Personality, Individual Differences, and Social Influence:
A Conceptual Overview

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INTRODUCTION

Objectives, Scope, and Overview

The study of personality and individual differences is one of the oldest and most extensive literature in all of psychology (see Pervin, 1990; Barenbaum & Winter, 2008; Revelle, Wilt, & Condon, 2011). Variations in personality and individual differences have been linked to a vast array of behavioral, cognitive, and affective outcomes within the context of many social processes (e.g., see Chamorro-Premuzic, von Stumm, & Furnham, 2011; John, Robbins, & Pervin, 2008). The study of social influence is no exception. Over the past few decades, a sizeable amount of empirical literature has accumulated documenting the effects of numerous personality traits and individual differences in social influence processes such as conformity, compliance, obedience, and persuasion (e.g., see Briñol & Petty, 2005).

The goal of the present report is to provide an overview of the research literature on the role of personality and individual differences in social influence. Our overview will draw primarily from the discipline of social-personality psychology, but as will be seen, at various points we will also draw on research from areas as diverse as consumer behavior, organizational behaviour, communications, health psychology, clinical psychology, and political psychology. The intent of this report is not to provide a detailed scholarly review of the many individual studies comprising this literature (although a number of specific research findings will be discussed). Rather, our objective is to provide a more conceptual introduction to this area of research. In doing so, our focus will be on explicating a theoretical framework in which to organize this literature and reviewing the key themes and principles that have emerged in empirical research. The report will aim to provide the reader with a guide focused on the "forest rather than the trees."

We will begin our report by providing an introduction to the key constructs in the personality/individual difference literature and the social influence literature, as well to some of the key methodological practices that have shaped this literature. In the second section of our report, we will introduce the reader to the wide array of personality and individual difference constructs that have been studied and illustrate how these constructs can be organized more parsimoniously within the context of a general conceptual framework. We will also discuss how this framework permits the many seemingly disparate effects associated with these constructs to be understood in the context of a relatively finite set of basic underlying psychological processes. Our review of this framework will conclude with a discussion of some of the general conclusions and implications that emerge from this conceptual perspective. In the third section of this report, we will turn our attention to a more detailed review of the empirical literature on the role of personality traits and individual differences in social influence. Our review of this literature will be structured along the lines of the

framework presented. For each set of personality traits and individual differences, we will provide an introduction to the various individual characteristics making up this set, discuss the various effects that have been documented for each characteristic, and discuss the potential mechanisms that might be responsible for these effects. In the final section of the report, we will conclude with a general summary of the key empirical themes that have emerged from the literature and comment on some of the applied implications of this literature within the context of the Canadian Forces. We will also highlight important issues that remained to be resolved within the literature.

An Introduction to Key Concepts and Methodological Practices

What Are Personality Traits and Individual Differences?

Although a variety of formal definitions of personality have been proposed over the years by various theorists, typically *personality* is conceptualized as individual differences in patterns of behaviors, thoughts, and emotions of people. Personality has been most commonly conceptualized as consisting of distinct *personality traits*, which refer to relatively stable and general characteristic patterns of behaviors, emotions, or thoughts (VandenBos, 2007, p. 690) Well known examples of personality traits include extraversion/introversion, neuroticism, and agreeableness. Such traits are thought to be stable in that an adult person's standing on a given trait is presumed to change comparatively little over time and even then only as a result of powerful and/or persistent environmental circumstances. Likewise, traits are assumed to be relatively general in that they are likely to manifest themselves to some degree across different social contexts.

Personality traits can be differentiated from the broader concept of *individual differences*. Within the context of psychology, the term individual differences refers to relatively stable differences in psychological characteristics of people. Such characteristics include personality traits, but also constructs such as intelligence, the self-concept, values, and motivation. The study of personality and individual differences have historically been intertwined in that many researchers interested in the role of personality have also been interested in the role of individual differences more generally. Indeed, many of the primary scholarly journals for personality research also publish research on individual differences more generally (e.g., the third section of the *Journal of Personality and Social Psychology* is titled Personality Processes and Individual Differences). Moreover, the distinction between what constitutes a personality trait versus non-personality individual difference is a subtle one. The construct of intelligence (in its various forms) is widely acknowledged to be an individual difference variable that is not a personality trait. However, other individual differences such as those related to the self-concept and motivation are conceptually much closer to personality traits and are sometimes treated as personality traits by researchers.

How Are Personality Traits and Individual Differences Measured?

Within the context of personality traits, far and away the most common measurement approach to assessing these constructs is the use of self-report rating scales of people's perceptions of their behaviours, thoughts, and emotions related to the trait of interest (see John, Naumann, & Soto, 2008; John & Srivastava, 1999; Rorer, 1990). For example, a well-known personality trait such as extraversion-introversion might be measured by asking people to rate their level of agreement with statements such as "I like to have a lot of people around me" and "I laugh easily" (Costa & McCrae, 1992). Such an approach rests on the assumption that people's self-perceptions regarding trait-relevant behaviours, thoughts, and emotions meaningfully reflect their standing on the trait and that people are willing to at least somewhat honestly report these perceptions to others.

Although self-report measures have dominated contemporary research and application in personality psychology, they are by no means the only measures. For example, projective tests present participants with ambiguous stimuli and then ask them to interpret these stimuli in some fashion in the form of relatively unstructured free responses. Such stimuli might include ink blots (Rorschach Inkblot Test) or pictures of people engaging in activities (Thematic Apperception Test). Free responses to these stimuli are subsequently content-analyzed using formal scoring systems. Tests of these sort have been postulated to capture more unconscious aspects of personality, although their validity remains a matter of debate. Other alternative measurement approaches include peer ratings of personality traits and behavioural observation.

The measurement of the broader category of individual differences reflects a much wider array of approaches as might be expected given the more heterogeneous nature of the constructs being assessed. For many individual difference constructs such as motivation, self-concept, and self-esteem, self-report rating scales are the dominant method of assessment. However, other approaches have also been used. Most notably, in recent years there has been increasing use of *implicit measures* of individual differences (Gawronski & De Houwer, 2014). Implicit measures assess constructs by measuring some form of comparatively automatic influence of the construct of interest on the performance of a task (usually some form of judgmental or categorization task).

For example, self-esteem is an individual difference construct that has usually been measured using self-report rating scales asking people to indicate their level of agreement with statements such as "I feel that I have a number of good qualities" and "I certainly feel useless at times" (Rosenberg, 1965). More recently, the well-known Implicit Association Test (IAT) has been adapted to provide an implicit assessment of self-esteem (see Bosson, Swann, & Pennebaker, 2000). In this procedure, participants are asked to perform a word categorization task on a computer. One set of words involves categorizing words as either positive (e.g., peace, love) or negative (e.g.,

disease, hate). A second set of words involves categorizing words as either self-related (e.g., me, I) or not self-related words (them, you). The computer records the speed with which people categorize words. In some trials, the same computer response key is used to indicate if a word is positive or self-related and a second response key is used to indicate if a word is negative or not self-related. In other trials, these pairings are reversed (negative with self-related and positive with not self-related). If people have strong positive associations with the self, they should find trials with the positive/self response key pairing much easier to perform (and therefore do it more quickly) than the negative/self pairing response key pairing (which should be much slower). People with negative associations with the self should show the opposite pattern. The difference in the average speed of performing this categorization task for the trials involving the two different pairings provides the index of self-esteem. Use of the IAT and other methods of implicit measurement have become increasingly popular approaches to assessing individual differences and are also now beginning to be adapted for assessment of personality traits.

One domain of individual differences where self-report rating scales have not been particularly popular is the area of intellectual abilities and skills. For example, tests of IQ have not asked people to rate how intelligent they consider themselves to be. Rather, the norm has been to measure IQ by assessing performance on various cognitive tasks such as vocabulary tests, questions of general knowledge, spatial judgment tasks, and memory for numerical sequences. One notable exception to this practice has been the measurement of emotional intelligence. Emotional intelligence is the ability to monitor one's own and others' feelings, to discriminate among different feelings, and to use feelings to guide thought and action (Salovey & Grewal, 2005). This construct is commonly measured using self-report items that ask people to indicate their self-perceptions regarding how well they perform these tasks (see Bar-On, 1997; Schutte et al., 1998). However, some researchers have criticized this approach and more performance-based assessments of emotional intelligence have been developed and are widely used (Mayer, Salovey, & Caruso, 2002).

What is Social Influence?

Broadly speaking, *social influence* refers to the ways in which people exert influence on the behaviours, beliefs, feelings, and attitudes of others (VandenBos, 2007, p. 865). Traditionally, social psychologists have distinguished among four different types of social influence. *Conformity* is the tendency to change attitudes, beliefs, feelings, and behaviours in ways that are consistent with group norms. For example, when a group of people are waiting at a bus stop and the bus arrives, people naturally form a line based roughly on the order in which people arrived at the stop. In many cases, the people engaging in this behaviour have never actually been directly asked to perform this behaviour nor has anyone attempted to actively convince them of the merits of the behaviour. Instead, people have adopted this behaviour over time by observing it in others. As such, conformity is considered a comparatively passive form

of social influence in that no person is actively attempting to influence another. The target of influence can be external overt behaviours (as in our example) or it could be a more internal mental representation (e.g., attitudes, beliefs). In contrast, *compliance* is a change in behaviour directly produced by a request from another person. For instance, agreeing to donate money in response to a request from a fundraiser for a charitable cause is one common real-world example of compliance. Compliance is an active form of social influence in that it involves one or more people directly attempting to exert influence on one or more other people. The focus of compliance is external in nature in that the objective is to alter an overt behaviour. Although attempts at compliance might sometimes involve changes in internal mental representations (e.g., beliefs, attitudes), changes in behaviour need not involve such changes in mental representations and these mental representations are not the primary goal of the influence attempt. *Obedience* is a change in behaviour as a result of a command from an authority figure. Like compliance, obedience is an active form of influence and its focus is external in that the goal is to alter an overt behaviour. The primary distinction between obedience and compliance is whether the attempt of influence is in the form of a command versus a request.

Although conformity, compliance, and obedience have all receive considerable attention in social influence research, (e.g., see Cialdini, 2009; Cialdini & Goldstein, 2004; Cialdini & Trost, 1998), far and away the most extensively studied form of social influence is persuasion. Indeed, the empirical literature on persuasion is a vast literature that greatly exceeds the combined literature of all other forms of social influence (e.g., see Eagly & Chaiken, 1993; Maio & Haddock, 2015; Petty & Cacioppo, 1996). Briefly stated, *persuasion* is an active attempt, usually (but not always) through some form of communication, to change the attitudes, beliefs, and/or feelings of one or more other people. Like compliance and obedience, persuasion is an active form of influence in that it involves a direct attempt to exert influence on another. However, its focus is primarily on the alteration of internal mental representations. Usually, the primary focus of such attempts are people's attitudes (i.e., their relatively general and enduring positive/negative evaluations of persons, concepts, or objects), but such attempts at influence also frequently involve changes in feelings and beliefs. In many contexts, the ultimate goal of persuasion might be behavioural in nature. However, critical to persuasion is that this behavioural outcome be accomplished via changes in peoples' attitudes and/or related mental representations. When successful, persuasion is often regarded as the most powerful form of social influence in that its effects are enduring (i.e., changing a person's attitude can result in extended changes in behaviour over the long term) and broad (i.e., changing a person's attitude can result in changes to a number of behaviours related to the target of the attitude).

How is Social Influence Assessed?

In the context of conformity, obedience, and compliance research, the ultimate goal of these forms of social influence is overt behaviour. Thus, it is common to

determine influence by gauging the extent to which the attempt at influence results in performance of the target behaviour as assessed by direct observation. However, in some cases, it might not be feasible to evaluate the performance of the actual behaviour. In such situations, researchers often measure *behavioural intentions*, which refer to people's subjective impressions of their likelihood of performing a given behaviour. Although behavioural intentions are by no means perfectly related to actual behaviour, in many contexts they are comparatively strong predictors of behaviour (Fishbein & Ajzen, 1975; Ajzen, 1991). Such intentions are typically assessed using self-report rating scales.

When the targets of social influence are internal mental representations (e.g., attitudes) as is the case in persuasion and sometimes conformity, self-report rating scales are most commonly used to evaluate the impact of the influence attempt. Within the context of attitudes, a sizeable literature has accumulated regarding methods for constructing self-report measures of attitudes (Fabrigar, Krosnick, & MacDougall, 2006; Krosnick, Judd, & Wittenbrink, 2005). Indeed, a number of very formal methods of constructing self-report measures have been developed including techniques such as the Thurstone Equally-Appearing Interval Scale, Likert Summated Rating Scale, and Semantic Differential Rating Scale. Although self-report measures remain very popular, over the past 15 or so years there has been increasing use of implicit measures of attitudes (Gawronski & De Houwer, 2014). For example, such measures are now commonly used in the attitudes literature. In fact, attitudes researchers were among the first to propose many commonly used methods of implicit measurement and the study of implicit measures has been a central theme of contemporary attitude research.

THEORETICAL FRAMEWORK

Overview

Before we begin a detailed review of the empirical literature on the role of personality and individual differences in social influence, it is important to discuss the conceptual framework that we will use to organize this literature. The framework we will present draws heavily on a theoretical perspective originally proposed by Briñol and Petty (2005), although we have expanded upon and modified some aspects of their framework. Their perspective in turn primarily draws upon two very well established theories within the attitudes and persuasion literature: The Elaboration Likelihood Model (ELM) and the Meta-Cognitive Model (MCM; Petty & Briñol, 2014; Petty & Cacioppo, 1986; Petty & Wegener, 1999). Although both of the ELM and MCM were originally designed to account for phenomena related to attitudes and persuasion, they can be meaningfully applied more broadly to other types of social judgments (e.g., the self-concept, stereotypes) and other forms of social influence (e.g., compliance).

One reason for organizing our review in the context of this framework is that the number of personality traits and individual differences that have been studied in the context of social influence is really quite extensive. Indeed, based on our review, there are more than 30 traits or individual differences that have been identified in the literature as having some potential connection to social influence processes. Thus, when considering the literature, it is easy to become overwhelmed by the sheer number of constructs under consideration. Moreover, many of the characteristics that have been explored do not readily map onto the well-known taxonomies of personality such as the Big Five theory of personality. The position we will adopt is that although there are many different qualities that have been examined in the literature, there are certain psychological similarities and differences underlying these characteristics that can provide a basis for useful categorizations of these properties.

A second reason for requiring such a framework is that as we will see, there are also a vast number of social influence effects that have been demonstrated. As with the number of constructs under consideration, it is easy to be overwhelmed by the many effects that have been documented and for any review of these effects to become a "laundry list" of seemingly unrelated phenomena. However, as we will argue, this seemingly disparate set of effects that have been documented can be conceptualized as really reflecting a much more finite and manageable set of 5 basic underlying processes. By taking into account underlying psychological similarities and differences in various categories of traits and individual differences in light of these 5 different processes, we can accomplish two important tasks. First, it can permit us to reach an understanding of why traits and individual differences have produced the various effects documented in the literature. Second, it can provide us with a basis for generating predictions regarding how these properties might operate in novel settings that have yet to be tested

Taxonomy of Personality Traits and Individual Differences

Table 1 presents a list of personality traits and individual differences that have received significant attention in the personality/individual difference literature, with a particular emphasis on those characteristics that have been studied in the context of social influence. One central premise underlying our review of the literature is that although there are many diverse traits and individual differences that have been examined, these constructs can be organized into a small set of meaningful categories that reflect certain shared psychological properties. More specifically, many of these constructs can be classified on the basis of their relationship to one of four fundamental motives that social psychologists have postulated to play a central role in regulating thought and action. For each category, the specific constructs making up that group reflect comparatively stable differences in the extent to which people pursue this motive, the strategies they adopt to fulfill this motive, and/or the types of information they desire or are best able to make use of in the pursuit of this motive. Additionally, the fifth set of constructs reflect non-motivational factors primarily associated with different forms of psychological ability.

Table 1: List of the motivations and their associated traits and individual differences

Knowledge	Need for cognition (Cacioppo & Petty, 1982)
	Need for affect (Maio & Esses, 2001)
	Need to evaluate (Jarvis & Petty, 1996)
	Need for cognitive closure (Webster & Kruglanski, 1994)
	Self-awareness (Carver & Scheier, 1981a)
	Causal uncertainty (Weary & Edwards, 1994)
	Conscientiousness (Costa & McCrae, 1985)
	Structural attitude bases (Crites, Fabrigar, & Petty, 1994)
	Meta-bases of attitudes (See, Petty, & Fabrigar, 2008)
Consistency	Preference for consistency (Cialdini, Trost, & Newsom, 1995)
	Openness-to-experience (Costa & McCrae, 1992)
	Resistance to persuasion (Briñol, Rucker, Tormala, & Petty, 2004)
	Bolstering and counterarguing (Briñol et al. 2004)
	Confidence (Albarracín & Mitchell, 2004)
	Uncertainty Orientation (Sorrentino & Short, 1986)
	Authoritarianism (Altmeyer, 1981) and Dogmatism (Rokeach, 1954)
	Implicit theories of change (Dweck, Chiu, & Hong, 1995)
Self-Worth	Self-esteem (Rosenberg, 1965)
	Optimism (Dember, Martin, Hummer, Howe, & Melton, 1989)
	Self-doubt (Oleson, Poehlmann, Yost, Lynch, & Arkin, 1995)
	Judgmental self-doubt (Mirels, Greblo, & Dean, 2002)
	Neuroticism (Costa & McCrae, 1985)
	Prevention/promotion focus (Evans & Petty, 2003)
Social Approval	Agreeableness (Costa & McCrae, 1992)
	Extraversion (Costa & McCrae, 1992)
	Need for uniqueness (Snyder & Fromkin, 1977)
	Individualism-collectivism (Triandis, McCusker, & Hui, 1995)
	Field dependence (Witkin, 1964)
	Social dominance (Pratto et al., 1994)
	Machiavellianism (Christie & Geis, 1970)
	Self-monitoring (Snyder, 1974)
Ability	Intelligence (Rhodes & Wood, 1992)
	Emotional intelligence (DeSteno & Braverman, 2002)

In considering the assignment of constructs to categories provided in Table 1, it is important to recognize that this table oversimplifies the relations among constructs in at least two ways. First, we have restricted ourselves to listing each construct in only one of the 5 categories. In some cases, constructs might be plausibly assigned to more than one category (e.g., a trait might be related to more than one motive; see Briñol & Petty, 2005). For purposes of simplicity, we have assigned each construct to what we consider its dominant foundation. Second, within each category, one could further divide these constructs into subcategories, such as those constructs that reflect the strength of the motive and those that reflect the strategy used to satisfy the motive.

Moreover, once again, some constructs might plausibly belong in more than one subcategory. Because such further categorizations are even more speculative than those provided in Table 1, we have refrained from proposing subcategories.

Knowledge

One important motive that has long been presumed to direct people's actions and thoughts is the need for people to acquire knowledge regarding themselves and the world around them. Knowledge of the self and one's environment is essential if a person is to effectively predict and influence the world around them as well as themselves. Such knowledge permits people to develop adaptive behaviours that allow them to effectively navigate their environment, thereby maximizing rewards and minimizing costs (e.g., see Smith, Bruner, & White, 1956; Katz, 1960) and developing a sense of mastery over the self and the environment (e.g., see Brehm, 1966; Murray, 1955).

As Table 1 illustrates, there are numerous traits or individual differences that can be conceptualized as reflecting stable differences in different aspects of this motive. These traits reflect differences in the manner in which people process information, the dimensions they use to organize this information, and/or the types of information they tend to use. For example, *need for cognition* reflects the extent to which people process information about the environment and the self in a cognitively effortful versus comparatively non-thoughtful manner. Likewise, *need to evaluate* reflects stable differences in the extent to which people tend to organize information about objects in their environment along an evaluative positive/negative dimension. Individual differences in *affective/cognitive meta-bases* and *affective/cognitive structural bases* reflect the extent to which people tend to make use of primarily affective information (e.g., emotions, feelings) versus cognitive information (e.g., beliefs about attributes of objects) in evaluating objects in the world around them.

Consistency

Another motive that social psychologists have long recognized plays an important role in people's thoughts and actions and is related to the previously discussed motive of knowledge is consistency. If people are to make effective use of the knowledge they acquire, it is important that the elements making up their knowledge systems be organized according to some sort of consistent and coherent set of principles (e.g., Festinger, 1957). Thus, sets of beliefs, emotions, and actions should fit together in a coherent structure such that one element in the system tends to imply the other (or at least does not contradict it). In contrast, contradictions among various cognitive elements make it difficult to formulate clear actions and reach decisions (Harmon-Jones, Amodio, & Harmon-Jones, 2009).

As Table 1 illustrates, there are more than a half dozen traits and individual differences that can be regarded as stable systematic differences related to various aspects of peoples' motive for consistency. For example, *preference for consistency* reflects the strength of peoples' desire to maintain consistency in their knowledge systems. *Authoritarianism* and *dogmatism* reflect somewhat different forms of consistency. These constructs capture differences in the extent to which people are motivated to maintain consistency between their own beliefs and behaviours and those of valued authority figures within their society and social reference groups, respectively.

Self-Worth

A third major motive that has been extensively documented as playing a central role in many aspects of social thought and behaviour is self-worth. Intuitively, we all recognize that people generally want to develop and maintain positive beliefs, feelings, and evaluations of themselves (e.g., see Allport, 1955; Tesser, 1988). Such positive perceptions provide an indicator of acceptance within one's social network and the larger society (Leary, Tambor, Terdal, & Downs, 1995). These perceptions also play an important role in promoting psychological and physical well-being as well as coping with psychological stressors (Taylor & Brown, 1988).

There are a number of traits and individual differences related to self-worth that have been identified in the literature as potentially related to social influence (see Table 1). Many of these traits and individual differences reflect variations in the extent to which people pursue and/or are successful in satisfying this motive or variations in the strategies they employ to pursue this motive. For example, one such individual difference that relates quite directly to this motive is *self-esteem* which reflects people's global positive/negative evaluations of themselves. Although people, in general, are motivated to hold positive views of themselves and thus scores on self-esteem measures tend to be distributed toward the positive end of the continuum, meaningful variation in such scores does exist and has been related to a number of psychological and behavioural outcomes. Such variability likely reflects differences in strength of people's motivation for self-worth and/or differences in their ability to satisfy this motive. Related to self-esteem is the personality trait of *neuroticism*, which reflects comparatively stable differences in the extent to which people respond to threats, challenges, and setbacks with negative emotional responses. People high in neuroticism are characterized by high levels of anxiety and depressed mood. Neuroticism is likely related to peoples' motivational drive to maintain a positive view of the self as well as their ability to implement strategies for maintaining positive views of the self in the face of threats to the self. Neuroticism is one of the traits comprising the Big Five theory of personality.

Social-Approval

A fourth central motive identified as playing an important role in social behaviour and related to the previously discussed motive of self-worth is the need for social inclusion and approval (Baumeister & Leary, 1995). People are motivated to affiliate with others and obtain approval of others because such approval is an important source of self-worth. Equally important, social approval also likely provides considerable survival value as the inclusion within a group and approval of group members confers social prestige and power. Conversely, ostracism from important reference groups (e.g., family, community) poses significant risks to the individual because it undermines the ability of the individual to benefit from shared resources.

There are numerous traits and individual differences that are conceptually related to the motive for social approval. Many of these traits reflect variations in the extent to which people are sensitive to social approval. Others reflect variations in the skill with which people can achieve social approval and still others the strategies they use to realize this motive. For example, the well-known Big Five trait of *extraversion/ introversion* reflects the extent to which people are outwardly focused on their environment versus inwardly focused on their internal mental life. Similarly, the Big Five trait of *agreeableness* reflects relative stable differences in the extent to which people are interpersonally warm and cooperative in their social interactions. Likewise, *self-monitoring* is the degree to which people tend to regulate their behaviours in accordance with social demands.

Mental Ability

A final set of individual difference variables are not related to any specific motivational drive, but instead, reflect comparatively general and stable differences in various mental abilities. Included among these attributes are various forms IQ or intelligence, as traditionally defined. A number of theories have been advanced, postulating different types of intelligence. For example, the widely used WAIS-IV test of intelligence allows for the computation of scores on four different types of intelligence: verbal comprehension, perceptual reasoning, working memory, and processing speed (Lichtenberger & Kaufman, 2013). In contrast, other theories of intelligence have argued for broader conceptualizations of IQ that go beyond traditional cognitive abilities such as those captured by the WAIS-IV. For example, the Triarchic Theory of intelligence (Sternberg, 1985) postulates three components of intelligence (practical, experiential, and componential) and Gardner's (1983) theory of multiple intelligences postulates at least 7 types of intelligence, some of which fall outside intelligence as it is typically operationalized in standard tests (e.g., bodily-kinesthetic intelligence, musical intelligence).

More recently, one form of intelligence that falls outside traditional definitions of intelligence, but that has generated substantial interest is emotional intelligence. As previously noted, emotional intelligence is the ability to monitor one's own and others' feelings, to discriminate among different feelings, and to use feelings to guide thought

and action (Salovey & Grewal, 2005). Several models of emotional intelligence have been proposed. For example, one highly influential perspective proposed by Mayer and Salovey postulates that emotional intelligence can be broken into four components: perceiving emotions, using emotions, understanding emotions, and managing emotions.

Processes Underlying Personality and Individual Difference Effects

A second key premise underlying our organizing framework is that although these five general categories of traits and individual differences can produce a multiplicity of effects in the context of social influence, ultimately these effects are a result of only 5 basic underlying psychological processes (see Table 2). First, when people are in situations in which they are unmotivated (e.g., the topic of persuasion is comparatively unimportant or the behavioral request involves minimal effort) and/or unable (i.e., people are under time pressure or the environment has many distractions) to engage in careful thought in response to a social influence attempt, people will look for simple peripheral cues in their environment to provide them with a non-thoughtful basis to formulate a response to the influence attempt (sometimes referred to as the peripheral route to influence). For example, if the influence attempt originates from a source that is attractive, they might use the likeability of the source as a simple non-thoughtful cue to infer that they should respond favorably to the influence attempt. Thus, under conditions of low thought, personality traits and individual differences will exert their effects on social influence by affecting the types of peripheral cues people rely upon in responding to influence attempts. For example, an individual who is high on a trait related to concern for social approval (e.g., agreeableness or self-monitoring) might be more likely to use the responses of other people as simple cues for determining how to react to a social influence attempt than a person who is low on a trait related to social approval. Likewise, a person high on a trait related strength of consistency motivation (e.g., preference for consistency) might use their past responses to similar influence attempts as a simple cue to guide their response to a current influence attempt.

In other cases, people might be in situations in which they are highly motivated (e.g., the topic is personally important to them or the request requires substantial effort) and are very able (e.g., there is substantial time to consider the message or request and there are no distractions in the environment) to carefully consider their responses to influence attempts. In such circumstances, people will carefully evaluate information directly relevant to the merits of the influence attempt (i.e., arguments in favor of or against the advocacy). People will then use the evaluative responses they generate after carefully considering information directly related to the merits of the advocacy as a basis for determining their reactions to the influence attempt (sometimes referred to as the central route to influence).

