that attitude change can be transitory and inconsequential or it can be enduring and consequential. Thus, it is not only important to know if a message produces attitude change, but also to know the processes by which the message produced this change. Only attitude change as a result of high elaboration is likely to ultimately translate into changes in behaviour. The ELM has identified a number of factors that can be included in communications to increase the likelihood that any resulting attitude change will be a function of extensive elaboration. Based on these observations, one might make the following recommendations:

- When designing communications, it is important to consider the potential impact of each feature of the communication in terms of its likely effects under high, moderate, and low elaboration. A grid combining the four category typology of the message learning approach with the five process typology of the ELM might provide a useful organizing framework.

- Communications should include features that are likely to have a positive impact under all levels of elaboration.

- Whenever possible, communications should be presented in a manner to facilitate high elaboration so as to produce strong attitudes. Features should be built into communications to encourage high elaboration.

**Unresolved issues.** Although the ELM and HSM have played an important role in attitudes research over the past 30 years, some important issues remain to be resolved. Two, somewhat related, issues seem especially relevant for the context of non-kinetic activities. To date, ELM researchers have typically manipulated levels of elaboration using variables that affect either people's motivation to carefully elaborate the message or their ability to carefully elaborate the message. These variables are known to influence the resulting strength of the attitude, but comparatively little is known regarding the precise processes by which this happens. Thus, whether motivational and ability factors known to influence elaboration produce similar or distinct effects on attitude strength is unclear. Likewise, the effects of these two types of determinants of elaboration have typically been studied in isolation. Thus, the manner in which motivational and ability factors affecting elaboration combine with one another to determine the strength of attitudes has not been fully explored. These questions present problems for developing practical strategies to produce strong attitudes in applied settings. To develop the best informational campaigns, it is important to know if

strategies have common or distinct influences. If different strategies influence strength for different reasons, this might suggest the use of multiple strategies when conducting informational campaigns so that attitudes have all of the cognitive and motivational properties likely to make them strong. However, if the effects of different strategies are redundant, it might be possible to achieve consequential attitudes using a single strategy. Equally important, understanding how these strategies work in conjunction with one another is important to finding the optimal combination of strategies to achieve strong attitudes. Additionally, if some strategies interfere with one another, this information is also important to know. Thus, two issues in particular are important to address for purposes of non-kinetic activities:

- Determining if motivational and ability factors known to influence elaboration produce similar or distinct effects on attitude strength.

- Exploring the manner in which motivational and ability factors affecting elaboration combine with one another to determine the strength of attitudes.

## Media Effects on Public Opinion

**Themes and implications.** A substantial literature has accumulated at the intersection of political science, social psychology, and communications regarding the effects of media on public opinion (e.g., see Iyengar & Kinder, 1987; Iyengar, 1991; Zaller, 1992). This literature is potentially relevant to understanding how non-kinetic activities might influence public opinion within a target population. Perhaps most directly relevant are the literatures on agenda setting, priming, and issue framing. Briefly summarized, a sizeable body of both experimental and non-experimental evidence has accumulated indicating that even when news coverage of political issues does not change the public's opinions regarding those specific issues, the impact on public opinion can nonetheless be quite notable by shaping what the public sees as important and what they use as a basis for more global political judgments.

The "agenda setting" effect refers to the finding that the greater the frequency of coverage of a particular issue, the more important that issue will be perceived by the public (Iyengar & Kinder, 1987). Thus, news sources can in effect cause certain issues to rise to top of the public's agenda and by lack of attention cause other issues to be seen as a low priority. The "issue priming" effect refers to the finding that the more an issue is covered in the news, the more that attitudes toward that issue will be used as a basis for reaching global judgments about the performance of a particular political leader (Iyengar & Kinder, 1987; Krosnick & Brannon, 1993; Krosnick & Kinder, 1990). Thus, a political leader's support among an electorate can change quite substantially depending on what issues receive extensive coverage. For instance, a leader seen as effective on national security issues but weak on economic issues could enjoy strong general support when the media focuses the electorate's attention on national security issues or be extremely unpopular when news sources focus attention on economic issues.

The "issue framing" effect refers to the finding that new stories that are presented in a thematic form (i.e., stories that focus on general systemic factors) versus news stories that are presented in an episodic form (i.e., stories that focus on specific individuals or events) can shape the causes that people see as responsible for certain problems (Iyengar, 1991). For example, news stories that focused on the plight of individual unemployed people were found to produce stronger perceptions that unemployment was a result of characteristics of the unemployed workers whereas news stories that focused on general trends in unemployment resulted in people being more likely to see unemployment as a result of larger economic forces. Importantly, research has shown that people's perceptions of the cause of a given problem can influence their support for various policies. For instance, people who see unemployment as the "fault" of workers are less likely to support government programs providing assistance to the unemployed.

The literature on media effects is relevant to non-kinetic activities in several ways. First, effects such as agenda setting and priming suggest that informational campaigns can be used to help shape the issues that a given target population sees as important and the particular issues that population might use in their global judgments regarding political entities friendly to the Canadian Forces and perhaps even the performance of the Canadian Forces itself. For example, by highlighting the many humanitarian efforts the Canadian Forces supports in a given theatre of operations, it may be possible to ensure that these activities remain prominent in the thinking of a target population and thus serve as an important basis of that audience's general evaluations of the presence of the Canadian Forces in their country. Along similar lines, use of issue framing may allow military personnel to construct informational campaigns that shape the perceptions of a target population regarding the causes of particular problems confronting the Canadian Forces in its area of operations and in so doing might shift attitudes. Thus, this literature would make several recommendations:

- Information campaigns should pay special attention to highlighting issues that are likely to provide a favorable agenda and result in positive evaluations of the Canadian Forces by target populations.

