

# **Why are People Liberal? A Motivated Social Cognition Perspective**

by

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A thesis  
submitted in partial fulfillment  
of the requirements for the degree  
Doctor of Philosophy

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June, 2008

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## ABSTRACT

The present dissertation examined why people adopt or endorse certain political ideologies (i.e., liberal or conservative). According to a motivated social cognition perspective (Jost, Glaser, Kruglanski, & Sulloway, 2003a; Kruglanski, 1996), individuals adopt political ideologies to fulfill dispositional and situationally induced needs or motivations. Previous research has found that political conservatism is related to a number of psychological needs (e.g., Jost, Glaser et al., 2003a). However, there is minimal research examining why individuals adopt political *liberalism*. By focussing on the political right and not considering the political left, there might be other motivational underpinnings of political orientation that have been overlooked. In four studies, the present dissertation aimed to fill this gap by investigating what chronic and situationally induced needs underlie political orientation, with a focus on political liberalism. Based on psychological theories of ideology, research examining political conservatism, and experimental research examining differences between liberals and conservatives, it was proposed that four social-cognitive needs (Need for Inclusiveness, Need for Understanding, Need for Change, and Avoidance of Decisional Commitment) would be associated with liberalism. Moreover, research suggests that the relations between the needs and liberalism might be moderated by political sophistication (e.g., Converse, 1964). University students (Study 1;  $n = 201$ ) and community adults (Study 2;  $n = 197$ ) completed questionnaires assessing political liberalism, political sophistication, and individual differences reflective of the four proposed needs. As predicted, correlation and hierarchical regression analyses in both Studies 1 and 2 indicated that political liberalism was related to Need for Inclusiveness, Need for Understanding, and Need for Change.

Avoidance of Decisional Commitment uniquely predicted political liberalism in Study 2; however, contrary to predictions, it was unrelated to political liberalism in Study 1. Furthermore, some of these relations were moderated by political sophistication, such that among individuals with a greater knowledge of politics, the relation between certain needs and liberalism was positive. To explore the role of situationally induced needs on political liberalism, each of the four proposed needs were manipulated in Study 3. Participants ( $n = 120$ ) completed one of five scrambled-sentence tasks (one for each need condition and control condition), measures of explicit and implicit political liberalism, political sophistication, and state and trait measures indicative of the four proposed needs. The manipulation did not successfully prime participants with the needs. Therefore, a replication of the analyses from Studies 1 and 2 was conducted on the dispositional needs. Results showed that Need for Inclusiveness, Need for Understanding, and Need for Change were linked with greater explicit and implicit political liberalism. Study 4 examined the effect of manipulated Need for Inclusiveness on participants' endorsement of political liberalism, independent of conservatism. Participants ( $n = 43$ ) were randomly assigned to a Need for Inclusiveness or control condition, and completed separate measures of political liberalism and conservatism, and political sophistication. Participants in the Need for Inclusiveness condition reported greater liberalism than those in a control condition; this effect was not moderated by political sophistication. Generally, the findings from this dissertation suggest that there might be other needs underlying political ideology, especially political liberalism. Thus, consistent with others' (Jost, Glaser et al., 2003a), individuals might adopt political liberalism as a way of gratifying certain psychological needs. Implications and future research are discussed.

## ACKNOWLEDGEMENTS

I am extremely grateful to my advisor, Dr. Carolyn Hafer, who over the last four years has shared with me remarkable guidance and feedback that I will cherish always. Her voice has become a permanent fixture in my head, a reassuring sense of support and encouragement, to challenge myself and consider not only the small details, but to step back and critique the big picture. Carolyn, thank you! I hope you will always know how much I greatly appreciate you and everything (and there are far too many things to list here) you have done for me. I am sorry to say, you will never be rid of me.

Thank you to my committee members, Dr. Michael Ashton and Dr. Gordon Hodson, both of whom played a critical role in my PhD studies. Mike, your door was always open, and I definitely bombarded you with endless questions. No matter how busy you were, you always took the time to discuss (with fantastic dry humour I might add) various theoretical and statistical concepts with me – thank you so very much for your support and patience! And, Gordon, who has been an incredible mentor to me in several domains of my graduate studies – thank you! I have learned more than I can comprehend about teaching, advising, research, and writing from you. Thank you for your always thoughtful guidance and endless support.

I would also like to thank Dr. Nancy DeCourville for her invaluable advice on statistics, Dr. Stan Sadava for his unbelievable encouragement and permission to become a permanent fixture in his lab, and Linda Pidduck, Joanne Boekestyn, and Linda DiRaddo for answering more questions than any three people should ever have to answer. Thank you also to Ravi Gokani and Claire Shove for their assistance with data collection, and several grad students, some of the smartest and most wonderful people I have ever met,



for their friendship, guidance, encouragement, and fantastic support including Michael Busseri, Kelly Campbell, Julie Dempsey, Leanne Gosse, Julie Pozzebon, PJ Sangalang, Beth Visser, and Narnia Worth. You are all truly amazing!

Finally, I would like to thank my family and friends. Thank you to my parents who taught me to always put in a 110%, to try my hardest and give my best, regardless of the outcome. You showed me how enjoyable learning is, and how much fun it is to be a perpetual student. Thank you to my sister Lexy, who I adore, for always telling me how proud you were of me and always making me laugh. And to my many friends and extended family, including my aunts, uncles, cousins, amazing in-laws, Kath and Dan, sister-in-laws, brother-in-laws, and nephews and nieces, yes! I am almost done. And, last but not least, thank you to my husband Craig, who has made me more cups of tea than I dare to count, listened to more papers, ideas and presentations, and been subjected to my “uniform” of plaid pyjama pants and hoodie for weeks, or rather years at a time, thank you, you have been so supportive and encouraging; there is no way I would have ever finished without you.

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## INTRODUCTION

“All of us, liberal or conservative, feel as though we've reached our political opinions by carefully weighing the evidence and exercising our best judgment. But it could be that all of that careful reasoning is just after-the-fact self-justification” (Klein, 2006).

Klein was reflecting on a longitudinal study by Block and Block (2006) that examined the relation between participants' preschool personality and their political orientation assessed 20 years later. Results of the longitudinal study showed that preschool children described as autonomous, expressive, and resourceful tended to be politically liberal in their 20s. In contrast, preschool children described as uncomfortable with uncertainty, inhibited, and rigid tended to be politically conservative two decades later. The implications of Block and Block's (2006) findings, as articulated in the above quote, are that one's political ideology might be, at least in part, independent of one's controlled, purposeful thoughts. Building on previous research (e.g., Block & Block, 2006; Jost, Glaser, Kruglanski, & Sulloway, 2003a; Jost, Napier, Thorisdottir, Gosling, Palfai, & Ostafin, 2007; Thorisdottir, Jost, Liviatan, & Shrout, 2007), the primary objective of the present dissertation is to investigate the role of chronic as well as situationally induced psychological needs or motivations in predicting political ideology, in particular, political liberalism.

### Overview

The present research will investigate why people adopt certain political ideologies (i.e., liberal vs. conservative). To address this issue, four studies will examine what chronic social-cognitive needs or motives relate to ideological preferences and whether situational influences that heighten these needs can motivate people to gravitate in favour of liberalism versus conservatism.

Previous research examining political ideologies has found that political conservatism is associated with a number of social-cognitive needs (e.g., Altemeyer, 1998; Fibert & Ressler, 1998; Jost et al., 2007; Kimmelmeier, 1997; Tetlock, 1984; Thorisdottir et al., 2007). In a meta-analytic review, Jost, Glaser et al. (2003a) employed a motivated social cognition approach in order to examine the influence of both individual differences and situational factors on conservatism. These researchers hypothesized that individuals embrace conservative ideologies to fulfill a number of social-cognitive needs or motives. While their review demonstrates the substantial body of evidence concerning political conservatism, it is clear that individual differences and situational factors reflective of social-cognitive needs or motives associated with political liberalism have largely been unexplored in the literature. That is, by focussing on the political conservatism side of the spectrum, and not considering the political liberalism side, there might be other needs of political orientation that have been overlooked.

The first two studies in this dissertation aim to fill this gap in the research by investigating chronic individual differences reflective of social-cognitive needs or motives that might relate to political liberalism. Psychological theories of ideology, research examining political conservatism, and experimental research examining differences between liberals and conservatives suggest that there are four main groups of psychological needs associated with political liberalism: Need for Inclusiveness, Need for Understanding, Need for Change, and Avoidance of Decisional Commitment. Findings from the first two studies will help illuminate the types of needs related to political liberalism.

To adequately understand why people embrace particular ideologies, it is essential to examine the effects of situational factors that heighten social-cognitive needs or motives associated with liberalism, in addition to chronic individual differences reflective of these needs. To investigate this issue, the needs proposed to be associated with liberalism will be used as manipulated independent variables in Studies 3 and 4. I predict that situations characterized by needs associated with liberalism will elicit greater endorsement of liberalism. For example, if a Need for Inclusiveness is related to liberalism, then a situational manipulation producing high versus low Need for Inclusiveness should be associated with increased endorsement of a liberal ideology in the high need condition. Therefore, the aim of the third and fourth studies is to examine the effects of situational factors indicative of needs associated with liberalism on the endorsement of a liberal ideology. Study 4 will address this question by employing separate measures of political liberalism and political conservatism in order to test whether Need for Inclusiveness is distinctly linked with political liberalism. In summary, the present research will provide insight into how political ideologies, especially liberalism, fulfill chronic individual difference as well as situationally induced needs.

This dissertation will first review psychological theories associated with liberalism and conservatism. Then, a motivated social cognition perspective, which is used as a framework for investigating the dispositional (Studies 1 and 2) and situational (Studies 3 and 4) needs that influence individuals' endorsement of liberalism, will be discussed. Hypotheses concerning the needs related to political liberalism will then be generated from psychological theories of ideology, empirical research on conservatism,

and experimental research on differences between liberals and conservatives. Finally, an overview of the potential moderating role of political sophistication will be presented.

### Psychological Theories of Political Ideology

This section will focus on psychological theories of political ideology that propose reasons for why individuals adopt liberal or conservative ideologies. Ideology can be defined as, “an interrelated set of moral and political attitudes that possesses cognitive, affective, and motivational components ... ideology helps to explain why people do what they do; it organizes their values and beliefs and leads to political behaviour” (Jost, 2006, p. 653; Tedin, 1987). According to Kerlinger (1984), conservatives typically value ideals such as religion, tradition, freedom (excluding equality), private property, established institutions, stability, and authority. In contrast, liberals tend to value change, social reform, equality, rights of minorities and women, internationalism, and government aid. More specifically, Kerlinger defined liberalism as,

a set of political, economic, religious, educational and other social beliefs that emphasizes freedom of the individual, constitutional participatory government and democracy, the rule of law, free negotiation, discussion and tolerance of different views, constructive social progress and change, egalitarianism and the rights of minorities, secular rationality and rational approaches to social problems, and positive government action to remedy social deficiencies and to improve human welfare (Kerlinger, 1984, p. 15).

And defined conservatism as,

a set of political, economic, religious, educational, and other social beliefs characterized by emphasis on the status quo and social stability, religion and

morality, liberty and freedom, the natural inequality of men, the uncertainty of progress, and the weakness of human reason. It is further characterized by distrust of popular democracy and majority rule and by support of individualism and individual initiative, the sanctity of private property, and the central importance of business and industry in the society (Kerlinger, 1984, p. 17).

The present dissertation will employ a motivated social cognition approach in an attempt to understand why individuals adopt liberal ideologies. However, to understand why this approach is most suited for the present research, an examination of other psychological theories of ideology is necessary. Thus, this section will begin with a discussion of psychological theories explaining both liberalism and conservatism, then move to a discussion of theories of conservatism, and conclude with an overview of the approach to be employed in the present dissertation, a motivated social cognition approach.

### *General Psychological Theories of Political Ideology*

Few psychological theories investigating ideology examine the origins of ideologies in general. Kruglanski's (1989) lay epistemic theory, a cognitive theory, is one exception. According to lay epistemic theory, subjective knowledge and beliefs are formed in a two stage process of active information-seeking consisting of information generation and testing. The process by which knowledge and beliefs become more permanent depends on epistemic motivations. According to Kruglanski (1989), there are four types of epistemic motivations. The first is a need for non-specific closure representing a desire for a concrete and final belief regardless of what that belief might be (e.g., need for cognitive closure). Second, the need for specific closure represents the

desire for a concrete belief about something in a specific direction (e.g., want to believe you did well on the test). Next, a need to avoid non-specific closure represents a desire to avoid forming any concrete beliefs (e.g., prefer ambiguity, confusion, or open-mindedness; Kruglanski, 1990). Lastly, a need to avoid specific closure represents the desire to avoid accepting something specific (e.g., want to avoid believing that you did poorly on a test). Many factors could foster these motivations and these factors could vary depending on the person, the situation, and the culture. Although lay epistemic theory could be applied to either liberalism or conservatism, this theory and its emphasis on a need for cognitive closure has been primarily explored in explaining political conservatism (e.g., Jost, Glaser et al., 2003a; Jost, Kruglanski, & Simon, 1999; Kruglanski & Webster, 1996). Specifically, according to lay epistemic theory, individuals high in a need for cognitive closure should prefer an ideology that provides clarity and definitive answers. A conservative ideology might provide this definitiveness.

Tomkins' (1963, 1965, 1987, 1995) theory of ideo-affective polarity also examines the origins and implications of both left- and right-wing ideologies. The theory emphasizes the importance of affect and motivation in ideology formation. Tomkins (1965, 1995) maintained that ideological belief systems pertain to all areas of peoples' lives and knowing how they think about one area (e.g., education) allows you to predict how they think about another (e.g., health care). According to this theory, individuals who believe that people are essentially good and that society should help people grow, develop left-wing ideologies, assessed with the humanistic subscale of Tomkins' Polarity Scale. In contrast, individuals who believe people are essentially bad and that societies should set rules and demand responsible behaviour, develop right-wing ideologies,

assessed with the normative subscale of Tomkins' Polarity Scale. In support of Tomkins' theory, de St. Aubin (1996) reported that individuals who scored high on the normative subscale also scored higher on conservatism, whereas individuals who scored high on the humanism subscale scored higher on liberalism. Other researchers have found that individuals' score on the Polarity Scale correlates with their self-placement on an ideological continuum (Loye, 1977); and individuals' placement of Republican and Democratic political candidates was consistent with the normative-humanism distinction (Carlson & Brincka, 1987).

Another example of a psychological theory explaining both liberalism and conservatism is regulatory focus theory (Higgins, 1997, 1998), which asserts that ideological preference is dependent upon care-taking style. This theory identifies two psychological systems that are related to different kinds of goals. The promotion system governs those goals concerned with a person's advancement, growth, and aspirations (i.e., nurturance-related regulation). Promotion care-taking styles are characterized by encouragement and include an emphasis on positive outcomes and withholding love as a form of discipline. The prevention system governs those goals concerned with a person's safety, security, and responsibilities (i.e., security-related regulation). A prevention care-taking style is characterized by protection including an emphasis on avoiding negative outcomes and the use of punishment as a form of discipline. Thus, depending on care-taking style, prevention versus promotion, individuals will develop different ideological orientations such that individuals exposed to a promotion care-taking style are predicted to adopt more liberal ideologies, and individuals exposed to a prevention style of care-taking are thought to develop more conservative ideologies. In support of this theory,



research has shown that framing events as prevention versus promotion focussed leads individuals to embrace a cognitively conservative orientation versus a more open orientation (Crowe & Higgins, 1997; Liberman, Idson, Camacho, & Higgins, 1999).

Some theories that account for the endorsement of all ideological orientations have overwhelmingly been applied to conservatism: one example is Terror Management Theory (Greenberg, Pyszczynski, & Solomon, 1986). Terror management theory proposes that cultures and worldviews serve to buffer anxiety stemming from a fear of death. Specifically, Greenberg et al. (1986) claim that if mortality is salient, one's particular worldview (e.g., liberalism or conservatism) will become more deeply endorsed in order to buffer this anxiety. Although terror management theory hypothesizes that mortality salience will foster stronger liberal or conservative ideological convictions depending on an individuals' pre-existing tendency, this theory has primarily been applied to conservative ideology. For example, in support of terror management theory, research has shown that when mortality is salient, conservative individuals do behave more conservatively (Greenberg et al., 1990; but see Jost, Fitzsimons, & Kay, 2004).

A theory that is much more specific to political ideology is the ideologue hypothesis (Rokeach, 1956, 1960). The ideologue hypothesis was proposed to counter the rigidity of the right hypothesis. Essentially, the rigidity of the right hypothesis (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950) is a theory of conservatism that suggests that individuals adopt conservative ideologies in an effort to cope with psychodynamic conflicts originating from childhood. According to this hypothesis, adopting a conservative ideology involving rigid thinking, such as viewing issues as dichotomous, meets ego-defensive needs. In contrast, the ideologue hypothesis suggests that the rigidity

of the right hypothesis ignores the authoritarianism of those on the extreme left, and thus maintains that individuals on the extreme left and right of the political spectrum are more similar to each other than individuals in the centre (i.e., moderates) (Rokeach, 1956, 1960; see also Altemeyer, 1996 and Tetlock, 1984 for a discussion).