Personality traits and individual differences will exert their effects on influence via one or more of three possible mechanisms in this sort of context. First, they might determine what types of information are seen as compelling arguments in favor or

against an advocacy. For example, someone high on a trait related to increased concern for social approval might see arguments indicating that a given product is very popular or that it has a prestigious image as very compelling information in favor of that product whereas someone low on this trait might see these arguments as comparatively weak and unconvincing. Second, traits and individual differences might predispose people to be generally biased in the direction (i.e., valence) of the thoughts and other evaluative responses they generate in reaction to an influence attempt. Specifically, some traits and individual differences might make people generally inclined to be accepting of information whereas other traits might predispose people to generally counter-argue influence attempts. For example, a person high on a trait or individual difference associated with stronger consistency motivation who has a well-developed prior attitude toward a topic might be predisposed to actively counter-argue messages to contradict their existing attitude, but be adopt a confirmatory bias when considering a message that supports their existing attitude. Finally, traits and individual differences might also affect meta-cognitions related to the thoughts and other evaluative responses people generate in reaction to an influence attempt. For example, a person high on a trait or individual difference associated with high self-worth (e.g., self-esteem) might be likely to view their responses to the message as particularly valid and thus have high confidence in the thoughts they generate regarding the message. This confidence in turn will lead them to use these thoughts as a basis for forming an attitude in which they will have high confidence. In contrast, someone low on self-esteem could generate a similar profile of thoughts, but not be sufficiently confident in the validity of these thoughts to form an attitude in which they are confident.

Finally, in some cases, people might find themselves in situations in which they are not constrained either to be very non-thoughtful or very thoughtful. Rather they could be in a situation where substantial thought is possible, but there is no compelling external reason to engage in extensive thought (e.g., there are only a few distractions in the environment, but the topic of the persuasive message is only moderately important). In such a situation, personality traits and individual differences could affect the extent to which more or less thought is expended in response to the social influence attempt. For example, a trait or individual difference related to knowledge motivation such as the need for cognition could play an important role in determining how thoughtful people are in such a situation. People who are high in need for cognition enjoy effortful thought and thus would be expected to think very carefully even when there is no clear external reason to do so. Conversely, low need for cognition people would be very unlikely to think carefully in this situation and would instead rely on simple cues to determine their reaction to the influence attempt. Interestingly, depending on the circumstances, more thought could lead to more or less influence. If the arguments provided in a message are very convincing, more thought would lead to more persuasion and thus the high need for cognition people would be more persuaded than the low need for cognition people. Conversely, if the arguments are very weak, the reverse would be true. More thought would lead to less persuasion and thus the low need for cognition people would be more persuaded than the high need for cognition people.

Table 2: Cognitive processes related to social influence

Use of cues	**Elaboration level:** Low Peripheral cues such as heuristics, primacy effects, or social approval cues, often influence people. Some personality variables cause these cues to have more or less influence over people.
Amount of thinking	**Elaboration level:** Medium Individual differences can affect responses to social influence, by changing the extent to which people think about information. Elevated levels of thought lead to stronger attitudes.
Use of arguments	**Elaboration level:** High Some personality variables may emphasize particular types of evidence or argumentation, often causing these kinds of arguments to affect them to a greater extent.
Direction of thinking	**Elaboration level:** High Personality can cause people to systematically bias their thinking about a message. One clear example of biased thinking is when thinking works to systematically strengthen one side of an argument at the exclusion of the other (either pro-message or counter-message).
Meta-Cognitions	**Elaboration level:** High Some thoughts are more or less strong, ambivalent, or accessible. Some individual differences may serve by leading to thoughts that vary along these meta-cognitive dimensions, or may lead to greater or lesser bias correction patterns.

REVIEW OF THE EMPIRICAL LITERATURE

Knowledge Traits and Individual Differences

As previously noted, people are motivated to seek knowledge, in order to predict and influence their environment. This predictability is not only psychologically healthy but affords greater adaptability to the physical and social world. However, the knowledge goals that people may prioritize are as multi-faceted as the environments themselves, and individuals differ in the extent to which particular knowledge goals are predominant. For example, people differ in the extent to which they prioritize fixing a positive or negative evaluation to objects around them (the need to evaluate; Jarvis & Petty, 1996, Petty & Jarvis, 1996). Similarly, people are more or less motivated to seek knowledge about themselves (self-awareness; Carver & Scheier, 1981a). There are also individual differences in the extent to which people seek definite, closed answers on topics, as opposed to tolerating ambiguity and uncertainty (need for closure; Webster & Kruglanski, 1994).

It is important to note that these individual differences in most (but not all) cases relate to *motivations*, rather than *abilities*, to obtain these forms of knowledge. As an example of a motivational variable, the need for cognition (Cacioppo & Petty, 1982) predicts a tendency to produce a high ratio of issue-relevant thoughts when asked to consider a topic. One might be inclined to conclude that people high in the need for cognition are better thinkers. However, people low in the need for cognition are equally capable of producing issue-relevant thoughts, if provided with sufficient motivation (e.g., if the topic is framed as being of high personal relevance to them; Axsom, Yates, & Chaiken, 1987). Similarly, the need for cognitive closure, need for affect, and need to evaluate are generally considered motivational in nature. That being said, individual differences in affective/cognitive structural attitude bases have been identified as having a more ability-based, efficiency explanation (See, Petty, & Fabrigar, 2013), and conscientiousness is understood to have a component relating to the presence and availability of self-regulatory abilities (Lejeuz, Krueger, Richards, & Hill, 2014).

The variables we have selected have been shown to predict behaviour, and to affect responses to social influence attempts, often in very context-specific ways. The five cognitive processes already introduced provide a suitable framework to consider the roles played by these individual difference variables. In some cases, variables influence people through multiple processes; for instance, the need for closure has been shown to negatively predict the overall generation of thoughts (Kruglanski & Webster, 1996; amount of thinking), as well as positively predicting reliance on heuristics, such as agreeing with a message more simply because it contains more (not better) arguments (Klein & Webster, 2000; use of peripheral cues). The rest of this section begins by defining the individual difference variables themselves and explaining the behavioural consequences of the variables. It then elaborates each cognitive process, identifying the variables related to each, and discusses the overarching themes that emerge from the extant literature.

Need for Cognition

Definition and Behavioural Tendencies

Individual differences in people's need to understand (Murray, 1938), tendency to have an inquiring intellect (Fiske, 1949), or desire to seek cognitive clarity (Cohen, 1957) have long been appreciated in psychological literature. These objectives were conceptualized as representing the need for cognition, as measured by the Need for Cognition scale (Cacioppo and Petty, 1982), and later by a short form of the same construct (Cacioppo, Petty, & Kao, 1984). Interestingly, the inter-item reliability of the 18-item short-form ($\alpha = 0.90$) is almost identical to that of the 34-item original ($\alpha = 0.91$; Cacioppo et al., 1984). A person higher in the need for cognition is inclined to engage in high amounts of cognitive processing, in order to obtain knowledge about the world, while a person low in need for cognition is inclined to use heuristics or peripheral

cues in their search for information.

Importantly, this continuum does not represent a desire for knowledge per se; that is, it is understood that both groups desire to understand their environments, as outlined in this section's introduction. Similarly, although it is correlated with both trait intelligence (r = -.03 to .32), and educational achievement (r = .14 to .34; Cacioppo, Petty, Feinstein, Blair, & Jarvis, 1996), these correlations are insufficient to characterize need for cognition as representing these properties of 'having' knowledge. Instead, the continuum represents a preference for the mechanism by which this knowledge should be sought: either through elaborated, methodical scrutiny of information (high need for cognition), or through stereotypes, generalizations, group opinions, and other 'mental shortcuts' (low need for cognition). The need for cognition is best viewed as motivational rather than ability-based, as demonstrated by the low need for cognition people behaving identically to high need for cognition individuals when a topic is surprising (Smith & Petty, 1996) or sufficient motivation is provided (Axsom et al., 1987).

The need for cognition predicts several behavioural tendencies. For example, high need for cognition individuals are more sensation-seeking overall (Crowley & Hoyer, 1989) and specifically prefer to seek new experiences that inspire thinking, to a considerable degree (r = .26 to .40; Venkatraman, Marlino, Kardes, & Sklar, 1990a; Venkatraman, Marlino, Kardes, & Sklar, 1990b; Venkatraman & Price, 1990). That is, in their attraction towards cognitively stimulating activities (e.g., solving puzzles over playing a simple game), high need for cognition individuals behave in a way that will lead to their thinking to a greater extent. This may partially be due to a higher degree of boredom proneness (Watt & Blanchard, 1994), whereby situations that are insufficiently thought-provoking cause high need for cognition individuals to become more sharply disinterested than those with a lower need for cognition. In internet browsing, similarly, need for cognition is related to users' frequency of internet usage, use of hyperlinks within sites (i.e. interaction level), and exposure time to website information (Amichai-Hamburger, Kaynar, & Fine, 2007). These various forms of interest in factual information result in important implications for their responses to social influence attempts, as the next section relays.

Effects on Cognitive Processes Relevant to Social Influence

Individuals high in the need for cognition undertake several behaviours that result in holding stronger attitudes than the attitudes held by those lower in this trait. In a broad sense, need for cognition predicts the tendency to seek out and carefully analyse information during individual decision-making tasks, and further predicts the inclination to use this information to inform a decision (Berzonsky & Sullivan, 1992). In a cluster of related results, need for cognition has been related to several behaviours that indicate an attraction towards greater thinking. For example, Berzonsky and Sullivan (1992) found that high need for cognition people disproportionately endorse an *information*

identity style (vs. normative, and diffusive-avoidant styles), which is related to seeking out, elaborating, and using information when making a decision.

Need for cognition is also related to a tendency to engage in greater consideration of persuasive messages, whereby individuals high in this need will tend to extract more from, and elaborate more on, the information derived from these messages. Cacioppo, Petty and Morris (1983) found that those higher in the need for cognition actually derived more information from both strong *and* weak messages, indicating a generalized tendency to take whatever valuable knowledge can be extracted from materials regardless of their quality. With that in mind, Cacioppo et al. (1983) also found that people high in the need for cognition showed more attitude change in the strong (vs. weak) argument condition, whereas low need for cognition subjects showed relatively less differentiation. This is understood to represent the effect of high need for cognition individuals' greater amount of thinking about persuasive messages.

It is worth mentioning that the information that those high in the need for cognition tend to focus on is cognitive in nature, relating to facts, statistics, and the like. In studies that directly contrast the need for cognition with the need for affect (Maio & Esses, 2001; see next section), one clear effect is that the need for cognition predicts interest and engagement with primarily 'cognitive' materials, while the need for affect predicts interest with materials expressive of feelings and emotions (Sojka & Griese, 2001; Haddock, Maio, Arnold, & Huskinson, 2008). In this sense, need for cognition represents a greater seeking of information, but only information from one of two possible categories. One interpretation of these findings, is that matching of information type to personality type (e.g., cognitive information for high need for cognition individuals) tends to increase the amount of elaboration that individuals engage in, because the matching implies that the information matches one's self-schema ("I'm a thinking type"), which implies greater relevance of the information (Petty, Wheeler, & Bizer, 2000). However, if elaboration is fixed at a lower level (such as when subjects feel rushed), matching can have effect at a peripheral level: for example, simply tagging an object with 'cognitive-sounding' labels (*intelligent*, *technical*) has more effect for high need for cognition people, while 'affective-sounding' labels (*good-looking, glamorous*) work better for those high in the need for affect (Wheeler, Briñol, & Petty, 2002).

This attitude formation process should also not be seen as purely objective; instead, high need for cognition has important effects on the direction of message processing. One example of this tendency is seen in high need for cognition individuals' pronounced primacy effects, whereby need for cognition predicts the tendency to seize the first side of an argument that is presented, and resist subsequent arguments that oppose this primary advocacy. So long as information provided about an argument is 'chunked' into a dichotomized presentation of two sides of an issue (Kassin, Reddy, & Tulloch, 1990), high need for cognition people tend to accept the first side, producing thoughts concordant with and elaborating this advocacy, and then interpreting the latter

argument in a biased fashion (Haugtvedt & Petty, 1992). In this sort of situation, high need for cognition works *against* people's objective appraisal of some issues' two sides, but is likely to result in stronger (and more one-sided) attitudes than those lower in the need for cognition.

The overall consequence of pursuing more information, and spending more time elaborating on their attitudes, is that those attitudes become strong; thus, high (vs low) need for cognition predicts stronger attitudes (Petty, Haugtvedt, & Smith, 1995). People high in the need for cognition also appear to show greater similarity between their implicit and explicit judgments about attitude objects (Florack, Scarabis, & Bless, 2001; Zimmerman, Redker, & Gibson, 2011), possibly suggesting the formation of stronger attitudinal associations. This increase in attitude strength among those relative high in need for cognition, is a very consequential element of the construct, leading to at least two major factors of effects: strong attitudes are more influential in cognitive activity; and more stable across time, partially because they are more resistant to attitude change attempts.

The stronger attitudes of high need for cognition people seems to have an enhanced impact on subsequent activities related to those attitudes. One example is a study by Ruiter and colleagues (Ruiter, Verplanken, De Cremer, & Kok, 2004), wherein people high and low in need for cognition were exposed to fear appeals about breast cancer. Interestingly, only those high in the need for cognition showed any signs of adaptive coping; i.e., intentions to be tested for signs of breast cancer. This has been shown to have some other applied consequences; for example, Hansen, Lee and Lee (2014) showed that need for cognition predicted the amount of interactivity with, and pass-along rates of, advertisements that they liked. In this sense, information about products is more likely to be passed along by need for cognition people, likely because their enhanced interaction with advertisement information increases their attitude strength, which in turn leads to more pronounced behavioural consequences (such as sharing relevant product information). Stronger attitudes are also more likely to result in changes to *related* attitudes; thus, high need for cognition individuals exposed to persuasive arguments tend to show changes to other attitude objects than the one directly addressed (Murphy, Holleran, Long, & Zeruth, 2005).

The stronger attitudes produced by individuals high in the need for cognition are less likely to decay, and are thus more stable over time (Haugtvedt & Petty, 1992). One reason suggested for this effect was demonstrated in this article's second study: when exposed to counterarguments about a novel attitude object that participants had just learned about, those high in the need for cognition were more likely to resist this counterargument. This also has consequences for social interactions in which attitudes are tested against counterarguments. Research by Shestowsky, Wegener, and Fabrigar (1998) observed several interesting effects among individuals high in the need for cognition. For example, when participating a mock civil legal case, the attitudes of people high in the need for cognition were highly likely to influence their partner's

opinion, while the attitudes of people low in the need for cognition were unlikely to cause this sort of influence. In other words, people high (vs. low) in the need for cognition were more likely to foster attitude change, and less likely to be susceptible to attitude change. Mechanisms for this effect were explored and supported. For example, high need for cognition individuals were perceived as being more highly persuasive, likely as a consequence of their ability to produce both *more* arguments, and more *valid* arguments, than their discussion partner could. In mediational analysis, it was found that these functions of need for cognition (e.g., more frequent and more effective arguments) explained much of the effect of need for cognition on attitude change promotion (on their partner) and resistance (on themselves).

Most of the prior material has engaged with research in which high-elaboration conditions were fostered: participants were given structured arguments to consider (Cacioppo et al., 1983), engaged in high-level intellectual discussion (Shestowsky et al., 1998), and so forth. At lower levels of elaboration, need for cognition is significant in a different manner. In the case of peripheral cues and heuristics, the general tendency is for low need for cognition people to show greater influence via these techniques. For example, a study by Cacioppo et al. (1983) suggested that need for cognition was negatively related to the use of heuristics in decision-making; at least twenty-two replications had demonstrated this effect by 1996 (Cacioppo et al., 1996). As one instance of this general finding, Miller, Omens and Delvadia (1991) showed a substantial effect of low need for cognition on measures of responsiveness to social comparison cues; specifically, low need for cognition predicts concern for appropriateness and protective social comparison. Thus, cues of social appropriateness, or cues suggestive of the opportunity for protective social comparison, are more likely to be effective with people low in the need for cognition. Low need for cognition people are also more influenced by halo effects (Perlini & Hansen, 2001) and anchoring effects (Epley & Gilovich, 2006).

In other cases, situational factors have been used to explore this effect further. For instance, Axsom et al. (1987) showed that particularly under low involvement, low need for cognition people showed greater influence due to a heuristic (hearing an unenthusiastic versus an enthusiastic audience). With high involvement, or when need for cognition was high, the heuristic had no apparent effect. With factors like these in mind, attention must also be paid to the nature of the peripheral factor in question, and the theoretical relation of that cue to the construct being examined. For instance, high need for cognition individuals are hypothesized to have frequently-used associationistic systems, the neurological manifestation of their greater attitude strength. Petty and Jarvis (1996) have shown that high need for cognition people are *more* susceptible to primes, likely due to the ease of these (automatic) associationistic systems' activation by primes. This would be one circumstance when need for cognition produces greater influence by a peripheral cue, in this case, because the heuristic relies upon the relatively higher attitude strength of the high need for cognition individuals.

Another example is the role of stereotypes in judgments made of ethnic minorities. Crawford and Skoronski (1998) found that stereotypes influenced both people high *and* low in the need for cognition, simply through different processes. That is, low need for cognition people were more likely to deem a Hispanic (vs. Caucasian) defendant to be guilty, through a direct pathway. Those high in the need for cognition were also more likely to condemn the ethnic minority defendant, but it took the form of biasing the direction of their thinking: that is, they engaged in a great deal of active thinking and elaboration, but it was systematically biased towards finding the Hispanic individual to be guilty. In this sense, caution is advised in over-hasty assumptions, for instance, that need for cognition always decreases the efficacy of heuristics.

Need for Affect

Definition and Behavioural Tendencies

Just as people vary in the extent to which they elaborate on thoughts, people vary systematically in their tendency to approach or avoid emotion-rousing situations; that is, are higher or lower (respectively) on the need for affect (Maio & Esses, 2001). A very similar construct has also been examined with the need for emotion scale (Ramon, Chattopadhyay, & Hoyer, 1995). The need for affect has often been looked at in direct comparison to the need for cognition (Sojka & Griese, 2001; Haddock, Maio, Arnold, & Huskinson, 2008). If the need for cognition is an approach to predicting the environment by arriving at complex, fact-rich information, the need for affect represents understanding the world using emotions and feelings as a guide to learning.

This construct is typically measured with the 26-item Need for Affect Scale (α only reported as > 0.80; test-retest reliability assessed as $r = .85$ for a period between 1-8 weeks; Maio & Esses, 2001). Need for affect is calculated from the difference score between its two subscales: Motivation to Approach Emotions minus Motivation to Avoid Emotions. Elsewhere, these subscales have been demonstrated as having high inter-item reliability ($\alpha = .87$ and .88, respectively; See, Petty, & Fabrigar, 2008). It is also possible to employ the 10-item Need for Affect Questionnaire (short form; NAQ-S; Appel, Gnambs, & Maio, 2012) While it is substantially related to current positive and negative affectivity (Watson, Clark, & Tellegen, 1988), and affective intensity (Larsen & Diener, 1987), need for affect is not a construct expressive of *amount* of affect. Similarly, its negative relation to alexithymia (the inability to describe, analyse and understand one's own emotions), does not mean that need for affect is primarily about emotional *competence*. Instead, need for affect represents a desire to understand the world using emotions or feelings as information about objects and events.

People high in the need for affect take action towards their goal of seeking emotional stimulation to make sense of the world, in several identified ways (Maio & Esses, 2001). First, they are more likely to select objects likely to induce strong

emotions (e.g., selecting a highly emotional movie to watch, rather than a less emotional movie). Second, they are inclined to have more intense thoughts and emotions and are more likely to enact behaviours towards, an emotional event (such as the death of Princess Diana). Third, like people high in the need for cognition, they are more inclined to seek intense sensations (Zuckerman, 1994), but in this case, the drive is understood to fulfill their emotional (rather than intellectual) needs. In these ways, emotions play a pivotal role in structuring the mental lives of people high in the need for affect. Importantly, all of these effects are motivational in nature, rather than ability-based: in other words, it is hardly established that people low in the need for affect could not enjoy emotional materials, experience intense emotions, or be motivated to seek them; it simply seems that need for affect positively predicts the likelihood that one will dispositionally be attracted to such experiences.

Effects on Cognitive Processes Relevant to Social Influence

Just as the need for cognition predicts a preference for verbal forms of information, high need for affect individuals prefer visual information (Sojka & Giese, 2001). They also have a preference for affective information, as opposed to cognitive information (Haddock et al., 2008). Unfortunately, the preference for visual information has not been very thoroughly explored at a mechanistic level, aside from the claim that visual advertisements, for example, simply appeal more to affect than do written advertisements. Furthermore, Sojka and Griese measured preference for visual versus verbal information through self-report, via the Style of Processing scale (Childers, Houston, & Heckler, 1985). Since they did not actually expose participants high (low) in the need for affect to visual and verbal materials, interpretation becomes more strained. Furthermore, it becomes a study about how people think they will respond to persuasion types, rather than a 'persuasion study'.

It is possible that 'visual' messages (or indeed, sensory messages of any kind) would be more influential for individuals high in the need for affect because sensory messages may have a more direct emotional impact than do written (symbolic) messages (Breckler, 1984). If this is true, then it stands to reason that the need for affect, defined as the preference to approach emotionally-laden stimuli, would predict the desire to interact with emotionally-rich sensory materials, over cognitively-mediated representations of objects. However, this equation of affect with direct, cognition with indirect experience, is part of a larger debate (Messé, Bodenhausen, & Nelson, 1995; but see Fabrigar & Petty, 1999), an important observation in which is that not all studies utilizing affective-cognitive materials necessarily employ affective materials that are more sensory than the cognitive ones. In the case of Sojka and Griese (2001), the measure of processing style (Style of Processing scale; Childers et al., 1985) seems to occasionally confound symbolic with cognitive, and visual with affective information; therefore, the association with these styles may simply be a measurement artifact. For example, a 'verbal' item is "I do a lot of reading", which could plausibly be endorsed by someone high in the need for cognition. Similarly, "I seldom daydream" (reverse-scored

for visual) seems to invite confounding with (low) need for affect.

Although for the visual/verbal distinction, little evidence has been forwarded to explain the effect, Haddock et al. (2008) provide compelling justification for their association of need for affect with affective information. Haddock and colleagues (2008) measured whether individuals higher in the need for affect (cognition) were more likely to recall information that was from an affective (cognitive) persuasive message, with the logic that better-remembered information is indication that information has been processed to a higher degree (Craik & Lockhart, 1972; Wyer & Hartwick, 1984). This hypothesis was confirmed, suggesting that need for affect may predict greater persuasion by affective messages, due to a higher level of elaboration (although formal mediation was not performed). Of course, this would further suggest that in some cases need for affect individuals will be *less* persuaded by affective materials; namely, when those messages are quite weak. In such cases, the greater attention paid by high need for affect individuals would work against the argument, resulting in less persuasion. Indeed, Haddock et al. (2008) explicitly tied their findings back to the Elaboration Likelihood Model, suggesting that in their research elaboration was free to vary, so that 'matching' messages (need for cognition - cognitive; need for affect – affective) would be likely to enhance elaboration.

At least one other finding has replicated the basic effect, whereby the need for affect predicts greater persuasion by highly (versus mildly) emotional materials (Appel & Richter, 2010). However, Appel and Richter (2010) also provided a mediation model in their persuasion study, whereby need for affect predicted influence by a highly emotional message, mediated by the degree to which the participants endorsed being *transported* (Green & Brock, 2000) by the message. Transportation describes the state of being intensely absorbed in a message, and includes items such as "While I was reading...I could easily picture the events in it taking place". Although transportation is likely a fanciful tool for simply measuring elaboration of affective messages that take the form of a narrative, this study is useful for providing a formal mediation of the connection between need for affect and persuasion by emotional messages; namely, through elevated elaboration.

An interesting extension of this finding is that individuals higher in the need for affect may be more influenced by verbal and nonverbal indications of emotionality, such as signs of remorse from defendants resulting in more lenient sentencing (Corwin, Cramer, Griffin, & Brodsky, 2012). Corwin et al. (2012) did find that after watching (simulated) courtroom videos, in which convicted defendants expressed remorse for having committed murder, high need for affect individuals tended to give more lenient sentences than those lower in the need for affect. They interpreted this as suggesting that high need for affect individuals were more willing to 'approach' the emotionality expressed by the defendant and therefore be influenced by compassion, whereas those lower in the need for affect would tend to avoid these negative emotions (and therefore be uninfluenced by sympathy). However, one issue in the study is that defendants in all

of the video conditions expressed remorse, and therefore it is unclear that those low in the need for affect would not simply give more lenient sentences *regardless* of the defendant's emotional displays.

Need to Evaluate

Definition and Behavioural Tendencies

The need to evaluate represents individual differences in the priority placed on judging attitudinal objects as good versus bad (Jarvis & Petty, 1996, Petty & Jarvis, 1996). A very similar construct to the need to evaluate, the need to assess, has also been studied by Kruglanski, Thompson, Higgins, Atash, Pierro, Shah, & Spiegel, 2000). While the previous two variables discussed (need for cognition, need for affect), represent attraction to different kinds of information to be used in forming general conclusions about the world, the need to evaluate represents both forms of knowledge being used to make evaluative (good/bad) distinctions about objects in the environment. To that end, Huskinson and Haddock (2004) have demonstrated that people high in the need to evaluate use a complex mix of both cognitive *and* affective information, to inform their evaluations. Thus, the need to evaluate is best viewed not as an attraction to particular types of information (cognitive, affective), but a motivation to *use* this information in a particular way - to form evaluative judgments of objects. With that in mind, the need to evaluate is related to both forms of information-seeking: (with need for cognition, $r = .35$, Jarvis & Petty, 1996; with need for affect, $r = .17$ [n.s.], Maio & Esses, 2001).

The need to evaluate is usually measured using the Need to Evaluate scale ($\alpha = .83-.87$; Jarvis & Petty, 1996). This need to evaluate must not be confused with the need for cognitive closure (Webster & Kruglanski, 1994), as they appear almost uncorrelated ($r = -.06$; Jarvis & Petty, 1996). This implies that the judgments made by people high in the need to evaluate are not being used to impose simplified thinking or a closed perspective on attitudinal objects. Instead, it appears to reflect more of an ongoing interest in determining the value or quality of objects in the moment. For example, high need to evaluate people were more inclined to apply good/bad evaluations to paintings that they were viewing for the first time (Jarvis & Petty, 1996), suggesting that the need to evaluate involves judgments that are often made spontaneously, rather than representing a simple 'stockpiling' of evaluations. People high in the need to evaluate are naturally motivated to produce thoughts that are highly evaluative; for example, in one study need to evaluate was used to predict the number of evaluative thoughts produced while participants simply reflected on an average day in their lives (Jarvis & Petty, 1996).

Effects on Cognitive Processes Relevant to Social Influence

Like all of the 'knowledge' variables except for the need for cognition, the need to evaluate does not predict more thinking in a direct sense. Indeed, one study specifically ruled out a main effect of the need to evaluate on overall amount of thinking (Fennis & Bakker, 2001). Instead, it motivates individuals towards a specific mode of thinking, namely an evaluative character of thought. This has been shown to have some interesting effects on social influence; for example, that high need to evaluate individuals are more responsive to evidence of positive traits (for instance, in evaluating customer service; Hansen & Sand, 2008). The rationale for this, is that the need to evaluate leads people to compare their experiences with one individual (group) against other individuals (groups); therefore, evidence that one individual (group) is uniquely superior on some preferred trait, such as agreeableness or professionalism, results in greater comparison for high need to evaluate people, and therefore greater preference for the 'winner' as the need to evaluate increases (Hansen & Sand, 2008).