- When constructing information campaigns, the potential impact of issue framing should be considered. Episodic frames should only be used when the intent is to encourage more dispositional attributions.

**Unresolved issues.** Although media effects such as agenda setting, priming, and issue framing are well documented. Comparatively little is known about their underlying psychological processes. Thus, it is not entirely clear who is most susceptible to these effects, the contextual factors that facilitate or inhibit these effects, and the conditions under which these effects are likely to be enduring or transitory. Moreover, nearly all of this research has focused on the impact of news broadcasts. The extent to which other media sources can create these effects is not clear. Thus, future research needs to:

- Clarify the contextual and individual difference factors that regulate the emergence of agenda setting, issue priming, and issue framing.

- Explore the impact of different media sources on agenda setting, issue priming, and issue framing.

## General Theories of Attitude-Behaviour Consistency

Critical to effective non-kinetic activities is not only that these activities produce their intended attitudes, but that these attitudes translate into desired behaviours. Social psychologists have developed an extensive body of research exploring when and why attitudes do or do not translate into subsequent behaviour. Indeed, such questions have been central to the investigation of attitudes for at least 40 years (see Fabrigar et al., 2010). Some literatures relevant to this question have already been highlighted in earlier sections such as the literature on attitude strength and the literature on dual process theories of persuasion. However, there are several other theoretical perspectives regarding attitude-behaviour consistency that also merit attention.

## Deliberative Theories of Attitude-Behaviour Consistency

**Themes and implications.** Among the most influential theories to emerge in the literature on attitude-behaviour consistency is the Theory of Reasoned Action (TORA; Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980). This theory postulates that behaviours are a result of relatively deliberate intentions. Behavioural intentions are in turn postulated to be a function of specific attitudes toward the behaviour in question as well as subjective norms toward the specific behaviour (i.e., perceptions of whether important others approve or disapprove of the behaviour). There are at least two important implications that might be derived from this perspective. First, TORA postulates that the attitude most useful to predicting behaviour is that attitude which most directly corresponds to the behaviour that one wishes to predict. For example, if a person was interested in predicting whether people are likely to provide information to the Canadian Forces regarding hostile forces, the appropriate attitude to measure would not be general attitudes towards the Canadian Forces. Rather, it would be attitudes toward the specific behaviour of providing information regarding hostile forces to the Canadian Forces. A second implication of TORA is that sometimes attitudes do not translate into behaviour because the person's attitude is contradicted by their subjective norms. For example, a person might well have a favorable attitude toward providing Canadian Forces with information regarding the activities of hostile forces. However, that person might not act on this attitude if he or she perceives this action to be contrary to the views of their family members, close friends, and/or respected leaders of their community.

A second important theory that is closely related to TORA is the Theory of Planned Behaviour (TPB; Ajzen, 1985; 1991). The TPB is similar to TORA in most respects, with the exception that it adds a third determinant of intentions: perceived behavioural control. Perceived behavioural control refers to the extent to which a person sees the

behaviour as something that is under their control and that they are capable of successfully undertaking. Thus, an implication of this perspective is that even if people view a behaviour favorably and know important others view it favorably, people will not necessarily perform the behaviour unless they feel they are able to do so.

Taken together, TORA and TPB can be used to generate at least two key recommendations:

- When the goal is to either predict or influence a particular behaviour, attitudes toward that particular behaviour should be measured and informational campaigns designed to influence the behaviour should focus on the specific attitude toward the target behaviour rather than more general attitudes.

- Prediction and influence of behaviour should also focus on the subjective norms toward the focal behaviour and perceived behavioural control of the focal behaviour.

**Unresolved issues.** Both TORA and TPB have received extensive empirical support. That being said, important issues remain to be addressed. For example, much remains to be done in understanding what factors determine the relative importance of the three primary determinants of intentions. For example, are there certain types of attitude objects for which one determinant or another tends to be more influential on intentions? Likewise, does the strength of these determinants vary across different cultural groups? Another important issue is to clarify the antecedents of specific attitudes toward the behaviour, subjective norms, and perceived behavioural control. The theory focuses on these variables as its starting point, but understanding their origins is important when considering how informational campaigns might be conducted to change these constructs. Thus, the following issues are important for future research when considering the application of these theories to non-kinetic activities:

- Exploration of moderators of the strength of the three determinants of behavioural intentions.

- Exploration of the antecedents of the three determinants of behavioural intentions.


## Dual Process Theories of Attitude-Behaviour Consistency

**Themes and Implications.** Although TORA and TPB have proven useful in both basic and applied research contexts, more recently some researchers have suggested that these theories might not effectively account for certain types of behaviours. This concern has resulted in the development of dual process theories of attitude-behaviour consistency. Of these theories, probably the first and likely the most influential has been the Motivations and Opportunities as Determinants Model (MODE model; Fazio, 1990; Fazio & Towles-Schwen, 1999). Central to this theory is the premise that behaviour is

sometimes highly deliberative (when people are motivated and have the opportunity to carefully think about their behaviours) whereas in other cases it is relatively spontaneous (when people are either unmotivated or lack the opportunity to carefully think).