Both the ideologue and rigidity of the right hypotheses operate on the assumption that it is possible to examine political beliefs with a single left-right continuum (Tetlock, 1989). However, Tetlock (1989) points out that it is relatively easy to find people who are liberal on social policies and conservative on others. For instance, Johnson and Tamney (2001) found two groups of conservatives: social conservatives and economic conservatives. This observation suggests that a uni-dimensional continuum fails to assess important differences among individuals' political ideologies. Tetlock (1989) proposed that in order to adequately understand and research political ideology, a model must account for multidimensional variations in political attitudes (i.e., assess political ideology beyond a single continuum), focus on social-cognitive processes that foster complex political thought, and yield specific hypotheses concerning political ideology and various domains. The value pluralism model aims to fulfill these three objectives.

The value pluralism model assumes that the major ideological movements vary in the importance they denote to values such as individual freedom and social equality (Tetlock, 1983, 1984, 1989). Whereas conservatives attach most value to individual freedom, liberals are thought to appreciate numerous values that are often in competition with one another. In other words, liberals often have values such as individual freedom competing with social equality values. For example, a liberal might assign high value to universal health care and lowering taxes. Therefore, liberals (i.e., those who subscribe to

pluralistic ideologies) might be forced to use integratively complex thought in order to satisfy their many competing values (Tetlock, 1983, 1984, 1989). This explanation would account for the reported higher use of cognitively complex statements by liberals compared to conservatives (e.g., Tetlock, 1983).

Most of the theories of ideology described so far (lay epistemic theory, ideoaffective polarity theory, regulatory focus theory, terror management theory, the ideologue hypothesis, and the value pluralism model) account for the origins of both liberalism and conservatism, yet research on these theories tends to focus on understanding political conservatism to the exclusion of liberalism. Further, an even greater number of psychological theories of ideology are more specific theories of political conservatism. These theories are reviewed next.

### *Theories of Conservatism*

Most theories investigating ideology focus entirely on conservatism. Many have suggested that the two core aspects of political conservatism are resistance to change and acceptance of inequality (e.g., Bobbio, 1996; Conover & Feldman, 1981; Jost, Glaser et al., 2003a; Kerlinger, 1984). This section will outline theories of conservatism including personality theories, cognitive theories, and socio-political theories.

The general principle of personality theories is that a politically conservative orientation is the result of basic personality traits. The rigidity of the right hypothesis was one of the first theories of ideology derived mainly from studies on an authoritarian personality (Adorno et al., 1950). One of the most recognized theories associated with a conservative orientation and the rigidity of the right hypothesis is right-wing authoritarianism (RWA). This theory states that social learning (e.g., from interaction

with parents, peers, etc.) emphasizing submission to authority, aggressiveness, and conventionalism contributes to an authoritarian outlook (Altemeyer, 1981, 1988, 1996). According to Altemeyer (1981, 1988, 1996), RWA is an ideology characterised by a high degree of submission to legitimate authority, aggressiveness, and adherence to social norms. Research supporting this theory has demonstrated that individuals high in RWA are more likely to be conservative, hold prejudicial attitudes, blame victims, sanction illegal actions by governments, have parents who frequently spanked them and had higher levels of parental anger (Altemeyer, 1981, 1988, 1996, 1998), contest abortion rights, diversity, and services for the homeless (Peterson, Doty, & Winter, 1993), and use punitive parenting techniques (Peterson, Smirles, & Wentworth, 1997). Although this ideology is characteristic of some conservatives, authoritarianism is not synonymous with conservatism (Crowson, Thoma, & Hestevold, 2005). For example, Crowson et al. (2005) argued that RWA is best conceptualized as a type of conservatism, but not necessarily characteristic of all conservatives.

Similarly, the theory of intolerance of ambiguity (Frenkel-Brunswik, 1949) suggests that certain individuals tend to rely on things and ideas that are familiar to them and utilize stereotypes to eliminate perceptions of ambiguity. Frenkel-Brunswik (1949) reported an association between intolerance of ambiguity and rigid social categorizing as well as prejudice. Some research has supported Frenkel-Brunswik's (1949) theory. For example, researchers have found a relationship between intolerance of ambiguity and authoritarianism (Fibert & Ressler, 1998). Intolerance of ambiguity is thought to be characteristic of individuals who hold conservative ideologies.

Finally, according to the dynamic theory of conservatism as uncertainty avoidance (Wilson, 1973), conservatism can be viewed as the outcome of genetic and environmental factors related to fear and anxiety. Wilson (1973) asserted that people who are more susceptible to experiencing threat or anxiety brought about by uncertainty tend to adopt a conservative attitude. Evidence for his theory has shown that individuals high in conservatism prefer less complex and less ambiguous stimuli (e.g., Gillies & Campbell, 1985; Glasgow & Cartier, 1985). In summary, several different theories maintain that conservative ideologies are linked with specific personality traits or individual differences such as RWA, intolerance of ambiguity, and uncertainty avoidance.

In contrast to the personality theories, some theories of conservatism are socio-political in nature and emphasize societal-level factors and the various ideological and/or psychological functions political conservative ideologies perform. One of the most well known of these theories is social dominance theory (Pratto, Sidanius, Stallworth, & Malle, 1994; Sidanius & Pratto, 1999). Social dominance theory states that people seek to minimize group conflict using ideological beliefs that rationalize the dominance of one group over another (i.e., hierarchy-enhancing myths). According to social dominance theory, the ideological belief in the supremacy of certain groups over others is determined by both biology and socialization. Pratto et al. (1994) created a scale to measure individual differences in social dominance beliefs. Individuals scoring high on the Social Dominance Orientation (SDO) Scale exhibit a high desire to preserve the existing dominance of high-status groups, or a preference for inequality in intergroup relations. In support of social dominance theory, research has shown that high scores on SDO relate to

high scores on variables such as prejudicial attitudes, conservatism, beliefs in sexism, and opposition to women's rights, gay and lesbian rights, and support for military programs (Altemeyer, 1998; Pratto et al., 1994).

Another socio-political approach to conservatism is system justification theory (Jost & Banaji, 1994; Jost & Burgess, 2000; Jost & Hunyady, 2002; Jost, Pelham, & Carvalho, 2002). System justification theory predicts that people should be motivated to defend their social system even if they are victims of it (e.g., low income individuals in need of publicly funded health care defending conservative policies promoting private health care). System justification theory is based in part on cognitive dissonance theory (Festinger, 1957) and just world theory (Lerner, 1980). For example, the theory states that when individuals are confronted with a system that conflicts with their personal goals they might minimize their dissonance by increasing their support of the same system that oppresses them (e.g., a female accounting student endorsing stereotypes that women are poor at math compared to men). This action in turn maintains the status quo and inequality (Jost, 1995). In summary, system justification theory tries to explain why people support a social system that sustains their disadvantaged group status or conflicts with their personal or group's needs. One example of a system justifying ideology is political conservatism (i.e., involving rationalization of the status quo and acceptance of inequality). In recent years, a growing body of research has supported system justification theory. Support includes research demonstrating that members of disadvantaged groups tend to accept and legitimize their situation (Haines & Jost, 2000) and provide ideological support for the social system (e.g., conservative ideologies) that maintains their marginalized status (Jost, Pelham, Sheldon, & Sullivan, 2003).

According to Jost, Glaser et al. (2003a), current theories of political conservatism are insufficient for investigating the psychological origins of political ideology. They propose that a motivated social cognition approach would effectively unify diverse theories and findings concerning political conservatism.

### *Motivated Social Cognition*

According to a motivated social cognition approach (Kruglanski, 1996), motivational and cognitive systems are theoretically independent and address unique areas; however, because elements of both systems are “inextricably intertwined” (p. 493) it is impractical to separate them (Kruglanski, 1996). These systems are linked in that motivation has cognitive elements and cognition has motivational elements. Specifically, motivational variables such as arousal, rewards, and interests influence cognition (Kruglanski, 1996). For example, high interest in a topic will determine how much a person thinks about that topic (e.g., Cacioppo & Petty, 1982). Similarly, cognitive variables such as encoding, memory retrieval, and judgment influence motivation (Kruglanski, 1996). For example, cognitive activity such as goal setting can foster an intrinsic motivation to attain a particular goal (Kruglanski, 1996). In general, a motivated social cognition approach states that individuals’ motivations influence their thought processes in a variety of ways, and in turn their thought processes influence their motivations.

### *Motivated Social Cognition and Conservatism*

Motivated social cognition has been applied to a variety of topics; however, Jost, Glaser et al. (2003a) are the first to use it to examine political ideology. They argue that certain epistemic, existential, and ideological needs are all related to the expression of

political conservatism. According to these authors, epistemic needs or motives such as uncertainty avoidance, intolerance of ambiguity, and need for cognitive closure lead to conservatism because they influence how individuals overcome feelings of uncertainty and fear. Similarly, existential needs or motives such as fear of death and prevention of loss lead to conservatism because these needs foster a resistance to change in order to reduce a sense of uncertainty and insecurity (Jost, Glaser et al., 2003a). Finally, ideological needs or motives underlying conservatism such as system justification serve to reduce feelings of uncertainty and relieve feelings of threat and worthlessness (e.g., Abelson, 1995; Altemeyer, 1998). Based on theoretical and empirical considerations, Jost, Glaser et al. (2003a) concluded that the three types of needs emerge because of psychological efforts to cope with feelings of uncertainty and fear. The needs proposed in this model are hypothesized to relate to two core aspects of conservatism, resistance to change and sanction of inequality.

Jost, Glaser et al. (2003a) maintain that a motivated social cognition perspective will overcome two primary limitations of traditional theories of political conservatism. First, a motivated social cognition approach differentiates between psychological and ideological variables. Second, it can account for the influence of situational factors on ideology. The majority of theories to date examining political ideology ignore the influences of situational factors (e.g., threat, fear, etc., induced by specific events). In contrast, one of the main premises of the motivated social cognition approach to political conservatism is that politically conservative orientations are multiply determined by both situational and dispositional variables.



### *Individual Differences and Conservatism*

Jost, Glaser et al. (2003a) provide empirical support for the use of a motivated social cognition approach for investigating political conservatism. Most of the support provided by Jost, Glaser et al. (2003a) comes from meta-analyses of the relations between individual differences in needs and measures of political conservatism. These meta-analyses show considerable evidence for the notion that individuals adopt conservative ideologies in order to satisfy their feelings of uncertainty and fear. Overall, the meta-analytic review by Jost, Glaser et al. (2003a) found that conservatism was associated with a number of individual difference variables related to *epistemic* needs such as intolerance of ambiguity (e.g., Wilson, Ausman, & Mathews, 1973), openness to experience (e.g., Jost & Thompson, 2000; Pratto et al., 1994; Van Hiel & Mervielde, 2004), need for cognitive closure (e.g., Jost et al., 1999), and lower levels of integrative complexity (e.g., Hinze, Doster, & Joe, 1997; Sidanius, 1984, 1985, 1988; Tetlock, 1984). For example, research has shown that conservatives prefer less complex paintings (Wilson et al., 1973), simple poems (Gillies & Campbell, 1985), and plausible versus implausible literary texts (McAllister & Anderson, 1991). The meta-analyses also supported the notion that conservatives have a personal need for order and structure (e.g., Altemeyer, 1998) and need for cognitive closure (e.g., Webster & Kruglanski, 1994). For example, need for cognitive closure is associated with preservation of the status quo (Golec, 2001, as cited in Jost, Glaser et al., 2003a; see Golec de Zavala & Van Bergh, 2007) and authoritarianism (Webster & Kruglanski, 1994).

Additionally, the meta-analytic review by Jost, Glaser et al. (2003a) found conservatism to be associated with several individual differences reminiscent of the

hypothesized underlying *existential* needs such as fear, anger and aggression (e.g., Lavine, Polichak, & Lodge, 1999, as cited in Jost, Glaser et al., 2003a), as well as pessimism, disgust, and contempt (e.g., Carlson & Brincka, 1987; Williams, 1984). For example, Altemeyer (1998) found a positive relation between individuals' recall of their parents' anger and their reported level of authoritarianism.

In summary, there are a number of individual differences that relate to political conservatism, and many of these individual differences can be interpreted as indicators of the various social-cognitive needs that Jost, Glaser et al. (2003a) propose influence individuals' adoption of a politically conservative ideology. Recall that a motivated social cognition approach also contends that situational variables that increase the salience of certain needs contribute to political conservatism. Thus, the next section will focus on the relationship between situational variables and a politically conservative ideology.

#### *Situational Influences on Conservatism*

There is evidence that situational variables can, in general, impact ideology. For example, Kim and Fording (2001) analysed shifts in voter ideology in 13 western democracies from 1952 to 1989. They found that inflation was an important predictor of political ideology. Specifically, increases in inflation predicted increases in support of the political ideology of the party not in power. Further, the political party ideology of neighbouring countries also had an influence on voter ideology such that voters tended to support ideologies characteristic of parties like those in power of neighbouring countries. Also, international tensions influenced voter political ideology and varied across time. For example, Kim and Fording found that whereas the Cold War shifted voter ideology to

the right, the 1970s saw a shift to the left. These results imply that situational variables do impact people's political ideology.

Jost, Glaser et al. (2003a) theorized that situations salient in needs related to conservatism will increase individuals' endorsement of a conservative ideology. Their meta-analysis showed strong support for this hypothesis. Specifically, they found that various situationally induced needs such as threat to self-esteem (e.g., Sales & Friend, 1973), fear, anger, and aggression (e.g., Lavine et al., 1999, as cited in Jost, Glaser et al., 2003a), fear and prevention of loss (e.g., Crowe & Higgins, 1997), fear of death (e.g., Greenberg et al., 1990), and threats to the stability of the social system (e.g., Doty, Peterson, & Winter, 1991; Rickert, 1998; Sales, 1972; 1973) fostered endorsement of conservatism or orientations associated with conservatism. For example, framing events in terms of losses (e.g., Liberman et al., 1999) and providing false negative feedback (e.g., Sales & Friend, 1973) increase conservatism. Lavine et al. (1999, as cited in Jost, Glaser et al., 2003a), for instance, gave participants messages that either emphasised the rewards of voting or the costs of not voting five days prior to the 1996 U.S. presidential election. They found that those high in authoritarianism were influenced more so by the cost messages, whereas those low in authoritarianism responded to reward messages. Further, Crowe and Higgins (1997) successfully fostered a prevention focus by stressing losses rather than gains. This focus was associated with conservative and repetitive responses, greater likelihood to give up on a task, and poorer performance on complex tasks. Finally, research has shown that manipulating a high need for cognitive closure is related to social stereotyping (Kruglanski & Freund, 1983) and rejecting individuals who

express opinions that deviate from the group (Kruglanski & Webster, 1991), behaviours which could be considered characteristic of conservatism.

In addition to research cited in Jost, Glaser et al.'s (2003a) review, Jost et al. (2004) studied the impact of situational variables on ideology. Specifically, Jost et al. (2004) examined the effects of mortality salience on individuals' endorsement of conservatism. Participants were exposed to either a mortality salience condition or a control condition, and then their opinions concerning current political issues were assessed. Terror management theory would predict that liberals would become more liberal following mortality salience and conservatives would become more conservative. In contrast, system justification theory and Jost, Glaser et al.'s (2003a) motivated social cognition approach would predict that both liberal and conservative individuals would become more conservative following a mortality salience prime. Results showed that regardless of their political orientation, all participants tended to become more conservative when mortality was salient, suggesting that situationally induced existential factors can influence the expressions and endorsement of conservative political ideology.

Moreover, using time-series analyses Willer (2004) found that increased terror warnings were related to higher (although short lived) approval ratings for George W. Bush. Presumably, the terror warnings served as a mortality prime, fostering greater endorsement of conservatism. Similarly, Landau et al. (2004) examined the influence of reminders of 9/11 on support for government leaders. Their results (Study 3) showed that participants who were asked to write about 9/11 reported greater support for President Bush compared to those in a control condition (see also Cohen, Ogilvie, Solomon, Greenberg, & Pyszczynski, 2005).

In summary, research supports Jost, Glaser et al.'s (2003a) motivated social cognition approach by showing that conservative ideology is associated with both individual differences and situational variables that presumably reflect the needs hypothesized to underlie conservatism. However, their interpretation of the literature is not without criticism. Greenberg and Jonas (2003) for example, disagree with the notion proposed by Jost, Glaser et al. (2003a) that individuals manage uncertainty and fear by adopting a conservative ideology. Instead, Greenberg and Jonas state that individuals could adopt a rigid ideology, left-wing or right-wing, to manage uncertainty and fear. In particular, they propose that the differences in ideology represent alternate strategies of coping with negative aspects of peoples' lives.