The need to evaluate has also been related to attitude strength features. For example, those high in the need to evaluate are more likely to form attitudes at all (Jarvis & Petty, 1996), and are more likely to form highly-accessible attitudes that are therefore more influential in decision-making and responses to social influence (Hermans, DeHouwer, & Eelen, 2001). Thus, those high in the need to evaluate will show a greater response bias to pro-attitudinal over counter-attitudinal persuasion tactics. Along these lines, Hermans et al. (2001) found that when people were exposed to positive or negative words before other, target words that were evaluatively congruent or incongruent, high need to evaluate individuals showed a substantial decrease in response latency to the congruent (relative to incongruent) words. Comparatively, people low in the need to evaluate showed relatively no difference. This indicates that high need to evaluate is associated with a high degree of evaluative accessibility, since for these individuals, the congruence or incongruence of valenced words on target words was clear; this indicates that the valence of the target words was relatively active for these individuals.

Some evidence also establishes need to evaluate's role in attitude extremity, another attitude strength feature. One study considered 24 different attitudes objects, and found that the need to evaluate was a consistent predictor of attitude extremity across a wide range of sociopolitical topics (e.g., increasing social welfare, homosexual marriage, Barack Obama; Britt et al., 2011). Federico (2004) also found that several different measures of attitude extremity were reliably predicted by the need to evaluate.

Although attitude extremity is related to the amount of knowledge that individuals have about an attitude topic (Judd & Lusk, 1984; Millar & Tesser, 1986), the relationship is complicated by the need to evaluate. Federico (2004) found that the need to evaluate played a moderating role between knowledge acquisition (e.g., growing political expertise) and increased attitude extremity, such that those high in the need to

evaluate showed a closer relationship between increased knowledge resulting in greater attitude extremes. Furthermore, he found that this moderated relationship was in turn mediated by the level of integration (in this case, 'integration' was measured as essentially low ambivalence). In other words, those high in the need to evaluate tend to have relatively low amounts of ambivalence (high 'integration'); in turn, this causes new knowledge to be used to enhance attitude extremity, more so than for people low in the need to evaluate (and correspondingly, those relative higher in ambivalence). Despite the complexity of this mediated moderation model, however, it is still unclear what precisely causes the extremity bias – it could be that this mediated moderation operates through a thought-biasing process (e.g., low ambivalence causes individuals to preferentially think attitude-concordant thoughts, when the opportunity for elaboration permits this), or even through an influence on the use of simple cues (e.g., low ambivalence results in a preference for information that superficially suggests attitude congruence, when the opportunity for elaboration is low).

There are several documented consequences of this enhanced attitude strength. The attitudes of high need to evaluate people tend to be more stable than for those lower in the need to evaluate (Albarracin, Wallace, & Glasman, 2004), which is another indicator of attitude strength. Further, at least in the political domain, individuals high (versus low) in the need to evaluate show a range of enhanced effects: they have more evaluative beliefs about candidates, are more likely to use their policy beliefs to inform candidate selection, are more likely to vote, more likely to use media outlets to learn political information, and have more intense affective reactions towards political candidates (Bizer et al., 2004).

Need for Closure

Definition and Behavioural Tendencies

The need for closure (Webster & Kruglanski, 1994) represents one knowledge-goal that people may hold to a greater or lesser extent: the desire for fixed, certain answers about topics. That is, a person low in the need for closure feels comfortable with, or may prefer, ambiguous or contradictory sets of information, while a person high in the need for closure experiences discomfort until knowledge is made unified and definite. These judgments need not be specifically focused on cognitive, affective, or evaluative dimensions of information, but instead represent the urge to reach fixed, abstract conclusions about the world. To measure this construct, the Need for Closure scale (psychometrically evaluated in Webster & Kruglanski, 1994; and Neuberg, West, Judice, & Thompson, 1997) has been developed and used to predict an interesting range of behaviours. This 42-item self-report scale has been shown to have acceptable reliability ($\alpha = .84$), and has five subscales with varying reliabilities (structure, $\alpha = .77$-.82; predictability, $\alpha = .72$-79; decisiveness, $\alpha = .70$-.79; ambiguity, $\alpha = .67$-.80; closed mind, $\alpha = .62$).

For example, groups that are made up of high need for closure individuals tend to produce a relatively sparse number of ideas during brainstorming sessions. They also elaborate these ideas less fully, and their ideas (in an advertisement-generating task) are evaluated as being less creative (Chirumbolo, Mannetti, Pierro, Areni, & Kruglanski, 2005). One reason that could drive this effect is that high-closure individuals think and communicate in a manner motivated to pursue conclusions satisfying their private closure needs (Richter & Kruglanski, 1999); accordingly, they are unlikely to elaborate others' ideas except towards greater cognitive closure.

Indeed, the need for closure also predicts a more task-oriented, and less social-emotionally oriented approach to problem solving, demonstrating a globally increased focus on resolving the ambiguity of an unsolved problem, and a decreased focus on others' priorities within such a task (De Grada, Kruglanski, Mannetti, & Pierro, 1999). High-closure individuals also tend to ask more abstract questions of interview partners (e.g., "*Are you a happy person?*" rather than "*How are you feeling today?*"), intending to reach general (closed) conclusions about others; their partners tend to produce similarly abstract answers, and generally dislike the high-closure questioners (Rubini & Kruglanski, 1997). The need for closure is generally considered to be motivational rather than ability-focused; for instance, high need for closure individuals will process information just like people with low need for closure, if heuristics are simply not made available (Klein & Webster, 2000).

Effects on Cognitive Processes Relevant to Social Influence

The need for cognitive closure has often been looked at as simply being antagonistic to prolonged, elaborated thought. For example, Kruglanski and Webster (1996) focused on how those high in the need for closure engage in less message processing; more top-down, theory-driven processing; and simple judgments based on less overall information. The decreased-processing effect has been replicated and qualified by the further discovery that high need for closure individuals will process a message more thoughtfully when peripheral cues are removed from the situation (Klein & Webster, 2000). In this sense, the need for closure is not only motivational (in the sense of desiring swift resolutions to ambiguous conflicts), but also a function of opportunity (in the sense that deliberation can certainly occur, if situations force it).

Directionally, high need for closure individuals are inclined to pursue whichever side of an argument brings resolution. For example, they generally dislike people described as having unusual opinions, and like people described as having conformist opinions (Kruglanski & Webster, 1991). In this sense, they attempt to bring about resolution to conflicts through favoring social concord, and people who foster such concord. Similarly, if the topic raised in conversation is *novel* (e.g., a non-existent animal), need for closure predicts high agreement to new information. However, if the topic is about something that the person has an attitude concerning, high-closure people

are very *resistant* to counter-attitudinal information and prefer to select an easily-persuaded over a hard-to-persuade partner (Kruglanski, Webster, & Klem, 1993). Once again, there is not a single direction that high-closure individuals pursue in an argument; they generally advocate for whatever side will bring an end to disagreement.

High need for closure has been related to certain structural properties of attitudes. One example is confidence, where the need for closure positively predicts the confidence with which people make judgmental statements (Kruglanski & Webster, 1991). Perhaps for this reason, those high in the need for closure seem to be less motivated to seek out evidence and information to develop their attitudes (Mayseless & Kruglanski, 1987). To the extent that they employ evidence in a group conversation, they favour information that is shared among everybody present, over information that only they hold: it is understood that this is conducive to obtaining faster consensus within the group (Webster, 1993; cited in Kruglanski & Fishman, 2009).

Some researchers suggested that the need for closure would motivate people to make use of heuristic 'short cuts' in order to reach quick solutions to ambiguous problems, social conflicts, or attitudinal judgments. Globally, Kruglanski and Webster (1996) found that the need for closure predicted a higher reliance on various anchoring and priming effects, and higher reliance on the primacy effect as a method for reaching evaluative decisions. Similarly, a host of researchers (Kruglanski & Freund, 1983; Jamieson & Zanna, 1989; Dijksterhuis, van Knippenberg, Kruglanski, & Schaper, 1996) found that high closure individuals would make use of stereotypes (about race, gender, etc.) in making judgments about other people. In a different sort of social judgment task, high-closure individuals (either situationally- or dispositionally high in need for cognitive closure) were more likely to make the fundamental attribution error (Webster, 1993). That is, they were more likely to assume that a person who had supposedly written an essay on some topic, actually believed the content of what they had written, even when the high-closure participants *knew* that the topic had been randomly assigned. They are also more likely to engage in *transference*, that is, applying what one knows about close others, onto newly met strangers who superficially resemble these close others (Pierro & Kruglanski, 2008). For example, a high-closure individual may consider a newly met older woman to be 'intelligent', because his or her own mother is believed to be intelligent. This tendency is probably best considered a heuristic, as it is understood to be occurring without the transferrer using deliberate reasoning to make such inferences.

Self-awareness

Definition and Behavioural Tendencies

Because everything in life is experienced through the self, acquiring knowledge about oneself is one way to make the world more predictable. Self-awareness reflects

this strategy for acquiring knowledge (Carver & Scheier, 1981a), and has also been described as private self-consciousness (as opposed to public self-consciousness; see Fenigstein, Scheier, & Buss, 1975). Self-awareness has been studied both as an individual difference variable, and as a situationally-manipulated variable, usually through the use of a mirror that the participant sees themselves in, or the presence of an audience (Carver & Scheier, 1977). Fenigstein et al. (1975) developed the private self-consciousness scale (the PrSC scale; test-retest reliability $r = .79$) to test trait self-awareness. This was originally drawn from a three-factor scale of self-consciousness (subscales of public, private, and socially-anxious consciousness), called the Self-Consciousness Scale. A reinterpretation that divides private self-consciousness into two subscales is outlined below.

People who are higher in dispositional self-awareness, or made to be higher through active manipulations (such as mirror exposure), engage in deepened processes of comparison between their current state and their desired goal state, which results in a higher concordance between their internal preferences (attitudes) and external actions (behaviours); thus, high attitude-behaviour consistency ensues (Carver & Scheier, 1978). Similarly, private self-consciousness has been positively associated with attitude-behaviour consistency (Pryor, Gibbons, Wicklund, Fazio, & Hood, 1977). In addition, self-aware individuals seem more able to predict their own future behaviours, such as the accuracy of their alcohol usage estimates (Bartholow, Sher, & Strathman, 2000).

Self-awareness has been related to many positive outcomes, such as greater accuracy of self-reports, extensive processing of information, and autonomy (reviewed by Gibbons, 1983, 1990). However, self-awareness has also been related to a wide range of pathological outcomes (Ingram, 1990). This simultaneous relation of PrSC to both 'good' and 'bad' outcomes is described by Trapnell and Campbell (1999) as "the self-absorption paradox" (p. 286). Trapnell and Campbell resolved this paradox by suggesting that the PrSC items are divided between those that are suggestive of rumination, versus those that suggest reflection. The former were hypothesized to relate to psychopathological outcomes, while the latter were driving correlations with positive outcomes; a factor analysis was also used to confirm this possibility. For example, "I love analysing why I do things" (*reflection*) loads with one cluster of items, while "I often find myself reevaluating something I've done" (*rumination*) loads on a separate factor. Rumination was found to correlate substantially with indices of hostility, impulsiveness, depression, etc.; while reflection predicted need for cognition, openness to experience, need for self-knowledge, etc. Nevertheless, most research has utilized single-factor versions of the PrSC, thus collapsing across these differences.

Effects on Cognitive Processes Relevant to Social Influence

Individuals high (versus low) in private self-consciousness show greater signs of emotional intensity, to both negative and positive emotional stimuli, such as humour- (Porterfield et al., 1988) and anger-provoking (Scheier, 1976) factors. Similarly, they

are more focused on many aspects of their internal experiences, such as emotions/feelings, dreams/imagination, and thoughts/ideas, and correspondingly less focused on physical features, popularity, and other 'social' elements (Cheek & Briggs, 1982). Very likely as a consequence of this tendency, those higher in self-awareness are highly resistant to the enforcement of social expectations, conformity pressures, etc. (Scheier, 1980; Froming & Carver, 1981; Ellis & Holmes, 1982; although some studies utilized manipulated rather than measured self-awareness). In one example (Froming & Carver, 1981), individuals higher in self-awareness were less susceptible to conformity pressure, in a perceptual conformity paradigm based on Asch (1951).

Self-awareness has been shown to affect social influence in some interesting ways, in persuasion-focused research. At higher levels of elaboration, for instance, people higher in self-awareness demonstrate greater reactance (e.g. adversarial responses) to coercive attitude change attempts (Carver & Scheier, 1981b; Hutton & Baumeister, 1992). This is understandable as a type of direction of thinking bias, whereby attempts to control those high in self-consciousness, result in their showing an attitudinal bias *against* the control attempt. Reactance has been defined as the motivational state whereby individuals 'react' against attempts to remove their freedom (e.g., of self-expression, choice, etc.). In the work by Carver and Scheier (1981b), the social influence attempt was based on presenting messages of a commanding nature (about a fictitious political candidate) to the participants, such as "There are a number of reasons why...you *must conclude* that Thomas is the only rational choice for this position" (p. 19, emphasis ours). Depending on the experiment within Carver and Scheier's (1981b) work, reactance was manifested through various behaviours, such as attitude reversal or equivocation over alternative choices. For instance, subjects who initially supported the proposed candidate would change their attitude to oppose him (attitude reversal) when presented with the commanding statement – but only when relatively high in private self-consciousness. The authors concluded that private self-consciousness, in making individuals more aware of their thoughts and feelings, would cause them to be more focused on their reactance, and thus more driven by it.

Individuals higher in self-awareness also show less attitude change in the wake of cognitive dissonance paradigms (Scheier & Carver, 1980; study 3). Subjects pre-selected to be very high or low in private self-consciousness were exposed to a paradigm where they were encouraged to write an essay contrary to their true opinions. Those manipulated to feel that they had chosen to write (rather than feeling 'forced') showed more attitude change, but only among the individuals lower in private self-consciousness. In other words, self-awareness granted subjects resistance against dissonance-induced change.

In terms of response to heuristic cues, one interesting study has indicated that regulatory fit (explained in greater detail later in this report, under Prevention and Promotion Focuses in the Self-Worth section; see also Cesario, Grant, & Higgins, 2004) has a greater influence over individuals relatively high in private self-consciousness

(Fransen, Fennis, Pruyn, & Vohs, 2011). In this research, messages that were framed in a manner that is concordant with the individuals' personality type (in this case, based on their relative preference for information that is about *pursuing gains* versus *avoiding losses*) showed greater signs of persuasion; this effect appears to be enhanced for people higher in self-awareness. One suggestion by the authors is that those higher in self-awareness are more affected by external cues such as those indicating regulatory fit because they are more likely to interpret external information as self-relevant.

Causal Uncertainty

Definition and Behavioural Tendencies

Although everyone struggles at times to understand the cause-effect relationships of social events, Weary and Edwards (1994) defined causal uncertainty as the degree to which people experience subjective uncertainty and distress about these relationships, and measured the construct with the 14-item, self-reported Causal Uncertainty Scale ($\alpha = .83$). Like the other knowledge motivations discussed in this section, causal uncertainty - the motivation to have knowledge of social causality - can also be understood as a desire for control, in the sense of being able to use knowledge of interactions to influence them (Weary & Edwards, 1996). That is, people high in causal uncertainty are distressed in part due to a feeling of uncontrollability (Edwards & Weary, 1998). In a range of studies, causal uncertainty has been shown to have a significant role in meta-cognitive processes (Vaughn & Weary, 2003), and in responses to social influence (Tobin, 2003; Edwards, 2003).

Causal uncertainty has been looked at in a variety of ways, of which the social influence section restricts itself to merely the 'trait level'. However, it is worth noting that causal uncertainty has been shown to be enhanced by means of semantic primes (Tobin, Capuozzo, & Raymundo, 2012; Jacobson, Weary, & Lin, 2008) with some interesting implications for social influence (such as greater elaboration of persuasive messages). Similarly, manipulations (such as exposing people to primes that induce abstract construals of issues) have been used to decrease trait-level causal uncertainty, suggesting that causal uncertainty is not simply a fixed and inflexible construct (Namkoong & Henderson, 2014). With that in mind, further evidence has shown that these causal uncertainty inductions have only a temporary effect on the accessibility of causal uncertainty, and after a delay individuals return to their baseline levels of causal uncertainty (Wichman, Brunner, & Weary, 2008).

People high in causal uncertainty are very motivated to seek information, in order to resolve the discrepancies between their felt state of ignorance, and their desired state of knowledge, about social events. Thus, high causal uncertainty is associated with the search for, and processing of, information about other peoples' behaviours (Weary & Jacobson, 1997; Weary, Jacobson, Edwards, & Tobin, 2001). There is a reason to

believe that causal uncertainty is the 'midpoint' bridging between (antecedent) reassurance seeking and (consequent) depressive symptoms; thus, causal uncertainty appears to have a depressogenic effect. The reverse pathway, whereby depressive symptoms lead to reassurance seeking through causal uncertainty, was tested and rejected (Jacobson, 2007).

Thus, causal uncertainty can be severely troubling for individuals. But it also plays a role in the reception of social influence attempts, across several of the five processes summarized by Brinol and Petty (2005). In particular, causal uncertainty is related to meta-cognitive processes such as bias correction (Vaughn & Weary, 2003), and yields a vulnerability to particular types of persuasive messages that employ causal language (Tobin, 2003).

Effects on Cognitive Processes Relevant to Social Influence

When elaboration is free to vary, there is some evidence that causal uncertainty can influence the extent to which individuals choose to elaborate information. That is, when participants were relatively high in causal uncertainty, as well as a trait called 'judgment' (Edwards, Lanning, & Hooker, 2002; judgment is comparable to need for cognition), they were more able to discriminate between strong and weak arguments (than those low in either causal uncertainty *or* judgment; Edwards, 2003). This is an indication that this pair of variables leads individuals to commit more cognitive resources to properly assessing the messages, such that they respond differentially to weak versus strong materials, and suggests that so long as people have a relatively high interest in message processing, causal uncertainty can play an additional role in assessing the quality of messages.

At high levels of elaboration, causal uncertainty plays a significant role in predicting the sorts of arguments or evidence that individuals will find important. Specifically, individuals high in causal uncertainty respond most favourably to persuasive arguments that contain causal arguments, over arguments without causal arguments (Tobin, 2003). It is worth noting that people, in general, do prefer arguments that contain causal information, possibly because they suggest changes in the lay theories that people adopt about the world (Slusher & Anderson, 1996). However, Tobin (2003) found that causal arguments were preferred to a greater extent for those higher in causal uncertainty. More specifically, high causal uncertainty individuals seek information likely to reduce uncertainty feelings, such as socially diagnostic information (Edwards, 1998). However, more recent work on this subject has also found that the effect is exaggerated for individuals who endorse not only high causal uncertainty, but also causal importance (i.e., not only feel they lack causal understanding but desire it; Tobin & Weary, 2008).

Another higher-level cognitive process is bias correction. Individuals higher in causal uncertainty show signs of correcting for their attitudinal biases on topics, at least

so long as those biases are made apparent to them (Vaughn & Weary, 2003). Interestingly, follow-up research has also indicated that this process furthermore can only occur when participants are relatively un-distracted (Weary, Vaughn, Stewart, & Edwards, 2006), indicating that this bias-correction process is restricted to high-elaboration conditions (concordant with ELM consideration of the boundary conditions of meta-cognitive operations).

In a demonstration of a very different kind of meta-cognitive process, Jacobson et al. (2008) have shown that high causal uncertainty has differential effects on information-seeking, based around meta-cognitive 'rules' accessible at a given time. That is, high causal uncertainty individuals show enhanced information-seeking behaviours when they have been asked to read self-instructions advocating a 'sufficiency of information' rule (*"Can I make up my mind about Bob on the basis of the information that I have read so far?"*), but show decreased information-seeking when exposed to an enjoyment rule (*"Do I feel like continuing with this task?"*). The implication is that causal uncertainty has various influences on people, based around the meta-cognitive goals that they are pursuing at the time. Causal uncertainty has an antagonistic relationship with enjoyment goals, such that under such rules causally uncertain people 'give up' quickly; but it has an agonistic relationship with sufficiency rules, which cause causally uncertain people to engage with renewed efforts in information-seeking.

In another high-elaboration paradigm, in which conversational dyads were explored, causal uncertainty was shown to predict negative views both of conversations that they engaged in, as well as negative attributions about the individuals with whom they interacted (Boucher & Jacobson, 2012). Interestingly, the mechanism found for this effect was meta-cognitive in nature: the causally uncertain people felt that they had been unable to reduce their feeling of causal uncertainty through the conversation; thus, they evaluated both the conversation *and* their partner in a negative fashion.

Conscientiousness

Definition and Behavioural Tendencies

Conscientiousness, one of the Big Five personality traits (Costa & McCrae, 1985), is a multifaceted trait, defined as "a spectrum of constructs that describe individual differences in the propensity to be self-controlled, responsible to others, hardworking, orderly, and rule abiding" (Roberts et al., 2014; p. 1315). A conscientious person is one who is dedicated to diligent, self-controlled effort, and the trait is related to (Tangney, Baumeister, & Boone, 2004), but broader than, self-control or 'grit' (the extension of self-control over longer-term periods, and against obstacles; Duckworth, Peterson, Matthews, & Kelly, 2007). While these latter terms describe the ability to apply prolonged effort to tasks, conscientiousness represents the broader personality trait encompassing orderliness and moral-mindedness (Roberts et al., 2014).

Nonetheless, grit in particular correlates remarkably highly with conscientiousness measures (r = .77, Duckworth & Quinn, 2009), and so the long-term self-control element of conscientiousness is highly central to the trait.

Conscientiousness has principally been measured through self-report, through various methods. Costa and McCrae's (1992) NEO Five-Factor Inventory, Goldberg's (1992) Trait Descriptive Adjectives scale, and the Big Five Inventory (BFI; John & Srivastava, 1999) are three questionnaires developed to measure the Big Five, including conscientiousness. These scales generally show strong reliability; for example, Duckworth et al. (2007) showed reliabilities of α = .82-.89 for the BFI's subscales, with conscientiousness α = .86.

Conscientiousness is a major predictor of educational achievement (Duckworth et al., 2007; Duckworth & Quinn, 2009), and can be understood as a way of acquiring knowledge about the world. Specifically, high-conscientiousness individuals seek knowledge in a highly meticulous, scrupulous, and organized fashion. For example, they involve themselves in political issues only to the extent that they deem those issues relevant (Mondak, Hibbing, Canache, Seligson, & Anderson, 2010), whereas lower-conscientiousness people tend to be less discriminating. Thus, the trait represents an approach to using knowledge about the world in specific ways.

Across a wide domain of behaviours, conscientiousness is considered a critical predictor. In health research, it has been observed to have similar predictive power as socioeconomic status and education level, in predicting longevity and physical health (Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). As summarized by Roberts et al. (2014), conscientiousness has also been fruitfully used to predict job performance (Dudley, Orvis, Lebiecki, & Cortina, 2006), leadership (Judge, Bono, Illies, & Gerhardt, 2002), marital stability (Roberts & Bogg, 2004) and a negative predictor of depression (Kendler & Myers, 2010). Thus, conscientiousness is considered to play a pivotal role in a wide range of important life outcomes. Its role in responses to social influence, while less overwhelming than its other capacities, are discussed in the subsequent sections.

Effects on Cognitive Processes Relevant to Social Influence

Individuals higher in conscientiousness show several differences that are relevant to social influence attempts. In particular, conscientiousness has effects on the manner in which people respond to particular cues suggestive of personality-concordant concepts. As one example of this tendency, they show a preference for advertisements suggestive of the order and organization that they prefer (Hirsh, Kang, & Bodenhausen, 2012). Similarly, they are more responsive to job postings that seem to call for individuals high in conscientiousness-like qualities ('dependable', 'hardworking'; Stevens & Szmerekovsky, 2010). Because these persuasion studies introduce participants only to very brief messages, without much opportunity for reflection, it seems most likely that the individuals are responding at lower levels of elaboration, to cues that indicate

concepts familiar and salient to conscientious people.

In terms of the direction of thinking, conscientious people do not have a generalized tendency to pursue particularly pro- or anti-message directions of thought. However, in combination with openness to experience, conscientious people are more likely to express dissent within a group (Packer, 2010), suggesting a greater resistance to one aspect of conformity pressure (namely, the pressure to express agreement with the group's attitudes). Specifically, Packer (2010) suggested that openness to experience is likely to predispose people towards directions of thinking that may deviate from the group's confirming mindset, while high conscientiousness motivates the articulation of these ideas (while low-conscientious people would still experience counter-group thoughts, but internalize them). However, it is unclear exactly why conscientious people would be more motivated to put their dissenting voices into action. One possibility is that they are encouraged by a greater sense of self-efficacy in domains including public speaking and leadership (Hartman & Benz, 2007). Another possibility is that they feel a greater sense of obligation to the group (i.e., that they want to help the group by bringing up alternative views of an issue), although the authors did not find differences in the effects based on the degree of group identification. One might think that if conscientiousness was working through an elevated commitment to their group, an absence of experiencing group identity might eliminate the effect. However, it is also unclear whether group identification fluctuated sufficiently to capture any such differences.

It is likely that conscientiousness plays a role in determining the level of elaboration to which individuals will default, given moderate (and flexible) elaboration conditions. For example, Chen and Lee (2008) found that conscientiousness showed more positive attitudes towards a website when 'central route' factors were pronounced. Specifically, conscientious individuals showed more positive attitudes towards websites when they thought that the sites had designs that were easy to scan for information, thought that the websites had content that would improve societal functioning if widely disseminated, and felt that the website had positive, practical benefits (e.g. would make it easy to access and download information). In this sense, conscientious people were engaging in higher-elaboration, more 'central route' processing when evaluating the sites, since websites that enabled them to elaborate effectively were rated more favorably.

For a number of reasons, conscientious individuals will act as though they have strong attitudes. For example, they report high levels of behavioural control over their actions (Courneya, Bobick, & Schinke, 1999). They also report being less influenced by situational factors such as constraints and stress (Besser & Shackelford, 2007; Gerhardt, Rode, & Peterson 2007). Because factors like perceived constraints and stress interrupt the relationship between attitudes and behaviours, conscientious people are higher in attitude-behaviour consistency (Ajzen, Czasch, & Flood, 2009). However, this may be due to having relatively stronger attitudes, or it may be due to a diligent dedication to

seeing through their commitments, or greater self-efficacy across a number of domains (Roberts, Jackson, Fayard, Edmonds, & Meints, 2009). They also seem to require less 'social input' in order to pursue health-relevant goals (e.g. making and keeping dental appointments, seeking relevant vaccinations), reporting greater tendencies towards internalized self-drive, and pursuing health behaviours out of a sense of familial obligation (Tucker, Elliott, & Klein, 2006).