The MODE postulates that the theories such as TORA and TPB provide a relatively good account of attitude-behaviour consistency under conditions where people are deliberative. However, the MODE postulates a different process when people are spontaneous in their behaviours. First, the theory postulates that people will not form an attitude toward a specific behaviour but instead will rely on their attitudes toward the general target of behaviour. Second, attitudes toward the target of the behaviour will exert their influence on behaviour by shaping perceptions of the immediate behavioural situation. For example, an enemy combatant forced to make a split decision on whether to surrender or fight will not carefully deliberate about the pros and cons of surrendering in this particular circumstance, but rather will instead fall back on his general attitudes toward surrendering (is it an acceptable action in some circumstances) and the military force demanding his surrender (does he trust the force to honor terms of surrender). More recent dual process theories of attitude-behaviour consistency such the Mechanisms Responsible for Prediction and Influence Model (MRPI model; Fabrigar et al., 2010) have built upon ideas postulated in the MODE to incorporate additional mechanisms that might play a role in attitude-behaviour consistency under both high and low deliberation conditions. These additional mechanisms help to explain why certain moderators regulate the ability of attitudes to predict and influence behaviour.

Dual process theories of attitude-behaviour consistency such as the MODE model have a number of practical implications for conducting successful non-kinetic activities. First, they suggest that it is important to consider if the behaviour or behaviours of interest are likely to be highly deliberative or spontaneous in nature. If behaviours are likely to be spontaneous, constructs such as perceived behavioural control, subjective norms, and specific attitudes toward the behaviour might be less useful in predicting and influencing behaivour. A second important implication of these theories is that they highlight that although it might often be useful to target attitudes toward specific behaviours, in many contexts it might also be useful to target more general attitudes (e.g., attitudes toward the Canadian Forces). These general attitudes are likely to play a direct role in behavioural situations that are more spontaneous in nature and can even play an important role in deliberative situations. For example, in deliberative conditions general attitudes might strongly influence more specific attitudes toward a target behaviour and thus still be important. Indeed, research has suggested that if the goal is predict or influence a large number of specific behaviours, general attitudes might not be effective in predicting any single behaviour, but nonetheless might effectively predict general patterns of responding across many behaviours (Fishbeing & Ajzen, 1974; Weigel & Newman, 1976). Thus, these theories imply the following recommendations:

- When conducting non-kinetic operations designed to influence behaviour, it is important to consider if the target behaviours are likely to be highly deliberative in nature or relatively spontaneous.

- Even when attempting to influence a specific behaviour, targeting general attitudes relevant to the behaviour is useful.

- When the goal is to target a wide range of specific behaviours, targeting general attitudes relevant to those behaviours might be a more efficient method of influencing the behaviours and more generally successful than attempting to target attitudes toward each specific behaviour.

**Unresolved issues.** Dual process theories of attitude-behaviour consistency have the potential to greatly increase our understanding of attitude-behaviour consistency processes. However, these theories are much newer than theories such as TORA and TPB. Thus, many issues remain to be resolved. For example, even a comparatively well established theory such as the MODE has primarily been tested in controlled laboratory settings. Tests of the model's utility in more applied contexts have been comparatively rare. At a more fundamental level, even some aspects of the MODE's underlying processes in spontaneous conditions have yet to be fully explored. Very new theories such as the MIRPI are only now undergoing their first empirical tests in lab settings. Thus, much remains to be done in this literature in terms of its application to non-kinetic activities including:

- Tests of the utility of the MODE model in accounting for attitude-behaviour consistency in field settings.

- More direct tests of the underlying processes postulated by the MODE to account for attitude-behaviour consistency in spontaneous conditions.

- Basic tests of key assumptions of the MIRPI, in both laboratory and field settings.

## Methods of Behavioural Social Influence

Historically, research on social influence has mostly focused on the exploration of persuasion processes by which attitudes can be changed. The great advantage of influencing behaviour via attitudes is that once an attitude has been changed, that attitude can continue to influence behaviour over the long term. Although there are significant advantages to influencing behaviour via attitudes, in many contexts it may be difficult to achieve long-term attitude change or it might not be necessary because only a very short term behaviour is being targeted (e.g., surrender of an enemy combatant). A substantial body of empirical research has accumulated exploring social influence processes that do not necessarily involve attitude change. Of these literatures, probably the most relevant is the research literature on compliance. Briefly stated, compliance refers to a change in behaviour that is elicited by a direct request. Various strategies have been developed for enhancing compliance to requests. Some of these strategies may influence behaviour via attitude change, but attitude change is not the primary

focus of the techniques and in some cases behavioural change is probably accomplished in the absence of attitude change.

## Principles and Techniques of Compliance

**Themes and implications.** Within the domain of compliance, probably the most influential theoretical perspective is Robert Cialdini's six principles of social influence (see Cialdini, 2001; Cialdini & Trost, 1998). Briefly stated, Cialdini has proposed that many successful social influence tactics used in various applied settings (e.g., fund raising, product sales, etc.) rest on one or more of six major principles: commitment and consistency, reciprocity, social proof, scarcity, authority, and liking. Importantly, a number of specific social influence tactics have been developed on the basis of these principles, many of which have been demonstrated to be highly effective in both laboratory and fields settings.