What is also clear from the Jost, Glaser et al. (2003a) review is that factors indicative of social-cognitive needs or motives associated with political *liberalism* have largely been unexplored. Although liberalism is often situated at the opposing end of conservatism on a continuum, it "is not just the opposite of conservative" (Kerlinger, 1967, p. 112). In other words, even though liberals and conservatives may show some opposing tendencies, they do not necessarily mirror one another on all inclinations. Previous researchers (e.g., Conover & Feldman, 1981; Kerlinger, 1967, 1984) have shown that antecedents of identifying oneself as politically liberal are often conceptually distinct from those predicting self-identification as a political conservative. Conover and Feldman (1981) concluded that liberals and conservatives have unique political perspectives, and that, "liberals and conservatives view the political world not from different sides of the same coin, but ... from the perspective of entirely different currencies" (p. 204). Thus, *some* of the psychological needs or motivations that

encourage individuals to adopt politically liberal ideologies might be different – not just opposite – from those that foster politically conservative ideologies (this is examined in more detail in Study 4 using separate measures of political liberalism and conservatism). The present dissertation will address the current concentration on political conservatism in the psychological literature by focussing on political liberalism using a motivated social cognition approach to political ideology.

#### Motivated Social Cognition Perspective and Political Liberalism

A motivated social cognition approach predicts that various chronic needs or motivations and situational influences that heighten these needs encourage individuals to adopt a liberal ideology. However, unlike Jost, Glaser et al.'s (2003a) motivated social cognition analysis of conservative ideology in which there are numerous theories and empirical findings to guide hypotheses about the needs underlying conservatism, there are relatively fewer theories and empirical studies from which to base similar hypotheses concerning liberalism. Consequently, hypotheses in this dissertation concerning liberalism are necessarily more exploratory. My hypotheses were constructed from three primary sources. The first source is general psychological theories of political ideology. Second, empirical research investigating political conservatism was also consulted (with the idea that research utilized variables that may offer some insight on individuals presumably low in liberalism). Finally, empirical research examining differences between liberals and conservatives, most of which is experimental, were used to generate hypotheses.

A review of the three literatures mentioned above led me to hypothesize that there are four groups of related psychological needs that are associated with political

liberalism. For the purpose of the present dissertation, I have labelled these categories: *Need for Inclusiveness*, *Need for Understanding*, *Need for Change*, and *Avoidance of Decisional Commitment*. The following section will outline existing evidence for the predicted relations.

### *Need for Inclusiveness*

The first social-cognitive need proposed to be associated with political liberalism is a Need for Inclusiveness, or a desire to nurture and assist others, and be inclusive rather than exclusive. This group includes related needs such as a need for nurturance, need for inclusion, and need for affiliation. The prediction that liberals will be higher in these related needs is based on theories of ideology (e.g., ideo-affective polarity theory, Tomkins, 1963, 1965, 1987, 1995), empirical research examining political conservatism (e.g., Peterson et al., 1993), and research examining differences between liberals and conservatives (e.g., Skitka, 1999).

### *Need for Nurturance*

According to some theories of ideology, it is likely that liberals have a higher need for nurturance compared to conservatives. For example, ideo-affective theory (Tomkins, 1963, 1965, 1987, 1995) states that individuals who believe people are good and that society should help people grow develop liberal ideologies, implying that liberals have a greater need for nurturance. Also, regulatory focus theory (Higgins, 1997, 1998) claims that individuals exposed to a promotion care-taking style, which governs goals concerned with advancement, growth, and aspirations, will develop a promotion focus, or more liberal ideology. Exposure to this care-taking style would likely promote a need for nurturance because of the emphasis on fostering growth and accomplishment.

Empirical research focussing on conservatism provides additional evidence that liberals have a higher need or motivation for nurturance. Research has shown that individuals who score high on the normative subscale of Tomkins' (1964) Polarity Scale express greater disgust and less sympathy towards welfare recipients compared to those low on the normative scale (e.g., Williams, 1984). Furthermore, other research (e.g., Peterson et al., 1993) has found that higher authoritarianism is associated with opposition to services for groups such as AIDS patients and the homeless. Also, Pratto et al. (1994) found that individuals scoring low on SDO had greater concern for others. Given that liberals can be expected to score lower on authoritarianism (as authoritarianism and conservatism are positively related; Crowson et al., 2005), SDO (as SDO and conservatism are positively related; Pratto et al., 1994), and on the normative scale compared to conservatives (e.g., Peterson et al., 1993; Williams, 1984), these results suggest that liberals might have a greater need for nurturance.

Research on differences between liberals' and conservatives' responses to social and political situations also provides substantial evidence that liberals have a greater need for nurturance. One research area that provides a great deal of support is the literature demonstrating that liberals are more likely to experience sympathy for and more likely to be in support of, or provide assistance to, others in need of aid compared to conservatives (e.g., Feather, 1985; Kluegel, 1990; Pellegrini, Queirolo, Monarrez, & Valenzuela, 1997; Reyna, Henry, Korfmacher, & Tucker, 2005; Skitka & Tetlock, 1992; 1993; Sniderman & Tetlock, 1986). For example, a study conducted by Skitka, McMurray, and Burroughs (1991) examined how conservatives' and liberals' attributions of responsibility for the Persian Gulf War and affective reactions influenced their willingness to provide post-war



assistance to Iraq and Kuwait. Liberalism was found to be related to providing aid to both Iraq and Kuwait, a lower likelihood of attributing Iraqi responsibility for the war, and more sympathy for the Iraqi people compared to conservatives. Furthermore, in a multiple regression analysis, liberalism (and not RWA), predicted providing aid to Iraq, over and above attributions of Iraqi responsibility for the war.

A follow up study by Skitka and Tetlock (1992) found that the relation between political ideology and willingness to assist personally responsible claimants was dependent upon the availability of necessary resources. Results indicated that under scarcity, both liberals and conservatives denied aid to personally responsible claimants. However, conservatives did so in a more punitive style. Under scarcity, conservatives reported higher levels of negative affect for personally responsible claimants, whereas liberals tended to report greater feelings of sympathy for all claimants. Therefore, consistent with other research (e.g., Skitka et al., 1991), liberals and conservatives seem to diverge under conditions of no scarcity in their willingness to give aid and, overall, in their emotional reactions to claimants such that liberals are more sympathetic in general and more willing to give aid to everyone who needs help when they can (no scarcity). One interpretation of results showing that liberals are more sympathetic toward and provide more assistance to those in need, at least under scarcity, is that liberals do so because they have a greater desire to nurture others.

Although a need for nurturance seems plausible for explaining the above findings (Skitka et al., 1991; Skitka & Tetlock, 1992), there could be alternative explanations. One such explanation is that liberals “mindlessly” assist all claimants under no scarcity. Research conducted by Skitka and Tetlock (1993) however, does not support this

explanation. Specifically, their results showed that liberals continued to assist all claimants under no scarcity even when prompted to think carefully about each claimant.

A second alternative explanation is that liberals and conservatives follow a situational-script (i.e., practised ideological or attributional positions). To investigate this possibility, Skitka (1999) examined differences in providing aid in the event of a natural disaster, or an event that does not have predetermined scripts for liberals and conservatives. Skitka (1999) manipulated the responsibility of communities and individual claimants. Consistent with other research (e.g., Skitka & Tetlock, 1992, 1993), results showed that liberals were more in favour of providing aid in all forms (e.g., assisting with basic and secondary needs) and less likely to believe that responsibility rested on each community to cope with the disaster. Liberals were also more likely than conservatives to support providing aid and more likely to provide humanitarian aid to those (individuals and communities) who acted irresponsibly. Liberals viewed claimants who were less responsible as more deserving of aid than did conservatives. Similar patterns were found for communities. Generally, results suggested that liberals do not follow a situational-script because liberals continue to allocate more aid than conservatives even in the absence of predetermined scripts (see also Skitka, Mullen, Hutchinson, & Chamberlin, 2002).

Overall, theoretical and empirical evidence suggest that liberals have a greater need for nurturance. In particular, psychological theories of ideology including polarity theory (Tomkins, 1963, 1965, 1987, 1995) and regulatory focus theory (Higgins, 1997, 1998), empirical findings on conservatism, and findings from the differences between liberals and conservatives in responses to giving aid (e.g., Skitka et al., 1991; Skitka &

Tetlock, 1992, 1993) support the prediction that liberals have a greater need for nurturance.

### *Need for Inclusion*

The second concept in the category of Need for Inclusiveness I have called need for inclusion. Social dominance theory offers some theoretical support that those individuals who value equality (i.e., low SDO) have a higher need for inclusion. Recall that social dominance theory maintains that people attempt to minimize group conflict using ideological beliefs that rationalize the dominance of one group over another (i.e., utilize hierarchy-enhancing myths; Pratto et al., 1994; Sidanius & Pratto, 1999). Individuals high in SDO attempt to preserve the existing dominance of high-status groups. In other words, individuals who are high in SDO tend to be exclusive by denying low status groups rights and power; whereas individuals low in SDO might tend to be inclusive and attempt to secure equality for all individuals regardless of their in-group, out-group status. That is, individuals low in SDO might prefer hierarchy-attenuating myths, or beliefs that endorse intergroup equality (see Pratto et al., 1994). Given that high SDOs tend to be more conservative (Pratto et al., 1994), low SDOs are presumably higher in liberalism. Thus, individuals high in liberalism likely have a greater desire to be inclusive and to treat others equally.

There is also evidence that liberals are more inclusive than conservatives in the literature examining politically conservative ideologies. Crandall and colleagues (1994; Crandall & Biernat, 1990), for instance, reported that political conservatives tend to hold greater anti-fat attitudes compared to liberals. Further, research has found that individuals high on authoritarianism are higher on prejudicial attitudes (Altemeyer, 1981, 1988,

1996, 1998; Ekehammar, Akrami, Gylje, & Zakrisson, 2004; Esses & Hodson, 2006; Hodson & Esses, 2005; Sibley, Wilson, & Duckitt, 2007), and are opposed to diversity on university campuses (Peterson et al., 1993). Similarly, individuals who score high on SDO have been found to be high in prejudicial attitudes (Altemeyer, 1998; Esses & Hodson, 2006; Hodson & Esses, 2005; Sibley, Robertson, & Wilson, 2006; Sibley et al., 2007), be unsupportive of women's rights, racial equality, affirmative action, and gay and lesbian rights, and score lower on measures of tolerance (Pratto et al., 1994).

Furthermore, a study by Esses, Hodson, and Dovidio (2003) showed that resistance to an inclusive, one-group representation of immigrants and non-immigrants fully explained the link between SDO and negative attitudes toward immigrants. Therefore, individuals high in authoritarianism and SDO demonstrate behaviours and attitudes that could be characterised as exclusive, whereas individuals low in authoritarianism and SDO tend to demonstrate behaviours and attitudes that are inclusive in nature (see also Hodson, in press; Hodson, Choma, & Costello, 2008). To the extent that liberals are lower on RWA and SDO than are conservatives, liberals should have a higher need for inclusion.

Empirical research investigating differences between liberals and conservatives offers additional support for the prediction that liberals have a greater need for inclusion. Specifically, this body of research suggests that liberals tend to treat everyone equally, a behaviour that is indicative of inclusiveness. For example, the literature on the differences between liberals' and conservatives' aid allocation patterns discussed earlier (e.g., Skitka, 1999; Skitka, et al., 1991; Skitka & Tetlock, 1992) generally finds that liberals tend to be more inclusive and egalitarian than conservatives with their helping behaviour, often assisting as many claimants as possible when resources are not scarce

(e.g., Skitka & Tetlock, 1992). Liberals are also more egalitarian concerning their feelings towards others in that they experience sympathy for all claimants, regardless of their attributions of responsibility (e.g., Skitka & Tetlock, 1992).

Research showing that liberals tend to emphasize situational explanations for attributions of responsibility compared to dispositional ones also implies that liberals have a greater need for inclusion. For example, studies investigating explanations for poverty have consistently reported that conservatives attribute poverty, homelessness, and obesity to personal causes, whereas liberals rely on situational explanations and hold more positive feelings towards the poor and individuals who are overweight (e.g., Cozzarelli, Wilkinson, & Tagler, 2001; Crandall, 1994; Furnham, 1982; Pandey, Sinha, Prakash, & Tripathi, 1982; Pellegrini et al., 1997; Wagstaff, 1983; Williams, 1984; Zucker & Weiner, 1993). Additionally, there is evidence that liberals are simply less interested with assigning personal blame at all. For instance, Tetlock (1984) found that liberal politicians tended to be unconcerned with assigning blame for societal problems. Findings demonstrating that liberals emphasize situational attributions rather than dispositional ones implies that liberals have a greater need to be inclusive, given that situational attributions tend to de-emphasize the differences among people (i.e., people are similarly influenced by different situations) rather than highlighting enduring individual differences.

Experimental research conducted by Skitka et al. (2002) suggests that the egalitarian aid allocations, attributions, and sympathy exhibited by liberals might be the result of a cognitively effortful process, implying a motivation for inclusiveness rather than, for example, an unmotivated cognitive bias. More specifically, Skitka et al.

proposed the motivated correction hypothesis, which states that liberals and conservatives are equally likely to make personal attributions for social problems, but differ in their motivation to correct for their initial attribution about the causes. Liberals presumably correct for their initial attribution because it is inconsistent with their core values (e.g., equality) and motivations.

To provide evidence that liberals' correction was cognitively effortful, Skitka et al. (2002, Study 5) explored differences in willingness to provide public assistance as a function of a manipulation of the level of cognitive load. Results showed that liberals and conservatives seem to make similar automatic attributions for others' situations. Yet, liberals are motivated to change their initial attributions when they are in conflict with their ideological values (e.g., inconsistent with equality). These findings indicate that liberals' willingness to help might be the result of a cognitively effortful process, implying a motivation (possibly need for inclusion) rather than, for example, an unmotivated cognitive bias. This study provides evidence of liberals' strong adherence to egalitarian values and therefore a link between liberalism and a greater need for inclusion (see also Nail, Harton, & Decker, 2003).

A study by Mitchell, Tetlock, Newman, and Lerner (2003) examining the effects of varying levels of meritocracy on participants' judgements of justice suggests that the allegation that equality is one of the ideological values liberals hold is correct. Mitchell et al. manipulated meritocracy using three hypothetical societies. Participants were asked to judge the fairness of nine distributions of wealth for each type of society. Based on previous research (e.g., Rohrbaugh, McClelland, & Quinn, 1980), they predicted that in the society in which effort and ability represent half of a person's socioeconomic status,

liberals would value equality more than would conservatives, report meritocracy as lacking, and endorse greater equality. Results from Study 1 suggested that liberals, across varied meritocracy conditions (income inequality was justified, ambiguous, or unjustified), viewed more egalitarian distributions as fairer than did conservatives. Study 2 examined more specific elements of redistribution policies that affect an individual's perceptions of fairness. Results suggested that conservatives utilize an equity-based evaluation process when making fairness judgements of redistributions of wealth (e.g., reported a greater emphasis on workfare), compared to liberals who relied on making the classes more equal in terms of economic status, even if it meant using inefficient or wasteful strategies. One explanation for liberals' insistence on treating everyone equally could be a need for inclusion.

Evidence that liberals tend to be more tolerant of others is also consistent with the notion that liberals have a greater need for inclusion. Tetlock (1984), for example, reported that liberals tend to minimize differences among political parties and be tolerant of others' views. Having greater tolerance of others and their opinions might be characteristic of a greater need for inclusion.

In summary, research suggests that liberals tend to minimize differences among people rather than focussing on chronic individual differences, as illustrated in their tendency to treat people similarly in terms of aid and sympathy, utilize situational attributions, and endorse egalitarian justice norms. Results also imply that liberals are more tolerant of others and their opinions. These findings are consistent with liberals possessing a greater need for inclusion.

### *Need for Affiliation*

Another concept included in the overall Need for Inclusiveness category in addition to a need for nurturance and a need for inclusion, I have called need for affiliation. I propose that liberals have a higher motivation for affiliation compared to conservatives. Social psychological research on attraction and relationships supports this hypothesis. Research has shown that individuals like others who are similar (or perceived to be similar) to them, who reward them, and who like them (Alcock, Carment, & Sadava, 1998; see, e.g., Byrne, 1971). Research on the differences between liberals and conservatives demonstrates that liberals display several behaviours and attitudes that can be seen as examples of the factors that foster liking in others. For instance, providing aid is an example of reward, and feeling sympathy (e.g., Skitka & Tetlock, 1992, 1993) could be an example of liking others. Further, having inclusive or tolerant attitudes could also be indicative of liking others (e.g., Bierbrauer & Klinger, 2002; Cozzarelli et al., 2001; Nail et al., 2003; Pellegrini et al., 1997). These attraction-related behaviours and attitudes in liberals might be partly indicative of a need to affiliate with others.

Empirical research on political conservatism also implies that liberals demonstrate behaviours that foster affiliation with others. For example, research by Altemeyer (1981, 1988, 1996, 1998) found that individuals high in RWA tended to blame victims and punish deviants more severely compared to individuals low in RWA. Individuals low in RWA might not blame victims and punish deviants severely because they view victims and deviants as more similar to themselves than individuals high in RWA. Further, individuals low in RWA and SDO tend to hold more tolerant attitudes (e.g., Altemeyer, 1996; 1998; Pratto et al., 1994). Thus, individuals high in liberalism (presumably those



low in RWA) might view others as similar to themselves because they have a greater need for affiliation.

### *Need for Understanding*

The second main group of social-cognitive needs proposed to be associated with political liberalism is Need for Understanding, or a desire for cognitive complexity and inquisitiveness, or a desire to understand one's social world. These needs might include a need for cognitive complexity and a need for inquisitiveness.