Affective-Cognitive Structural Bases/Meta-Bases

Definition and Behavioural Tendencies

As suggested by the need for affect and need for cognition, two different ways that one can seek information about the world are through emotions and feelings (affect); versus through facts about, and attributes of, attitudinal objects (cognition). In addition to the felt *needs* for those qualities, individuals differ in the extent to which their attitudes are (or are felt to be) driven by these types of information. Several scholars (Crites, Fabrigar, & Petty, 1994; Haddock & Zanna, 1994; Huskinson & Haddock, 2004; See et al., 2008) have investigated individual differences in the tendency to have attitudes be dictated by affect and/or cognition: that is, individual differences in *structural attitude bases*. Although some of these uses of attitude base as a trait correlate with the needs for affect or cognition (Huskinson & Haddock, 2004), the most recent measures do not correlate significantly with these needs at all (See et al., 2008), suggesting that the motivational drive to experience affect and/or cognition, does not necessarily lead to holding evaluations that are actually based on these. Substantial reliability scores ($\alpha = .87$ for cognitive, .91 for affective, .92 for attitudinal reports; See, Petty, & Fabrigar, 2013) have been found across particular attitude objects.

Individual differences in attitude bases have been looked at on two levels: the aforementioned structural bases, but also as meta-bases of attitude (See et al., 2008; See, Petty, & Fabrigar, 2013). While structural bases represent the extent to which particular reactions (feelings, thoughts) predict self-reported attitude, meta-bases represent participants' beliefs about the extent to which their attitudes are driven by thoughts and/or feelings, and measured through simple self-report (See at al., 2008). Just as structural bases have been found to be unrelated to the needs for cognition or affect, meta-bases appear to be unrelated to structural bases (See et al., 2008). Meta-bases appear to have some reliability even across different attitude objects ($\alpha = .55-.65$), and interestingly, cognitive and affective meta-bases correlate *positively* with one another ($r = .45$; See et al., 2013a). That is, contrary to seeing affect and cognition as mutually exclusive factors in reaching attitudinal judgments, the same people who believe their attitudes are informed by affect *also* believe their attitudes are driven by cognition.

Effects on Cognitive Processes Relevant to Social Influence

A reasonably large amount of research has accumulated concerning the role of attitude bases in moderating the effects of persuasive appeals. Although much of this research has concerned the role of affective versus cognitive *attitudes* (Drolet & Aaker, 2002; Edwards, 1990; Fabrigar & Petty, 1999), often created in the laboratory using manipulations, there is now a complementary literature concerning the role of dispositionally affective versus cognitive individuals (Crites et al., 1994; Haddock & Zanna, 1994; Huskinson & Haddock, 2004). Scholars have generally found evidence of a matching effect, whereby cognitive attitudes (or cognitive-based individuals) are more easily influenced by cognitive messages, whereas affective attitudes (individuals) are best influenced by affective messages. Furthermore, structural and meta attitudinal bases appear to have incremental predictive power, whereby using both as predictors of persuasion has additional benefits beyond simply using one type of measurement (See et al., 2008). Some proposed mechanisms (and counter-instances) are discussed below.

A number of theories have been proposed concerning why this matching effect happens (Mayer & Tormala, 2010). One possibility is that base-matching increases participants' feeling of involvement in an issue, thereby increasing their elaboration of message contents (see Petty & Cacioppo, 1979); this would serve to make strong arguments more effective than under lower elaboration conditions. An alternative possibility is that base-matching serves as a simple cue of 'rightness' to matched individuals; information that serves to increase a feeling of fluency or ease about message contents are easier to remember, and correspondingly more often lead to attitude change (Lee & Labroo, 2004; Whittlesea, 1993). In one direct comparison of these possibilities, Mayer and Tormala (2010) found that structural attitude bases predicted processing fluency, but not message involvement, under matching conditions; they did not predict the level of message involvement. However, this left the door open to whether meta-bases might be related to message involvement effects.

Recent advancements, indeed, suggest that meta-bases reflect the motivation to engage in particular forms of information-processing (analogous to increased involvement), while structural bases reflect the efficiency with which individuals process this information (analogous to processing fluency). In this way, structural and meta-bases appear to have complementary and incrementally useful roles to play in predicting responses to affective and cognitive information (See et al., 2013a) for a principled reason: that is because they seem to operate via separate causal pathways.

A few caveats do apply to the general matching effect. For one thing, it appears to be substantially moderated by attitude certainty. Clarkson, Tormala & Rucker (2011) hypothesized an amplification hypothesis, such that high attitude certainty would increase resistance to mismatching messages, but increase vulnerability to matching messages; across two studies, evidence was found to support this logic (although they used a manipulation of attitude bases, rather than measuring them at the trait level).

In an interesting counter-point to literature generally advocating for base-matching, a couple of studies have suggested situations involving the opposite possibilities. One of these studies (Millar & Millar, 1990) has been severely criticized for an absence of manipulation checks and other issues (see Fabrigar & Petty, 1999), but the other (See, Valenti, Ho, & Tan, 2013) to an interesting caveat to attitude base-matching. See et al. (2013b) found that when persuasive appeals were strongly counter-attitudinal to participants, anti-matching effects were found, such that cognitive messages worked better for affective individuals and affective for cognitive individuals. Interestingly, this effect was found across multiple experiments and attitudinal objects, and a possible mechanism was proposed for the effect. Individuals higher in cognitive bases, subjected to a cognitive message, engaged in greater counter-arguing against the message; the authors suggested that such a tendency could result in decreased attitude change, at least among individuals opposed to the message from the onset.

However, See et al.'s studies (2013b) have some limitations worth noting. For one thing, it was not found (and not tested) whether affective individuals counter-argued more against affective messages; and indeed, it seems intuitively more likely that counter-arguing would be a mechanism for cognitive-based individuals. For this reason, the mechanisms for the affective-based individuals is less clear. Second, the two types of findings (greater counter-arguing, greater persuasion) were found across separate studies, making it impossible to have conducted a direct test of mediation, either through measurement-of-mediation or manipulation of the proposed mediating variable (Spencer, Zanna, & Fong, 2005).

Consistency Traits and Individual Differences

As previously discussed, individuals generally prefer consistency and hence are motivated to maintain and achieve consistency. The need for consistency has been widely studied in several frameworks, including but not limited to *cognitive dissonance* (Festinger, 1957), *impression management* (Tedeschi, Schlenker, & Bonoma, 1971), *self-perception* (Bem, 1972), *attitudinal ambivalence* (Kaplan, 1972; Thompson, Zanna, & Griffin, 1995; Priester & Petty, 1996), *self-affirmation* (Steele, 1988), *commitment* (Cialdini, 2009), and *attitude strength* (Krosnick & Petty, 1995). Cialdini, Trost, and Newsom (1995) have noted that there are three types of preference for consistency: internal consistency (i.e., the desire to be consistent in one's own responses), public consistency (i.e., the desire to appear consistent to others), and others' consistency (i.e., the desire that others be consistent).

The presence of inconsistencies can be unpleasant for individuals. For instance, Festinger (1957) argued that inconsistencies amongst cognitions, termed cognitive dissonance, can generate conflict and psychological discomfort within oneself. Individuals experience greater discomfort as the magnitude of differences between two conflicting cognitions increases. Furthermore, cognitive dissonance effects are amplified

when an individual has a higher need for consistency. The discomfort generated by inconsistencies amongst cognitions motivates individuals to avoid these inconsistencies or to resolve them when they arise. Typically, individuals avoid the occurrence of inconsistencies amongst cognitions via ignoring counter-attitudinal information and/or seeking pro-attitudinal information, which leads to biased information seeking (i.e., selective exposure). Cognitive dissonance can arise via inconsistencies between beliefs or from inconsistencies between one's current behaviour and past beliefs (e.g., see Harmon-Jones & Mills, 1999; Olson & Stone, 2005).

The need for consistency also motivates individuals to uphold commitments, which can explain why people are sometimes resistant to persuasion after making a commitment. Research has shown that commitment increases individuals' level of attitude certainty and confidence in their attitude, as well as making their attitude more polarized. Furthermore, committed individuals have more stable, enduring, and accessible attitudes, as well as have higher levels of attitude-behaviour consistency (Gross, Holtz, & Miller, 1995; Pomerantz, Chaiken, & Tordesillas, 1995). In addition, commitment makes people behave consistently to the commitment (Greenwald, Carnot, Beach, & Young, 1987).

Preference for Consistency

Definition and Behavioural Tendencies

While individuals are generally motivated to maintain consistency, individuals vary in their level of *preference for consistency* (PFC), which may lead to different consequences for attitudes and persuasion. PFC can be measured using a self-report measure called the *PFC scale* (α = .89) or *PFC-B* for the brief version (α = .84; Cialdini *et al.*, 1995). PFC consists of three subscales in order to capture internal, public, and others' consistency. An example item from the internal consistency subscale is "I am uncomfortable holding two beliefs that are inconsistent." An example item from the public consistency subscale is "The appearance of consistency is an important part of the image I present to the world." An example item from the others' consistency subscale is "I want my close friends to be predictable."

In general, individuals with high levels of PFC tend to value personal consistency and respond to most situations in line with prior attitudes, behaviours, and commitments. Conversely, individuals with low levels of PFC prefer change, spontaneity, and unpredictability in social situations and do not strongly prefer to be consistent with past behaviours (see Guadagno & Cialdini, 2010). PFC has been demonstrated to be correlated to openness-to-experience (r = -.38), conscientiousness (r = .20), rigidity (r = .48), personal need for structure (r = .47; Cialdini et al. 1995), as well as age (r = .23; Brown, Asher, & Cialdini, 2005).

Individuals with high levels of PFC are more motivated to reduce emotional upset than individuals with low levels of PFC (Brown *et al.*, 2005). In addition, high PFC individuals have been shown to exhibit more consistency-related behaviours when compared with low PFC individuals. For example, high PFC individuals are more likely to attend their scheduled experiments than low PFC individuals (Council, Grant, Smith, & Matz, 1997, as cited in Guadagno & Cialdini, 2010). Similarly, high PFC individuals were more likely to return experimental materials after using them at home than low PFC individuals (Bator, Guadagno, & Cialdini, 1996, as cited in Guadagno & Cialdini, 2010).

Effects on Cognitive Processes Relevant to Social Influence

In general, individuals with higher levels of PFC are more difficult to persuade than individuals with lower levels of PFC. For example, Gopinath and Nyer (2009) asked participants to rate an advertisement slogan before and after being told that other students had different evaluations. They found that individuals with higher PFC were less likely to change their evaluations when faced with counter-attitudinal information. However, individuals with higher levels of PFC are more susceptible to consistency effects compared to individuals with lower levels of PFC (Cialdini *et al.*, 1995; Guadagno, Asher, Demaine, & Cialdini, 2001; Nail, Correll, Drake, Glenn, Scot, & Stuckey, 2001; Heitland & Bohner, 2010).

These consistency effects can be demonstrated through a number of paradigms. One such paradigm is the foot-in-the-door (FITD) paradigm, where individuals are asked to commit to a small request and subsequently, commit to a larger request. For example, an experiment may first request the participant to complete a two-minute survey. Upon finishing the short survey, the experimenter would request the participant complete a fifty-minute survey. In a study using the FITD paradigm, Cialdini *et al.* (1995) found that higher levels of PFC can enhance FITD effects, as high PFC individuals agreed to the second larger favour more often than low PFC individuals.

FITD effects typically require a delay between the first and second request. However, higher levels of PFC enhances FITD effects by overriding the resistance to the second request when the delay between the first small and second large request is short (Guadagno *et al.*, 2001). In addition to demonstrating an enhanced FITD effect for high PFC individuals, Guadagno *et al.* (2001) found that a reverse FITD effect for individuals with lower levels of PFC when participants' prior helpfulness was made salient. A FITD effect is considered to be reversed when individuals comply less with the second favour when compared to a control group who were not asked to comply with the initial small favour. Similarly, Bator and Cialdini (2006) found a reverse dissonance effect for low PFC individuals when they wrote perceived free-choice counter-attitudinal essays. With the traditional cognitive dissonance effect, there is typically greater attitude change in the same direction as the counter-attitudinal

statement made. However, in this study, low PFC individuals became even more pro-attitudinal after writing the counter-attitudinal essay.

In another paradigm demonstrating consistency effects by Nail *et al.* (2001), participants responded to a scenario where they were stood up by a friend and were either given sufficient or insufficient justification for their friend's offense. They found that participants who received insufficient justification derogated the friend to a greater extent and reported that they were more offended than participants who received sufficient justification. The authors argued that cognitive dissonance is generated because being stood up without justification is inconsistent with individuals' expectations of a good friendship and that this dissonance can be reduced by derogating the friend. However, the key finding here is that these effects were significantly stronger for high PFC participants than for low PFC participants. Likewise, Heitland and Bohner (2010) found that after generating counter-attitudinal arguments, high PFC participants had higher levels of attitude change compared the low PFC participants. In this study, the authors had German adults who initially had relatively high prejudice toward Turks generated counter-attitudinal arguments in favor of integrated housing of Turks and Germans. Results showed that high PFC participants who wrote counter-attitudinal arguments had subsequently lower levels of discomfort and prejudice towards Turks than low PFC participants.

PFC also influences attitude change through moderating attitude ambivalence, which is the state of having simultaneous conflicting reactions, beliefs, or feelings towards some object (Kaplan, 1972). In a study examining the relationship between potential ambivalence (i.e., the conflicting evaluations of attitude objects) and felt ambivalence (i.e., unpleasant feelings experienced from the conflicting evaluations of attitude objects), Newby-Clark, McGregor, and Zanna (2002) found that individuals with higher levels of PFC experienced more unpleasant feelings of uncertainty due to attitude ambivalence than individuals with lower levels of PFC. In other words, the conflicting evaluations of attitude objects led to more unpleasant feelings for individuals with higher levels of PFC than individuals with lower levels of PFC.

Openness-to-Experience

Definition and Behavioural Tendencies

Another individual difference that we have categorized under the internal consistency motive is *openness-to-experience*, which is one of the big five-factor personality traits. It is measured using the openness subscale of the NEO Five-Factor Inventory (NEO-FFI; Costa & McCrae, 1992b), which consists of 12 items and has been shown to have an internal consistency of α = .70 to .75 (McCrae & Costa, 2004). A sample item is "I often try new and foreign foods". Other measures of openness-to-experience include the Openness scale of the Big Five Inventory (BFI; John, Donahue,

& Kentle, 1991) and Goldberg's (1990) adjective-based Intellect scales. Individuals high in openness-to-experience tend to be intellectually curious, behaviourally flexible, and non-dogmatic in their attitudes and values (McCrae & Costa, 1997).

Openness-to-experience has been shown to be weakly negatively correlated with authoritarianism (r = -.17 to -.32) and dogmatism (r = -.22 to -.28; McCrae, 1996). Conversely, openness-to-experience has been shown to be positively related to creativity (r = .44) and divergent thinking (r = .25 to 39; McCrae, 1987). Specifically, openness-to-experience leads to more creativity when there is positive feedback and individuals are allowed to be creative (George & Zhou, 2001). Several other constructs (i.e., flexibility, intuition, need for cognition, etc.) have been shown to be correlated to openness-to-experience (for a review, see McCrae, 1996). In addition, individuals high in openness-to-experience are more attracted to organizations that promote risk-taking and experimentation compared to those that are detail-oriented and encourage precision (Judge & Cable, 1997).

Effects on Cognitive Processes Relevant to Social Influence

In a study examining the correlations between the Big Five personality factors and the responses to promotional messages regarding voting, Gerber, Huber, Doherty, Dowling, and Panagopoulos (2013) found that individuals with higher in levels of openness-to-experience had higher levels of intention to vote as compared to individuals with lower levels of openness-to-experience. Of all the Big Five factors, openness-to-experience was the only factor to have consistent effects across different types of persuasive message appeals including social pressure, civil duty, and instrumental benefits (i.e., the policy benefits that one can expect by casting a vote for a candidate).

In addition, several studies have found matching effects for openness-to-experience, where persuasive information that match an individual's level of openness-to-experience increases the amount of persuasion (Stevens & Szmerekovsky, 2010; Hirsh, Kang, Bodenhausen, 2012). For example, in a study examining personality traits and employment advertisements, Stevens and Szmerekovsky (2010) found a significant positive relationship between openness-to-experience and attraction to advertisements that list openness-related characteristics as requirements. An advertisement tailored to openness-to-experience will include sentences such as "These positions require applicants to be willing to try new tasks and to have a preference for variety in their work." In a similar study, Hirsh *et al.* (2012) examined the effectiveness of aligning a persuasive message's framing to a recipient's personality profile. They found that advertisements were evaluated by participants more positively the more the advertisements matched with their personality. An example of a part of the openness-to-experience message was: "Broaden your horizons with the latest technology, and discover the world in ways you never thought possible."

In addition to matching effects of openness-to-experience and persuasive messages, research has examined the relationship between openness-to-experience and anchoring effects (i.e., the adjustment of one's assessment based upon previously presented external information; Tversky & Kahneman, 1974). Using two different anchoring tasks, McElroy and Dowd (2007) found that individuals high in openness-to-experience are more influenced by anchoring cues relative to individuals low in openness-to-experience.

Resistance to Persuasion

Definition and Behavioural Tendencies

Also related to internal consistency is resistance to persuasion. While individuals can differ in their ability to resist persuasion, they can also differ in their subjective beliefs about how resistant they are to persuasion. Resistance to persuasion can be assessed via a self-report measure called the *resistance to persuasion* scale (RPS; Briñol, Rucker, Tormala, & Petty, 2004). This scale has been shown to have a reliability of $\alpha = .82$ (Shakarchi & Haugtvedt, 2004). A sample item for this measure is "It could be said that I am an easy person to persuade."

Shakarchi and Haugtvedt (2004) have found resistance to persuasion to be related to several constructs. Resistance to persuasion is correlated with the need to evaluate ($r = .42$; Jarvis & Petty, 1996). RPS scores are also weakly correlated to the consideration of future consequences ($r = .28$), which is an individual difference in the extent to which people consider distant versus immediate consequences of potential behaviours (Strathman, Boninger, Gleicher, & Baker, 1994). In addition, RPS scores are weakly correlated to how individuals effortfully defend their attitudes: bolstering their existing attitude ($r = .26$) and counterarguing counter-attitudinal information ($r = .20$; Briñol *et al.*, 2004).

Effects on Cognitive Processes Relevant to Social Influence

How individuals with different levels of persuasive resistance respond to persuasive messages depend on the likelihood of elaboration. In a series of studies, Briñol *et al.* (2004) examined the relationship between people's subjective beliefs about their persuadability and their actual persuadability. In their first study, Briñol *et al.* (2004) measured participants' subjective beliefs about their persuadability and exposed them to a persuasive message in favour of a broccoli-based diet. They found that when elaboration likelihood was low, participants changed their attitudes in line with their beliefs about their own persuadability. However, when elaboration likelihood was high, participants who thought they were high in resistance actually showed more attitude change than those who thought they were low in resistance.

These results suggest that the effects of subjective beliefs about persuadability on actual persuadability varies by the amount of elaboration. When elaboration likelihood is low, individuals may use their beliefs about their persuadability as a cue. Conversely, when elaboration likelihood is high, individuals may correct for their beliefs. Specifically, if high-elaboration individuals believe that being too easily or difficult to be persuaded is inappropriate, then they may adjust their receptiveness to new information accordingly. For example, if a highly resistant individual is on a jury and believes that being overly resistant to persuasion is inappropriate, they may readjust their mentality to be more open to persuasion.

In their second study, Briñol *et al.* (2004) exposed participants to a persuasive message in favour of a foster care program and measured participants' subjective beliefs about their persuadability. However, instead of retroactively asking participants their amount of elaboration, they measured participants' need for cognition, as higher need for cognition typically corresponds with increased elaboration. They found similar results to the first study, where individuals with a lower need for cognition changed their attitudes in line with their beliefs about their own persuadability. Conversely, individuals with a higher need for cognition corrected their attitudes.

In their third study, Briñol *et al.* (2004) manipulated resistance to persuasion by prompting participants to complete a questionnaire that endorsed extreme assertions of resistance to persuasion in order to bias participants' responses in the opposite direction. They found similar results similar to the previous two studies. This study also suggests that resistance to persuasion can be manipulated. Similarly, Jacks and O'Brien (2004) have found resistance can be decreased via self-affirmation. Likewise, Sagarin and Cialdini (2004) have demonstrated that learning how to defend against invalid persuasion attempts (e.g., from famous sources) can increase vulnerability to legitimate persuasion attempts (e.g., from expert sources).

Bolstering Versus Counterarguing

Definition and Behavioural Tendencies

Just as individuals can differ in their beliefs about their own persuadability, so too can individuals differ in their beliefs about how they effortfully resist persuasion (i.e., resistance that requires considerable thought to execute). Two common methods to effortfully resist persuasion are bolstering (i.e., reinforcing one's own position on an issue; see Petty, Ostrom, & Brock, 1981) and counterarguing (i.e., generating counterarguments against the opposing viewpoint; e.g., Lydon, Zanna, & Ross, 1988). An individual's preference for bolstering and/or counterarguing can be measured using a self-report measure called the *bolster-counterargue scale* (BCS; Briñol *et al.*, 2004). The scale has been shown to have a reliability of $\alpha = .83$ overall. The bolstering

subscale has a reliability of α = .83 and the counterarguing subscale has a reliability of α = .86. A sample bolstering item is "When someone gives me a point of view that conflicts with my attitudes, I like to think about why my views are right for me." A sample counterarguing item is "I take pleasure in arguing with those who have opinions that differ from my own."

In two studies, Briñol *et al.* (2004) found one's subjective beliefs about bolstering and counterarguing to be weakly correlated (r = .18 and r = .20). Similarly, Shakarchi and Haugtvedt (2004) found a weak positive correlation between bolstering and counterarguing (r = .23). In addition, Shakarchi and Haugtvedt (2004) have found bolstering and counterarguing to be related to several individual differences related to resistance to persuasion. Bolstering has been demonstrated to be weakly correlated to need to evaluate (r = .27), propensity to self-reference (r = .37; Haugtvedt, 1994, as cited in Shakarchi & Haugtvedt, 2004), resistance to persuasion (r = .26), consideration of future consequences (r = .25), and transportability (r = .22; i.e., the degree to which one is transported by a narrative; Dal Cin, Zanna, & Fong, 2004). Counterarguing has been shown to be moderately correlated to counterarguing (r = .40) and weakly correlated to need for cognition (r = .30) and resistance to persuasion (r = .20).

Effects on Cognitive Processes Relevant to Social Influence

In one study, Briñol *et al.* (2004) found that individuals who had a higher score on the bolstering subscale were more resistant to persuasion than those who had a lower score. Similarly, those who had a higher score on the counterarguing subscale showed more resistance to persuasion than those who had a lower score. In a subsequent study, Briñol *et al.* (2004) asked participants to list their thoughts about an important counter-attitudinal issue (i.e., senior comprehensive exams for university students). They found that the bolstering subscale was positively correlated with the number of bolstering thoughts but uncorrelated with the number of counterarguments. Conversely, the counterarguing subscale was positively correlated with the number of counterarguments generated but uncorrelated with the number of bolstering thoughts generated.

Bolstering and counterarguing may differ as a function of message strength. In inoculation studies, McGuire (1964) found that individuals who counterargued an initial weak message became more resistant to a subsequent strong message. However, bolstering one's attitude before receiving a strong message did not show the same inoculation effects. Furthermore, Rucker and Petty (2004) found that individuals who were prompted to counterargue (ineffectively) against very strong arguments generated attitudes that were as favourable as when individuals who were engaged in undirected thinking. This indicated that counterarguing failed to instill any extra resistance. However, individuals who failed at counterarguing held their post-message attitudes with more certainty than individuals who engaged in undirected thinking. Additionally, attitudes following failed counterarguing were more predictive of subsequent behavioural intentions (e.g., buying or using the attitude object) than undirected

thinking. Bolstering was not examined in this study, however, bolstering may be more effective in persuasion resistance in the face of strong arguments (Briñol & Petty, 2005).

In a series of studies examining bolstering and counterarguing, Xu & Wyer (2012) also found different effects of bolstering and counterarguing mindsets. In their studies, they induced participants to think in either a bolstering or counterarguing mindset and then presented them with an unrelated advertisement. In general, a counterarguing mindset led to more resistance, whereas a bolstering mindset did not. However, there are several special cases where other effects emerge. For instance, when an advertisement is already unfavourable to the participants, a counterarguing mindset had little effect. However, in the same situation, a bolstering mindset increased the advertisement's effectiveness, as the bolstering mind-set increased the participants' generation of positive thoughts in response to the advertisement. In another situation where the implications of a persuasive message were difficult to refute, a counterarguing mindset increases the advertisement's effectiveness (i.e. participants were more persuaded).

Confidence

Definition and Behavioural Tendencies

While individuals can differ in their perception of their resistance to persuasion and their resistance strategies, they can also differ in their beliefs about how well they can defend their positions (i.e., *defensive confidence*; Albarracín & Mitchell, 2004). Defensive confidence is measured with a self-report measure called the *defensive confidence scale* ($\alpha = .87$). A sample item in this measure is "Compared to most people, I am able to maintain my own opinions regardless of what conflicting information I receive." Defensive confidence has been shown to be negatively correlated with powerlessness ($r = -.22$) and fear of evaluation ($r = -.29$ to $-.44$). Defensive confidence has been positively correlated to other individual differences such as need to evaluate ($r = .45$ to $.46$), self-esteem ($r = .32$), and need for cognition ($r = .24$), as well as other domains such as public speaking confidence ($r = .47$) and political participation ($r = .25$).

Along with defensive confidence, we will examine the role of *thought (metacognitive) confidence* on persuasion, which generally refers to a sense of validity regarding one's thoughts or judgments (Petty, Briñol, Tormala, & Wegener, 2007; see Briñol & Petty, 2009, for a review). Thought confidence is measured after participants complete a thought-listing task, where participants are asked to list as many thoughts as they have about an attitude object. Each thought is presented back to the participant and the participant is asked to rate each thought on a 9-point scale anchored at *1 (not at all confident)* and *9 (extremely confident)*. These ratings have been demonstrated to be highly consistent with each other ($\alpha = .84$; Petty *et al.* 2002). In general, the greater

confidence in the thought, the greater its impact on judgment. Thus, if two individuals generate the same number of thoughts in the same valence, the thoughts of the individual with more confidence in their thoughts would have more impact. This idea is outlined in the self-validation hypothesis (Petty *et al.* 2002).

Effects on Cognitive Processes Relevant to Social Influence

In one study, Albarracín and Mitchell (2004) demonstrated that individuals who were more confident in their ability to defend their own position were less likely to selectively expose themselves to pro-attitudinal information and instead preferred counter-attitudinal information. Alternatively, individuals who lack confidence in their ability to defend their attitudes tend to prefer pro-attitudinal information. The same results were found when Albarracín and Mitchell (2004) manipulated defensive confidence by prompting participants to write about situations where they were either successful or unsuccessful in defending their attitudes.

In a subsequent study, Albarracín and Mitchell (2004) found that individuals who are high in defensive confidence were more likely to change their attitudes as a result of exposure to counter-attitudinal information. Overall, they found that participants thought they would counterargue the message less, trust their attitudes more, and find information more novel when the message was pro-attitudinal than counter-attitudinal. However, these pro-attitudinal biases were stronger for individuals with lower levels of defensive confidence than for those with higher levels of defensive confidence.