For example, the principle of commitment and consistency is derived from the highly influential Theory of Cognitive Dissonance (Festinger, 1957; see also Cooper, 2007; Harmon-Jones & Mills, 1999). This theory postulates that people have a motivation to maintain consistency among their attitudes and behaviours. When inconsistencies occur, people feel psychological discomfort and thus work to restore consistency in order to reduce this discomfort. For example, research has shown that when people are induced to perform behaviours inconsistent with their attitudes, people may actually change their attitudes to come in line with the recently performed behaviours. One widely researched social influence technique arising out of this principle of commitment and consistency is the "Foot-In-The-Door" technique (Freedman & Fraser, 1966). This tactic involves securing agreement to perform a comparatively modest action and then following this up with a much larger request that is the true target behaviour. For example, one might ask a person to sign a petition or display a small sign supporting a given cause and then at some later point ask that person to volunteer their time to this cause. Research indicates that securing agreement to the minor request makes people much more likely perform the larger target request than they would have been had they been merely asked the target request without the prior minor request (Burger, 1999). The logic underlying the success of this tactic is that initial agreement to sign a petition or display a sign causes that person to adopt a more extreme attitude in favor of the cause which in turn leads them to be more willing to agree to the later large request.

A second useful illustration arises out of the principle of reciprocity. This principle rests on the assumption that people adhere to a norm that they are obligated to repay favors done for them. A number of tactics have been developed based on this assumption. Perhaps most notably, the "Door-in-the-Face" technique involves asking people to perform a very extreme behaviour that they are unlikely to agree to perform and then, following rejection of this request, make a more modest request which is the actual target behaviour (Cialdini, Vincent, Lewis, Catalan, Wheeler, & Darby, 1975). For example, fund raisers often initially request very large donations and when refused then follow this refusal by requesting a much smaller amount. Research suggests that people are more likely to agree to the second modest request when preceded by the large

request than they would have had no larger request been initially made. The explanation for this effect is that when we refuse a person's initial request and they respond to that by making a more modest request, this action is seen as a concession on the part of the requester and thus we feel some pressure to reciprocate this positive action with agreement.

The Foot-in-the-Door and the Door-in-the-Face techniques each represent only one of several tactics that are based on their respective social influence principles. Others have also received substantial empirical support. Moreover, each of the other 4 principles of scarcity, liking, authority, and social proof also has empirically validated tactics associated with it. One of the great strengths of this literature is nearly all of these tactics have been demonstrated to be successful not only in controlled laboratory settings, but also in field settings. It is quite plausible that these techniques might be applicable to the context of non-kinetic activities. Indeed, in their review of PSYOPS materials used in current and past military operations, Fabrigar and Porter (2008) noted that some of the features of these materials appeared to parallel well known compliance tactics. Thus, this literature suggests that:

- When the goal is to secure agreement to a short term behavioural request in non-kinetic activities, use of established techniques of compliance can aid in facilitating higher levels of performance of the target behaviour.

**Unresolved issues.** For the most part, the efficacy of well-known compliance tactics has been clearly established. Thus, there is little dispute that these techniques can be successful in applied settings. In point of fact, their use in applied settings is commonplace. What remains to be determined for many of these tactics is why they work. In most cases, plausible psychological explanations for the success of these techniques have been advanced. However, definitive tests of the mechanisms underlying each technique have yet to be conducted in most cases. Thus, it is not entirely clear what contextual factors and individual differences moderate the success of these techniques. For example, do these techniques work equally well across different cultural groups? Given these facts, key issues that would be useful to resolve in the application of these techniques to non-kinetic activities include:

- Establishing the conditions under which each tactic is likely to be most successful or likely to be unsuccessful in enhancing compliance.

- Determining the extent to which tactics are successful across different cultural groups.

## Social Norms

**Themes and implications.** A related literature to the literature on compliance tactics is the research on the use of descriptive and injunctive norms in the construction of messages designed to elicit compliance (Cialdini, 2003; Cialdini, Kallgren, & Reno,

1991; Goldstein, Cialdini, and Griskevicius, 2008). Briefly stated, injunctive norms are standards that reflect what others think we should do whereas descriptive norms are what others typically do. This work has shown that stressing both of these types of social norms can be very effective in modifying behaviour, but that it is important to recognize that careless use of such norms can sometimes lead to messages producing changes in behaviour that are opposite of what is intended. For example, Cialdini and colleagues have shown a number of cases in which descriptive norm messages intended to reduce a given problematic behaviour actually produced higher levels of the behaviour by stressing that the problematic behaviour was very common. Moreover, this literature has also begun to indentify conditions that are likely to make either descriptive or injunctive norms more powerful and thus lead to greater influence of these norms on behaviour (e.g., Jacobson, Mortensen, & Cialdini, 2011; Kredentser, Fabrigar, Smith, & Fulton, 2012). In summary, this literature has at least two important lessons for the construction of messages in non-kinetic activities:

- Messages intended to reduce a given behaviour should not stress the prevalence of that behaviour, but rather the injunctive norms against the behaviour and the substantial prevalence of people reducing that behaviour.

- Messages intended to increase a given behaviour should stress the injunctive norms in favour of that behaviour and the substantial prevalence of people adopting that behaviour.