### *Need for Cognitive Complexity*

The first concept in the category Need for Understanding I have called need for cognitive complexity. Consistent with past research (e.g., Tetlock, 1983, 1984), I propose that liberals have a higher need for cognitive complexity compared to conservatives. Empirical research on conservatism is consistent with the notion that liberals are higher in a need for cognitive complexity. For instance, research has shown that cognitive flexibility is negatively related to political conservatism (Sidanius, 1985), and that individuals high in SDO and RWA report lower levels of attributional complexity (Altemeyer, 1998). Taken together, these results suggest that those low in conservatism, SDO, and RWA – presumably individuals higher in liberalism – have a higher need for cognitive complexity.

According to the rigidity of the right hypothesis (Adorno et al., 1950), individuals with a conservative ideology exhibit rigid thinking such as viewing issues as dichotomous in order to meet ego-defensive needs (see Tetlock, 1984). This theory suggests that liberals, in contrast, will have a greater need for cognitive complexity. Similarly, the value pluralism model discussed earlier states that liberals and

conservatives differ because they attach different levels of importance to values such as individual freedom and social equality (Tetlock, 1983, 1984, 1989). Conservatives attach most value to individual freedom whereas liberals are thought to attach equal importance to many values that are often in competition with one another. In order to cope with this competition, liberals might think in cognitively complex ways (Tetlock, 1984, 1989). That is, liberals may have a greater motivation for cognitive complexity to reconcile their competing values. In summary, both the rigidity of the right hypothesis and value pluralism model imply that liberals have a higher need for cognitive complexity.

Research by Tetlock (1983, 1984) has focussed directly on cognitive complexity in liberals and conservatives. For example, Tetlock (1983) analysed the integrative complexity of speeches given by U. S. senators. Integrative complexity refers to (1) cognitive differentiation, or the ability of a person to recognize many different parts of an issue, and (2) the integration of information, or the ability of a person to create complex connections among differentiated characteristics of an issue (Tetlock, 1983). Results showed that liberals and moderates reported significantly more complex policy statements than did conservatives. In addition, individuals' integrative complexity and education independently predicted liberalism. In a follow up study, Tetlock (1984) found that moderate liberal parliament members from Britain discussed issues with more integrative complexity than did extreme liberals, extreme conservatives and moderate conservatives. Overall, integratively complex politicians tended to be just politically left of the centre.

### *Need for Inquisitiveness*

The second concept in the category Need for Understanding I have called need for inquisitiveness. I propose that liberals have a greater need for inquisitiveness compared to conservatives. According to lay epistemic theory (Kruglanski, 1989), the process by which beliefs become more permanent depends on four epistemic motivations. One of these motivations is a need for non-specific closure. An example of a need for non-specific closure is need for cognitive closure, a need associated with political conservatism (e.g., Jost et al., 1999). Need for non-specific closure, such as cognitive closure, as discussed earlier, represents a desire for a concrete and final belief regardless of what that belief might be (Kruglanski, 1989). In support of lay epistemic theory, many researchers examining conservatism have found that high conservatism is associated with high scores on a measure of need for cognitive closure (e.g., Chirumbolo, 2002; Chirumbolo, Areni, & Sensales, 2004; Golec de Zavala & Van Bergh, 2007; Jost et al., 1999; Kimmelmeir, 1997). The finding that liberals are lower on need for cognitive closure suggests that liberals might be more likely to leave beliefs open while they seek out and consider various alternative possibilities. That is, liberals may have a greater motivation for inquisitiveness.

Finally, findings from the experimental literature on the differences between liberals and conservatives demonstrate that liberals tend to be more concerned with the reasons behind peoples' behaviour, another indicator of a need for inquisitiveness. Wanke and Wyer (1996) for example, investigated the influence of political ideology on reactions to others' behaviour and opinions. As predicted, liberals were more concerned with the underlying intentions of others' actions rather than the outcomes, and about what

peoples' behaviour implied about their opinions, compared to conservatives. Further, when asked to recall others' behaviour, liberals recalled better when instructed to consider the opinions underlying the behaviour, compared to when they were instructed to focus on the behaviour itself. Presumably, liberals performed better in the opinion-focussed condition because this focus is consistent with their typical information processing style (liberals tend to consider underlying causes of behaviour). These findings suggest that liberals could be more motivated than conservatives to consider antecedents of peoples' actions consistent with the notion that liberals have a greater need for inquisitiveness.

In summary, theory and empirical results indicate that liberals tend to be more integratively and cognitively complex (e.g., Tetlock, 1984), lower on need for cognitive closure (e.g., Jost et al., 1999) and more concerned with the underlying intention of others' actions (Wanke & Wyer, 1996). These ideas are consistent with the prediction that one of the groups of needs satisfied by a liberal ideology is a Need for Understanding, or a desire for cognitive complexity and inquisitiveness, and a need to understand the social world.

### *Need for Change*

The third main group of needs hypothesized to influence a liberal ideology I have called Need for Change. These needs might include a need for sensation-seeking or new experiences, need for change, and a need to rebel. Evidence for this need category originates from general psychological theories of ideology, empirical research on conservatism, and research examining birth order.

According to right-wing authoritarianism theory, high RWA is the result of social learning and personal experiences (Altemeyer, 1988, 1996). RWA is characterized by a high degree of submission to legitimate authority, aggression, and adherence to social norms (Altemeyer, 1981, 1996). Therefore, individuals low in RWA might be more likely to have a need to rebel against established social norms and authority. Moreover, recall that according to regulatory focus theory (Higgins, 1997, 1998), ideology is dependent upon care-taking style. Exposure to a promotion care-taking style is thought to foster a liberal ideology by emphasizing advancement and growth, which should presumably foster a preference for change. A prevention care-taking style should, in contrast, promote a preference for stability (see also Jost, Glaser et al., 2003a).

The theories of intolerance of ambiguity and uncertainty avoidance are also consistent with the prediction that liberals have a higher Need for Change; in so far as change involves an element of uncertainty and ambiguity. For instance, as discussed earlier, individuals higher on intolerance of ambiguity – who tend to be more conservative (Jost, Glaser et al., 2003a; Kohn, 1974) – rely on familiarity to reduce perceptions of ambiguity (Frenkel-Brunswik, 1949). Similarly, the theory of uncertainty avoidance (Wilson, 1973) claims that individuals susceptible to threat or anxiety brought on by uncertainty develop conservative ideologies. To the extent that liberals might show some opposing tendencies to conservatives, liberals are not *intolerant* of ambiguity or uncertainty. In other words, individuals high on intolerance of ambiguity or uncertainty might avoid change, whereas individuals low on intolerance of ambiguity or uncertainty, presumably individuals high on liberalism, might tolerate or seek out change.

There is empirical evidence that liberals have a Need for Change in studies on conservative ideologies reporting that individuals who endorse more conservative ideologies generally fear change (Jost, Glaser et al., 2003a). Research has shown that conservatives are less open to experience (e.g., Carney, Jost, Gosling, Niederhoffer, & Potter, 2006, as cited in Jost, 2006; Hodson & Sorrentino, 1999; Joe, Jones, & Ryder, 1977; Jost & Thompson, 2000; Pratto et al., 1994), lower on sensation seeking (Kish, 1973), higher on measures of uncertainty avoidance (e.g., Fay & Frese, 2000; Gillies & Campbell, 1985; Glasgow & Cartier, 1985; McAllister & Anderson, 1991; Wilson et al., 1973), higher on intolerance of ambiguity (Kohn, 1974), and higher on needs for order and structure (Altemeyer, 1998). Generally then, if conservatives fear change, it is possible that liberals, in contrast, are more motivated to change the status quo and seek out new experiences.

Research on birth order also suggests that liberals might have a greater need for change and rebellion. Sulloway (1996) noted that scientists who held liberal ideologies were more open to new scientific innovations compared to conservatives. He also noted that liberal theories tend to attract the support of younger individuals and later borns, a group known to be more rebellious and supportive of change.

Anecdotal evidence further implies that liberals have a greater Need for Change. For example, U. S. Senator and candidate for the Democratic nomination in the 2008 U.S. presidential election Barack Obama's entire campaign is based on change. Indeed, his website is called "Barack Obama: Change We Can Believe In." In summary, ideology theories stating that liberals are more tolerant of change, empirical research demonstrating that conservatives are lower on sensation-seeking and openness (e.g., see

Jost, 2006; Kish, 1973), birth order research (Sulloway, 1996), and anecdotal evidence indicating that liberals have a greater need to rebel support the prediction that liberals have a greater Need for Change.

#### *Avoidance of Decisional Commitment*

The final group of needs hypothesized to be associated with a liberal ideology I have called Avoidance of Decisional Commitment. This group of needs might include a fear of commitment and a fear of being wrong or a need for accuracy in one's decisions.

There is anecdotal evidence that liberals are high in needs that fall under the category of Avoidance of Decisional Commitment. Jost, Glaser et al. (2003a) used a quote by George Bush to illustrate the relationship among dogmatism, intolerance of ambiguity, and conservatism, "I know what I believe and I believe what I believe is right" (quote originally published in Sanger, 2001, p. A1). However, this quote also illustrates conservatives' ease of commitment to an idea and strong sense of conviction. In contrast, liberals have often been criticized for their inability to take a stand on an issue. For example, John Kerry, the Democratic leader in the 2003 U.S. presidential election was attacked for his lack of conviction. The Republican Party accused Kerry of "flip-flopping" (Schneider, 2004). George Bush was quoted as saying, "Senator Kerry has been in Washington long enough to take both sides on just about every issue." According to Schneider (2004), Kerry validated Bush's attacks by stating at a West Virginia town hall, "I actually did vote for the \$87 billion before I voted against it." Similarly, former Canadian Liberal Prime Minister Paul Martin was attacked for "waffling" on numerous issues from gay marriage to missile defence. Wilson-Smith (2004) described Prime Minister Paul Martin, as "the waffling figure we've seen as Prime

Minister-the one who's needlessly created new enemies, listened too much to thuggish advisers, and talked more than acted on big issues” (p. 6).

### *Fear of Commitment*

The first need in the category of Avoidance of Decisional Commitment I have labelled fear of commitment. There are several ideological theories that suggest that liberals have a fear of committing. These theories were discussed in previous sections. Briefly, right-wing authoritarianism theory (Altemeyer, 1996, 1998), the theory of intolerance of ambiguity (Frenkel-Brunswik, 1949), and the theory of uncertainty avoidance (Wilson, 1973) imply that conservatives have conviction and make commitments in an effort to reduce feelings of ambiguity and uncertainty. To the extent that liberals might tolerate feelings of ambiguity and uncertainty, they might do so because they fear committing to one decision or course of action. Lay epistemic theory (Kruglanski, 1989) is also consistent with this predication. Recall that lay epistemic theory states that the process by which beliefs become more permanent depends on four epistemic motivations. Two of these motivations, avoidance of specific closure and avoidance of non-specific closure could be particularly relevant for individuals high in liberalism and, if so, would be consistent with the prediction that liberals have a greater fear of commitment.

Empirical research from the political conservatism literature allows for the same proposal. For instance, in support of the theories mentioned above, research discussed earlier has shown that conservatives are higher on cognitive closure (e.g., Jost et al., 1999), uncertainty avoidance (e.g., Fay & Frese, 2000), and intolerance of ambiguity (e.g., Kohn, 1974). Research also shows that conservatives commit to decisions such as



prejudicial attitudes or stereotypes (e.g., Altemeyer, 1981, 1988, 1996, 1998; Pratto et al., 1994). Again, because conservatives appear to have a need to commit, it is possible that liberals, who might show some opposing tendencies, fear committing to a decision or course of action.

### *Fear of Being Wrong*

The second need in the category of Avoidance of Decisional Commitment I have called fear of being wrong. Both the ideology theories and the research on conservatism noted above, as well as implying that liberals have a fear of commitment, might also mean liberals have a greater fear of being wrong.

Findings from the literature on differences between liberals and conservatives in providing aid and endorsement of justice norms are also consistent with the prediction that liberals have a greater fear of being wrong than do conservatives. For example, recall that liberals provide aid to more claimants compared to conservatives (Skitka, 1999; Skitka & Tetlock, 1992, 1993), that this effect is mediated by feelings of sympathy (Skitka et al., 2002), and that liberals can be wasteful in order to redistribute wealth (Mitchell et al., 2003). In the section on Need for Inclusiveness, I proposed that these findings were indicative of a need for nurturance. Yet, they could also reflect that liberals fear being wrong about who is deserving or undeserving of wealth. Skitka and Tetlock (1993), for example, argued that liberals avoid deciding who should be helped. Perhaps, in order to avoid being wrong, liberals do not commit to aiding one group and instead help everyone equally.

Additionally, research on the motivated correction hypothesis indicates that liberals could have a greater fear of being wrong. According to Skitka et al. (2002),

liberals and conservatives will engage in a corrective process when their initial attribution is inconsistent with their core values. Specifically, they will engage in continued processing to correct their attributions, subsequently aligning their attributions with their core values. Skitka et al. examined and found support for this prediction among liberals. Although Skitka et al. proposed that liberals and conservatives are equally likely to engage in this corrective process, another possibility is that this corrective process is specific to liberals, perhaps reflecting that liberals change their initial attribution because they fear being wrong.

Lastly, literature examining commitment offers findings consistent with the prediction that liberals have a fear of being wrong. Brickman, Perloff, and Seligman (1989) stated that because commitment serves to reduce conflict between choices, the psychological effects of deciding between committing or not should be most apparent when the value of choices is equal. Drawing on the liberal/conservative literature, this scenario should be most probable for liberals because it is liberals who are most likely to experience a conflict between equally important values (e.g., value pluralism model, Tetlock, 1983, 1984, 1989). Therefore, according to the commitment literature, liberals should report a higher Avoidance of Decisional Commitment compared to conservatives. In summary, anecdotal evidence, the psychological theories of ideology, research on political conservatism and individual differences such as intolerance of ambiguity, differences between liberals and conservatives concerning aid and motivated corrections, and the commitment literature, are consistent with the possibility that liberals have an Avoidance of Decisional Commitment.

### *Summary of Proposed Needs Associated with Liberalism*

In summary, the main purpose of the present dissertation is to look for evidence of a relation between liberalism and the four proposed groups of needs outlined above: Need for Inclusiveness, Need for Understanding, Need for Change, and Avoidance of Decisional Commitment. Studies 1 and 2 of the present dissertation will focus on the relation between political liberalism and individual differences that are indicative of the various needs discussed in this Introduction. In addition to an examination of chronic needs, the present dissertation will explore the effects of situationally induced needs on individuals' endorsement of political liberalism. The influence of situationally induced needs on liberal ideology is discussed next.

### *Situational Influences on Liberal Ideology*

Although dispositional differences among people explain some of the variation in political ideology, they do not exhaustively account for why individuals adopt different political ideological orientations. According to a motivated social cognition perspective, situational variables also influence why individuals adopt liberalism versus conservatism.

As mentioned earlier, research from the conservatism literature has shown that high levels of certain situationally induced social-cognitive needs can increase peoples' endorsement of conservatism (e.g., Bonanno & Jost, 2006). Though not tested directly, some of these results might mean that low levels of these variables push people toward liberalism (not simply just away from conservatism). For example, McCann (1997) examined the victory margins for popular vote winners in U. S. Presidential elections. He found that winners rated high on his strength-conservatism measure tended to win by larger margins during years characterised by high social/economic/political threat;

whereas winners low on strength-conservatism tended to win by larger margins during years characterised by low threat. Therefore, insofar as liberals are low on strength-conservatism, McCann's findings imply that situations of low threat lead people to choose leaders who are higher in liberalism.

Although no studies directly test the effects of situational variables on liberalism, a study by Crowe and Higgins (1997) exploring regulatory focus theory (Higgins, 1997, 1998) offers some indirect evidence that situational variables do affect liberal ideologies. They investigated the effects of promotion focus versus prevention focus on participants' performance on various tasks. Their results showed that whereas a prevention focus led participants to adopt a cognitively conservative orientation, a promotion focus resulted in participants taking more chances to get correct answers, something that may underlie a more open or liberal orientation.

In summary, I predicted for this dissertation that situationally induced Need for Inclusiveness, Need for Understanding, Need for Change, and Avoidance of Decisional Commitment, similar to the chronic needs discussed in the previous sections, will increase individuals' levels of political liberalism. This prediction will be tested in Studies 3 and 4.

#### The Moderating Role of Political Sophistication

According to a motivated social cognition perspective, both cognitive and motivational factors contribute to an individual's political ideology, as outlined above. Political expertise or sophistication represents one particular cognitive variable that has been consistently linked with ideology (e.g., Converse, 1964; Judd & Krosnick, 1989; Zaller, 1992). Converse (1964) argued that ideological thinking was reserved for the

politically sophisticated or elite, which he operationalized as ideological consistency and stability. More specifically, Converse proposed that individuals could vary in their degree of horizontal constraint (i.e., “ideological consistency among attitudes toward different political issues”; Federico & Schneider, 2007, p. 232), as well as hierarchical constraint (i.e., consistency in the relations between individual issue positions with general ideology), with political elites demonstrating a greater degree of constraint.