Though these findings are interesting, Briñol and Petty (2005) noted one caveat to these findings and it was that Albarracín and Mitchell (2004) only used strong messages. If the authors examined the effects of defensive confidence with weak messages, there may have been different results. For example, when individuals receive a weak counter-attitudinal message, individuals with high defensive confidence may not be more likely to change their attitudes compared to individuals with low defensive confidence, as the weak message may not be effective at persuasion.

Another related construct is thought confidence, which has been extensively studied within the domain of persuasion. For example, Petty, Briñol, and Tormala (2002) examined the degree of confidence individuals have in their own thoughts in relation to persuasion. Over several studies, they found that the effects of thought confidence on persuasion are moderated by message direction. Specifically, when positive thoughts dominated in response to a persuasive message favourable to the attitude object, increasing confidence in those thoughts increased persuasion. However, when negative thoughts dominated the same persuasive message, increasing confidence decreased persuasion.

Past research has also demonstrated that confidence can be manipulated, as well as the effects of manipulated confidence on persuasion. Specifically, Tormala, Rucker, and Seger (2008) found that when the message is framed in confidence terms, participants engaged in greater message processing when they felt confident as opposed to doubtful, which was indicated by greater argument quality effects on attitudes and thought favourability.

Uncertainty Orientation

Definition and Behavioural Tendencies

Another individual difference that falls under the umbrella of internal consistency is *uncertainty orientation*. Uncertainty orientation is an interesting individual difference because it straddles between two motives: knowledge and consistency. Uncertainty-orientated individuals are driven by the knowledge motive, which is manifested in individuals' interest in resolving uncertainty and gaining new knowledge. Alternatively, certainty-oriented individuals are driven by the consistency motive, in which these individuals are motivated with avoiding inconsistency (Sorrentino & Short, 1986). Thus, uncertainty-orientated individuals are motivated to think effortfully and act vigorously in situations that help resolve uncertainty and provide new information, whereas certainty-orientated individuals would do so in contexts that provide familiarity and certainty about their abilities, opinions, and understanding of the world (Sorrentino & Roney 2000).

The measure of uncertainty orientation assesses two components: uncertainty and certainty (which is assessed through assessing authoritarianism). Developed by Frederick, Sorrentino, and Hewitt (1985; as cited in Sorrentino, Hewitt, & Raso-Knott, 1992), the uncertainty component, *n Uncertainty* ($\alpha = .90$; Frederick & Sorrentino, 1977), is inferred from a projective measure (modified Thematic Apperception Test). Subjects are presented with four sentence leads and are asked to write a story about each lead. An example of a lead is "A person is sitting, wondering about what may happen." The stories are scored for n Uncertainty imagery by examining if the stories contain reference to the goal of uncertainty or approaching uncertainty (see Sorrentino & Roney 2000). The certainty component is inferred from an adaptation of the Cherry and Byrne's (1977; as cited in Sorrentino & Roney 2000) measure of authoritarianism. Test-retest reliabilities above $\alpha = .90$ have been obtained for on this measure (Sorrentino, 1984; as cited in Sorrentino *et al.* 1992).

Uncertainty-orientated individuals are characterized as open-minded, whereas certainty-oriented individuals have been characterized as closed-minded. Thus, uncertainty-orientated individuals are seen to be more tolerant of others who are different than certainty-orientated individuals (Sorrentino & Roney 2000). Thus, as expected, uncertainty orientation has been positively correlated openness-to-experience

(r = .43; Hodson & Sorrentino, 1999). In addition, certainty-oriented individuals displayed a stronger preference for more certain outcomes, showing greater caution than uncertainty-oriented individuals (Sorrentino *et al.*, 1992). Furthermore, uncertainty-oriented individuals have be demonstrated to be motivated by the reduction of goal discrepancies (i.e., between performance and goals), whereas certainty-oriented individuals have been shown to be motivated by the maintenance of goal congruence (i.e., maintaining a level of performance; Roney & Sorrentino, 1995)

Effects on Cognitive Processes Relevant to Social Influence

In two studies examining uncertainty orientation and persuasion, Sorrentino, Bobocel, Gitta, Olson, and Hewitt (1988) found a three-way interaction amongst uncertainty orientation, personal relevance, and message type (or argument quality). In their first study, Sorrentino *et al.* (1988) presented each participant with a persuasive message that was either one or two-sided and personally relevant or irrelevant. One-sided messages permit participants to engage in peripheral route (i.e., cue) processing, as these messages do not introduce ambiguity about the correct position on the issue. Conversely, two-side messages require elaboration for the message to be successful in persuasion, as they require integration of inconsistent material. Personal relevance was manipulated by leading the participants (i.e., first-year university students) to believe that senior comprehensive exams were in 1-2 years (i.e., relevant) or 5-10 years (i.e., irrelevant). The result was that when certainty-oriented persons had high personal relevance, they were more persuaded by weak messages than when they had low personal relevance. Conversely, when uncertainty-oriented individuals had high personal relevance, they were more persuaded by strong messages than when they had low personal relevance. In the subsequent study, the message type was replaced by argument quality and similar results were found.

In another study, Hodson and Sorrentino (2003) examined how messages originating from in-group or out-group sources can interact with uncertainty orientation to facilitate information processing. In theory, in-groups could facilitate central route processing (because of the attractiveness of in-groups and the socially shared sense of reality) or peripheral route processing (because of high personal relevance of the message). Hodson and Sorrentino (2003) suspected that when presented with information from in-group members, individual differences in uncertainty orientation may moderate individuals' use of these two processing types. They presented participants with a message about senior comprehensive exams that were either strong or weak and presented by an in-group or out-group member. They found that uncertainty-oriented individuals increased central route processing under expectancy incongruent (i.e., in-group disagreement, out-group agreement) conditions relative to congruent (i.e., in-group agreement, out-group disagreement) conditions. Conversely, certainty-oriented individuals engaged in central route processing only under congruent conditions.

Authoritarianism and Dogmatism

Definition and Behavioural Tendencies

The second type of consistency is public consistency. Two individual differences that are encompassed under the domain of public consistency are authoritarianism and dogmatism. Individuals may differ in the degree to which they believe in authoritarianism, which is the acceptance of the attitudes and values advocated by authority figures (Altemeyer, 1981; 1998). Authoritarianism can be captured using a self-report measure called the *Right Wing Authoritarianism* scale (α = .92; RWA; Altemeyer, 1981; 1998). This measure includes items such as, "The established authorities generally turn out to be right about things, while the radicals and protectors are usually just loud mouths showing off their ignorance."

Individuals with high levels of authoritarianism have been characterized to exhibit low levels of disinhibition, risk-taking, impulsively, irresponsibility, and anti-sociality, consistent with a wide range of research on the topic (Ludeke, 2016, as cited in Ludeke & Rasmussen, 2016). Additionally, individuals with high levels of authoritarianism remember less about previously read information, are more susceptible to false inferences, are more prone to fundamental attribution errors, are more hypocritical, and are less receptive to negative feedback (Altemeyer, 1996).

Closely related to authoritarianism is dogmatism, which is defined as a relatively closed cognitive organization of beliefs and disbeliefs about reality, organized around a central set of beliefs about absolute authority which, in turn, provides a framework for patterns of intolerance and qualified tolerance toward others (Rokeach, 1954). Dogmatism can be captured by the self-report measure called the *Rokeach Dogmatism* scale (α = .78 to .81; Rokeach, 1956). A sample item in this measure is "In the history of mankind, there have probably been just a handful of really great thinkers." Due to its breadth, the Rokeach Dogmatism has been shortened to a 20-item scale by other researchers for the purposes of simplicity (Troldahl & Powell, 1965).

However, this scale has been criticized for being vague and not unidimensional (see Duckitt, 2009). Thus, a more valid dogmatism measure called the *DOG* scale has been developed (α = .90; Altemeyer, 2002). A sample item in this measure is "My opinions are right and will stand the test of time". DOG scores have been shown to correlate with the RWA Scale (r = .50 to .65). In this study validating the DOG scale, dogmatic individuals were more likely to insist that there were no contradictions or inconsistencies in the Bible than less dogmatic individuals.

Effects on Cognitive Processes Relevant to Social Influence

In relation to social influence, authoritarianism has been shown to be positively correlated with obedience ($r = .44$; Altemeyer, 1981) and conformity ($r = .39$; Crutchfield, 1955). In terms of persuasion, individuals with high levels (as opposed to low levels) of dogmatism have been shown to have more resistant attitudes due to having had more confidence in their attitudes (Davies, 1998). In this study, participants read several potential experiments and were asked to judge the success or failure of each experiment, as well as their confidence in their judgment. Across all case studies, participants with higher levels of dogmatism had higher levels of confidence that their judgments were correct in comparison to participants with lower levels of dogmatism. Even though high authoritarianism individuals are more resistant to change than low authoritarianism individuals, the attitudes of high authoritarianism individuals could be easily be changed by authority figures via thought confidence processes because the sources of these individuals' confidence may not be accurate and/or accessible (Briñol & Petty, 2004).

Individual differences in authoritarianism can also account for different attitudinal outcomes under various levels of threat (Lavine *et al.*, 1999; Lavine, Lodge, & Freitas, 2005). For example, prior to the 1996 American presidential election, Lavine and colleagues (1999) examined individuals' attitudes towards voting. They found that individuals with high levels of authoritarianism perceived threat messages, which emphasized the negative consequences of the failure to vote, to have stronger argument quality than reward messages, which emphasized the positive benefits of voting. Conversely, individuals with low levels of authoritarianism had the reverse perception, where they perceived reward messages as having stronger argument quality than threat messages. Additionally, voting attitudes influenced behavioural intentions, which in turn, influenced actual voting behaviour.

In another study, Lavine *et al.* (2005) examined information selection under the presence of a threat. They found that under threatening situations, individuals with high levels of authoritarianism became more interested in articles about capital punishment with pro-attitudinal arguments than counter-attitudinal arguments as compared to low levels authoritarians. The selection of pro-attitudinal over counter-attitudinal information resulted in less attitude change. However, under the absence of threat, both low and high authoritarianism individuals preferred a two-sided article that presented the merits of both sides of the capital punishment issue.

Implicit Theories of Change (Entity Vs. Incremental)

Definition and Behavioural Tendencies

The third type of consistency is others' consistency and an individual difference under this consistency domain is one's *implicit theory of change (entity vs. incremental)*. Individuals may differ in their implicit theories of change, in that some individuals may

view others' traits as fixed and stable (i.e., entity perspective), while other individuals may view others' traits malleable and changeable (i.e., incremental perspective; Dweck, Chiu, & Hong, 1995). Although some individuals do have a generalized theory about human attributes, others have different theories about different attributes. For example, certain individuals may believe that intelligence is fixed, but moral character is malleable. Thus, implicit theories are measured across different domains. For example, in a measure assessing implicit theories in the domain of intelligence, participants are asked to indicate their agreement with the statement "You have a certain amount of intelligence and you really can't do much to change it." Subsequently, if a researcher wants to examine implicit theories of moral character, he or she simply replaces intelligence with moral character in the items. Three items are used for each domain in total. The implicit theory measures have been demonstrated to have high internal reliability (α = .94 to .98 for the implicit theory of intelligence, α = .85 to .94 for the implicit theory of morality, and α = .90 to .96 for implicit person theory).

In a review of implicit theories of change, Dweck *et al*. (1995) discussed several behavioural tendencies for different theorists. They found that entity theorists (of personality and moral character) tend to make judgments and trait attributions, whereas incremental theorists tend to focus on more mediational processes of behaviours. In addition, entity theorists seem to believe in a higher correspondence between traits and actions compared to incremental theorists. Thus, for entity theorists, traits are readily used to predict behaviour and vice versa. Conversely, incremental theorists tend to search for mediators are explain behaviour. Furthermore, in the face of aversive events, entity theorists tend to exhibit a helpless pattern of behaviour, whereas incremental theorists tend to show a mastery-oriented pattern of behaviour. In addition, entity theorists, as opposed to incremental theories, blame themselves more following failure and endorse more group stereotypes (see Dweck, 2000). Finally, while implicit theories of change is typically viewed as an individual difference, it can be manipulated (e.g. Hong, Chiu, Dweck, Lin, & Wan, 1999).

Effects on Cognitive Processes Relevant to Social Influence

These differences in the views of others are related to different types of judgment formations. Entity theorists tend to form online (i.e., spontaneous) judgments, whereas incremental theorists tend to form memory-based (i.e., less spontaneous) judgments (McConnell, 2001). These differences in judgments between different types of implicit theorists were observed in various memory tasks, including the amount of recall, primacy effects in recall, memory–judgment relations, and illusory correlation. These effects were shown not only using the participants' implicit theories of change but via the manipulation of implicit theories as well.

Attitudes formed using online judgments have different attitudinal consequences compared to attitudes formed using memory-based judgments. For instance, attitudes created through online processing have been found to be stronger than attitudes created

through memory-based processing. In a study by Bizer, Tormala, Rucker, and Petty (2005), participants were asked to either continually evaluate after each statement about an individual over twenty statements (i.e., online processing) or to evaluate the same individual only after they have read all twenty statements (i.e., memory-based processing). Participants who engaged in online processing were more certain of their attitudes than participants who engaged in memory-based processing. In addition, attitudes formed using online judgments were better predictors of participants' evaluative preferences (i.e., how much a participant prefers an attitude object over other objects) than attitudes formed using memory-based judgments. Finally, online judgments tend to be more accessible to the mind than memory-based judgments and thus, attitudes formed using online judgments have been found have greater levels of attitude-behaviour consistency than attitudes formed using memory-based judgments. Therefore, in theory, entity theorists should form stronger attitudes and have greater levels of attitude-behaviour consistency than incremental theorists.

Self-Worth Traits and Individual Differences

The human drive to pursue a positive self-evaluation is considered one of the most fundamental in the social psychological literature (Sedikides & Strube, 1997). Although theories often differ in the reasons driving the effect, self-esteem theories generally agree that people are motivated to maintain positive beliefs about themselves, even to the detriment of accuracy or a consistent self-view (Grzegolowska-Klarkowsa & Zolnierczyk, 1988). While some self-theories focus primarily on consistency within views of the self, even these conclude that people prefer consistently *positive* self-concepts to consistently *negative* ones (Swann, Griffin, Predmore, & Gaines, 1987).

Several theories provide particularly clear reasons for self-esteem's overweening importance. For example, terror management theory (TMT; Greenberg, Solomon, & Pyszczynski, 1997) suggests that a high self-esteem signifies successful pursuit of cultural goals and values, which helps mitigate the universal fear of death. Similarly, sociometer theory (Leary & Downs, 1995) understands self-esteem as a 'meter' that judges one's standing among social peers: a high self-esteem implies that one is socially accepted. Thus, both theories offer some explanation for why people systematically self-enhance, pursuing information favourable to the self, or interpreting neutral information so that it buoys one's sense of self-worth. By TMT logic, this helps negate the fear of death. By sociometer theory thinking, self-enhancement works to "foster a [false] sense of social acceptability or felt security" (Leary & Baumeister, 2000; p. 23).

The motivation for self-worth manifests itself particularly in certain individual difference variables. Some of these separate people in the extent to which they possess a relatively favourable self-view (self-esteem; Rosenberg, 1965). At extreme levels, self-esteem may take the form of narcissism (Raskin & Hall, 1981), an unstable, maladaptive tendency to view oneself as greatly superior to other people. Other variables represent particular mechanisms for the pursuit of self-esteem, which people may favour to a

variable extent. For instance, optimism (Dember, Martin, Hummer, Howe, & Melton, 1989) is one tool that people may use to enhance their self-evaluation. Optimism partially manifests as the tendency to cognitively elaborate on information that is personally relevant and positive, while ignoring information that is relevant but negative (Geers, Handley, & McLarney, 2003), thus maintaining a positive illusion about one's life.

It should be noted that some researchers have questioned the universal applicability of the drive for self-worth. For example, Swann and Read (1981) raised self-verification theory as the view that what individuals sought was a unified, consistent view of self across time, rather than simply greater positivity per se. A reasonable amount of evidence has accumulated that indeed, low self-esteem individuals may act to seek information that reinforces their negative self-views (Swann, Griffin, Predmore, & Gaines, 1987; Swann, Chang-Schneider, & Angulo, 2007). Although this theory would seem to stand in contrast to the idea of self-worth as a general aim of individuals, it should be noted that even self-verification theory admits that people respond with more positive affect when feedback is favourable rather than unfavourable (Swann et al., 1987). Furthermore, there is some reason to think that in direct competition, the motive for self-enhancement is generally more influential than the self-verification drive (Sedikides, 1993).

We focus here on the cognitive processes that these variables influence. For instance, Petty, Briñol and Tormala (2002) indicate that people with high self-esteem are highly confident in their own thoughts, such that their own thoughts highly affect attitudinal reports (*features of thoughts*). However, self-esteem can also influence persuasion in that high self-esteem individuals tend to be biased towards messages that provide evidence for self-promotion (Sanitioso & Wlodarski, 2004; *assessment of evidence*). Thus, the present discussion of self-worth motivated variables considers each of the cognitive processes (Briñol & Petty, 2005), indicating individual difference variables line up with each.

Self-Esteem

Definition and Behavioural Tendencies

Perhaps the most obviously relevant trait to the motivation for self-worth is self-esteem. Self-esteem can be defined as the positivity or negativity of one's self-evaluation; that is, the degree to which one considers oneself in a favourable or unfavourable manner (Rosenberg, 1965). It is most often measured using the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), which has high inter-item reliability (α = .87), although some have questioned the use of Cronbach's alpha for the RSES, due to its likely multidimensional structure (Alessandri, Vecchione, Eisenberg, & Laguna, 2015). Specifically, these multiple dimensions of the RSES are considered to fall into

two sub-scales: the negative items referred to as *self-derogation* items and associated with pathological outcomes; and the positive-items, referred to as *self-competence* items (Epstein, Griffin, & Botvin, 2004). An example of a self-derogation item would be, "I feel I do not have much to be proud of", whereas a self-competence item would include, "I feel that I have a number of good qualities." With this in mind, much research does not utilize this distinction and uses the RSES as a single-factor scale (calculated as: self-competence items - self-derogation items = self-esteem).

People naturally vary along a continuum of trait self-esteem, but at very high amounts of self-esteem, the trait of narcissism manifests. Raskin and Hall (1981) examined narcissism as very extreme positive self-image, associated with a sense of personal entitlement, vanity, and correspondingly a willingness to manipulate to get what one wants. Narcissism has been examined using the Narcissism Personality Inventory (NPI-40), a 40-item self-report measure of narcissism (Raskin & Terry, 1988), which has been shown to have acceptable inter-item reliability ($\alpha = .84$; Ackerman et al., 2011). Narcissism is also linked to a high amount of defensiveness, anger and retaliation in response to criticism, sometimes referred to as *narcissistic rage* (Kohut, 1972). Laboratory research has supported the idea that people with very high and unstable patterns of self-esteem (associated with narcissism; Rhodewalt, Madrian, & Cheney, 1998; Kernis, 2003), tend to become particularly vengeful after receiving negative feedback (i.e. a self-esteem threat; Bushman & Baumeister, 1998).

While the importance of self-esteem for human wellbeing and development was long considered an irrefutable fact (California Task Force, 1990), reviews of research on self-esteem have found that little causal evidence associates self-esteem with leading to positive outcomes (Baumeister, Campbell, Krueger, & Vohs, 2003). Instead, a large number of self-report studies had simply found that people higher in self-esteem *reported* greater health, popularity or academic success, without the researchers establishing any objective truth to these claims. For example, while self-esteem was initially linked with greater likeability (Battistich, Solomon, & Delucchi, 1993), this research has since been criticized for simply showing that high self-esteem individuals overrate their charms in self-report; objective ratings of likeability are unrelated to self-esteem (Baumeister et al., 2003).

Indeed, many earlier findings that suggested that self-esteem was a powerful determinant of positive future behaviours are better considered to be a byproduct of self-esteem's tendency to predict self-descriptions. Beauregard and Dunning (2001) have demonstrated that people high in self-esteem are inclined to ascribe various character virtues (*diligent, intelligent*) to themselves, while downplaying character vices (*lazy, stupid*); people low in self-esteem tend to do the opposite. Furthermore, self-esteem leads to memory biases, such that people high in self-esteem selectively remember feedback information that puts them in a positive light, while those low in self-esteem selectively recall negative information (Sanitioso & Wlodarski, 2004). Thus, some of the taken-for-granted benefits of self-esteem have almost certainly been artifactual or

overstated, due to such reporting biases. However, self-esteem has been strongly associated with responses to social influence tactics in various ways, with implications for general receptivity to persuasive messages, and effects on how high (versus low) self-esteem people evaluate their own thoughts in response to a message.

Effects on Cognitive Processes Relevant to Social Influence

Initial research into self-esteem had suggested that people low in self-esteem were simply more easily influenced by others, than those who regarded themselves more positively (Janis, 1954). Developments in social psychology have considerably complicated this picture and further suggested that the mechanisms driving the role of self-esteem on persuasion are not as simple as originally hypothesized.

The reception-yielding model (McGuire, 1972) led to some different predictions about the role of self-esteem in responding to persuasive messages. The reception-yielding model argues that personality traits often have opposing effects on a person's tendency to successfully *receive* a message, versus their tendency to *yield* to this message. Thus, by the *compensation principle*, most personality variables should exert curvilinear effects on persuadability (McGuire, 1968). For instance, at low levels of self-esteem, an individual would be unlikely to receive a message (due to their low confidence in being able to understand it), but likely to yield to it *if* received; and at high self-esteem, an individual would be likely to receive a message, but unlikely to yield to it (due to their high confidence that they 'know better' than the message source, and thus that their current attitude is correct).

This sweeping view of individual difference variables met with only moderate successes, as summarized by Eagly and Chaiken (1993), but in the case of self-esteem, it seems to have some validity. Rhodes and Wood (1992) performed a meta-analysis, which generally indicated (across the three studies that had considered self-esteem at minimally three levels, and reception to messages as a dependent variable) that self-esteem indeed had a curvilinear relationship with persuadability. At low and high levels of self-esteem, people were more likely to be unpersuaded, and at moderate levels, they were highly persuaded by counter attitudinal messages. Higher self-esteem was additionally associated with message retention (supporting the *reception* branch of the compensation principle). Finally, a curvilinear relation was found between self-esteem and yielding to conformity pressures.

In addition to this stream of research, self-esteem has also been shown to have effects on social influence that are variable across levels of message elaboration. For example, in low-elaboration conditions, self-esteem may serve as a simple cue that inclines people to reject messages summarily, as outlined by Briñol and Petty (2005). The logic behind this effect would be that self-esteem can serve as a simple cue that one is right, in the sense that if one is better than other people, one's opinions will be presumed to also be better than those of other people (Perloff & Brock, 1980).

As an analogy, the endowment effect (Kahneman, Knetsch, & Thaler, 1991) causes people to place higher value on objects when the object is construed as 'theirs' (and therefore, part of their *selves*; Belk, 1988). Indeed, the endowment effect has been conceptualized as related to a family of self-enhancement tools (such as downward social comparison, or optimism), in that the endowment effect is increased when self-esteem is threatened, thus serving as a self-esteem maintenance strategy (Beggan, 1992). Enhancing the value of a possessed object makes one feel correspondingly augmented. In the same way, people with chronically enhanced self-esteem would be inclined to overvalue their attitudes, as an extension of themselves.

At moderate levels of elaboration, the dynamic shifts to a question of quality rather than direction. Skolnick and Heslin (1971) hypothesized that subjects low in self-esteem would not respond to the quality difference in arguments, for the reason that their lack of self-confidence would cause them to believe themselves incapable of carefully analysing the arguments. Contrariwise, high self-esteem would cause people to become acutely sensitive to differences in argument quality. Indeed, they found that weak arguments were relatively more effective for participants low in self-esteem, while stronger arguments showed greater efficacy for high self-esteem subjects.

Finally, when motivation and/or ability levels permit subjects to elaborately highly on messages, several differences may emerge for people varying in levels of self-esteem. Sometimes, self-esteem is made accessible to subjects before they consider a persuasive message, and sometimes it is raised after they have contemplated the message; these result in two sharply different roles for self-esteem (Briñol and Petty, 2002, cited in Briñol and Petty, 2005). When their positive or negative self-view is accessible before they consider materials, the evidence suggests that high self-esteem biases the thoughts that they produce in response, such that pro-attitudinal information is facilitated, and counter-attitudinal information is derogated. For those low in self-esteem, the opposite effect emerges.

However, self-esteem serves a meta-cognitive role when it is made accessible after exposure to a message. In this case, individuals have already produced a number of thoughts in response to a message (in a relatively unbiased fashion). However, now those high in self-esteem are likely to have enhanced confidence in their thoughts regarding the message, due to their accessible self-confidence; meanwhile, those low in self-esteem will have decreased confidence in their own thinking, with this reminder of their generally negative self-view. This is in line with the self-validation hypothesis (Petty, Briñol, & Tormala, 2002), whereby thinking has more impact on subsequent attitudes when confidence in that thinking is high (versus low).

Optimism

Definition and Behavioural Tendencies

Just as people are motivated to maintain positive views of themselves, they are generally motivated to maintain positive beliefs about their future outcomes. Two major measures have been developed to capture the extent to which people seek positive (versus negative) outlooks about their lives: the Optimism-Pessimism Questionnaire (Dember et al., 1989), and the Revised Life Orientation Test (Scheier, Carver, & Bridges, 1994). Several other measures are raised by Scheier and Carver (1992) as relevant to optimism: the Beck Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974) and the Generalized Expectancy for Success Scale (Fibel & Hale, 1978). However, like Scheier and Carver (1992), we do not cover the literature around these measures; the Hopelessness scale is more focused on giving-up behaviours, and the Expectancy for Success Scale is too concretely bound to specific life operationalizations for our purposes.

At the level of life outcomes, a significant amount of evidence has accumulated to suggest associations between optimism and self-reported mental and physical health outcomes (Scheier & Carver, 1992; Segerstrom & Solberg Nes, 2006; Taylor & Brown, 1988; Lipowski, 2012), as well as positive relationship outcomes (Srivastava, McGonigal, Richards, Butler, & Gross, 2006). Unfortunately, many of studies correlating optimism with various health outcomes do little to control for the possibility that optimism is a simple consequence of superior health or functioning. For instance, Lipowski (2012) simply correlated self-reported optimism with self-reported sleeping and eating habits, among a group of athletes. It is not difficult to imagine that athletes who are sleeping and eating poorly, experience at least some pessimism about their future ambitions.

In at least some cases, optimism is used to predict health changes (Shepperd, Maroto, & Pbert, 1996), rather than being used as a simple point estimate of health, lending at least some plausibility to the idea that optimism is a cause of, rather than merely a consequence of, greater healthiness. In Shepperd et al.'s (1996) study, for example, optimists were more likely to engage in a weight-loss program and successfully lose weight. Other research has shown an association between dispositional optimism and body mass index (Giltay, Geleijnse, Zitman, Buijsse, & Kromhout, 2007). In other cases, plausible mechanisms between optimism and health consequences have been raised (Soliah, 2011); for instance, that optimism has been associated with a willingness to embrace lifestyle changes (Wrosh & Scheier, 2003). Given that adopting new diets or exercise regimens obviously qualify as significant lifestyle changes, the role of optimism may be to make such changes seem subjectively 'possible' or 'doable'. Similarly, Srivastava et al. (2006) showed that the greater relationship satisfaction of optimists was likely due to their perceiving greater support offered by their partners.