**Unresolved issues.** The success of injunctive and descriptive norm messages has generally been established, including in field settings. However, much remains to be done in establishing what factors regulate the strength of these norms. One question of particular relevance is the degree to which these norms vary in their strength across cultural groups and whether the specific manifestations of these norms vary across culture. For example, are injunctive norms more personalized in individual cultures than they are in collectivist cultures? Thus, useful questions to address in the application of this literature to non-kinetic activities include:

- What are the contextual factors and individual difference factors that regulate the general impact of norms on behaviour?

- What are the contextual factors and individual difference factors that regulate the relative impact of descriptive versus injunctive norms on behaviour?

- To what extent are the effects of injunctive and descriptive norms similar versus different across cultural groups?


## CONCLUSIONS AND RECOMMENDATIONS

This review has highlighted a variety of literatures that have the potential to contribute

to the planning, implementation, and assessment of non-kinetic activities by military forces. As has been noted throughout this report, in many cases, these literatures have reached a point where their findings might be directly applied with only modest adaptations to the context of non-kinetic activities by military forces. However, as has also been highlighted throughout the report, important unresolved issues remain. Many of the unresolved issues have clear implications for the application of findings to non-kinetic activities. Some of these issues are unique to specific literatures. Others tend to re-occur across multiple literatures. Of the unresolved issues that tend to re-occur, three in particular merit comment.

First, the role of cultural variables in attitudes, persuasion, and social influence has only recently begun to receive serious attention. As a result, comparatively little is known regarding how some of these processes operate outside of the North American/Western European context. What is known has focused primarily on comparisons with nationalities from eastern Asia (e.g., Japan, China, and Korea). It is likely that as time progresses, more will be learned about the role of cultural variables in attitudes, persuasion, and social influence as cross-cultural psychology has become an increasingly popular field over the past 20 years. That being said, it is not clear that this research will necessarily focus on cultural groups that are of the most relevance to military operations. Eastern Asia is likely to continue to be the primary focus of such comparisons because it is in this region of the world where the largest concentration of social psychologists and research resources exist outside of North American and Western Europe. Thus, if information is desired regarding other groups, it will likely require the participation of researchers outside traditional academic settings. This is one area of study where military researchers might be in position to uniquely contribute to the field.

A second limitation of the literature is that many of the techniques and measures that have been discussed were developed for study primarily within the context of laboratory settings. In some cases, adaptations of these techniques/measures to field settings have already been undertaken or seem relatively straightforward to undertake. However, in other cases, it is difficult to imagine exporting the techniques/measures to field settings without substantial modifications. Such modifications will be hard to accomplish without the investment of substantial research resources. It is unlikely that a significant impetus to investigate such questions will arise within the traditional academic community. Hence, the development of techniques and measures suitable for field settings is another area where military researchers might be in position to make important contributions.

A final unresolved issue that has arisen in our reviews of some areas is that although the effects of key variables are sometimes well established, the underlying psychological processes responsible for these effects are not always well understood. At first glance, this might not appear to be a problem for application. As long as a variable has an effect, why worry about the mechanism responsible for it? However, as has been illustrated in several of the literatures (e.g., the research on dual process theories of persuasion), knowing the processes responsible for an effect can often be extremely

valuable for application. Without knowing why an effect occurs, it is difficult to anticipate conditions under which the effect will fail to occur or perhaps even reverse. Likewise, it is difficult to anticipate ways in which the effect might be made to function even more powerfully. Thus, resolving these basic theoretical questions is important for effective application. Fortunately, these sorts of questions are at the heart of academic psychology and related disciplines. Thus, they will almost certainly receive attention in the future. That being said, which of these variables receive attention may or may not be variables likely to be useful in the context of non-kinetic activities. Thus, military researcher might well have a valuable role to play even in answering basic research questions, by ensuring that variables important to the context of non-kinetic activities receive empirical attention.

In closing, it should be noted that the present review has focused exclusively on research in the domains of attitudes, persuasion, and social influence. These literatures were selected because they have very broad application to many aspects of non-kinetic activities. However, other research literatures within social psychology and related disciplines (e.g., research on prejudice, stereotypes, and inter-group conflict; research on conflict reduction) also have potential contributions to make to some aspects of non-kinetic activities. A consideration of the potential implications of these literatures for specific aspects of non-kinetic activities would be informative.

# References

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckman (Eds.), *Action Control: From Cognition to Behavior* (pp. 11-39). New York, NY: Springer-Verlag.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*, 179-211.

Ajzen, I., & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Allport, G. W. (1935). Attitudes. In C. Murchinson (Ed.), *A Handbook of Social Psychology* Vol. 2, pp. 798-844). Worcester, MA: Clark University Press.

Burger, J. M. (1999). The foot-in-the-door procedure: A multiple process analysis. *Personality and Social Psychology Review*, *4*, 303-325.

Chen, S., & Chaiken, S. (1999). The Heuristic-Systematic Model in its broader context. In S. Chaiken & Y. Trope (Eds.), *Dual-Process Theories in Social Psychology* (pp. 73-96). New York, NY: Guilford Press.

Chaiken, S., Liberman, A., & Eagly, A. H. (1989). Heuristic and systematic processing within and beyond the persuasion context. In J. S. Uleman & J. A. Bargh (Eds.), *Unintended Thought* (pp. 212-252). New York, NY: Guilford Press.

Chaiken, S., Pomerantz, E. M., & Giner-Sorolla, R. (1995). Structural consistency and attitude strength. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 387-412). Mahwah, NJ: Lawrence Erlbaum Associates.