Consistent with Converse’s (1964) original conclusions, several researchers have subsequently demonstrated that variables conceptually similar to political expertise including education level, political sophistication, and political awareness are associated with constraint and attitude consistency (e.g., Federico & Schneider, 2007; Jacoby, 1991; Judd & Krosnick, 1989; Lavine, Thomsen, & Gonzales, 1997; Luskin, 1987; Millar & Tesser, 1986; Zaller, 1992). For the most part, individuals higher in political expertise organize their political attitudes using abstract categories (e.g., liberalism or conservatism). In contrast, individuals who are lower in political expertise tend to be less inclined or able to organize their attitudes toward political issues utilizing abstract ideological constructs. Thus, the usefulness of the concepts liberal and conservative might be dependent upon one’s level of political sophistication (e.g., Bynner, Romney, & Emler, 2003; Converse, 1964; Jacoby, 1988).

With regards to the present dissertation, the evidence reviewed above suggests that the hypothesized relations between political liberalism and the four proposed needs might be moderated by political sophistication (e.g., Converse, 1964; Jacoby, 1991). Individuals higher in political sophistication can be expected to more accurately (by accurately I mean consistent with socially-shared definitions of liberalism and

conservatism) indicate their ideology on a single liberal-conservative continuum, whereas those lower in political sophistication might be less accurate or show a greater degree of error. As a consequence, the purer or error-free association between liberalism and the proposed needs might be observed among those who are more accurate in their political ideology self-identification. More specifically, the relation between liberalism and the needs should approach its “true” nature among political elites.

Importantly, the above assertion does not imply that individuals who are less politically sophisticated are non-ideological (see Jost, 2006). That is, the inability of an individual to rely on abstract concepts of liberalism and conservatism does not automatically render him or her non-ideological. As Jost (2006) points out, even though Converse (1964) might be correct in his assertion that individuals demonstrate some inconsistency in their reported ideology, individuals’ self-identified ideology is still meaningful (Conover & Feldman, 1981; Feldman, 2003; Kerlinger, 1984; Knight, 1999). Thus, by operationalizing ideology as internal consistency and coherence, Converse (1964) might have overemphasized the role of political sophistication in the meaningfulness of ideology in peoples’ lives (Jost, 2006). Nevertheless, this body of research suggests that the relation between political ideology and relevant underlying needs or motivations might be stronger among individuals higher in political sophistication. Thus, the present dissertation will also examine whether the above hypothesized relations between the four needs and political liberalism are moderated by political sophistication.

## General Hypotheses

Psychological theories of ideology (e.g., ideo-affective polarity theory and social dominance theory) and empirical research show that liberals tend to be giving and sympathetic to others (e.g., Skitka et al., 1991; Skitka & Tetlock, 1992, 1993), have inclusive attitudes (e.g., Altemeyer, 1996, 1998; Bierbrauer & Klinger, 2002; Cozzarelli et al., 2001; Hodson et al., 2008) and demonstrate behaviours and attitudes that foster liking in others (see Alcock et al., 1998). Based on these findings, I hypothesize that needs related to inclusiveness (e.g., need for nurturance, need for inclusion, and need for affiliation) will be associated with liberalism.

According to ideology theories such as the rigidity of the right hypothesis, the value pluralism model (Tetlock, 1983) and empirical research (e.g., Tetlock, 1983, 1984), liberals should have greater cognitive complexity. Research has also found that liberals are lower on cognitive closure (e.g., Jost et al., 1999) and demonstrate greater interest in understanding reasons behind peoples' actions (Wanke & Wyer, 1996). Therefore, my second prediction is that needs related to a Need for Understanding (e.g., need for cognitive complexity and need for inquisitiveness) will be associated with greater endorsement of a liberal ideology.

Some psychological theories of ideology (e.g., right wing authoritarianism theory, theory of intolerance of ambiguity, and theory of uncertainty avoidance) and empirical research indicate that liberals are higher on openness to experience (e.g., Jost & Thompson, 2000), sensation-seeking (Kish, 1973), and rebelliousness (e.g., Sulloway, 1996). Considering these findings, I reason that needs related to a Need for Change (e.g.,

need for sensation-seeking, need for change, and need to rebel) will be associated with higher levels of political liberalism.

Anecdotal evidence implies that liberals have less conviction than conservatives (e.g., Schneider, 2004). Further, psychological theories of ideology (e.g., right-wing authoritarianism and uncertainty avoidance) and empirical research show that liberals tend to tolerate feelings of uncertainty (e.g., Fay & Frese, 2000), be wasteful when distributing wealth (e.g., Mitchell et al., 2003), and may have more reason to be fearful of commitment (e.g., Brickman et al., 1989). Therefore, I predict that needs related to Avoidance of Decisional Commitment (e.g., fear of commitment and fear of being wrong) will be associated with political liberalism.

Studies 1 and 2 will test the associations between liberalism and chronic individual differences reflective of the four proposed social-cognitive needs. Studies 3 and 4 will investigate the effects of the four proposed social-cognitive needs when situationally induced. The present dissertation will also examine whether these proposed relations and effects are moderated by political sophistication.



## STUDY 1

### Method

#### *Participants*

Participants were 201 upper year undergraduate students from Brock University located in St. Catharines, Ontario, Canada ( $M_{age} = 23.28$ ;  $SD = 6.11$ ; 62.7% female, 35.3% male, 2.0% unspecified), who participated for course participation or \$10. Of the 200 participants who reported their ethnicity, 84.5% identified themselves as White, 6% Asian, 5% multi-ethnic, 2% Black, 1.5% other, and 1% Middle Eastern. Of the 185 participants who indicated their religion, 29.7% identified themselves as Catholic, 19.5% Atheist, 17.3% other, 10.3% Protestant, 9.7% United, 6.5% Anglican, 3.2% Hindu, 2.7% Baptist, and 1.1% Muslim.

#### *Procedure*

In groups of approximately 5 to 15, participants individually read and signed consent forms (see Appendix A and Appendix B for REB clearance) and completed questionnaire packages containing measures of political liberalism, political sophistication, Need for Inclusiveness, Need for Understanding, Need for Change, Avoidance of Decisional Commitment, and demographic variables (age, sex, ethnicity, religion).<sup>1</sup> Unless otherwise specified, participants responded on a scale with response options ranging from “strongly disagree” (1) to “strongly agree” (5). Once finished, participants were given written debriefing information (see Appendix C).

#### *Measures*

*Political liberalism.* Participants responded to three items indicating how liberal or conservative they were on a scale from “very liberal” (1) to “very conservative” (7) in

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<sup>1</sup> There were five randomly assigned orders of the questionnaire package.

terms of their general outlook, social policy, and economic policy (see Skitka et al., 2002; see Appendix D). A composite score was computed by reverse-scoring the items and calculating the mean ( $\alpha = .82$ ). Higher scores indicated greater political liberalism.

*Political sophistication/knowledge.* To assess political sophistication, participants responded to a 12-item political knowledge test consisting of questions about current Canadian and international politics and government structure (e.g., “Who is the Prime Minister of Canada?”; “Who is the secretary general of the United Nations?”; see Appendix E; for similar measures see Delli Caprini & Keeter, 1996; Zaller, 1992). Scores were computed by summing the number of correct responses with higher scores indicating greater political sophistication.

*Need for Inclusiveness.* To measure individual differences indicative of a Need for Inclusiveness, or a desire to nurture or assist others and be inclusive rather than exclusive, participants completed four scales: a 13-item Nurturance scale (Hofstee, de Raad, & Goldberg, 1992; see Appendix F;  $\alpha = .83$ ); an 8-item Altruism (versus Antagonism) scale (from the HEXACO-PI; Lee & Ashton, 2004; see Appendix G;  $\alpha = .85$ ); a 20-item Universal Orientation scale (Phillips & Ziller, 1997; see Appendix H;  $\alpha = .72$ ), which assesses an orientation to view similarities between self and others rather than differences; and Goldberg’s (1999) 10-item Gregariousness scale from the IPIP-6FPQ (a counterpart to Jackson, Paunonen, & Tremblay’s, 2000, 6FPQ Affiliation scale; see Appendix I;  $\alpha = .91$ ). Scores for each subscale were computed by averaging the items. Higher scores reflected greater Need for Inclusiveness.

*Need for Understanding.* Four scales measured individual differences reflective of a Need for Understanding, or a desire for cognitive complexity and inquisitiveness, or

desire to understand one's social world: a 10-item Intellect scale (from the IPIP-NEO, Goldberg, 1999; see Appendix J;  $\alpha = .84$ ); a 10-item Culture scale (which is a counterpart to the 6FPQ Breadth of Interest scale from the IPIP-6FPQ; see Appendix K;  $\alpha = .76$ ); and two 8-item scales assessing Inquisitiveness ( $\alpha = .81$ ) and Creativity ( $\alpha = .76$ ; from the HEXACO-PI; see Appendix G). Scores were computed by averaging the items for each subscale. Higher scores reflected greater Need for Understanding.

*Need for Change.* Four separate scales were used as indicators of Need for Change, or a desire for sensation-seeking, new experiences, and rebelliousness: a 10-item Adventurousness scale (which is a counterpart to the 6FPQ Change scale from the IPIP-6FPQ; see Appendix L;  $\alpha = .81$ ); an 8-item Unconventionality scale (from the HEXACO-PI; see Appendix G;  $\alpha = .73$ ); a 10-item Rebelliousness scale (from the IPIP-TCI; Goldberg, 1999; see Appendix M;  $\alpha = .86$ ); and the Thrill and Adventure Seeking (TAS,  $\alpha = .48$ ) and Excitement Seeking (ES,  $\alpha = .63$ ) subscales of the Sensation Seeking Scale V (Zuckerman, 1979; see Appendix N). For the sensation seeking subscales, participants answered 20 items by indicating their choice between two options. A value of one was allotted for high sensation seeking items and zero for low. Scores were calculated for each scale by averaging the items, excluding the sensation-seeking scales for which the items were summed. Higher scores reflected greater Need for Change.

*Avoidance of Decisional Commitment.* Two scales were used as indicators of an Avoidance of Decisional Commitment, or a fear of commitment or fear of being wrong, or need for accuracy in one's decisions. Participants completed the 40-item Fear of Commitment Scale (Serling & Betz, 1990; see Appendix O;  $\alpha = .94$ ) and indicated their agreement from "strongly agree" (1) to "strongly disagree" (6). Participants also

completed the 19-item Judgmental Self-Doubt Scale (Mirels, Greblo, & Dean, 2002; see Appendix P;  $\alpha = .95$ ), which measures generalized mistrust of one's judgment.

Participants indicated their agreement using a response scale with options ranging from “strongly disagree” (-3) to “strongly agree” (+3). Scores were calculated for each subscale by averaging the items. Higher scores reflected greater Avoidance of Decisional Commitment.

## Results

An  $\alpha$  level of .05 was used for significance tests. All tests for a priori predictions were one-tailed unless otherwise stated. A small number of missing values were replaced with the sample means. The data were screened to ensure that statistical assumptions were met.

### *Descriptive Statistics*

Means and standard deviations of political liberalism, political knowledge and the individual difference variables indicative of the four needs, as well as the zero-order correlations among these variables are shown in Table 1. The relations between age and sex with political liberalism were examined since previous research has shown that both are associated with political ideology (Knight, 1999). Political liberalism was unrelated to sex ( $p = .314$ ), but significantly associated with age ( $r = -.24, p < .001$ ); therefore age was controlled for in subsequent correlation and regression analyses.

### *Factor Structure of the Four Proposed Needs*

A principal components analysis of the 15 variables used as indicators of the needs was conducted to verify the proposed four-factor need structure. The eigenvalues of the first eight factors were 4.1, 2.9, 2.0, 1.2, .79, .68, .58, and .52. Examination of the

Table 1

*Means, standard deviations, and zero-order correlations among variables in Study 1*

	<i>M (SD)</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. LIB	4.62 (1.20)	--															
2. PK	4.05 (2.61)	.05	--														
<u>N</u> INC:																	
3. AFF	3.65 (0.77)	.01	-.19**	--													
4. ALT	4.05 (0.70)	.12*	-.16*	.17*	--												
5. NUR	3.60 (0.60)	.08	-.18*	.17*	.74**	--											
6. UO	3.56 (0.41)	.19**	-.07	.23**	.43**	.46**	--										
<u>N</u> UND:																	
7. BOI	4.06 (0.53)	.21**	-.06	.19**	.18**	.12 <sup>†</sup>	.36**	--									
8. CRE	3.34 (0.71)	.16**	.08	.07	.03	-.04	.06	.36**	--								
9. INQ	3.34 (0.80)	.12*	.33**	-.02	-.14*	-.20**	.13 <sup>†</sup>	.40**	.38**	--							
10. INT	3.68 (0.66)	.11 <sup>†</sup>	.30**	-.02	-.05	-.14 <sup>†</sup>	.24**	.32**	.27**	.45**	--						
<u>N</u> CHA:																	
11. CHA	3.85 (0.62)	.33**	.01	.30**	-.09	-.17*	.21**	.40**	.40**	.42**	.25**	--					
12. TAS	0.53 (0.19)	.22**	.02	.24**	-.19**	-.24**	.07	.23**	.39**	.33**	.17*	.59**	--				
13. ES	0.57 (0.22)	.13*	.16*	.09	-.26**	-.36**	-.01	.15*	.23**	.33**	.23**	.63**	.52**	--			
14. REB	2.62 (0.73)	.06	.01	-.07	-.55**	-.63**	-.40**	-.08	.22**	.19**	.09	.32**	.36**	.46**	--		
15. UNC	3.50 (0.58)	.30**	.12 <sup>†</sup>	-.03	-.14*	-.21**	.20**	.33**	.43**	.39**	.49**	.47**	.38**	.39**	.38**	--	
ADC:																	
16. FCM	3.15 (0.76)	-.01	.11	-.42**	.00	-.07	-.13 <sup>†</sup>	-.05	.17*	.10	-.04	-.13 <sup>†</sup>	-.04	.02	.13 <sup>†</sup>	.10	--
17. JSD	-.33 (1.24)	-.03	-.02	-.38**	.08	.02	-.12 <sup>†</sup>	-.09	.05	-.09	-.24**	-.19**	-.16*	-.07	.08	.00	.79**

*Note.*  $N = 201$ . \*\*  $p < .01$ ; \*  $p < .05$ ; <sup>†</sup>  $p < .10$ , two-tailed. Tests with political liberalism are one-tailed. LIB = political liberalism, a composite of three items; PK = political knowledge; N INC = Need for Inclusiveness; AFF = affiliation; ALT = altruism; NUR = nurturance; UO = universal orientation; N UND = Need for Understanding; BOI = breadth of interest; CRE = creativity; INQ = inquisitiveness; INT = intellect; N CHA = Need for Change; CHA = change; TAS = thrill and adventure seeking; ES = excitement seeking; REB = rebelliousness; ADC = Avoidance of Decisional Commitment; FCM = fear of commitment; JSD = judgmental self-doubt.

scree plot suggested that the four factors with eigenvalues greater than one be extracted as there was a sharp break between the fourth and fifth factors (see Cattrell, 1966; Gorsuch, 1983; Kaiser, 1958; Reis & Judd, 2000). The first four factors were rotated to a varimax solution, and the first and second factors were subsequently re-rotated 30 degrees to align more closely with the suggested alignment of the need variables. (Note that variables in the domains of attitudes and of personality tend not to be simple-structured, and that factor axis locations tend to fluctuate across variable sets and samples; see e.g., Hofstee et al., 1992.) As shown in Table 2, the loadings of the variables in the final four-factor solution correspond closely to the expected pattern; however, the Affiliation and Unconventionality scales both showed slightly higher loadings on a factor other than their respective intended factors.<sup>2</sup>

Composite scores were computed for each of the four proposed needs by calculating the mean across the variables that were assessed as indicators of the respective needs, because results of the principal components analysis generally supported the proposed four factor need structure. The Affiliation and Unconventionality scales were excluded from these composites because of their discrepant loadings. Correlations among the composite scores are shown in Table 3. Composite scores of standardized variables were used instead of factor scores for remaining analyses, because the scoring weights used in computing factor scores tend to be sample-dependent, whereas composite scores might be more readily compared across samples (see Goldberg & Digman, 1994). The four need composite scores were consistent with the factor scores

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<sup>2</sup> Given that a perfect simple structure was not expected, PCA rather than confirmatory factor analysis (CFA) was conducted (see McCrae, Zonderman, Costa, Bond, & Paunonen, 1996). That is, it was expected that many of the individual difference measures would demonstrate secondary loadings as well as numerous small correlated error terms, and as a consequence, PCA was a more appropriate statistical analysis. However, for results of the CFA see Appendix Q.

calculated from the factor analysis, as shown by the zero-order correlations (two-tailed) of the factor scores with the corresponding composite scores: Need for Inclusiveness ( $r = .81$ ;  $p < .001$ ); Need for Understanding ( $r = .86$ ;  $p < .001$ ); Need for Change ( $r = .94$ ;  $p < .001$ ); and Avoidance of Decisional Commitment ( $r = .97$ ;  $p < .001$ ).