Given optimism's apparently adaptive effects, it is worth noting that some researchers have suggested methods for inducing greater levels of optimism in

individuals (Frederickson, 2001; Seligman, Steen, Park, & Peterson, 2005). Most of these approaches claim to work by engendering greater positive affect in recipients; for instance, Frederickson (2001) suggests that optimism may increase through a *broaden-and-build* approach, whereby people are taught to appreciate positive emotional experiences when they occur spontaneously. Seligman et al. (2005) review a set of 'positive psychology' methods that purport to cultivate positive emotions and an optimistic interpretative style.

Effects on Cognitive Processes Relevant to Social Influence

Optimism has several important roles to play in dictating responses to social influence. At the very low-elaboration level, optimism plays a role in predicting attention paid to negative and positive information. Segerstrom (2001) has shown in a fast-reaction time attention paradigm, that pessimists show an attention bias towards negative words (compared to neutral and positive), while optimists show a bias towards positive *and* negative words (compared to neutral). This seems to indicate that attention bias to negative cues is somewhat universal, perhaps because they may indicate danger or risk, but that optimism manifests in showing an equally strong bias towards cues suggestive of positivity.

At a higher level of elaboration, some contention arose about how optimists were more likely to behave. As befits the motivation to see one's personal future as being favourable, some initial evidence suggested that optimists were inclined to focus on positive information of personal relevance (Abele, 2002; cited by Geers et al., 2003).

However, one central finding in persuasion research established by Geers and colleagues (2003) relates to how optimism increases reception of self-relevant information that is positive *or* negative. This research team found that information that was of high personal relevance to participants was better received by people high (versus low) in optimism, whether that information was positive or negative. However, when the information was framed as not being relevant to the participants, the (dis)favourability of the persuasive material made no impact on its reception by optimists. Other evidence in line with this general finding is that high-optimism people are more inclined to remember personally-relevant health information that focuses on benefits of exercise – just so long as they are themselves exercisers, who thus stand to learn something personally impactful from the information (Abele & Gendolla, 2007).

One explanation that has been advanced for these findings is that optimists engage more with valenced information about personally-relevant information because of their greater adaptive coping styles (Aspinwall, Richter, & Hoffman, 2001); pessimists avoid challenging information about personal behaviours, and are less inclined to maximize their absorption of positive information about their habits (Scheier, Weintraub, & Carver, 1986). This pattern of findings is referred to as the *valence-enhancement hypothesis* of optimism (Geers et al., 2003), referring to the idea that

optimists 'enhance' whatever form of information they receive. If negative, they adaptively recover to generate ways to deal with the issues raised; if positive, they think of new ways to incorporate the behavior into their lives to a greater extent. In other words, optimists' greater confidence in their ability to adopt new life strategies in light of new information, inclines them to embrace positive or negative information. Interestingly, Geers and colleagues also tie this back to the Elaboration Likelihood Model, suggesting that optimists greater persuadability relates to the greater positivity of the thoughts they generate in response to negative *or* positive messages.

Although this has not been explicitly studied, it would seem likely that optimists are thinking about how to actively and positively work behavioural changes into their lives. Supporting evidence for this notion exists, in the form of a study by Aspinwall & Richter (1999), whereby optimists showed a greater tendency to switch tasks when an initially-presented task proved impossible. Pessimists, however, were more inclined to ignore alternative options and proceed with the unworkable task. Similar evidence has been presented about optimists in the goal literature (Rasmussen, Wrosch, Scheier, & Carver, 2006; Duke, Levanthal, Brownlee, & Leventhal, 2002). In this regard, optimists show a greater tendency to re-engage with goals by different means, when initial means fail; or engage with new valued goals, when certain goals become inaccessible.

Self-Doubt and Judgmental Self-doubt

Definition and Behavioural Tendencies

Just as those high in self-esteem seem to have been successful in pursuing self-worth, other individuals experience chronic concerns about their performance. Self-doubt (Oleson, Poehlmann, Yost, Lynch, & Arkin, 1995) and judgmental self-doubt (Mirels, Greblo, & Dean, 2002) are traits that represent subjective experiences of self-uncertainty. While self-doubt represents a "subjective sense of doubt or instability in self-views" (Van den Bos & Lind, 2010), judgmental self-doubt represents subjective doubt about whether one's evaluative judgments are good enough (Mirels et al., 2002). However, judgmental self-doubt is best understood as a subtype of self-doubt, given that self-doubt itself has been examined in domain-specific forms, one of which (intellectual self-doubt; Hardy, Govorun, Fazio, & Arkin, 2010; cited by Hardy et al., 2015) is particularly similar to judgmental self-doubt.

Originally conceived by Oleson and colleagues (Oleson, Poehlmann, Yost, Lynch, & Arkin, 1995), self-doubt is typically measured using the 17-item Subjective Overachievement Scale (Oleson, Poehlmann, Yost, Lynch, & Arkin, 2000), which contains two subscales: Concern with Performance (α = .76, but test-rest reliability r = .64), and Self-doubt (α = .82-.83, but rest-retest r = .65). Judgmental self-doubt is typically measured by the Judgmental Self-Doubt Scale (JSDS, Mirels et al., 2002), a 19-item self-report scale with considerable inter-item reliability (α = .92).

It is important to separate self-doubt from self-esteem. Self-doubt represents an uncertainty about one's ability to succeed, rather than an active belief that one will fail; in other words, low self-esteem is the belief that one is evaluatively negative, whereas self-doubt is "doubt about one's feelings of self-competence" (Braslow, Guerrettaz, Arkin, & Oleson, 2012; p. 471). Accordingly, there is an imperfect, negative correlation between these self-doubt and self-esteem (estimates range from $r = -.44$ to $-.68$; Oleson et al., 2000). A simple example of the difference is that low self-esteem may cause a person to believe themselves to be unintelligent; in the case of self-doubt, those high in self-doubt are likely to reject the self-description 'intelligent', but are no more or less likely to endorse the self-description 'unintelligent' (Hardy et al., 2010). In other words, individuals higher in self-doubt appear to doubt their possession of positive traits, but will not endorse having great faith in their negative traits. The two constructs have been related in one additional way: people higher in self-doubt are more influenced by threats to their self-esteem (showing a decrement in self-esteem after the threat), while those lower in self-doubt do not react in this way (Hermann, Leonardelli, & Arkin, 2002). It seems possible (though it is untested) that vigilance about self-esteem may result in greater self-esteem accessibility (DeMarree, Petty, & Briñol, 2007).

It has also been related to a range of behaviours including self-handicapping, which is the tendency to add barriers to one's successful completion of a task, in order to reduce feelings of incompetence when one anticipates task failure (Berglas & Jones, 1978). The goal in self-handicapping is to obscure the implications of task failure for self-competence; for example, if a student plays video games instead of studying on the night before an exam, failure on the exam will be suggestive of a situational issue (insufficient preparation) rather than a dispositional inadequacy (insufficient intelligence). Specifically, high self-doubters are more inclined to score highly on several self-report indices of self-handicapping (Braslow et al., 2012). Along similar lines, self-doubters more frequently engage in other-enhancement (Braslow et al., 2012), whereby individuals interpret their rival in a competitive task as being highly competent, in order to make their defeat by this opponent less ego-threatening (Shepperd & Arkin, 1991).

Judgemental self-doubt is a less-studied phenomenon. However, it has been shown to have a few significant behavioural implications. Those higher in judgmental self-doubt are inclined to have more stress and sleep problems, at least within a sample of mid-level bureaucratic employees (administrative officers and public health investigators; Salo & Allwood, 2014). Like self-doubt, it has been negatively related to self-esteem (Mirels et al., 2002). However, Mirels et al. (2002) also connected judgmental self-doubt *positively* with depression, anxiety, causal uncertainty, and external locus of control (believing one's own behaviours to be largely susceptible to outside pressures); and negatively with need for cognition, and impression management.

Effects on Cognitive Processes Relevant to Social Influence

Self-doubt is partially malleable, based on cues of social consensus (vs. rejection). Specifically, Clarkson and colleagues (Clarkson, Tormala, DeSensi, & Wheeler, 2009) found that when group identification is relatively high, low group consensus leads individuals to experience high amounts of self-doubt (as measured by the Self-doubt subscale; Oleson et al., 2000), and high group consensus considerably reduces self-doubt. However, when group identification is relatively low, a consensus has no influence over self-doubt. Thus, although self-doubt is usually examined as a trait variable, it shows significant fluctuation in response to particular constellations of social factors.

People high in self-doubt are highly vigilant to evidence that suggests rejection, and they react more unfavourably to rejection cues than those lower in self-doubt (Reich & Arkin, 2006). They are also very sensitive to social cues of 'unfairness', and respond to these with greater negative and less positive affect (Van des Bos & Lind, 2010). But contrariwise, when situations are suggestive of fairness, high (vs. low) self-doubters experience *less* negative and greater positive affect, and additionally show an enhanced desire to cooperate (De Cremer & Sedikides, 2005).

One argument explaining this latter pair of effects is that fairness serves as a protective cue to those who believe themselves to be less competent; that is, the assurance of procedural fairness will minimize opportunities for the incompetent to be exploited. However, it is also possible that the decrease in willingness to cooperate (De Cremer & Sedikides, 2005) is a product of self-doubters' greater tendency to experience self-esteem decrements when rejected. In the studies' paradigm, 'fairness' was manipulated by either granting or depriving the participant of the right to speak in a mock judicial proceeding; being deprived of the right to speak was construed as indicating 'unfairness.' However, it is possible that subjects perceived this deprivation as a social rejection, in which case, the earlier evidence concerning greater self-esteem reactivity to rejection among self-doubters (Reich & Arkin, 2006), might explain why only self-doubters were responsive to the fairness cue (because only they experienced the emotional toll of decreasing self-esteem). Indeed, when subjects were exposed to a self-affirmation exercise, the effects of the fairness manipulation were eliminated, lending some credence to this interpretation.

Judgmental self-doubt has been related to several interesting outcomes with likely relevance to social influence reception. Mirels et al. (2012) demonstrated that people higher in judgmental self-doubt show considerably less confidence in their evaluations on a range of different phenomena. For example, they are less confident in their stances on a variety of sociopolitical topics (e.g., "should animals be used in scientific testing?"), and ethical dilemmas (Gibbs, Potter, & Goldstein, 1995; Goldstein & Glick, 1987). They are also lower in confidence in their judgments about the highest acceptable risk rating for particular courses of action (Stoner, 1967, cited in Mirels et

al., 2012; Stoner, 1968). One possible explanation for this phenomenon, although Mirels et al. did not explore it empirically, is that they have lower confidence in their estimates of various social parameters (e.g., "What was the divorce rate for people married between 1990 and 1995?"). This could form an explanation for the previous effects, in that if an individual does not believe they know the relevant facts to make decisions regarding a topic, it may follow that they will be less certain about their stances on topics relevant to these facts. It is also possible that their low-confidence ratings on these topics could be related to an underlying lack of confidence about their attitudes concerning the topics, although Mirels' team did not explicitly test this hypothesis.

Judgmental self-doubters are responsive to particular situations (Mirels et al., 2012), in that they are more likely to show signs of low confidence with regards to judgmental tasks that are high in difficulty. Judgments between dissimilar alternatives (easy choice) produce moderate confidence in judgmental self-doubters, whereas judgements between similar alternatives (difficult choice) produce low confidence in high (vs. low) judgmental self-doubters. This could indicate that judgmental self-doubt has an influence in evaluative confidence only in relatively high-elaboration conditions, in that difficult choices (between similar outcomes) are likely to require greater elaboration than easy choices (between starkly distinct outcomes).

One relevant speculation about judgmental self-doubt relates to its powerful relationship with the Need for Closure Scale. Mirels et al. (2012) found a Pearson correlation of $r = -.79$ between judgmental self-doubt and need for closure. As this correlation does not correct for attenuation (i.e., the decrement in correlations due to the imperfect reliability of *both* contributing scales), it is likely that this correlation is even more powerfully negative. For this reason, it is likely that those high in judgmental self-doubt will act in many ways like people *low* in the need for closure (see previous section), although this has not yet been empirically tested.

Neuroticism

Definition and Behavioural Tendencies

Neuroticism is best understood as a general tendency towards negative affect, represented by feelings including anger, anxiety, guilt, and depression (Widiger, 2009). It has been implicated as a risk factor towards several psychopathological outcomes, from depression, general anxiety disorder, and panic disorder (Kahn, Jacobson, Gardner, Prescott, & Kendler, 2005), to psychosis (Krabbendam et al., 2002). However, these associations cannot be understood without an appreciation for pathoplastic relationships (Widiger & Smith, 2008), the tendency for people high in neuroticism to complain of a larger number of symptoms than those lower in neuroticism, controlling for the objective degree of illness (Chapman, Duberstein, Sorensen, Lyness, & Emery, 2006)

One major theory of why neuroticism relates to the above psychopathologies, *triple vulnerability theory* (Barlow, 1991, 2002), emphasizes that neuroticism begins as a genetic vulnerability that emerges into a maladaptive personality trait only when individuals encounter significant life stressors. Although neuroticism is partially hereditary, some evidence exists that it tends to increase or decrease over time, based on positive and negative life experiences; simply put, more positive life experiences seem to result in small but long-lasting decreases in neuroticism (and the opposite for negative life experiences; Jeronimus, Ormel, Aleman, Penninx, & Riese, 2013).

Certainly, neuroticism is related to the pursuit of self-worth, perhaps most poignantly demonstrated by its powerfully negative correlations with self-esteem (r = -.66), and optimism *(r* = -.50; Scheier, Carver, & Bridges, 1994). Its role as a function of self-worth emerges more clearly when neuroticism is examined in light of threatening circumstances. With regards to threats, neuroticism can be considered a generalized belief that one is unable to manage or cope with challenges and obstacles (Barlow, Ellard, Sauer-Zavala, Bullis, & Carl, 2014). In some sense, then, neuroticism is conceptually related to self-doubt, but more specifically in a disbelief in one's adaptive abilities. Furthermore, it represents a tendency to be easily offended in negative events – to see threats to self where none exist – and correspondingly, to experience greater negative affect in the aftermath of such incidents (Fisher & McNulty, 2008). Indeed, the psychopathologies mentioned above have often been considered to be related to this ruminating style, whereby neuroticism leads to ongoing negative cognitions about conflicts and self-threats (Nolan, Roberts, & Gotlib, 1998), and consequently 'catastrophic' thinking about these problems (Goubert, Crombez, & Van Damme, 2004).

This tendency towards ruminative, negative thinking, based around a tendency to sense threats from others, has important predictions for the social satisfaction of people high in neuroticism (Braithwaite, Mitchell, Selby, & Fincham, 2016). High-neuroticism individuals experience more angry hostility in the wake of social conflicts (Brose, Rye, Lutz-Zois, & Ross, 2005), which may lead them towards chronic thoughts of vengeance against supposed wrong-doers (Berry, Worthington, O'Connor, Parrott, & Wade, 2005). This association with vengeance is sufficiently powerful, that some theorists consider 'trait forgiveness' to simply be low levels of neuroticism (Steiner, Allemand, & McCullough, 2011).

Effects on Cognitive Processes Relevant to Social Influence

Direct evidence linking neuroticism to social influence responses is quite limited, with one study even showing significant relations between differential responses to social influence tactics (based on Cialdini, 1993) for all of the Big Five variables *except* neuroticism (Alkis & Temizel, 2015)! This is particularly surprising considering the strong theoretical support for associations between neuroticism and social influence (Tucker, Elliott, & Klein, 2006). The strongest link between neuroticism and social influence, is that high-neuroticism individuals have strong

emotional reactivity (towards fear, anger, and sadness), particularly in the context of social conflict and stress (Bolger & Schilling, 1991; Suls, Martin, & David, 1998). In this sense, one may expect neuroticism to play several roles in responding to social influence; perhaps leading to a more negative thought bias at higher levels of elaboration. There is evidence that neuroticism predicts globally negative thinking styles and that these negative thoughts can lead to negative attitudes (e.g., towards the individuals' own career path; Kelly & Shin, 2009).

Individuals high (versus low) in neuroticism appear to be less influenced by peripheral route cues, but equally influenced by central route cues in a persuasive message (Chen & Lee, 2008). With that in mind, the content of peripheral cues is significant, and in some cases, high-neuroticism individuals show greater influence via cues such as subliminal primes. In three studies, stress primes activated thoughts of aggression and eating (with aggressive behaviour and binge-eating seen as two maladaptive reactions to stress; Spielberger et al., 1985; Wonderlich et al., 2007), but only for people relative high in neuroticism (Moeller, Robinson, & Bresin, 2010). Thus, sensitivity may certainly be enhanced for particular primes that are relevant to high-neuroticism individuals' chronic coping styles. It is also indicative of neuroticism's tendency to appraise environments with a negatively-biased skew (Tong, 2010).

Neuroticism predicts a negative skew in interpreting incoming communications (Tong, 2010), including explicit social influence attempts (Tucker et al., 2006). For example, high-neuroticism individuals report that they have more negative affective and behavioural responses to others' attempts to encourage them to engage in health-promotional behaviours (Tucker et al., 2006). Interestingly, they also report receiving more such communications, which may imply that they *interpret* more communications as having a social-influence meaning (i.e. they just believe that they receive many health messages), or may simply indicate that others perceive them as uniquely likely to benefit from health interventions (i.e., they actually do receive more health messages). Additionally, it is unclear what level of elaboration this negative-bias may operate at, as participants in this study were simply asked to recount previous social influence situations; these may have occurred at any level of elaboration.

Across two studies, Oreg and Sverdlik (2014) found that neuroticism predicted negative ratings of a speaker's level of persuasiveness, and negatively predicted the degree of attitude change that subjects experienced when exposed to a persuasive message. Interestingly, they also manipulated involvement directly, showing that this relationship only held up (at least, at $p = .06$) in the low-involvement condition. This may suggest that neuroticism has a greater role to play at lower levels of elaboration likelihood, suggesting that it may be based on negatively-skewed peripheral cues in a situation rather than always operating by biasing thinking, or serving as a direct argument.

High-neuroticism individuals are not only more likely to react negatively to

others' social influence tactics, but their own social influence attempts tend to elicit negative responses from others. For example, expert witnesses who are relatively high in neuroticism, are viewed as less likeable and trustworthy, and additionally as less confident and knowledgeable about their testimony (Cramer et al., 2014). This may be mediated by their also being seen as having inferior delivery skills, specifically in terms of their body poise, and their communication styles.

Promotion/Prevention Focus

Definition and Behavioural Tendencies

Insofar as people pursue knowledge about the world, information-seeking can be focused towards very different ends. Promotion and prevention focuses (Higgins, 1997, 1998) describe the relative emphases that people place on pursuing new gains (*promotion*) versus avoiding potential losses (*prevention*). Accordingly, they also represent the extent to which people will seek information that enables them to pursue/avoid these gains/losses. Intimately bound with up with these relative focuses is the concept of regulatory fit (Higgins, 2000), which describes the tendency for people to engage with tasks to a greater extent when those tasks match their preferred regulatory strategy (Higgins, Idson, Freitas, Spiegel, & Molden, 2003; Higgins, 2005, 2006; Avnet & Higgins, 2006; Cesario, Higgins, & Scholer, 2008).

Regulatory fit is most often measured using an 11-item self-report questionnaire, the Regulatory Focus Questionnaire (RFT; Higgins et al., 2001; Grant & Higgins, 2003). It has been shown to have reasonable inter-item reliability ($\alpha = .73$ for promotion; $\alpha = .80$ for prevention). However, an alternative measure, the 18-item, self-reported General Regulatory Focus Measure (GRFM; Lockwood, Jordan, & Kunda, 2002) is sometimes substituted, and also has acceptable inter-item reliabilities ($\alpha = .81$ for promotion; $\alpha = .77$ for prevention; McKay-Nesbitt, Bhatnagar, & Smith, 2013*)*. However, the RFT is the more common choice in literature concerning regulatory fit, than the GRFM (Jacks & Lancaster, 2015).

There is some evidence that regulatory fit is partially predictable on the basis of gender. Specifically, men seem to report greater levels of promotion-focus, while women report greater prevention focus (McKay-Nesbitt et al., 2013). One purported reason for this difference is a culturally-taught power difference between the genders, such that men may tend towards promotion focus to the extent that they are taught that they can seek high social status (Sassenberg. Brazy, Jonas, & Shah, 2013).

Promotion/prevention focuses also predict specific interpersonal strategies geared toward obtaining unique social goals (Higgins, Roney, Crowe, & Hymes, 1994). Specifically, promotion-focused people favour strategies that suggest pursuing new friendship goals (e.g., bringing friends together to make new connections), while

prevention-focused people pick strategies focused on avoiding losses (e.g., texting a friend while on vacation, in order not to 'lose touch'). Regulatory fit has also been advanced into the leadership literature in an intriguing way, such that when leaders' styles match their followers regulatory fit preferences, those followers plan to remain working for the leader for longer (Hamstra, van Yperen, Wisse, & Sassenberg, 2011). Transformational leadership styles (House, 1971), based around an idealistic, optimistic worldview, tend to retain promotion-focused workers for longer; transactional leadership, based around establishing clear rules and failure conditions, do a better job retaining prevention-focused workers.

Effects on Cognitive Processes Relevant to Social Influence

Most pertinent to this report, information which is congruent with a message recipient's promotion/prevention focus 'feels right' to that recipient, which usually results in greater persuasion by a message (Cesario, Grant, & Higgins, 2004; Lee & Aaker, 2004; Cesario & Higgins, 2008), and often to consequently greater behavioural consistency with that message (e.g., Spiegel, Grant-Pillow, & Higgins, 2004). Congruence is attained when a message is framed in terms of possible gains for the message recipient (if the recipient is promotion-focused), or in terms of avoiding possible losses for the recipient (if they are prevention-focused); or when the nonverbal manner in which the message is delivered shows confidence and eagerness (for promotion-focus) versus vigilance and wariness (prevention-focus).

Although one common target of these messages is related to adopting healthy lifestyles, such as persuading recipients to adopt new diets or exercise regimens (Latimer et al., 2008; Lee & Aaker, 2004; Spiegel et al., 2004), other studies have examined targets varying from medical screening (Apanovitch, McCarthy, & Salovey, 2003; Rothman, Bartels, Wlaschin, & Salovey, 2006) to advocating for comprehensive exams (Koenig, Cesario, Molden, Kosloff, & Higgins, 2009). In this way, the theory has generalized nicely across a range of attitude objects. One systematic review by Ludolph and Schulz (2015) indicated that studies on regulatory fit (specifically for health behaviours) have proven to be highly reliable and consistent in this 'matching effect'.

Many regulatory fit studies describe the matching effect in somewhat vague terms, suggesting that recipients 'feel right' when encountering regulatory-matching messages. However, Higgins (2000) provides a few possible reasons for the effect, such that (1) people have a preference for fitting strategies, which leads to greater motivation (e.g. to process relevant information) under regulatory fit, and (2) people under regulatory fit have more positive feelings towards the message target, and will correspondingly value it more highly (than without regulatory fit). There is indeed evidence that motivation increases under regulatory fit (e.g., greater motivation to pursue a goal such as anagram performance; Forster, Higgins, & Idson, 1998), but this has not been explicitly shown to drive social influence effects. As to positive feelings, Higgins (2000) goes on to claim that people under regulatory fit feel more 'alert,' which

is what leads to positive attributions towards the object. Indeed, evidence exists that participants are both more positive about their decisions under regulatory fit, and feel more alert when 'feeling right' (Idson, Liberman, & Higgins, 2000, cited by Higgins, 2000); what is less clear is why alertness should be seen as causing positivity, rather than positive associations causing recipients to become more alert. If the latter, there is little reason to think that regulatory fit improves attitudes through this attentional mechanism. Furthermore, if attention were the responsible element, this seems to presume that greater attention to a message will automatically result in greater persuasion by it; evidence exists to demonstrate that increased scrutiny of strong messages makes them more effective, but increased scrutiny of poor arguments will make them less effective (Petty & Cacioppo, 1984).

One review, developed by Motyka et al. (2014), permits a fairly direct examination of regulatory fit in light of the Elaboration Likelihood Model (Petty & Wegener, 1999). One might intuitively reason that regulatory fit should work better at lower levels of elaboration, as a simple cue ('rightness' serving as a simple cue implying correctness). However, it is possible that it could work at moderate levels of elaboration, by increasing the amount of thinking performed by focus-matched people; or even at high levels, by serving as a message argument, at least in some contexts. For instance, a promotion-focused individual might consider the nonverbal confidence and eagerness of a source as evidence of their expertise; a prevention-focused person might consider the wariness of the message's source as evidence that they are a cautious, careful thinker. Motyka et al.'s review (2014) provides evidence that regulatory fit (on attitudinal evaluations, behavioural intentions, and behaviours) is most powerful under low-elaboration conditions (all meta-analytic ps < .01).

One study actively manipulated involvement in the context of regulatory fit, reaching some very interesting conclusions (Avnet, Laufer, & Higgins, 2013). Avnet et al. found that under low involvement conditions, there is a simple 'positivity effect' of regulatory fit, such that all types of responses (attitudinal evaluation, behavioural intention, behaviour) become more favourable under regulatory fit. However, under high involvement conditions, regulatory fit operates in a more polarizing fashion. If recipients would otherwise be positive, fit serves to make this positivity more extreme; however, if recipients would have been negative, regulatory fit actually produces more extreme negativity.

An interesting consequence of regulatory fit theory is that promotion-focused people may be more inspired by positive role-models, while prevention-focused people are more influenced by negative role-models (Lockwood et al., 2002), with respect to their influence on academic motivation. That is, positive role-models represent individuals who one might 'strive to be', aligning itself with a promotion mentality; negative role models represent individuals who would want to 'avoid being', which appeals to a prevention mindset. Although this research has not been performed in the context of social influence (e.g., whether such role-models have differential levels of

persuasive influence on promotion/prevention individuals), it would seem likely that people would be more influenced by social media that uses positive or negative role models, concordant with their preferred regulatory strategy. This would make sense, if people perceive positive role models as representing positive outcomes of a certain choice or lifestyle, and negative role models as presenting negative outcomes from failing to pursue these choices or lifestyles; promotion-focused individuals are more attracted to a focus on positive outcomes, prevention-focused to a focus on negative outcomes (Tykocinskl, Higgins, & Chaiken, 1994).

Social Approval Traits and Individual Differences

The need for social approval refers to the need for human approval, connection, relatedness, belonging, caring, and attachment (Briñol & Petty, 2005). Not only does the need for social approval vary for individuals, it can also vary as a function of culture (Markus & Kitayama, 1991). However, regardless of the degree, everyone values being included and approved by others (Baumeister & Leary, 1995). The need for social approval can be divided into three motives: the need to relate to others, the need to be, and the need to understand (see Prislin & Wood, 2005 for a review).