Chaiken, S., & Trope, Y. (Eds.) (1999). *Dual-Process Theories in Social Psychology*. New York, NY: Guilford Press.

Cialdini, R. B. (2001). *Influence: Science and Practice* (Fourth Edition). Boston, MA: Allyn and Bacon.

Cialdini, R. B. (2003). Crafting normative messages to protect the environment. *Current Directions in Psychological Science*, *12*, 105-109.

Cialdini, R. B., Kallgren, C. A., & Reno, R. R. (1991). A focus theory of normative conduct: A theoretical refinement and reevaluation of the role of norms in human behavior. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol. 24, pp. 201-234). San Diego, CA: Academic Press.

Cialdini, R. B., & Trost, M. R. (1998). Social Influence: Social Norms, Conformity, and Compliance. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), The Handbook of Social Psychology (Fourth Edition, Vol. 2, pp. 151-192). Boston, MA: McGraw-Hill.

Cialdini, R. B., Vincent, J. E., Lewis, S. K., Catalan, J., Wheeler, D., & Darby, B. L. (1975). Reciprocal concessions procedure for inducing compliance: The door-in-the-face technique. *Journal of Personality and Social Psychology*, *31*, 206-215.

Cooper, J. (2007). *Cognitive Dissonance: Fifty Years of a Classic Theory*. Thousand Oaks, CA: Sage.

Crites, S. L., Jr., Fabrigar, L. R., & Petty, R. E. (1994). Measuring the affective and cognitive properties of attitudes: Conceptual and methodological issues. *Personality and Social Psychology Bulletin, 20*, 619-634.

Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth, TX: Harcourt Brace Jovanovich.

Eagly, A. H., & Chaiken, S. (1998). Attitude structure and function. In D. Gilbert, S. Fiske, & G. Lindzey (Eds.), *Handbook of social psychology* (4th ed., pp. 269-322). New York, NY: McGraw-Hill.

Eagly, A. H., Mladinic, A., & Otto, S. (1994). Cognitive and affective bases of attitudes toward social groups and social policies. *Journal of Experimental Social Psychology*, *30*, 113-137.

Edwards, A. L. (1957). *Techniques of attitude scale construction*. New York, NY: Appleton-Century-Crofts, Inc.

Edwards, K. (1990). The interplay of affect and cognition in attitude formation and change. *Journal of Personality and Social Psychology*, *59*, 202-216.

Fabrigar, L. R., Krosnick, J. A., & MacDougall, B. L. (2005). Attitude measurement: Techniques for measuring the unobservable. In T. C. Brock & M. C. Green (Eds.), *Persuasion: Psychological Insights and Perspectives* (Second Edition) (pp. 17-40). Newbury Park, CA: Sage Publications.

Fabrigar, L. R., MacDonald, T. K., & Wegener, D. T. (2005). The structure of attitudes. In D. Albarracin, B. T. Johnson, & M. P. Zanna (Eds.), *Handbook of Attitudes and Attitude Change* (pp. 79-124). Mahwah, NJ: Erlbaum.

Fabrigar, L. R., & Petty, R. E. (1999). The role of the affective and cognitive bases of attitudes in susceptibility to affectively and cognitively based persuasion. *Personality and Social Psychology Bulletin*, *25*, 363-381.

Fabrigar, L. R., Petty, R. E., Smith, S. M., & Crites, S. L., Jr. (2006). Understanding knowledge effects on attitude-behavior consistency: The role of relevance, complexity, and amount of knowledge. *Journal of Personality and Social Psychology*, *90*, 556-577.

Fabrigar, L.R. & Porter, R.D. (2008). *Evaluating the psychology in psychological operations: An assessment of the state of psychological knowledge in Canadian Forces' PSYOPS training* (Research Report 2008-01). The Royal Military College of Canada, Kingston, ON.

Fabrigar, L. R., & Wegener, D. T. (2010). Attitude structure. In R. F. Baumeister & E. J. Finkel (Eds.), *Advanced social psychology* (pp. 177-216). New York, NY: Oxford University Press.

Fabrigar, L. R., Wegener, D. T., & MacDonald, T. K. (2010). Distinguishing between prediction and influence: Multiple processes underlying attitude-behavior consistency. In C. R. Agnew, D. E. Carlston, W. G. Graziano, & J. R. Kelly (Eds.), *Then a miracle occurs: Focusing on behavior in social psychological theory and research* (pp. 162-185). New York, NY: Oxford University Press.

Fazio, R. H. (1990). Multiple processes by which attitudes guide behavior: The MODE model as an integrative framework. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol. 23, pp. 75-109). San Diego, CA: Academic Press.

Fazio, R. H., & Olson, M. A. (2003). Implicit measures in social cognition research: Their meaning and use. *Annual Review of Psychology, 54*, 297-327.

Fazio, R. H., & Towles-Schwen, T. (1999). The MODE model of attitude-behavior processes. In S. Chaiken & Y. Trope (Eds.), *Dual-Process Theories in Social Psychology* (pp. 97-116). New York, NY: Guilford Press.

Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Stanford, CA: Stanford University Press.

Fishbein, M., & Ajzen, I. (1974). Attitudes toward objects as predictors of single and multiple criteria behavior. *Psychological Review*, *81*, 59-74

Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley.