Table 2

*Factor loadings of individual variables on the four rotated need factors in Study 1*

	Need for Inclusiveness	Need for Understanding	Need for Change	Avoidance of Decisional Commitment
Altruism	<b>.71</b>	-.08	-.48	.09
Nurturance	<b>.68</b>	-.15	-.56	.00
Universal Orientation	<b>.65</b>	.33	-.25	-.16
Affiliation	.50	-.21	.24	<b>-.54</b>
Excitement Seeking	.08	.19	<b>.75</b>	-.02
Adventure Seeking	.28	.14	<b>.75</b>	-.08
Rebelliousness	-.41	.07	<b>.74</b>	.13
Change	.39	.29	<b>.71</b>	-.15
Unconventionality	.10	<b>.64</b>	.41	.12
Intellect	-.03	<b>.85</b>	.01	-.15
Inquisitiveness	.05	<b>.70</b>	.28	.04
Breadth of Interest	.49	<b>.53</b>	.09	-.04
Creativity	.33	<b>.41</b>	.39	.24
Fear of Commitment	-.04	.05	.03	<b>.91</b>
Judgmental Self- Doubt	.02	-.16	-.04	<b>.92</b>

*Note.*  $N = 201$ . Factor loadings were obtained by examining the zero-order correlations among the Need factor scores and individual variables. Need for Inclusiveness and Need for Change factors represent those factors that were re-rotated 30 degrees.

Table 3

*Correlations among composite need scores in Studies 1 and 2*

	1	2	3
Study 1:			
1. Need for Inclusiveness	--		
2. Need for Understanding	.08	--	
3. Need for Change	-.34**	.43**	--
4. Avoidance of Decisional Commitment	-.05	-.03	-.06
Study 2:			
1. Need for Inclusiveness	--		
2. Need for Understanding	.34**	--	
3. Need for Change	.12	.33**	--
4. Avoidance of Decisional Commitment	-.15*	-.23**	-.05

*Note.*  $N = 201$  (Study 1),  $N = 197$  (Study 2). \*\*  $p < .01$ ; \*  $p < .05$  (two-tailed).

### *Predicting Political Liberalism*

Partial correlations were run between each of the four composite need scores and political liberalism controlling for age. Consistent with predictions, Need for Inclusiveness,  $pr(198) = .17, p = .008$ , Need for Understanding,  $pr(198) = .23; p < .001$ , and Need for Change,  $pr(198) = .21, p = .002$ , were positively related to political liberalism. Contrary to predictions, Avoidance of Decisional Commitment was unrelated to political liberalism,  $pr(198) = -.04; p = .281$ .

To evaluate whether the four needs uniquely predict political liberalism and to examine whether political knowledge moderates these relations, a hierarchical regression analysis was conducted. Age was entered in the first step. In the second step, political knowledge, Need for Inclusiveness, Need for Understanding, Need for Change, and Avoidance of Decisional Commitment were entered. In the third step, the four interaction terms (between each of the four needs and political knowledge) were entered. One



univariate and five multivariate outliers were detected and removed from the analysis (see Tabachnick & Fidell, 2001). Results showed that the model accounted for 20.8 % of the variance in political liberalism. In the first step, age was a significant predictor,  $b = -.05$ ,  $sr^2 = .06$ ,  $t(193) = -3.43$ ,  $p < .001$ , such that greater age was associated with lower liberalism. In the second step, the four needs and political knowledge significantly added to the model,  $\Delta R^2 = .11$ ,  $p < .001$ : Need for Inclusiveness,  $b = .34$ ,  $sr^2 = .04$ ,  $t(188) = 2.93$ ,  $p = .002$ , and Need for Change,  $b = .36$ ,  $sr^2 = .04$ ,  $t(188) = 2.81$ ,  $p = .003$ , uniquely predicted greater endorsement of political liberalism. Political knowledge was also a significant predictor,  $b = .14$ ,  $sr^2 = .01$ ,  $t(188) = 1.72$ ,  $p = .043$ , indicating that those higher in political knowledge were higher on political liberalism. Finally, Need for Understanding ( $p = .204$ ) and Avoidance of Decisional Commitment ( $p = .431$ ) were non-significant predictors. In the third step, the two-way interactions significantly added to the model,  $\Delta R^2 = .04$ ,  $p = .050$ . Two of the two-way interactions were significant: political knowledge by Need for Inclusiveness,  $b = .27$ ,  $sr^2 = .02$ ,  $t(184) = 2.04$ ,  $p = .021$ , and political knowledge by Avoidance of Decisional Commitment,  $b = .23$ ,  $sr^2 = .02$ ,  $t(184) = 2.24$ ,  $p = .013$ . The interactions of political knowledge by Need for Understanding and by Need for Change were non-significant ( $p = .484$  and  $p = .229$ , respectively).

Simple slope analyses were conducted to explore the significant interactions (see Aiken & West, 1991). Simple slopes were probed at 1 SD above, 1 SD below, and at the mean on political knowledge and at three values of each of Need for Inclusiveness and Avoidance of Decisional Commitment (i.e., 1 SD above, 1 SD below, and at the mean). For the simple regression with political liberalism regressed onto Need for Inclusiveness,

the slope was significantly different from zero for high,  $sr^2 = .05$ ,  $t(184) = 3.37$ ,  $p < .001$ , and mean  $sr^2 = .03$ ,  $t(184) = 2.81$ ,  $p = .002$  levels of political knowledge (see Figure 1). The relation was non-significant at low levels ( $p = .363$ ).

For the simple regression with political liberalism regressed onto Avoidance of Decisional Commitment, the slope was significantly different from zero at a low level of political knowledge,  $sr^2 = .01$ ,  $t(184) = -1.77$ ,  $p = .039$ , such that greater Avoidance of Decisional Commitment predicted *lower* political liberalism. Results showed a marginally significant relation at a high level of political knowledge, such that higher Avoidance of Decisional Commitment predicted *higher* political liberalism,  $sr^2 = .01$ ,  $t(184) = 1.63$ ,  $p = .052$  (see Figure 2). The relation was non-significant at a mean level ( $p = .457$ ).<sup>3</sup>

### Discussion

The primary objective of Study 1 was to test whether the four proposed needs – Need for Inclusiveness, Need for Understanding, Need for Change, and Avoidance of Decisional Commitment – would be positively associated with political liberalism. Generally, the results of Study 1 supported the hypotheses: Three of the proposed needs were positively related to political liberalism, and political sophistication moderated some of the proposed relations. These findings are discussed in turn below.

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<sup>3</sup> The relations between the four needs with political liberalism, and the hypothesized interactions between political knowledge and the needs were also examined using AMOS 16.0 software. The SEM findings were consistent with those obtained using hierarchical regression (see Appendices R and S). Single indicators were used in the SEM model for the latent variable needs as well as political liberalism so that the needs and liberalism were equally reflected by each indicator (i.e., the measures used to create the composite scores). Kline (2005) recommends using a corrected error variance for the observed variables (see pages 229-231). Thus, the explained variances of the observed variables are equal to their reliabilities.

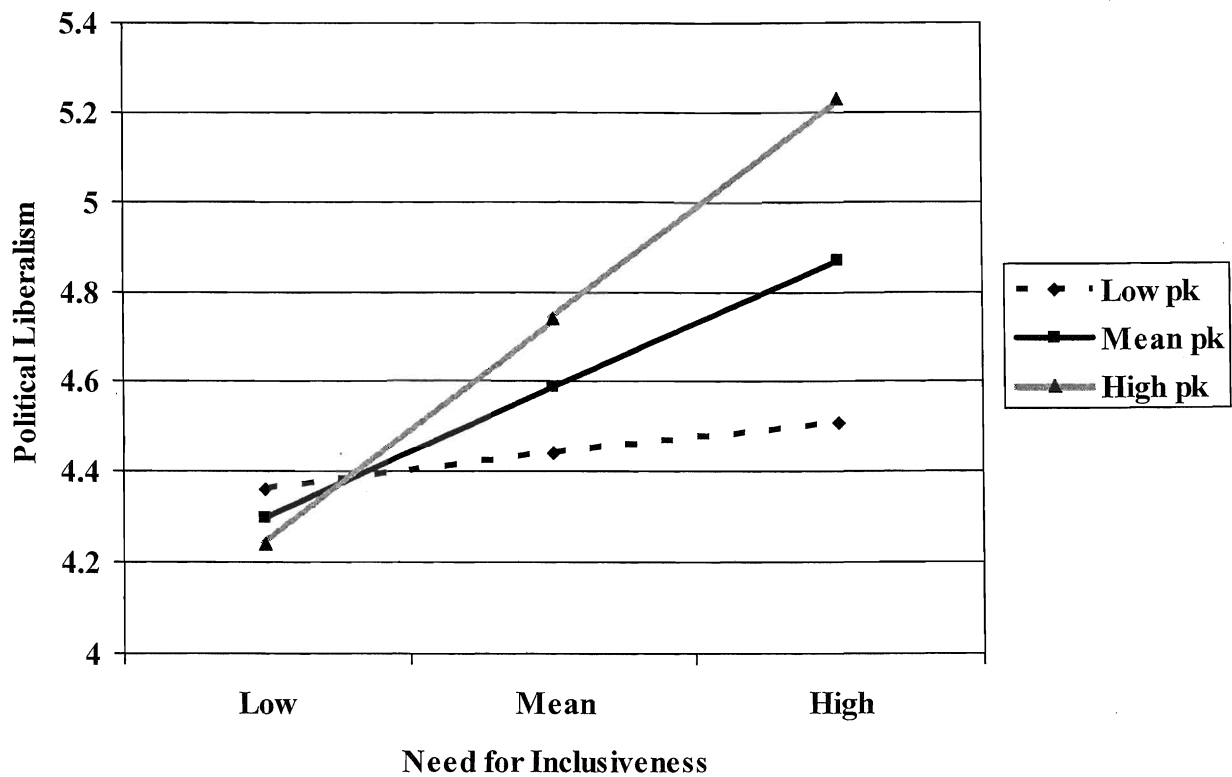
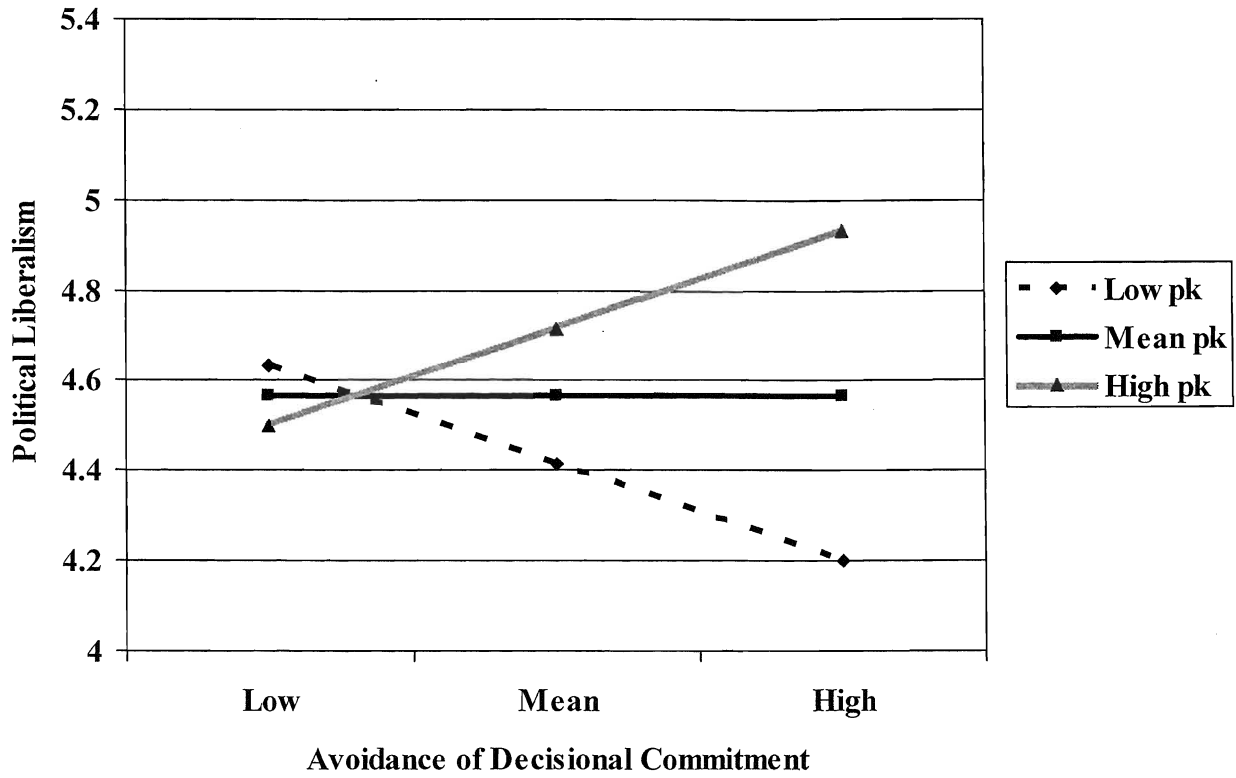


Figure 1. Interaction between Need for Inclusiveness and political knowledge (pk) on political liberalism (Study 1).



*Figure 2.* Interaction between Avoidance of Decisional Commitment and political knowledge (pk) on political liberalism (Study 1).

Consistent with hypotheses, Need for Inclusiveness, or a desire to be inclusive and nurturing was positively associated with, and a unique predictor of greater liberalism. Need for Understanding, or a desire for cognitive complexity and inquisitiveness was also significantly related to greater liberalism. However, it did not uniquely predict political liberalism. Further, Need for Change, or a desire for new and novel experiences, sensation-seeking, and change was related to and uniquely predicted greater endorsement of political liberalism. Finally, and contrary to predictions, Avoidance of Decisional Commitment was unrelated to political liberalism (although Avoidance of Decisional Commitment did demonstrate an association via an interaction with political sophistication, discussed below).

Additionally, two interactions between a specific need and political sophistication were found. In general, results of the simple slopes analyses suggested that the predicted relations between certain needs and greater political liberalism was stronger and more positive, as expected, for those individuals who scored high on the political knowledge test. Both higher Need for Inclusiveness and Avoidance of Decisional Commitment interacted with political sophistication to predict greater endorsement of political liberalism (primarily among those higher in political knowledge).

Interestingly, higher Avoidance of Decisional Commitment appeared to predict *lower* political liberalism among those with *lower* political sophistication. In other words, greater Avoidance of Decisional Commitment predicted opposite patterns depending on an individual's level of political sophistication. The pattern of results for individuals low in political sophistication is consistent with research showing that fear (e.g., fear of general threat) is related to more conservative ideologies (e.g., Jost, Glaser et al., 2003a).

Nevertheless, my results for individuals low in political sophistication – that is a negative relation between Avoidance of Decisional Commitment with political liberalism – are somewhat surprising given the recent work by Amodio, Jost, Master, and Yee (2007) suggesting that liberals, compared to conservatives, might be more sensitive to being accurate or careful in their decisions. Perhaps, a measure tapping a need for accuracy might be more appropriate for assessing the Avoidance of Decisional Commitment need.

Partial redundancy (i.e., overlapping variance) among some of the needs might explain why Need for Understanding did not emerge as a unique predictor of political liberalism, even though it demonstrated a significant correlation. The moderate association between Need for Understanding and Need for Change (see Table 3) suggests that partial redundancy might explain why Need for Understanding was not a unique predictor. In particular, Need for Understanding may have been dropped as a unique predictor as Need for Change accounted for a shared portion of variance in political liberalism (see Cohen, Cohen, West, & Aiken, 2003; Tabachnick & Fidell, 2001).

Although some researchers have proposed that shared variance among predictor variables might also account for difficulty in detecting interactions (e.g., Morris, Sherman, & Mansfield, 1986), others argue that shared variance cannot explain undetected interactions (e.g., Cronbach, 1987; Jaccard, Turrisi, & Wan, 1990). Poor reliability, measurement error, and low statistical power inherent in correlational data are more likely to blame (Aiken & West, 1991; Cohen et al., 2003; Jaccard et al., 1990). McClelland and Judd (1993) concluded that lower variability in correlational relative to experimental designs makes it difficult to detect interactions in non-experimental analyses; as a result, even interactions that account for a very small proportion of

variance should be considered. Consequently, it is possible that significant interactions between Need for Understanding and Need for Change with political knowledge did not emerge because such interactive effects in correlational designs are difficult to detect. Furthermore, McClelland and Judd's conclusions highlight the significance of the interactions uncovered between Need for Inclusiveness and Avoidance of Decisional Commitment with political knowledge.

Finally, given that the overall level and the variability in scores of political knowledge was relatively low, and the research was conducted with university students, it is important that the proposed relations among the four needs, political sophistication, and political liberalism be examined further among a sample of participants who are more representative of the general population, and presumably more variable in political sophistication. Therefore, the main purpose of Study 2 is to examine the hypotheses among a diverse sample of community adults.

## STUDY 2

### Method

#### *Participants*

Participants were 197 community members from the Niagara Region in southern Ontario, ranging in age from 19 to 78 years ( $M_{age} = 39.51$ ;  $SD = 12.86$ ). The sample consisted of 54.5% females, 36.5% male and 9.1% did not specify their sex. Of the 195 participants who reported their ethnicity, 84.1% identified themselves as White, 5.1% South Asian, 3% other, 2.6% Black, 1.5% each Southeast Asian and Arab/West Asian, 1% Chinese, and 0.5% each Korean and Filipino. Of the 177 participants who indicated their religious affiliation, 33.9% were Catholic, 15.8% other, 15.3% Protestant, 11.3% Anglican, 10.7% Muslim, 5.6% Atheist, 4.5% Baptist, 2.3% United, and 0.6% Jewish.