The need to relate to others refers to individuals' need to belong and form relationships with others (Prislin & Wood, 2005). Some theorists argue that individuals are intrinsically motivated to form relationships because people are inherently social beings and find relationships rewarding (Baumeister & Leary, 1995). Other theorists argue that the reason relationship formation is for the purposes of practicality. According to the social exchange theory, individuals are motivated to form relationships with others when the exchange of activity between two individuals is successful (i.e., exchange is more rewarding than costly; Homans, 1958). One function of attitudes is the utilitarian function, which is to maximize rewards and minimize punishments (Katz, 1960). From this perspective, social consensus guides attitudes via the concerns about the benefits others can provide rather than the concerns about the relationship itself (Prislin & Wood, 2005).

The need to be refers to individuals' motivation to achieve self-coherence and self-enhancement goals (Prislin & Wood, 2005). The value-expression function of attitudes function (i.e., the expression of one's central values) is related to the goal of self-coherence, whereas the ego-defensive function of attitudes (i.e., the bolstering of one's sense of self-worth) is related to the goal of self-enhancement (Katz, 1960). In the context of social influence, individuals can obtain self-coherence when others support their attitudes and self-views (Swann, 1990). Individuals can obtain self-enhancement via aligning themselves with positively-valued ingroups and differentiating themselves of negatively-valued outgroups (e.g., Fein & Spencer, 1997; Branscombe & Wann, 1994).

Finally, as discussed in the knowledge section, individuals are motivated to seek knowledge, in order to predict and influence their environment. The need to understand in the context of social approval refers to the pursuit of knowledge through interactions with others. Social consensus allows individuals to gauge the apparent validity of information (Festinger, 1954). However, the truth value of social consensus differs depending on the source, which may influence individuals' judgments. For example, social consensus from a disliked group may be devalued (Wood, Pool, Leck, & Purvis, 1996), whereas, social consensus from individuals who are seen as similar or more competent may be valued (Festinger, 1954). In addition, social consensus from a greater number of individuals (or groups) tends to be stronger than consensus from a fewer number of individuals (Wilder, 1977).

Agreeableness

Definition and Behavioural Tendencies

An individual difference that is mainly associated with one's need to relate to other is *agreeableness*, which is one of the Big Five Factor personality traits. As the Big Five Factor that is most concerned with interpersonal relationships, agreeableness describes individual differences in being likeable, pleasant, and harmonious (see Graziano & Tobin, 2009 for a review). Most cultures have been shown to describe agreeableness as a trait, however, there are differences in the levels of agreeableness between cultures as well (Kohnstamm, Halverson, Mervielde, & Havill, 1998).

Agreeableness can be measured through several ways (e.g., observation of others), however, the most common method is through self-report. A popular set of self-report measures is the NEO-FFI (Costa & McCrae, 1992). Agreeableness can be measured using the agreeableness subscale of the NEO-FFI (Costa & McCrae, 1992b), which consists of 12 items and has been shown to have an internal consistency of $\alpha =$ .69 to .75 (McCrae & Costa, 2004). A sample item is "I would rather cooperate with others than compete with them." Other instruments include the Big Five markers (BFM; Goldberg, 1992), the Big Five Inventory (BFI; John, Donahue, & Kentle, 1991) and the International Personality Item Pool (IPIP; Goldberg *et al.*, 2006). These measures of agreeableness have been shown to have convergence (see Graziano & Tobin, 2009).

In terms of behavioural tendencies, individuals with high levels of agreeableness tend to display less negative reactions to most groups, including targets of prejudice when compared to individuals with low levels of agreeableness (Graziano, Bruce, Sheese, & Tobin, 2007). Agreeableness also plays a role in the experience of conflict. Individuals high in agreeableness tend to perceive destructive tactics in resolving conflict as less acceptable than individuals low in agreeableness. Additionally, individuals high in agreeableness have less conflict in their social interactions, report

more liking of interaction partners, and elicit less conflict from their partners (Graziano, Jensen-Campbell, & Hair, 1996).

Researchers have documented an indirect relation between agreeableness and emotional self-regulation (Tobin, Graziano, Vanman, & Tassinary, 2000). Specifically, compared to individuals lower in agreeableness, those higher in agreeableness tend to experience more intense negative emotion, and subsequently, tend to have higher levels of emotional regulation. Furthermore, individuals with high levels of agreeableness have been shown to be more attracted to more supportive and team-orientated organizational cultures as opposed to aggressive, out-oriented, and decisive organizational cultures (Judge & Cable, 1997).

Effects on Cognitive Processes Relevant to Social Influence

Individuals with high levels of agreeableness have also demonstrated to perceive themselves more susceptible to certain social influence strategies when compared to individuals with low levels of agreeableness (Alkış & Taşkaya Temizel, 2015). Specifically, agreeableness has been weakly correlated to reciprocation, authority, liking, and commitment strategies. A caveat to these findings is that these susceptibilities were self-reported, so it is uncertain if these certain social influence strategies are more effective when applied.

Like many other individual differences, persuasion is more effective when persuasive messages are matched with individuals for agreeableness. Supporting this idea, Hirsh *et al.* (2012) found that individuals high in agreeableness were more receptive to a persuasive message that was tailored for them as opposed to individuals low in agreeableness. An example of a part of the agreeableness message was: "Join the XPhone family and find out where you belong. Get in touch with your caring side and the XPhone.

Research has demonstrated the effectiveness of different strategies in changing behaviours for individuals with different levels of agreeableness. In one study, Graziano, Habashi, *et al.* (2007) presented individuals with a radio broadcast by an individual in distress and found that individuals high in agreeableness tend to report more willingness to help others compared to those low in agreeableness. However, individuals low in agreeableness who underwent a simple, empathy-focused reminder manipulation showed an increase in their willingness to help, though only if helping the distressed person was at a low cost. In this manipulation, participants were instructed to focus on the emotional aspects of the broadcast by trying to imagine how the distressed person felt.

Extraversion

Definition and Behavioural Tendencies

Another Big Five Factor that is also predominantly related to one's need to relate is extraversion, which is also linked with one's need to be. Individuals high in extraversion are typically described as more bold, assertive and talkative than individuals low in extraversion (see Wilt & Revelle, 2009, for a review). Though there are many self-report measures for extraversion, the one that we focus on here is the NEO-FFI (Costa & McCrae, 1992). The extraversion subscale of the NEO-FFI consists of 12 items (Costa & McCrae, 1992b) and has been shown to have an internal consistency of α = .78 to .81 (McCrae & Costa, 2004). A sample item is "I like to have a lot of people around me." Other instruments include the Big Five markers (BFM; Goldberg, 1992), the Big Five Inventory (BFI; John *et al.*, 1991) and the International Personality Item Pool (IPIP; Goldberg *et al.*, 2006).

In terms of affective experience, extraverts have been consistently shown to feel higher levels of positive affect than introverts (Costa & McCrae, 1980; Watson & Clark, 1992; Lucas & Baird, 2004). Not only do extraverts feel higher levels of positive affect, they also think more positively, as extraverts tend to rate neutral events more positively than introverts (Uziel, 2006). In terms of behaviour, extraversion is positively correlated to alcohol consumption, popularity, parties attended, attractiveness, dating variety, and exercise (Paunonen, 2003). Finally, extraverts are more motivated by economic (e.g., having high-status career and high standard of living), relationships (e.g., having children), political (e.g., being influential in public affairs and becoming a community leader), hedonistic (e.g., having fun and excitement), and physical well-being (e.g., being in good physical condition) goals than introverts (Roberts & Robins, 2000).

Effects on Cognitive Processes Relevant to Social Influence

Like agreeableness and openness-to-experience, there are matching persuasion effects for extraversion. Stevens and Szmerekovsky (2010) found a significant positive relationship between extraversion and attraction to advertisements that list extraversion-related characteristics as requirements. An advertisement tailored to extraversion included sentences such as "These positions require applicants who are assertive and outgoing." Likewise, Hirsh *et al.* (2012) found that extraverts were more persuaded by advertisements tailored towards high levels of extraversion compared to introverts. An example of a part of the openness-to-experience message was: "Experience the fun and rewards of the latest technology and express yourself to the world. Get in touch with your social side and harness the power of the XPhone to get you more of the attention you deserve."

Wheeler, Petty, & Bizer (2005) found that when persuasive messages were matched to an individual's level of extraversion, it resulted in greater argument quality differentiation and behavioural intentions. In this study, participants were presented with strong or weak messages either framed towards extraverts (e.g., "With the Mannux

VCR, you'll be the life of the party…") or introverts (e.g., "With the Mannux VCR, you can have all of the luxuries of a movie theater without having to deal with the crowds). They found that participants were more persuaded by strong than weak messages and had higher levels of purchase intentions when the message was matched to participants' level of extraversion as opposed to when the message was mismatched. In addition, different levels extraversion can be primed, as Wheeler, DeMarree, & Petty (2008) primed individuals with extraversion or introversion and found similar matching effects as Wheeler *et al.* (2005).

Finally, extraverts perceive themselves to be slightly more susceptible to social influence strategies such as reciprocity, scarcity, and commitment when compared to introverts (Alkış & Taşkaya Temizel, 2015). However, these correlations were weak and these susceptibilities were self-reported—not manipulated, so it is difficult to conclude how effective these strategies are on extraverts compared to introverts.

Need for Uniqueness

Definition and Behavioural Tendencies

Being similar to others help individuals pursue their need to belong, whereas being unique aids individuals to achieve self-coherence and self-enhancement goals (i.e., the need to be). The *need for uniqueness* refers to the positive striving for differentness relative to other people, which can be measured using a self-report measure called the *Uniqueness Scale* (KR-20 = .68 to .82; Snyder & Fromkin, 1977). An example item in this measure is "When I am in a group of strangers, I am not reluctant to express my opinion publicly." In addition to the Uniqueness Scale, there are at least 15 other measures to capture one's need for uniqueness (see Hmel & Pincus, 2002).

Individuals high in need for uniqueness tend to engage in behaviours that express their uniqueness. Indeed, researchers have found that individuals with high levels of need for uniqueness tend to reject norms of the majority in terms of attitudes, as well as in behavioural decisions. For instance, the need for uniqueness has been shown to be positively correlated with consumers' desires for scarce, innovative, and customized products, as well as to consumers' preferences for unusual shopping venues (Lynn & Harris, 1997). In another series of studies examining the need for uniqueness and consumer behaviour, Simonson and Nowlis (2000) found that high need for uniqueness individuals who were asked to explain their decisions prior to making a choice were more inclined to select unconventional reasons, and consequently, unconventional choices. For example, when given a choice between a sure gain and a gamble with the possibility of a loss, individuals who provided reasons and had a high need for uniqueness were more likely to take the gamble.

Effects on Cognitive Processes Relevant to Social Influence

Individual differences in the need for uniqueness have been found to moderate attitude change in conformity paradigms. For example, Imhoff and Erb (2009) found that individuals high in need for uniqueness yielded less to majority influence than those low in need for uniqueness. Subsequently, these authors manipulated participants' perception of their uniqueness by providing them with false feedback about the personality test. They found that participants who received personality feedback undermining their perception of their own uniqueness agreed less with a majority than minority position when compared to a control group. In a follow-up study, these authors found that if individuals who underwent the low uniqueness manipulation were subsequently given the opportunity to regain their uniqueness, they would no longer be inclined to agree less with the majority position than the minority position. Similarly, Duval (1972, as cited in Snyder & Fromkin, 1980) manipulated participants' perception of their uniqueness and found decreased conformity effects for individuals who thought they were similar to others.

As is the case of many individual difference factors, there are matching effects for the need for uniqueness. For example, Tian, Bearden, and Hunter (2001) found that individuals high in need for uniqueness preferred advertisements promoting unique exterior designs as opposed to common exterior designs. Conversely, individuals low in need for uniqueness preferred common rather than unique advertisements. In this particular study, it seems that the matching of individuals' disposition for the need for uniqueness with the advertisement's uniqueness serves as a cue to increase the individuals' attitude towards the object. Likewise, Barone and Jewell (2012) found that individuals with high levels of need for uniqueness responded more favorably to an advertisement when it violated rather than conformed to category norms when compared to individuals with low levels of need for uniqueness.

Individualism vs. Collectivism

Definition and Behavioural Tendencies

Although individuals differ on striving for differentness relative to other people, individuals may also differ in how they view their relationships with others. One such difference is on the dimension of *individualism and collectivism* (Triandis, McCusker, & Hui, 1990; see Triandis, 1995, for a review). Though often viewed as a cross-cultural difference, individualism and collectivism is viewed as an individual difference as well. Individualism is characterized as a social pattern where individuals view themselves as independent from collectives (e.g., family, co-workers, tribe, nation, etc.). Conversely, collectivism refers to a social pattern where individuals view themselves as a part of one or more collectives. Several self-report measures have been developed to gauge individualism and collectivism. A popular measure that fully captures the dimensions

(i.e., vertical and horizontal) of individualism and collectivism is one developed by Singelis, Triandis, Bhawuk, and Gelfand (1995; α = .67 to .74). An example item is "I would do what would please my family, even if I detested that activity."

There are a number of characteristics that differentiate individualists from collectivists (Triandis, 1995). First and foremost, individualists and collectivists have different types of construals. Individualists have an independent construal, which is a conception that the self is an autonomous, independent person. Contrarily, collectivists have an interdependent construal, which views the self as more connected and less differentiated from others (Markus & Kitayama, 1991). Independent and interdependent construals can be measured using a self-report measure called the *self-construal scale* (α = 73 to .74; Singelis, 1994). A sample item is "I often have the feeling that my relationships with others are more important than my own accomplishments."

In terms of motivation, individualists' goals typically take precedence over their ingroup's goals, whereas collectivists' view their own goals as less important than their ingroup's goals (Schwartz, 1990). In terms of behaviour, individualists' attitudes are more predictive of individualists' behaviours, whereas the attitudes of collectivists' ingroup are more predictive of collectivists' behaviour (Miller, 1994). For individualists, when the costs of a relationship exceed its benefits, the relationship is often dropped. Contrarily, for collectivists, relationships are of great importance, even if its costs exceed its benefits (Kim, Triandis, Kagitcibasi, & Yoon, 1994).

Effects on Cognitive Processes Relevant to Social Influence

Like many other individual differences, there are matching effects of persuasive messages for individualists and collectivists. For instance, Han and Shavitt (1994) exposed Americans (i.e., mostly individualists) and Koreans (i.e., mostly collectivists) to advertisements that either emphasized individualistic or collectivistic benefits. Subsequently, they measured participants' attitudes and purchase intentions. They found that Americans were more persuaded by the advertisement containing individualistic benefits than the one with collectivistic benefits. However, Koreans showed the opposite pattern, where they were more persuaded by the advertisement containing collectivistic benefits than the one with individualistic benefits.

In another study, Gelfand, Spurlock, Sniezek, and Shao (2000) found that matching individualists with individuating information about an individual increased one's confidence in judging the same individual. Similar effects were found for collectivists when matched with relational information. In this study, Gelfand *et al.* (2000) presented American and Chinese participants with either individuating information (e.g., prior accomplishments) or relational information (e.g., social groups) about an individual, and subsequently prompted participants to judge the same individual. American participants reported greater confidence in their subsequent judgment when they received individuating information as opposed to relational

information, whereas Chinese participants reported greater confidence in their subsequent judgment when they received relational information compared to individuating information.

Individualists and collectivists have been shown to be susceptible to different social influence strategies. Cialdini, Wosinska, Barett, Butner, and Gornik-Durose (1999) found that individualists are more susceptible to commitment/consistency strategies (i.e., a situation where the motivation to be consistent drives behaviour), while collectivists are more susceptible to social proof strategies (i.e., a situation that where individuals look to others in their environment to determine appropriate behaviour). In this study, Cialdini *et al.* (1999) asked Americans (i.e., more individualistic) and Poles (i.e., more collectivistic) to comply with a request. Half were asked to comply after considering their own history of compliance, whereas the other half were asked to consider their peers' history of such compliance. Indeed, they found that Americans complied more when they considered their own history of compliance as opposed to others' compliance, whereas Poles complied more when they considered others' history of compliance other than their own.

Field Dependence

Definition and Behavioural Tendencies

Another individual difference related to how individuals view their relationships with others is *field dependence* (Witkin *et al.*, 1954), which is the extent to which individuals use self-produced as opposed to situational cues, such as the social group, in defining their attributes. In general, field dependents are influenced by the surround field or given context than field independents. There are several objective tests to measure field dependence, which include the Group Embedded Figures Test (Witkin, Oltman, Raskin, & Karp, 1971), the Test of Field Dependence (Ekstrom, French, Harman, & Derman, 1976), and the linear logistic Rasch model (Fischer & Molenaar, 1995). In these tests, individuals are provided with a number of items and are prompted to select which one of various simple figures is embedded within a complex figure (Briñol and Petty, 2005).

Several characteristics of field-dependent and field-independent people have been identified (see Witkin & Goodenough, 1977, for a review). Generally, field dependents are more cognizant of social cues than field-independents. When social situations are ambiguous, field dependents tend to make greater use of social referents than field-independents. Field-dependents typically exhibit a more interpersonal orientation, in that they show stronger interested in others, prefer more physical closeness to other, are more emotionally open, and gravitate more to social situations than field independents.

Effects on Cognitive Processes Relevant to Social Influence

Field dependence has been shown to influence attitude change by affecting the amount of thinking. In one study, Heesacker, Petty, and Cacioppo (1983) gave participants strong or weak messages that were either from a source of high or low credibility. They found argument quality effects for field dependents but not field independents. When source credibility was low, field dependents did not differentiate between strong and weak arguments. However, when source credibility was high, field dependents differentiated between strong and weak arguments. Field independents were able to discern argument quality between the two messages (i.e., they were more persuaded by strong than weak arguments) regardless of the level of source credibility.

Besides influencing persuasion, field dependence moderates other social influence effects. Field dependents have also been found to be more susceptible to dissonance paradigms than field independents. In a study where participants engaged in counter-attitudinal behaviours, Laird and Berglas (1975) found that those who thought their behaviour was generated internally had greater attitude change than those who thought their behaviour was due to external influence. However, when examining participants' level of field dependence, field dependents had greater attitude change after the dissonance paradigm than field independents. In addition to dissonance effects, field dependents have been found to be more susceptible to conformity situations because they are more aware of and responsive to their social situations than field independents (Witkin, 1964).

Social Dominance Orientation and Prejudice

Definition and Behavioural Tendencies

The next two individual differences are associated with the disregard for others. The first individual difference is *social dominance orientation*, which is one's degree of preference for inequality among social groups (Pratto, Sidanius, Stallworth, & Malle, 1994). In other words, social dominance orientation is the extent to which an individual wants his or her group to dominate and be superior to other groups. As such, high social dominance-oriented individuals have higher levels of prejudice towards outgroups compared to low social dominance-oriented individuals. In terms of motivation related to social approval, social dominance orientation is related to the need to relate (or lack thereof) and the need to be. Social dominance orientation is measured using a self-report measure called the social dominance orientation (SDO) scale, which consists of 14-items ($\alpha = .83$; Pratto *et al.*, 1994). An example item is "It is not a problem if some people have more of a chance in life than others."

In an extensive series of studies examining the social dominance orientation construct, Pratto and colleagues (1994) found numerous differences between individuals

with high and low social dominance orientations. We will highlight a few of these differences here. First and foremost, they found that men are typically more social dominance-oriented than women. Second, they found that high social dominance-oriented individuals are more inclined to seek hierarchy-enhancing professional roles, whereas low social dominance-oriented individuals favour more hierarchy-attenuating roles. Third, they found that social dominance-orientation was related to ideologies that supported hierarchies, such as meritocracy (i.e., wealth is already distributed appropriately based on individuals' merits) and racism. Finally, social dominance-orientation was found to be negatively correlated with empathy, tolerance, communality, and altruism.

While some individuals may be more prejudiced than others, some individuals may have more motivation to reduce prejudice, which may affect how they process information. There are several self-report measures to gauge one's motivation to reduce prejudice, including the *motivation to control for prejudiced reactions scale* (α = .76 to .77; Dunton & Fazio, 1997) and the *internal and external motivation to respond without prejudice scale* (α = .76 to .85; Plant & Devine, 1998). An example item of the scale by Dunton and Fazio (1997) is "I get angry with myself when I have a thought or feeling that might be considered prejudiced." An example item of the scale by Plant and Devine (1998) is "I attempt to appear nonprejudiced toward Black people in order to avoid disapproval from others."

Effects on Cognitive Processes Relevant to Social Influence

Like many other individual difference variables, we can examine persuasion for social dominance orientation at difference levels of elaboration. Under low elaboration, shared group membership with a source serves as a peripheral cue for high prejudiced individuals more than low prejudiced individuals. In one study, Fleming and Petty (2000) told participants the attitudes of both ingroup and outgroup members on several attitude objects and asked participants to rate the products. Little information was provided about the products, so the elaboration was kept low. They found that participants who highly identified with the ingroup were more persuaded when the ingroup position was positive than it was negative. However, the attitudes of those who had low identification with the ingroup were not affected by the ingroup position.

Under high elaboration, individual differences in prejudice can bias the direction of thinking. In one study, Fleming and Petty (2000) used gender as the ingroup-outgroup differentiation and framed persuasive messages according to gender. They prompted individuals to thoroughly scrutinize the messages (i.e., engage in high elaboration). They found that when participants who were highly identified with their gender, they were more persuaded by positive messages about their respective gender. This was not the case when participants had low gender identification. These results suggested that identity framing of messages biased attitudinal outcome.

Under moderate elaboration conditions, individual differences in prejudice can influence an individual's amount of elaboration. In two studies, Petty, Fleming, and White (1999) exposed participants to a strong or weak message about either from a stigmatized or non-stigmatized source. In both studies, they found that individuals high in prejudice engaged in more message elaboration when they received a message from the non-stigmatized source than when they received a message from a stigmatized source. Conversely, individuals low in prejudice engaged in more message elaboration when they received a message from the stigmatized source than when they received a message from a non-stigmatized source. Similar results have been found in other studies (e.g., Mackie, Worth, & Asuncion, 1990) and even if the information was about a stigmatized individual rather than the stigmatized individual being the source (Fleming, Petty, & White, 2005).

As mentioned previously, individuals can differ in how much they are motivated to correct for prejudice. Under low elaboration, individuals motivated to correct for prejudice may do so by using their motivation to correct for prejudice as a peripheral cue (e.g., Blair & Banaji, 1996; Moskowitz, Gollwitze, Wasel, & Schaal, 1999). Thus, if an individual does not have the motivation and/or ability to scrutinize a message, they may rely on their motivation to correct for prejudice as heuristic and subsequently, shift their reported attitude towards the non-prejudice direction. Under high elaboration, individuals who are motivated to correct for their prejudice may do so by biasing their direction of thinking (e.g., Devine, 1989; Montieth, 1993; Plant & Devine, 1998). Thus, if an individual has the motivation and ability to scrutinize a message and they are motivated to correct for prejudice, they may bias their thinking in the non-prejudice direction.

Machiavellianism

Definition and Behavioural Tendencies

The second individual difference that is related to the disregard of others is *machiavellianism*, which is the manipulation of others for personal gain (Christie & Geis, 1970a; Fehr, Samson, & Paulhus, 1992; Jones & Paulhus, 2009). Like social dominance orientation, machiavellianism is related the need to (not) relate and the need to be. The most popular measure of machiavellianism is the MACH-IV, which is a self-report measure and has a split-half reliability of $r = .79$ (Christie, 1970). A sample item is, "The best way to handle people is to tell them what they want to hear."

Differences between high and low machiavellians have been studied extensively. First and foremost, gender differences have been documented, where men typically score higher than women on the MACH-IV (Christie & Geis, 1970b). In terms of motivation, high machiavellians are more driven by money, power, and competition (Stewart & Stewart, 2006; McHoskey, 1999), and less driven by community building,

self-love, and family concerns (McHoskey, 1999) when compared to low machiavellians. In terms of ability, high machiavellians are better at persuasion than low machiavellians (Christie & Geis 1970a). Additionally, although high machiavellians are typically viewed as more intelligent than low machiavellians (e.g., Cherulnik, Way, Ames, & Hutto, 1981), this has been proven not to be the case (e.g., Wilson, Near, & Miller, 1996; Paulhus & Williams, 2002). In terms of behaviour, high machiavellians use more manipulation tactics and engage in more antisocial behaviours than low machiavellians (see Jones & Paulhus, 2009, for a review).

Effects on Cognitive Processes Relevant to Social Influence

Christie and Geis (1970a) have noted that low machiavellians are somewhat more easily manipulated than high machiavellians. In line with this notion, it seems that it is more difficult to persuade high machiavellians than low machiavellians. For instance, Briñol and Petty (2002, as cited in Briñol & Petty, 2005) gave participants counter-attitudinal messages about adding more vegetables in their diet and found that high machiavellians were less influenced by the messages than low machiavellians. In another study, Burgoon, Lombardi, Burch, and Shelby (1979) exposed participants to a counter-attitudinal message (i.e., raising tuition) either attributed it to an expert (i.e., an economist) or a peer (i.e., fellow student). Afterwards, they measured participants' machiavellianism scores. They found that high machiavellians were more persuaded by the authority-based message, whereas low machiavellians were more persuaded by the peer-based message. They posited that high machiavellians were more interested in the authority-based message, as they found it more rewarding than the peer-based message. This is because high machiavellians find the successful manipulation of others as rewarding and can use the information gathered from the authority-based message to manipulate others.

High and low machiavellians have also been shown to have different dissonance effects. For example, Burgoon, Lombardi, Burch, and Shelby (1979) prompted participants to write a counter-attitudinal essay with either low incentive (i.e., 1-point rise in course grade) or high incentive (i.e., 5-point rise in course grade). They found that when incentive was low, low machiavellians changed their attitudes more than high machiavellians. However, when incentive was high, high machiavellians changed their attitudes more than low machiavellians. They argued that since high machiavellians have a tendency to manipulate others, deception of others may not have any aversive consequences for them. Thus, high machiavellians were less affected by the dissonance paradigm. Similarly, Bogart, Geis, Levy, and Zimbardo (1970) found that low machiavellians change their attitudes when justification was low in a dissonance paradigm, whereas high machiavellians changed their attitudes when justification was high. In their paradigm, they asked participants to cheat a partner that they either liked (i.e., low justification) or disliked (i.e., high justification).

Self-Monitoring

Definition and Behavioural Tendencies

Self-monitoring is a trait that straddles two motives: social approval and knowledge. For social approval, it encompasses all three social approval motives: the need to relate, the need to be, and the need to know. Self-monitoring is the control of one's self-presentation and expressive behaviour, which can be measured using a self-report measure called the *Self-Monitoring Scale* (HR-20 = .70; Snyder, 1974). A sample item is "I would not change my opinions (or the way I do things) in order to please someone else or win their favour."

High self-monitors tend to be more sensitive to the behaviours and self-presentation of others in social situations, whereas low self-monitors tend to be less concerned about the appropriateness of his or her presentation and behaviour, as well as others' behaviours (Snyder, 1974). In addition, low self-monitors' presentation and behaviours tend to be driven by internal beliefs and values. We speculate that high self-monitors may be more inclined to have need to belong and need to be goals, whereas low self-monitors may be more inclined to have need to be and need to understand goals.

Across four studies, Snyder (1974) found that high self-monitors are better at learning what is socially appropriate in new situations, have better self-control of their emotional expression, and are better at creating impressions compared to low self-monitors. Additionally, high self-monitors were more likely than low monitors to seek out and consult social comparison information about their peers in self-presentation tasks. When examining different populations, it has been found that theatre actors scored high on the self-monitoring scale, whereas hospitalized psychiatric ward patients scored low.