Freedman, J. L., & Fraser, S. C. (1966). Compliance without pressure: The foot-in-the-door technique. *Journal of Personality and Social Psychology*, *4*, 195-202.

Goldstein, N. J., Cialdini, R. B., & Griskevicius, V. (2008). A room with a viewpoint: Using social norms to motivate environmental conservation in hotels. *Journal of Consumer Research, 35*, 472-482.

Hammond, K. R. (1948). Measuring attitudes by error-choice: An indirect method. *Journal of Abnormal and Social Psychology*, *43*, 38-48.

Han, S., & Shavitt, S. (1994). Persuasion and culture: Advertising appeals in individualistic and collectivist societies. *Journal of Experimental Social Psychology*, *30*, 326-350.

Harmon-Jones, E., & Mills, J. (Eds.) (1999). *Cognitive Dissonance: Progress on a Pivotal Theory in Social Psychology*. Washington, DC: American Psychological Association.

Hovland, C. I., Janis, I., & Kelley, H. H. (1953). *Communication and persuasion*. New Haven, CT: Yale University Press.

Iyengar, S. (1991). *Is Anyone Responsible? How Television Frames Political Issues*. Chicago, IL: University of Chicago Press.

Iyengar, S., & Kinder, D. R. (1987). *News That Matters*. Chicago, IL: University of Chicago Press.

Jacobson, R. P., Mortensen, C. R., & Cialdini, R. B. (2011). Bodies obliged and unbound: Differentiated response tendencies for injunctive and descriptive social norms. *Journal of Personality and Social Psychology*, *100*, 433-448.

Katz, D. (1960). The functional approach to the study of attitudes. *Public Opinion Quarterly*, *24*, 163-204.

Katz, D., & Stotland, E. (1959). A preliminary statement to a theory of attitude structure and change. In S. Koch (Ed.), *Psychology: A study of a science: Vol. 3 Formulations of the person and the social context* (pp. 423-475). New York, NY: McGraw-Hill.

Kredentser, M. S., Fabrigar, L. R., Smith, S. M., & Fulton, K. (2012). Following what people think we should do versus what people actually do: Elaboration as a moderator of the impact of descriptive and injunctive norms. *Social Psychological and Personality Science, 3*, 341-347.

Krosnick, J.A. (1991). Response strategies for coping with the cognitive demands of attitude measures in surveys. *Applied Cognitive Psychology*, *5*, 159-182.

Krosnick, J. A., & Brannon, L. A. (1993). The media and foundations of presidential support: George Bush and the Persian Gulf conflict. *Journal of Social Issues*, *49*, 167-182.

Krosnick, J.A. & Fabrigar, L.R. (1997). Designing rating scales for effective measurement in surveys. In L. Lyberg, P. Biemer, M. Collins, L. Decker, E. de Leeuw, C. Dippo, N. Schwarz, & D. Trewin (Eds.), *Survey measurement and process quality* (pp. 141-164). New York: Wiley-Interscience.

Krosnick, J. A., Judd, C. M., & Wittenbrink, B. (2005). The measurement of attitudes. In D. Albarracin, B. T. Johnson, & M. P. Zanna (Eds.), *Handbook of Attitudes and Attitude Change* (pp. 21-76). Mahwah, NJ: Erlbaum.

Kronsick, J. A., & Kinder, D. R. (1990). Altering the foundations of support for the president through priming. *American Political Science Review*, *84*, 497-512.

Lavine, H., & Snyder, M. (1996). Cognitive processing and the functional matching effect in persuasion: The mediating role of subjective perceptions and message quality. *Journal of Experimental Social Psychology*, *32*, 580-604.

Maio, G. R., & Olson, J. M. (Eds.) (2000). *Why We Evaluate: Functions of Attitudes*. Mahwah, NJ: Erlbaum.

McGuire, W. J. (1964). Inducing resistance to persuasion. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 1, pp. 191-229). New York, NY: Academic Press.

McGuire, W. J. (1985). Attitudes and attitude change. In G. Lindzey & E. Aronson (Eds.), *The handbook of social psychology* (3rd Edition, Vol. 2, pp. 233-346). New York, NY: Random House.

Milgram, S., Mann, L., & Harter, S. (1965). The lost-letter technique: A tool of social research. *Public Opinion Quarterly*, *29*, 437-438.

Millar, M. G., & Millar, K. U. (1990). Attitude change as a function of attitude type and argument type. *Journal of Personality and Social Psychology*, *59*, 217-228.

Millar, M., & Tesser, A. (1986). Effects of affective and cognitive focus on the attitude-behavior relationship. *Journal of Personality and Social Psychology*, *51*, 270-276.

Millar, M., & Tesser, A. (1986). The effects of affective-cognitive consistency and thought on the attitude-behavior relation. *Journal of Experimental Social Psychology*, *25*, 189-202.

Mueller, D. J. (1986). *Measuring social attitudes: A handbook for researchers and practitioners*. New York, NY: Teachers College Press.

Paulhus, D. L. (1991). Measurement and control of response bias. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of personality and social psychological attitudes* (pp. 17-59). San Diego, CA: Academic Press.

Petty, R. E., & Cacioppo, J. T. (1981). *Communication and Persuasion: Classic and contemporary approaches*. Dubuque, IA: William C. Brown.

Petty, R. E., & Cacioppo, J. T. (1986). *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*. New York, NY: Springer-Verlag.