#### *Procedure*

Two experimenters canvassed neighbourhoods in a city in Southern Ontario, Canada. In order to gather a diverse sample containing a wide range of political orientations, religious affiliations, and socio-economic statuses, a variety of households and businesses were targeted. Participants were given a consent form to read and sign (see Appendix T and Appendix B for REB clearance), along with a shortened version of the questionnaire used in Study 1 to be completed privately. As in Study 1, there were five different random orders of the questionnaire package. Once participants completed the study materials, they were given a \$5 gift certificate to a popular coffee shop and a debriefing form explaining the purpose of the study (see Appendix C).



## *Measures*

Political liberalism was measured with the three items outlined in Study 1 ( $\alpha = .87$ ). Political sophistication was assessed with a 9-item version of the political knowledge test administered in Study 1; questions asked about current Canadian and international politics and government structure (see Appendix E). A score was calculated by summing the correct responses. To assess the proposed needs, measures were chosen that best captured the conceptualization of each need as defined in the Introduction. To assess Need for Inclusiveness, an 18-item version of the Universal Orientation scale used in Study 1 was administered ( $\alpha = .70$ ; see Appendix H). Need for Understanding was measured with the 10-item Intellect scale ( $\alpha = .87$ ) and the 10-item Culture scale ( $\alpha = .87$ ) also administered in Study 1 (see Appendices J and K). To measure Need for Change, an 8-item version of the Adventurousness scale ( $\alpha = .77$ ) and a 9-item version of the Rebelliousness scale ( $\alpha = .86$ ) that were used in Study 1 were administered (see Appendices L and M). Finally, to assess Avoidance of Decisional Commitment, an 8-item version of the Fear of Commitment Scale that was administered in Study 1 was used ( $\alpha = .89$ ; see Appendix O). Scores were calculated for each of the scales by averaging the items. Composite scores of standardized scale scores were computed by calculating a mean across the variables indicative of each need. Higher scores indicated greater endorsement of each need.

## Results and Discussion

An  $\alpha$  level of .05 was used for significance tests. All tests for a priori predictions were one-tailed unless otherwise stated. A small number of missing values were replaced

with sample means. The data were screened to ensure that statistical assumptions were met.

### *Descriptive Statistics*

Means and standard deviations of political liberalism, political knowledge and the individual difference variables reflective of the four needs, and the zero-order correlations among the variables are presented in Table 4. The relations between age and sex with political liberalism were examined, as in Study 1. Both variables were unrelated to political liberalism and therefore not controlled for in subsequent analyses.

Correlations among the composite needs scores are shown in Table 3.

Table 4

*Means, standard deviations, and zero-order correlations among variables in Study 2*

	<i>M (SD)</i>	1	2	3	4	5	6	7
1. LIB	4.54 (1.16)	--						
2. PK	4.56 (2.75)	-.01	--					
<u>N</u> INC:								
3. UO	3.44 (0.43)	.11 <sup>†</sup>	.09	--				
<u>N</u> CHA:								
4. CHA	3.54 (0.67)	.23**	.06	.26**	--			
5. REB	2.37 (0.74)	.06	-.11	-.09	.10	--		
<u>N</u> UND:								
6. BOI	3.83 (0.72)	.24**	.09	.37**	.57**	-.20**	--	
7. INT	3.54 (0.73)	.20**	.19**	.22**	.53**	-.03	.57**	--
ADC:								
8. FCM	2.94 (1.09)	.11 <sup>†</sup>	-.19**	-.15*	-.11	.04	-.18*	-.22**

*Note.*  $N = 197$ . \*\*  $p < .01$ ; \*  $p < .05$ ; <sup>†</sup>  $p < .10$ . Tests with political liberalism are one-tailed. LIB = political liberalism, a composite of three items; PK = political knowledge; N INC = Need for Inclusiveness; UO = universal orientation; N UND = Need for Understanding; BOI = breadth of interest; INT = intellect; N CHA = Need for Change; CHA = change; REB = rebelliousness; ADC = Avoidance of Decisional Commitment; FCM = fear of commitment.

### *Predicting Political Liberalism*

The primary goal of Study 2 was to provide a further test of the hypotheses examined in Study 1 in a sample of community adults. Consistent with the findings of Study 1, Need for Inclusiveness,  $r(195) = .11, p = .058$ , Need for Understanding,  $r(195) = .25, p < .001$ , and Need for Change,  $r(195) = .19, p = .003$ , were positively related to political liberalism, though the correlation with Need for Inclusiveness was marginal. Consistent with predictions, however contrary to Study 1, Avoidance of Decisional Commitment was also marginally related to political liberalism,  $r(195) = .11, p = .064$ .

To evaluate whether the four needs uniquely predict political liberalism and to examine whether political knowledge moderates these relations, a hierarchical regression analysis was performed. Political knowledge, Need for Inclusiveness, Need for Understanding, Need for Change, and Avoidance of Decisional Commitment were entered in the first step. The four interaction terms (between each of the four needs and political knowledge) were entered in the second step. Three multivariate outliers were detected and removed from the analysis (see Tabachnick & Fidell, 2001).

Results showed that the model accounted for 17.5 % of the variance in political liberalism. In the first step, Need for Understanding,  $b = .31, sr^2 = .04, t(187) = 3.03, p = .001$ , Need for Change,  $b = .21, sr^2 = .02, t(187) = 1.81, p = .036$ , and Avoidance of Decisional Commitment,  $b = .16, sr^2 = .02, t(187) = 1.89, p = .030$ , were significant predictors, indicating that greater need for understanding, change, and avoidance of decisional commitment predicted greater endorsement of political liberalism. Need for Inclusiveness ( $p = .206$ ) and political knowledge ( $p = .444$ ) were non-significant predictors. Thus, Need for Understanding, Need for Change, and Avoidance of

Decisional Commitment uniquely predicted greater political liberalism. In the second step, the two-way interactions significantly added to the model,  $\Delta R^2 = .06, p = .014$ : Political knowledge by Need for Inclusiveness,  $b = .17, sr^2 = .015, t(183) = 1.84, p = .033$ , and political knowledge by Need for Change,  $b = .26, sr^2 = .03, t(183) = 2.44, p = .008$ , were significant predictors. The interactions of political knowledge by Need for Understanding and by Avoidance of Decisional Commitment were non-significant ( $p = .450$  and  $p = .187$  respectively).

Simple slope analyses were used to explore the significant interactions (see Aiken & West, 1991). Simple slopes were probed at 1 SD above, 1 SD below, and at the mean on political knowledge and at three values of each of Need for Inclusiveness and Need for Change (i.e., 1 SD above, 1 SD below, and at the mean). As shown in Figure 3, for the simple regression with political liberalism regressed onto Need for Inclusiveness, the slope was significantly different from zero for high levels of political knowledge,  $sr^2 = .02, t(183) = 2.00, p = .023$ . The relation was non-significant at mean and low levels ( $p = .189$  and  $p = .222$  respectively). For the simple regression with political liberalism regressed onto Need for Change the slope was significantly different from zero at a high level of political knowledge,  $sr^2 = .04, t(183) = 2.93, p = .002$ , and at a mean level,  $sr^2 = .013, t(183) = 1.75, p = .041$  (see Figure 4). The relation was non-significant at a low level ( $p = .354$ ).<sup>4</sup>

Therefore, the results of Study 2 involving community adults, replicated the findings of Study 1 with respect to the correlations between Need for Inclusiveness, Need for Understanding, and Need for Change with political liberalism, although the relation

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<sup>4</sup> As in Study 1, AMOS software was used to test the relations between the four needs with political liberalism, and the potential interactions between political knowledge and the needs. Results from the SEM analyses showed similar findings to those obtained using hierarchical regression (see Appendices U and V).

with Need for Inclusiveness was only marginally significant. In particular, a greater desire to be inclusive, a desire for cognitive complexity and inquisitiveness, and a desire for change were associated with greater endorsement of political liberalism.

Also, Need for Change uniquely predicted political liberalism, similar to Study 1. Contrary to Study 1, Need for Understanding (rather than Need for Inclusiveness in Study 1) uniquely predicted greater endorsement of political liberalism. However, given the moderate intercorrelations among these needs (i.e., partial redundancy, discussed earlier), it is not surprising that only one of these two needs emerged as a unique predictor (see Cohen et al., 2003; Jaccard et al., 1990; Tabachnick & Fidell, 2001). Moreover, Avoidance of Decisional Commitment uniquely predicted greater liberalism, consistent with predictions.

Furthermore, the general finding that political sophistication can moderate the relations between certain needs and political liberalism was also replicated. As found in Study 1, the relation between political liberalism and Need for Inclusiveness was moderated by political sophistication. The relation between Need for Change and political liberalism was also shown to be moderated by political sophistication in Study 2. Consistent with the general pattern of interactions in Study 1 (with Need for Inclusiveness and Avoidance of Decisional Commitment), the relation between Need for Inclusiveness and Need for Change (Study 2) with political liberalism was stronger and positive among individuals high in political sophistication. Given the difficulty in detecting interactions in correlational research (see Cohen et al., 2003; McClelland & Judd, 1993), it is noteworthy that an interaction between Need for Inclusiveness with political knowledge emerged in both the student as well as community sample.

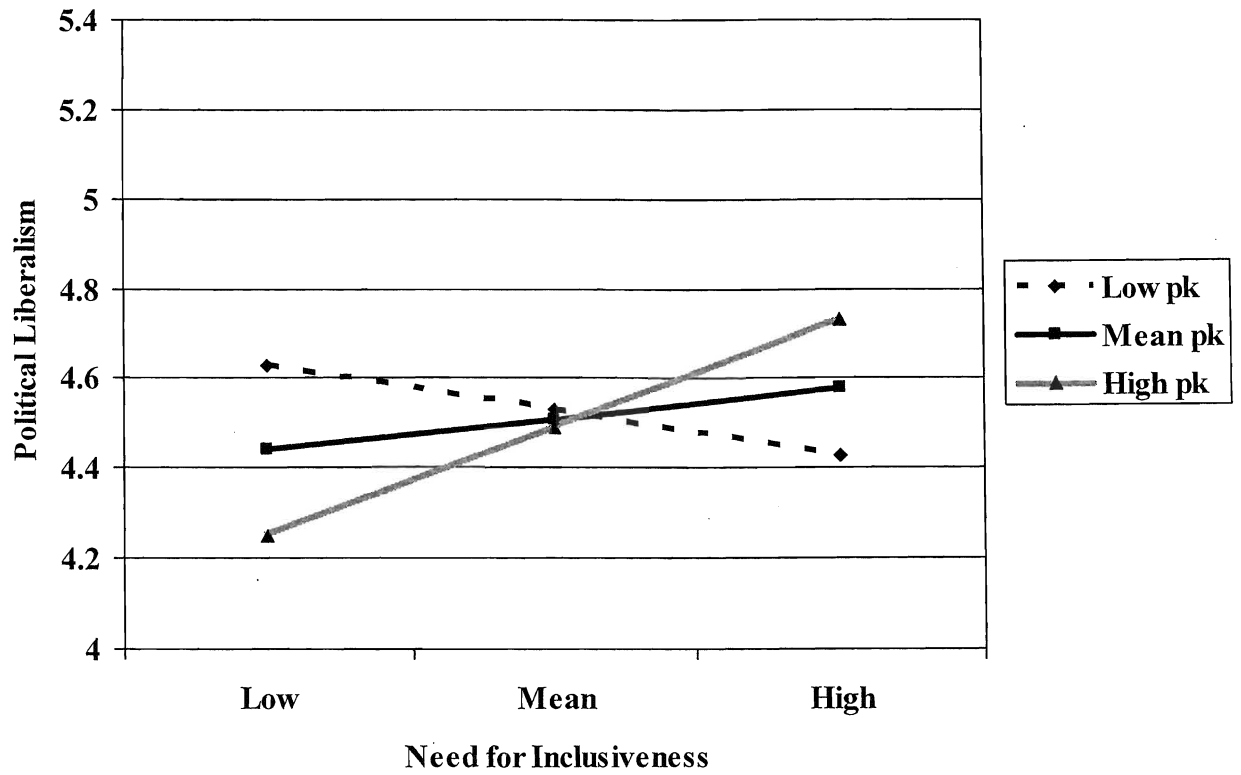


Figure 3. Interaction between Need for Inclusiveness and political knowledge (pk) on political liberalism (Study 2).

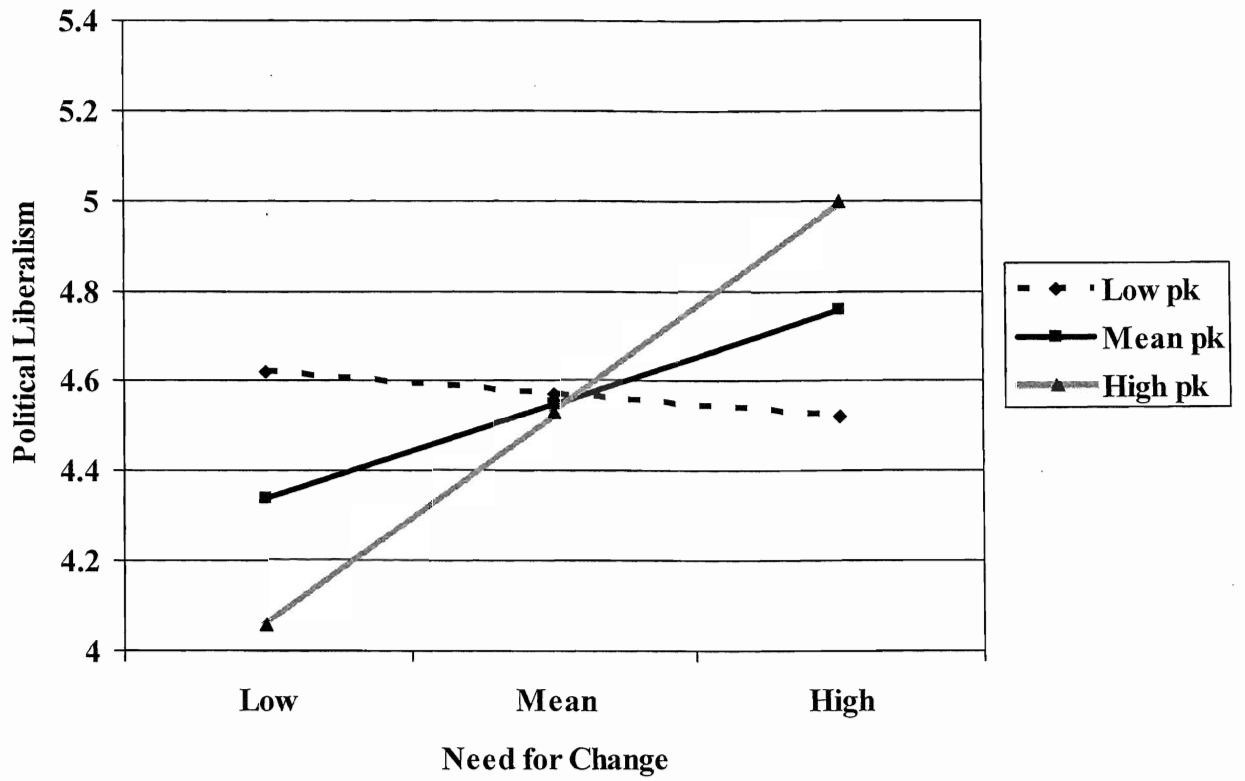


Figure 4. Interaction between Need for Change and political knowledge (pk) on political liberalism (Study 2).

In summary, the findings from Studies 1 and 2 demonstrate that greater political liberalism is positively linked with a Need for Inclusiveness, Need for Understanding, Need for Change, and Avoidance of Decisional Commitment (although the latter relation only emerged in Study 2, and was marginal). Moreover, some of these relations, including the relation between liberalism and Avoidance of Decisional Commitment in Study 1, can be moderated by political sophistication.

Although dispositional differences among people can explain some of the variation in political ideology – as shown in Studies 1 and 2 – individual differences do not exhaustively account for why individuals might adopt different political ideological orientations. As outlined in the Introduction, according to a motivated social cognition perspective, political ideology is multiply determined by both dispositional as well as situational factors (Jost, Glaser et al., 2003a; Kruglanski, 1996). Thus, in addition to exploring the role of chronic needs or motivations, it is imperative that the role of situationally induced needs on political liberalism be explored. Therefore, the primary goal of Study 3 was to determine whether situationally induced Need for Inclusiveness, Need for Understanding, Need for Change and Avoidance of Decisional Commitment foster greater endorsement of political liberalism, as predicted.