Effects on Cognitive Processes Relevant to Social Influence

In general, high self-monitors respond more favourably to image-based persuasion, whereas low self-monitors respond more favourably to quality-based persuasion (Snyder & DeBono, 1985; 1989) In concordance with the elaboration likelihood model (see Petty & Cacioppo, 1986), self-monitoring moderates persuasion through several difference processes. First, when the likelihood of elaboration is high, self-monitoring can moderate the bias in direction of information processing for individuals. In a study examining the functional matching effects in persuasion, Lavine & Snyder (1996) exposed participants to functionally-relevant, functionally-irrelevant or both messages in favour of voting. For high self-monitors, functionally-relevant messages would be social-adjustive (i.e., promoting cohesion amongst group members), whereas for low self-monitors, functionally-relevant messages would be value-

expressive (i.e., demonstrating one's self-image to others). They found that functionally-relevant messages for both high and low self-monitors increased favourability of message quality and persuasiveness, positive attitudes, and as well as attitude-relevant behaviours rather than functionally-irrelevant messages.

Second, when the likelihood of elaboration is moderate, self-monitoring can regulate the amount of thinking for individuals. Research has demonstrated that when the level of elaboration is moderate, matching individuals' level of self-monitoring with messages that coincide with their values increases the amount of message elaboration. In one study, DeBono and Harnish (1988) exposed participants to a counter-attitudinal message supported by either strong or weak arguments and was delivered by either an expert or attractive male. They found that high self-monitors engaged in more message elaboration when the message was presented by the attractive source (which has an image appeal) as opposed to the expert source. Conversely, they found that low self-monitors engaged in more message elaboration when the message was presented by the expert source (which has a quality appeal) as opposed to the attractive source. Similarly, Petty and Wegener (1998) exposed participants to messages with image or quality appeals. They found that high self-monitors had more attitude change due to increased message elaboration when exposed to image appeal messages. Alternatively, low self-monitors had more attitude change due to increased message elaboration when exposed to quality appeal messages.

Third, when elaboration is low, matching of individuals' level of self-monitoring with different appeals can influence attitudes via cues. For example, DeBono (1987) exposed participants to social-adjustive or value-expressive messages that included cues rather than arguments. The social-adjustive cue was the opinions of the participants' peers, and the value-expressive cue was prior research on the attitudes towards the issue. They found that high self-monitors experienced more attitude change after exposure to a social-adjustive message, whereas low self-monitors experienced more attitude change after listening to a value-expressive message. Other studies examining self-monitoring and cues have found similar matching effects (Aaker, 1999; DeBono, Leavitt, & Backus 2003; Yates & Noyes 2007).

In addition to the cue effects on persuasion for self-monitors, there are other cue and priming effects. Researchers have demonstrated that low self-monitors show larger behavioural effects of primes. For example, DeMarree, Wheeler, and Petty (2005) found that priming was only effective for low self-monitors. In this study, they primed participants with a writing task that was either about a supermodel or professor and subsequently, exposed them to either a strong or weak advertisement. They found that low self-monitors who were primed with the professor engaged in more message elaboration, whereas those who were primed with the supermodel did not. These effects were not found for high self-monitors. Similarly, Wheeler, DeMarree, and Petty (2008) found low self-monitors to show larger behavioral effects when primed. In another study, Myers and Sar (2013) found that high self-monitors are more susceptible to social

approval cues, in that they can significantly increase consumers' brand evaluation and purchase intention.

Fourth, self-monitoring can moderate meta-cognitions (e.g., confidence in attitudes) for individuals. Evans and Clark (2012) found that matching individuals with the corresponding persuasive message in terms of self-monitoring increased their confidence in their judgments. In this study, participants were exposed to either strong or weak message arguments from either an expert or attractive communicator. They found high self-monitors had higher levels of confidence in their thoughts when the source was attractive rather than expert, whereas low self-monitors had higher levels of confidence when the source was expert rather than attractive. Thus, it seems that the increase in persuasion due to matching effects is at least partly driven by thought confidence.

Beyond persuasion, individual differences between high and low self-monitors result in different attitudinal and behavioural consequences. For example, research has shown that low self-monitors are more susceptible to dissonance effects than high self-monitors (Snyder & Tanke, 1976). In this study, low self-monitors were more likely to change their attitudes after engaging in attitude-discrepant behaviour than high self-monitors. In addition, low self-monitors tend to have higher levels of attitude-behaviour consistency when compared to low self-monitors (Zanna, Olson, & Fazio, 1980). In this study, the researchers found that low self-monitors with relatively invariant (vs. variant) past behaviours had higher levels of attitude-behaviour consistency.

Ability Individual Differences

In the previous sections, we have discussed individual difference factors under four general human motives. Some of those individual difference factors were both motivational-based and ability-based (e.g., affective and cognitive bases). Here, we discuss solely ability-based individual difference factors that do not directly correspond to any of the four motivational drives we have discussed.

General Intelligence

Definition and Behavioural Tendencies

One ability-based individual difference factor is *intelligence*, which has traditionally been conceptualized in terms of cognitive abilities. Many intelligence tests have been developed to capture these abilities. For example, the widely used measure of intelligence for adults, the *Wechsler Adult Intelligence Scale for adults IV* (WAIS-IV; α = .79 to .98; Wechsler, 2008) captures four different types of intelligence based on one's cognitive abilities (i.e., verbal comprehension, perceptual reasoning, working memory,

and processing speed; Lichtenberger & Kaufman, 2013). Another popular measure of intelligence for adults (and children), the *Woodcock-Johnson IV* (WJ-IV) also captures several types of intelligence based on one's cognitive abilities (McGrew, LaForte, & Schrank, 2014). As discussed in the introduction, some researchers have broadened the traditional conceptualization of intelligence. Some of these conceptualizations include the Triarchic Theory of Intelligence (Sternberg, 1985) and the Theory of Multiple Intelligences (Gardner, 1983). However, for the purposes of this technical report, we conceptualize intelligence as it is traditionally defined (i.e., intelligence as a cognitive ability).

The relationship between intelligence and other constructs have been widely investigated. In a review of intelligence, Neisser *et al.* (1996) discussed several correlates of intelligence. First and foremost, they found that the correlation between intelligence scores and academic success is about $r = .50$. The relationship between intelligence scores and academic success is ubiquitous, as individuals with higher levels of intelligence tend to learn more than those with lower levels of intelligence regardless of where intelligence has been studied. Second, intelligence scores have been correlated with total years of education (about $r = .55$). This may be due to more intelligent individuals finding the process of education more rewarding than less intelligent individuals (Rehberg & Rosenthal, 1978). Third, intelligence scores have been linked with parental socioeconomic status ($r = .29$ to .32; Sewell & Shah, 1967), as children of privileged families (i.e., higher income and education) tend to have higher levels of intelligence than those children who are less privileged. Fourth, intelligence scores are at least weakly positively correlated to job performance in most settings. This correlation between intelligence scores and job performance fluctuates as a function of occupation, as one can imagine intelligence is more important for some jobs than others (i.e., an educator versus a janitor). Fifth, intelligence scores have been found to be weakly and negatively correlated with certain socially undesirable outcomes (i.e., delinquency). In one study, Moffitt, Gabrielli, Mednick, and Schulsinger (1981) found a weak negative correlation between intelligence scores and number of juvenile offenses ($r = -. 19$). However, intelligence may have an indirect effect on delinquency, as lower intelligence may lead to doing poorly in school, which may lead to alienation from school and subsequently, delinquent behaviour.

Effects on Cognitive Processes Relevant to Social Influence

Far and away the most influential perspective on the role of intelligence in persuasion is the *reception-yielding model* originally proposed by McGuire (1968, 1972). This model proposes that attitude change is the product of reception of and yielding to information. Intelligence has a positive relationship with reception, as individuals with higher levels of intelligence should have better cognitive skills to understand the information presented than individuals with lower levels of intelligence. However, intelligence has a negative relationship with yielding, as intelligent individuals are better equipped to scrutinize and refute persuasive messages than less

intelligent individuals. Since attitude change is a product of reception of and yielding, then individuals with high and low levels of intelligence should exhibit less attitude change when exposed to persuasive information. Individuals with moderate levels of intelligence, however, should show greater attitude change. This curvilinear relationship between intelligence and persuasion has been labeled the *comprehension principle* (McGuire, 1972).

The type of message may influence the strength of each mediator (i.e., reception and yielding), which may change the curvilinear relationship between intelligence and persuasion (Eagly & Chaiken, 1993, p. 276). If the message is complex but well argued, then reception is more important than yielding, which may make intelligence positively correlated with persuasion. However, if the message is simple but poorly argued, then yielding is more important than reception, which may make intelligence negatively correlated with persuasion. A meta-analysis of the persuasion literature by Rhodes and Wood (1992) has yielded findings consistent with the reception-yielding model, however, for a different individual difference (i.e., self-esteem). For intelligence, they did not have sufficient studies to examine the reception-yielding model, as only one of the studies examined included three levels of intelligence (i.e., Eagly & Warren, 1976). However, they found that intelligent individuals were less persuadable than unintelligent individuals. Eagly and Chaiken (1993) have argued that this finding fits into the McGuire model if one makes the assumption that yielding is typically more important than reception in laboratory settings.

In a direct study of the intelligence-persuasion relationship, Eagly and Warren (1976) tested the reception-yielding model via the manipulation the importance of reception by providing participants with a persuasive message that either included arguments or did not include arguments. For participants who received a message with supportive arguments, those with higher levels of intelligence were more persuaded than those with lower levels of intelligence (though this was a weak trend). Conversely, for participants who received a message without supportive arguments, those with higher levels of intelligence were less persuaded than those with lower levels of intelligence. Overall, Eagly and Warren (1976) studies supported the reception-yielding model in relation to intelligence and persuasion.

In another study examining intelligence and persuasion, Petty, Cacioppo, Kao, and Rodriguez (1986) found similar results in that people's comprehension of externally provided message arguments is strongly influenced by their level of verbal intelligence. In this study, participants with high levels of verbal intelligence recalled more arguments than did those with low levels of verbal intelligence. In addition, relatively intelligent participants had more attitude change than relatively less intelligent participants. This finding is in concordance with Eagly and Chaiken's (1993) logic in that reception is more important than yielding in this study, which means that there would be a positive relationship between intelligence and persuasion.

The relationship between intelligence and persuasion has also been shown to be moderated by extraversion (Carment, Miles, & Cervin, 1965). In this study, participants were paired off with another person to discuss a topic on which they disagreed. Participants were paired off into one of three groups: a high intelligent-extraverted and high intelligent-extraverted group, a high intelligent-extraverted and high intelligent-introverted group, or a high intelligent-extraverted and low intelligent-extraverted group. The researchers found that more intelligent and extraverted subjects were more persuasive and less persuadable.

Other studies have examined the relationship between intelligence and conformity (e.g., Crutchfield, 1955; Tuddenham, 1959; DiVesta & Cox, 1960). Overall, intelligent individuals tend to be more resistant to conformity than less intelligent individuals (Rhodes & Woods, 1992).

Emotional Intelligence

Definition and Behavioural Tendencies

Another ability-based individual difference factor that influences persuasion is *emotional intelligence*, which is the ability to monitor one's own and others' feelings and emotions, to discriminate among them, and to use this information to guide one's thinking and actions (Salovey & Mayer, 1990, p. 189). Emotion intelligence can be measured several ways. In a review of emotional intelligence measures, Brackett and Mayer (2003) examined the convergent, discriminant, and incremental validity of one ability test of emotional intelligence, as well as two self-report measures of emotional intelligence.

The ability test of emotional intelligence is the *Mayer-Salovey-Caruso-Emotional Intelligence Test* (MSCEIT; Mayer et al., 2002). The MSCEIT assesses the four branches of emotional intelligence, which are perceiving (i.e., the ability to detect and decipher emotions in faces, pictures, voices, and cultural artifacts), using (i.e., the ability to harness emotions to facilitate various cognitive activities), understanding (i.e., the ability to comprehend emotion language and to appreciate complicated relationships among emotions), and managing (i.e., the ability to regulate emotions in both ourselves and in others) emotions (Salovey & Grewal, 2005). The MSCEIT was found to be highly reliable with a split-half reliability of $r = .91$. After holding constant personality and verbal intelligence variables, the MSCEIT has been shown to have a weak negative correlation with social deviance ($r = -.20$).

The first self-report measure is the *Emotional Quotient Inventory* (EQ-i; Bar-On, 1997), which consists of five subscales that capture the interpersonal, intrapersonal, stress management, adaptability, general mood aspects of emotional intelligence. The EQ-i has been found to be quite reliable ($\alpha = .69$ to $.86$; Brackett & Mayer, 2003). In

terms of discriminant validity, the EQ-i has a weak negative correlation with alcohol use ($r = -.19$), after holding personality and verbal intelligence variables constant. The second self-report measure is the *self-report EI test* (SREIT; Schutte *et al.*, 1998), which has a moderate positive correlation with the EQ-i ($r = .43$; Brackett & Mayer, 2003). The SREIT contains 33-items that capture four factors (i.e., optimism and mood regulation, appraisal of emotions, social skills, and utilization of emotions) and is highly reliable ($\alpha = .93$; Brackett & Mayer, 2003).

When examining all three emotional intelligence measures together, the MSCEIT has been found to be weakly correlated with the EQ-i ($r = .21$) and the SREIT ($r = .18$), which suggests that these measures capture different elements of emotional intelligence. When comparing the three measures in terms of incremental validity, the MSCEIT and EQ-i have shown some evidence of incremental validity, whereas the SREIT has not. Brackett and Mayer (2003) have argued that the MSCEIT is a superior measure of emotional intelligence as a mental ability compared to self-report measures. This is because emotional intelligence self-report measures capture emotional intelligence as an ability, along with personality, motivation and affective factors, whereas MSCEIT captures emotional intelligence as a mental ability that exists as a distinct, clearly defined construct that has evidence of incremental validity.

Several studies using the MSCEIT have found that emotionally-intelligent individuals typically function better socially than less emotionally-intelligent individuals. In a study examining emotional intelligence and behaviour, Brackett, Mayer and Warner (2004) found that low levels of emotional intelligence in college-aged men are related to self-reported negative outcomes, such as illegal drug and alcohol use, deviant behaviour, and poor relations with friends. They also found that college-aged women scored significantly higher in emotional intelligence than college-aged men. Similarly, emotionally-intelligent individuals are more likely to report having positive relationships with others, including greater perceived support from their parents and fewer negative interactions with their close friends than less emotionally-intelligent individuals (Lopes, Savoley, & Straus, 2003). For those in relationships, the couples in which both partners are emotionally intelligent have been found to be the happiest compared to other couples (Brackett, Cox, Gaines, & Salovey, 2005, as cited in Salovey & Grewal, 2005). In addition, those who scored higher on the MSCEIT report greater success in their social interactions with members of the opposite sex (Lopes, Brackett, Nezlek, Schutz, Sellin, & Salovey, 2004)

The relationship between emotional intelligence and social functioning has also been shown through reports by others. For instance, Lopes *et al.* (2004) examined the relationship between emotional intelligence and reports of attributes by people's peers. They found that those high in emotional intelligence received more positive ratings from their friends and were viewed as more likely to provide emotional support to their friends than those low in emotional intelligence. In the workplace, employees high in emotional intelligence have been rated by their colleagues and supervisors with better

ratings of interpersonal facilitation and stress tolerance than those with low in emotional intelligence. Furthermore, higher MSCEIT scores were correlated with higher salary and positions (Lopes, Grewal, Kadis, Gall, & Salovey, 2006).

Effects on Cognitive Processes Relevant to Social Influence

Though limited research has been directly conducted on emotional intelligence and persuasion, there is some evidence to suggest how emotional intelligence can moderate persuasion. DeSteno and Braverman (2002) suggest that like other individual differences, emotional intelligence should moderate persuasion at different levels of elaboration. When elaboration likelihood is high, the use of emotion as information should be different for individuals with different levels of emotional intelligence. Past research has shown that mood can bias the processing of information (e.g., Petty, Schumann, Richman, & Strathman, 1993; DeSteno, Petty, Rucker, & Wegener, 2002). If this research is extrapolated to emotional intelligence, it suggests that the biasing effects of mood should be accentuated for emotionally-intelligent individuals and attenuated for less emotionally-intelligent individuals. This is because emotionally-intelligent individuals devote more attention to the emotional-relevant aspects of stimuli than less emotionally-intelligent individuals, which leads to greater susceptibility to biased information processing.

At the other end of the spectrum, when elaboration likelihood is low, emotionally-intelligent individuals are suspected to be more susceptible to classical conditioning using emotions as these individuals are more attuned to emotion. In addition, emotional intelligence may moderate persuadability in the misattribution of affection responses. Schwarz and Clore (1996) demonstrated that individuals use their affective states as cues when elaboration likelihood is low. Thus, due to emotionally-intelligent individuals' sensitivity to emotions, they should be more susceptible to affective misattribution effects.

In the middle of the spectrum when elaboration likelihood is moderate, individuals are free to vary their level of elaboration. Schwarz & Clore (1996) have suggested that individuals increase cognitive effort when they experience negative emotional states but not positive emotional states. However, Wegener, Petty, and Smith (1995) found increased cognitive effort when individuals experienced positive emotional states. In short, individuals increase cognitive effort when they experience negative emotional states in general, as well as positive states but only if increased cognitive effort increases or maintains positive states. Extending this research to emotional intelligence, emotionally-intelligent individuals should be more susceptible to increases and decreases in elaboration as opposed to less emotionally-intelligent individuals. Once again, this is because emotionally-intelligent individuals are more attuned to their emotions. In addition, DeSteno and Braverman (2002) have argued that while emotionally-intelligent individuals are more susceptible to emotion-based biases,

they may be more inclined to correct for biases because they are more attuned their emotions.

Emotional intelligence has also been suggested to influence persuasion through meta-cognitive processes. People's meta-cognitive (secondary) emotional thoughts can influence the confidence with which they hold primary emotional thoughts (Briñol, Petty, & Rucker, 2006) and as a consequence, second order cognitions can magnify, attenuate, or even reverse first order cognitions (Petty, Briñol, Tormala, & Wegener, 2007). Relating meta-cognitive processes to emotional intelligence, Briñol *et al.* (2006) have suggested that emotional intelligence may influence persuasion by moderating meta-cognitive processes in the thoughts that precede, accompany, and follow emotions.

CONCLUSIONS AND IMPLICATIONS

General Observations Regarding the Empirical Literature

Although our review of the empirical literature on the role of personality traits and individual differences in social influence illustrates the effects of these constructs are varied and at times complex, there are nonetheless some meaningful general observations that can be made. First, our review amply illustrates that the number of traits and individual differences that have been identified as relevant to social influence is quite extensive. The constructs that have been studied go far beyond the well-known Big Five traits of openness, conscientiousness, extraversion, agreeableness, and neuroticism. Indeed, the study of the Big Five traits role in social influence actually constitutes a rather small portion of the total literature. Many traits and individual differences such as need for cognition, need for affect, self-monitoring, preference for consistency, preventions/promotion focus, meta-bases of attitudes, and structural bases of attitudes have been much more extensively studied in this literature and/or can be conceptually mapped much more readily onto established mechanisms underlying social influence than Big Five traits.

Second, our review of the literature illustrates that in the great majority of cases, these traits and individual differences do not correspond to susceptibility to influence in a simple linear fashion. That is, it is usually not the case that a group of people high or low on a given characteristic can be described as generally more susceptible or less susceptible to influence. For example, it is not especially accurate to characterize people high in need for cognition as less likely to be influenced than low need for cognition people or people high in preference for consistency to be more susceptible to influence than people low in preference for consistency. Rather, these constructs interact with contextual factors such that higher standing on a given trait will sometimes lead to more influence and other times to less influence. Moreover, in some cases a curvilinear

association might exist between a given trait/individual difference and amount of influence.

Moreover, as our theoretical framework highlights, the reasons for the effects of a given construct can be a result of one or more of five different processes. Indeed, even when the magnitude of total influence for people high versus low on a given trait or individual difference is the same, it is entirely possible that the underlying process for this influence could be different and this could have implications for the durability and impact of that influence. For instance, people high versus low on need for cognition could show similar levels of initial attitude change in response to a persuasive message but the process by which this attitude change occurred might be quite thoughtful for our high need for cognition people and relatively non-thoughtful for low need for cognition. Thus, the persuasion produced for high need for cognition people might be quite persistent over time, resistant to counter-persuasion, and influential on subsequent behaviour. In contrast, although low need for cognition people might show substantial initial attitude change, this persuasion could prove quite transitory and not particularly consequential. Unfortunately, although some studies do permit us to reach reasonable conclusions regarding what mechanisms were responsible for a given social influence effect, in most studies it is not possible to know what mechanism was responsible for a given effect and several plausible explanations might exist. Thus, much work remains to be done in determining the precise psychological mechanisms responsible for many of the trait/individual difference social influence effects that have been documented in the literature.

One implication that emerges from the fact that these traits and individual differences often interact with contextual factors to produce a variety of outcomes and the fact that even similar outcomes might be a result of one of several possible mechanisms is that it is not meaningful to characterize the effect of a given construct on influence in terms of a single aggregate numerical effect size. For most traits and individual differences, there are too many different outcomes and even seemingly similar effects could actually represent conceptually different effects. Thus, one runs the risk of averaging apples, oranges, bananas, lemons, and pears to get an index of effect size that has little clear conceptual meaning and limited practical value.

Finally, one important limitation to our current understanding of the role of traits and individual differences in social influence that is amply illustrated by our review is that we have very little knowledge of how these constructs work in conjunction with one another. A careful examination of the studies we have reviewed reveals that for the most part, traits and individual differences have been studied in isolation. We generally do not know how these constructs combine to regulate social influence. If the effects of these constructs are largely additive, one could perhaps reasonably extrapolate how constructs might combine on the basis of the extant literature. However, if their effects are multiplicative in nature (i.e., interactions exist among constructs), extrapolating from the available literature is more problematic. Variables might combine to produce effects

that are quite different from what has been documented. Thus, as things currently stand, we do not know if there are particular configurations of traits or individual differences (i.e., personality or individual difference "profiles") that are especially interesting or unique in the effects they produce.

Implications for Influence Campaigns

The complexities of the literature notwithstanding, it is possible to derive some clear, practical implications regarding how an understanding of personality traits and individual differences might inform the design and implementation of influence campaigns. Although one could develop specific implications for each individual trait or individual difference we have discussed, we will frame our discussion at a more general level and then illustrate each general principle with one or two specific examples. As will be demonstrated, an understanding of traits and individual differences is especially useful when target or audience analysis is being conducted in preparation for an influence campaign and the communications for an influence campaign are being developed.

Creating Attitudes or Behaviours

In some cases, the goal of an influence campaign is to instantiate new attitudes or behaviours where no clearly developed prior attitudes/behaviours exist. For instance, during the initial deployment of Canadian Armed Forces (CAF) to a new area of operations, the local population in the area of operations might have little prior experience with the CAF and thus no clearly established evaluations of their presence. Creating positive attitudes and behavioural tendencies toward the CAF prior to deployment could be quite useful in this context. Knowing the distribution of the target audience or subgroups of the target audience on relevant traits and individual differences could be useful in helping to identify promising targets for influence. For example, if some subgroups of the target audience on average are higher in need to evaluate than other subgroups, these high need to evaluate subgroups might be allocated special attention in influence campaigns. Members of such group are the people most likely to develop clear attitudes toward the CAF (be they positive or negative) and thus shaping the attitudes of these people might be especially important. Likewise, if some subgroups are higher in need for cognition than other subgroups, a case might also be made for focusing on high need for cognition subgroups. Such groups will be much more likely to process communications in a highly thoughtful manner that leads to strong attitudes that are likely to persist over time and influence subsequent behaviour. Similarly, subgroups that tend to be high on preference for consistency might be more promising targets because these people will be more likely to use their newly formed attitudes as a basis for future action than subgroups that are low on preference for consistency.

Changing Established Attitudes or Behaviours

In other cases, the goal of an influence campaign might be to change well-established prior attitudes. For example, in some cases, the local population in an area of operations might have strong negative attitudes toward the Canadian Forces. Once again, knowing the distributions of various subgroups on relevant traits or individual differences could help guide choices regarding which subgroups should be targeted for influence. Interesting, in this context, the suggestions for which groups are most promising targets could be quite different than the prior case. For example, in this context, subgroups high in need for cognition might be especially difficult to change because people in these subgroups are likely to have formed attitudes that are very resistant to persuasion. In contrast, subgroups low in need for cognition might be much easier to change, although if this change is to be lasting it would be important to build features into the communication that are likely to enhance people's motivation and ability to carefully process the message such that more enduring and consequential persuasion is produced. Along similar lines, subgroups strongly inclined to bolster or counterargue and subgroups especially high in attitudinal certainty might prove to be especially challenging groups to influence. Conversely, subgroups low on these attributes might be more promising targets for influence.

Designing Influence Strategies

Perhaps the most useful information resulting from knowledge of traits and individual differences is that it can provide very valuable guidance regarding the development of specific communications intended to influence people. For example, knowing the distribution of a subgroup on need for cognition would provide insight into whether it is feasible to rely on messages that require extensive thought to be successful or if a very simple message that requires little effort to process is more likely to be successful.

Other traits and individual differences can provide guidance regarding the types of arguments that should be used in a message. For instance, knowing a subgroups' general standing on individual differences such as affective/cognitive meta-bases, affective/cognitive structural bases, need for cognition, and need for affect would be useful in determining whether a message should predominantly focus on altering beliefs or on altering emotional responses. Similarly, knowing the distribution of a subgroup on prevention/promotion focus would provide insights as to whether it would be best to use messages that stress preventing bad outcomes or messages that stress facilitating good outcomes. Additionally, identifying the extent to which a subgroup is high or low on attributes such as self-monitoring, agreeableness, extraversion, and need for uniqueness could provide guidance as to the extent to which a message should focus on stressing the positive reactions of similar others to the advocated position .

Along similar lines, some traits and individual differences could prove useful in terms of identifying compliance strategies for altering behaviour that are likely to be successful. For instance, Cialdini (2009) has noted that a number of very successful compliance tactics such as the Foot-In-The-Door (FITD) technique and the Low-Balling technique are based on the principle consistency. Knowledge of a subgroup's overall standing on various traits and individual differences related to consistency motivation such as preference for consistency would allow one to gauge the likelihood that such tactics will be successful. Similarly, Cialdini (2009) has argued that some compliance tactics rely on the principle of social proof (i.e., the behaviour of others should be used as a guide to how we should behave). Traits and individual differences related to the motive for social approval such as self-monitoring, agreeableness, and extraversion could be important in evaluating the likely effectiveness of these tactics.

Concluding Thoughts

In summary, a host of personality traits and individual differences relevant to social influence processes have been identified in the literature. Although the list of these traits and individual differences is long and the documented effects associated with them are vast, existing conceptual frameworks permit a much more parsimonious organization of the literature. These theoretical frameworks facilitate the derivation of a comparatively straightforward set of recommendations that can be used to guide influence operations. More specifically, knowing people's standing on these traits and individual differences can provide valuable insights regarding the most promising targets for influence and the most effective techniques that can be used to influence them.

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