Petty, R. E., Fabrigar, L. R., & Wegener, D. T. (2003). Emotional factors in attitudes and persuasion. In R. J. Davidson, K. Scherer, & H. H. Goldsmith (Eds.), *Handbook of affective sciences* (pp. 752-772). London: Oxford University Press.

Petty, R. E., Fazio, R. H., & Briñol, P. (Eds.) (2009). *Attitudes: Insights from the New Implicit Measures*. New York, NY: Psychology Press.

Petty, R. E., & Krosnick, J. A. (Eds.) (1995). *Attitude Strength: Antecedents and Consequences*. Mahwah, NJ: Erlbaum.

Petty, R. E., & Wegener, D. T. (1998a). Matching versus mismatching attitude functions: Implications for scrutiny of persuasive messages. *Personality and Social Psychology Bulletin*, *24*, 227-240.

Petty, R. E., & Wegener, D. T. (1998b). Attitude change: Multiple roles for persuasion variables. In D. Gilbert, S. Fiske, & G. Lindzey (Eds.), *The Handbook of Social Psychology* (4th ed., pp. 323-390). New York: McGraw-Hill.

Petty, R. E., & Wegener, D. T. (1999). The Elaboration Likelihood Model: Current status and controversies. In S. Chaiken & Y. Trope (Eds.), *Dual-Process Theories in Social Psychology* (pp. 41-72). New York, NY: Guilford Press.

Pratkanis, A. R., Breckler, S. J., & Greenwald, A. G. (Eds.) (1989). *Attitude Structure and Function*. Hillsdale, NJ: Erlbaum.

Schuman, H. & Presser, S. (1981). *Questions and answers in attitude surveys*. San Diego, CA: Academic Press.

See. Y. H. M., Petty, R. E., & Fabrigar, L. R. (2008). Affective and cognitive meta-bases of attitudes: Unique effects on information interest and persuasion. *Journal of Personality and Social Psychology, 94*, 938-955.

Smith, M. B., Bruner, J. S., & White, R. W. (1956). *Opinions and personality*. New York: Wiley.

Sudman, S., Bradburn, N. M., & Schwarz, N. (1995). *Thinking about answers*. San Francisco, CA: Jossey-Bass Publishers.

Summers, G. F. (Ed.) (1970). *Attitude measurement*. Chicago, IL: Rand-McNally.

Thurstone, L. L. (1928). Attitudes can be measured. *American Journal of Sociology*, *33*, 529-554.

Tormala, Z. L., & Petty, R. E. (2002). What doesn't kill me makes me stronger: The effects of resisting persuasion on attitude certainty. *Journal of Personality and Social Psychology*, *83*, 1298-1313.

Visser, P. S., Bizer, G. Y., & Krosnick, J. A. (2006). Exploring the latent structure of strength-related attitude attributes. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 38, pp. 1-67). San Diego, CA: Elsevier.

Visser, P. S., Krosnick, J. A., & Lavrakas, P. J. (2000). Survey research. In H. T. Reis & C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology* (pp. 223-252). New York, NY: Cambridge University Press.

Webb, E. J., Campbell, D. T., Schwartz, R. D., & Sechrest, L. (1966). *Unobtrusive measures: Nonreactive research in the social sciences*. Chicago, IL: Rand McNally.

Weigel, R. H., & Newman, L. S. (1976). Increasing attitude-behavior correspondence by broadening the scope of the behavioral measure. *Journal of Personality and Social Psychology*, *33*, 793-802.

Zaller, J. R. (1992). *The Nature and Origins of Mass Opinion*. New York, NY: Cambridge University Press.

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(U) The goal of this report is to provide an overview of research on the psychology of attitudes, persuasion, and social influence as it relates to the design, implementation, and evaluation of non-kinetic activities.

However, many important unresolved issues remain. Many of the unresolved issues have clear implications for the application of findings to non-kinetic activities. Some of these issues are unique to specific literatures. Others tend to re-occur across multiple literatures.

The three most significant issues include:

Ł The role of cultural variables in attitudes, persuasion, and social influence has only recently begun to receive serious attention

Ł Many of the techniques and measures that have been discussed within the literature were developed for study primarily within the context of laboratory settings; and,

Ł While the effects of key variables are sometimes well established, the underlying psychological processes responsible for these effects are not always well understood.

(U) Le présent rapport offre un survol de la recherche sur la psychologie des attitudes, de la persuasion et de l™influence sociale en ce qui a trait plus précisément à la conception, à la mise en œuvre et à l™évaluation des activités non cinétiques.

Dans ce domaine, bon nombre de questions importantes demeurent sans réponse. Plusieurs de celles ci ont des implications évidentes pour la généralisation des conclusions aux activités non cinétiques. Parmi ces questions, certaines sont propres aux domaines précis des travaux recensés, tandis que d™autres chevauchent de multiples domaines de recherche.

Voici les trois questions les plus importantes :

Ł On vient tout juste de commencer à s™intéresser au rôle des variables culturelles dans les attitudes, la persuasion et l™influence sociale

Ł Bon nombre des techniques et des mesures étudiées dans les travaux recensés ont été élaborées en vue d™études menées principalement dans un contexte expérimental

Ł Alors que les effets des variables clés sont parfois bien établis, les processus psychologiques sous jacents à l™origine de ces effets ne sont pas toujours bien compris.