An additional goal of Study 3 was to test the effect of the four proposed social-cognitive needs on implicitly measured political liberalism. Recently, political psychologists and political scientists have argued that in order to fully understand people's responses, including their identification as a political liberal or political conservative, researchers should explore individual's automatic or spontaneous responses using implicit or non-reactive tools (e.g., Burdein, Lodge, & Taber, 2006). For instance, a



recent study by Friese, Bluemke, and Wänke (2007) in Germany found that implicitly measured political party preference predicted voting behaviour. Implicit or non-reactive measures allow researchers to examine evaluations or attitudes relatively independent of social desirability effects, and address aspects of evaluations and/or attitudes that might be outside of a person's awareness (see Banaji, 2001; Cunningham, Preacher, & Banaji, 2001).

In the present study, I used the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998; Greenwald, Nosek, & Banaji, 2003), a well known indirect measure of attitudes, although only recently used to assess attitudes in the political domain (e.g., Friese et al., 2007; Karpinski, Steinman, & Hilton, 2005; Knutson, Wood, Spampinto, & Grafman, 2006; Nosek, Banaji, & Greenwald, 2002). The IAT is a reaction time (RT) task that indirectly assesses relations between concepts (e.g., liberalism and conservatism with positive and negative valence). More specifically, the IAT measures the association between a target category (e.g., political orientation: Liberal, Conservative) and an attribute (e.g., valence: Positive, Negative). If an individual is quicker to categorize political words when liberal is paired with positive than when conservative is paired with positive, it can be inferred that this individual has an implicit preference for liberalism. Therefore, Study 3 also tested the influence of situationally induced needs on individuals' implicitly measured political liberalism.

## STUDY 3

### Method

#### *Participants*

Participants were 120 undergraduate students from Brock University, located in St. Catharines, Ontario, Canada, who ranged in age from 18 to 46 years ( $M_{age} = 21.57$ ;  $SD = 4.62$ ; 79.2% female, 19.2% male, 1.7% unspecified), and participated for course participation or \$10. One participant was excluded from analyses because he/she circled the same value throughout his/her survey. Of those who indicated their ethnicity, 87.4% identified themselves as White, 2.5% each identified themselves as Arab/West Asian, South Asian, and other, 1.7% each Chinese and Latin American, and 0.8% each Black and Southeast Asian. Of the 109 participants who reported their religious affiliation, 39.4% identified themselves as Catholic, 27.5% as other, 8.3% each as Protestant and Atheist, 4.6% each Anglican and United, 2.8% each Baptist and Muslim, and 1.8% as Hindu.

#### *Procedure*

Participants were tested individually in 1.5 hour sessions. Upon arrival, participants read and signed a consent form (see Appendix W and Appendix X for REB clearance) detailing a study examining “cognitive performance and general attitudes” in which they would be asked to complete a “language abilities task” (i.e., Scrambled-Sentence Manipulation), a computer task assessing their “word categorization performance” (i.e., a Political Orientation IAT), and a survey concerning their general attitudes. The first 100 participants were randomly assigned to one of five conditions: Need for Inclusiveness, Need for Understanding, Need for Change, Avoidance of

Decisional Commitment, or a control condition. To evaluate whether the conditions were reasonably equivalent in terms of participants' political orientations before the manipulation, the proportion of party supporters across conditions was examined.

*Previous* party support was analysed because, presumably, it should be unrelated to responses to the manipulation. In other words, reported past party support was used to determine whether individuals endorsing different political ideologies were randomly distributed across the five conditions. Analyses showed that the control group comprised a disproportionate number of left-of-centre party supporters (31.6% of participants in the control condition were New Democratic Party supporters, and 42.9% of all NDP supporters were control condition participants), as well as participants with no party affiliation (42.1% of participants in the control condition did not have an affiliation, and 26.7% of all individuals who did not have an affiliation were in the control condition). Therefore, an additional 20 participants were sampled and assigned to the control condition.

The Scrambled-Sentence Manipulation (Skrull & Wyer, 1979) was used to prime participants with one of the four needs. This task consists of a list of 30 lines of text with five words presented in each line in a random order. The experimenter told participants "I'm first going to give you a task that measures your language ability. Please construct grammatically correct four-word sentences as quickly as possible." She then gave participants one of five versions of the scrambled-sentence manipulation (see Appendix Y). For participants in the four need conditions, 15 of the 30 sentences were intended to prime the relevant need: Need for Inclusiveness (e.g., "we are all equal"); Need for Understanding (e.g., "I need to comprehend"); Need for Change (e.g., "I did something

different”); and Avoidance of Decisional Commitment (e.g., “we are really unsure”). And the remaining 15 sentences were neutral (e.g., “the wind was chilly”). Those in the control condition received 30 neutral sentences.

Next, participants were asked to complete a computer task assessing their “word categorization performance.” They were told to follow the instructions on the screen and notify the experimenter when they were finished. In reality, participants completed a Political Orientation IAT to assess their implicit political orientation.

Participants then completed a questionnaire package containing manipulation checks to determine whether the scrambled-sentences primed participants with the relevant needs, as well as measures of political liberalism, political sophistication, Need for Inclusiveness, Need for Understanding, Need for Change, Avoidance of Decisional Commitment, and demographic variables. Unless otherwise specified, participants responded on a scale with response options ranging from “strongly disagree” (1) to “strongly agree” (5). Once finished, participants were provided with verbal and written debriefing (see Appendix Z).

### *Measures*

*Previous party support.* Participants responded to a single item, “Please indicate by checking the political party you typically support (e.g., vote for, donate to, etc.)” to measure party support. Twelve of Canada’s registered federal parties were listed, as well as the options “other” and “I do not have an affiliation”.

*Implicit political liberalism.* To assess automatic (or implicit) political orientation, a Political Orientation version of the IAT was administered using the software E-Prime. The IAT is a popular indirect measure for assessing the relation between a target category

(e.g., political orientation: Liberal, Conservative) and an attribute (e.g., valence: Positive, Negative). To select political stimulus words, a list of 37 political words including political figures and issues (e.g., gay marriage, Stephen Harper) was rated by 15 undergraduate students in a pilot study (see Appendix AA for consent form). For each word, participants in the pilot study indicated whether the political word was “politically liberal”, “politically conservative”, or whether they were “unsure”, as well as their degree of confidence in their categorizing choice on a scale from “not at all” to “extremely confident” (see Appendix BB for categorizing words questionnaire). Twenty words (10 conservative, 10 liberal) were selected based on whether students correctly categorized the words as either liberal or conservative, and were confident of their decision (see Appendices CC for Study 3 Pilot Study Debriefing Form and DD for political stimuli words used in the Political Orientation IAT). Neutral stimuli were selected from a list of words from Lodge (personal communication, September 12, 2006; see Appendix DD).

The Political Orientation IAT consisted of five blocks with 20 or 40 trials per block. Words were presented in a random order with a given word appearing only once in each block. In the first block, which consisted of 20 trials, participants were instructed to categorize 20 political stimulus words (10 conservative, 10 liberal) into conservative and liberal groups by pressing one of two keys. In the second block, which also consisted of 20 trials, participants were asked to categorize 20 non-political words (10 positive, 10 negative) into positive and negative groups. For the third, fourth and fifth blocks, words were presented that belonged to categories of political words or neutral words. For example, participants were asked to press one key if the target word was “positive or conservative” and another key if the word was “negative or liberal”. The third block

consisted of 40 trials, the fourth block had 20 trials (practise block) and the fifth block had 40 trials.

To account for order effects, the last three blocks were counter-balanced. For half of the participants, “liberal or positive” and “conservative or negative” were grouped together for the third block, and “conservative or positive” and “liberal or negative” were grouped together for the fourth and fifth blocks. For the other half of participants, “conservative or positive” and “liberal or negative” were grouped together for the third block, and “liberal or positive” and “conservative or negative” were grouped together for the fourth and fifth blocks.

Scores were created from this task using the formula described by Greenwald et al. (1998; see also Greenwald et al., 2003). Specifically, any trials with reaction time (RT) latencies greater than 10 000 ms and below 400 ms were first removed. A mean was computed for correct RT latencies for blocks 3 and 5, and error latencies were replaced with the respective RT block means. To calculate a Political Orientation IAT score, a difference score (RT from block 3 minus RT from block 5, or vice versa) was computed and divided by the standard deviation for all of the trials in blocks 3 and 5. Higher scores indicated a greater preference for liberalism.

*Manipulation checks.* To assess whether the primes for the four needs were successful, participants responded to eight items using a scale from “not at all” (1) to “extremely” (9) in terms of how they felt at that moment (see Appendix EE). Two items each assessed whether a desire for inclusiveness was salient (e.g., “Please indicate the extent to which you believe everyone should be accepted/included”;  $r = .25, p = .014$ ), a desire for understanding was salient (e.g., “Please indicate the extent to which you want

to understand or know”;  $r = .54, p < .001$ ), a desire for change was salient (e.g., “Please indicate the extent to which you desire change”;  $r = .62, p < .001$ ), and whether an avoidance of committing to a decision or course of action was salient (e.g., “Please indicate the extent to which you feel you would have difficulty making a decision or choosing a course of action right now”;  $r = .61, p < .001$ ). Scores were computed by averaging the two items for each of the four needs with higher scores reflecting greater salience of that particular need.<sup>5</sup>

*Political liberalism.* Political liberalism was measured with the same three items outlined in Studies 1 and 2 with a small modification. Participants were asked to indicate their political orientation by placing a vertical dash on a horizontal line running from “extremely liberal” to “extremely conservative.” A score was derived by measuring in centimetres where participants placed their dash on each of the three lines. A composite score was computed by calculating the mean of the three items ( $\alpha = .82$ ). Higher scores reflected greater endorsement of political liberalism. Scores could range between zero and nine.

*Political sophistication/knowledge.* Political sophistication was measured using the same nine questions from Study 2 about current Canadian and international politics and government structure. A score was computed by summing the number of correct responses.

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<sup>5</sup> Selected items from the individual difference measures used in Studies 1 and 2 to assess the four needs were used as manipulation checks for the first 20 participants (see the Needs section of Study 3 Method section). Analyses of means on these measures showed no differences between conditions. In retrospect, a more appropriate measure would have been a state rather than trait measure. Therefore, a revised manipulation check intended to assess state, rather than trait, differences between conditions was created. Because the manipulation check measure was changed, values for the new manipulation check were missing for the first 20 participants.

*Needs.* To assess Need for Inclusiveness, five items from the Universal Orientation scale used in Studies 1 and 2 were administered ( $\alpha = .55$ ). Need for Understanding was measured with a composite of the 10-item Intellect scale and the 10-item Culture scale ( $\alpha = .81$ ), also administered in Study 1. To measure Need for Change, participants completed 9 items from the Adventurousness scale ( $\alpha = .69$ ) used in Studies 1 and 2. Finally, to assess Avoidance of Decisional Commitment, a 5-item version of the Fear of Commitment Scale that was administered in Studies 1 and 2 was used ( $\alpha = .89$ ; possible responses for this scale ranged from [1] “strongly disagree” to [6] “strongly agree”). Shorter versions of the individual difference measures were used in Study 3 because of time constraints.

## Results

Means and standard deviations of Study 3 variables, and zero-order correlations among Study 3 variables are shown in Table 5. An  $\alpha$  level of .05 was used for significance tests. All tests for a priori predictions were one-tailed unless otherwise stated. A small number of missing values were replaced with sample means. Three cases were deleted from the data set: One case was removed because the participant selected the same number repeatedly and two because they were univariate outliers (see Tabachnick & Fidell, 2001). Age was unrelated to political liberalism ( $p = .871$ ). Sex was significantly correlated with greater explicit political liberalism ( $r = .26, p = .005$ ), such that women were more liberal than men, and therefore was controlled for in subsequent analyses. The data were screened to ensure that statistical assumptions were met.



Table 5

*Means, standard deviations, and zero-order correlations among variables in Study 3*

	<i>M (SD)</i>	1	2	3	4	5	6	7	8	9	10	11	12
1. Liberalism	6.00 (1.74)	--											
2. Social	6.57 (2.13)	.89**	--										
3. Economic	5.24 (1.88)	.76**	.45**	--									
4. IAT	0.29 (0.32)	.48**	.41**	.40**	--								
5. Know	2.56 (2.05)	-.17*	-.06	-.25**	-.05	--							
6. Inclus MC	6.60 (1.43)	.12	.11	.11	-.05	-.17 <sup>†</sup>	--						
7. Under MC	7.45 (1.01)	-.07	.04	-.15 <sup>†</sup>	.08	-.01	.20*	--					
8. Chan MC	6.64 (1.26)	.15 <sup>†</sup>	.17 <sup>†</sup>	.16 <sup>†</sup>	.17 <sup>†</sup>	-.13	.08	.33**	--				
9. Avoid MC	4.72 (1.97)	.04	.01	.20*	.03	-.17	.10	-.15	.17 <sup>†</sup>	--			
10. N Inclus	3.58 (0.56)	.27**	.35**	.09	.13 <sup>†</sup>	-.04	.33**	.25*	.05	-.08	--		
11. N Under	3.80 (0.43)	.11	.22**	-.07	.11	.13	.13	.39**	.19 <sup>†</sup>	-.31**	.32**	--	
12. N Chan	3.90 (0.50)	.10	.16*	-.02	.11	-.08	-.03	.17 <sup>†</sup>	.19 <sup>†</sup>	-.20*	.07	.27**	--
12. N Avoid	3.43 (1.30)	.01	-.04	.09	.08	-.08	.08	-.20 <sup>†</sup>	.01	.48**	-.08	-.33**	-.27**

*Note.*  $N = 116$ , except  $N = 95$  for correlations with manipulation checks. \*\*  $p < .01$ ; \*  $p < .05$ ; <sup>†</sup>  $p < .10$  (two-tailed). Tests with political liberalism variables are one-tailed. Liberalism = Political Liberalism, a composite of three items; Social = Social Liberalism; Economic = Economic Liberalism; Know = Political Knowledge; Inclus = Inclusiveness; MC = manipulation check; Under = Understanding; Chan = Change; Avoid = Avoidance of Decisional Commitment; N = Need for.

### *Manipulation Checks*

To examine whether the scrambled-sentence tasks successfully primed participants with the four needs, a series of ANOVAs were conducted with condition as the independent variable and the manipulation checks for each need as the dependent variables. There were no significant differences between the conditions on any of the manipulation checks (see Appendix FF for detailed results). Therefore, the scrambled-sentence priming manipulation was unsuccessful.

### *Explicit and Implicit Liberalism*

To test whether individuals' explicitly and implicitly measured political liberalism differed between conditions, an ANOVA was run with condition as the independent variable and explicit political liberalism and implicit liberalism as the dependent variables. Contrary to predictions, there were no significant differences between conditions on the dependent variables (see Appendix FF).

### *Internal Analyses*

Internal analyses controlling for condition and sex were conducted with the manipulation check measures for each need and measures of political liberalism. Specifically, a series of hierarchical regression analyses were run to examine whether the manipulation check measures predicted explicit and implicit (IAT) political liberalism, as well as whether these relations were moderated by political knowledge. Four variables (effects codes; see Aiken & West, 1991) were created to compare each of the need conditions with the control condition.<sup>6</sup> Sex and the four effects codes were entered in the

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<sup>6</sup> For all four variables (effects codes), the control condition was assigned a value of -1 and the relevant comparison group (i.e., Need for Inclusiveness, Need for Understanding, Need for Change, or Avoidance of Decisional Commitment condition) was assigned a value of +1. Conditions not involved in the contrast for a particular effects code were assigned a value of zero (see Aiken & West, 1991).

first step. In the second step, political knowledge, and the manipulation checks for each of the four needs were entered. In the third step, the four interaction terms (between each of the four need manipulation checks and political knowledge) were entered.

Results of the two hierarchical regression analyses, one for explicit political liberalism and one for implicit political liberalism showed (see Appendix GG for a table of the regression results) that in the first step, sex was a significant predictor of explicit political liberalism, but not implicit political liberalism. None of the effects codes were significant predictors. None of the manipulation checks in Step 2 were significant predictors. In the third step, three of the interactions (all but the political knowledge by the avoidance of decisional commitment manipulation check interaction) were unique predictors of explicit liberalism; the political knowledge by the need for change manipulation check interaction was a unique predictor of implicit political liberalism. Generally, the pattern of interactions found was consistent with those observed in Studies 1 and 2.

Only the interactions between the need manipulation checks and political knowledge uniquely predicted implicit and explicit liberalism. As such, the predictive ability of the needs manipulation checks on political liberalism was explored further. The liberal-conservative continuum has been described as “the single most useful and parsimonious way to classify political attitudes for more than 200 years” (Jost, 2006, p. 654). However, previous research suggests that ideology can also be summarized by two dimensions, one more social in nature and one more economic in nature (e.g., Ashton, Danso, Maio, Esses, Bond, & Keung, 2005; Choma, Ashton, & Hafer, 2007; Eysenck,

1954; Ferguson, 1939; Jost, Glaser et al., 2003a, 2003b). Therefore, in addition to examining political liberalism as a composite score of three items (general, social, and economic), the social item and economic item for political liberalism were analysed separately using hierarchical regression (outlined in the previous paragraph) to explore the findings in greater detail.<sup>7</sup>

Results of the two hierarchical regression analyses (see Appendix GG) showed that sex was a unique predictor of both the social dimension and economic dimension in the first step, such that women were higher on political liberalism than men; effects codes for condition were non-significant in both regression analyses. In the second step, none of the need manipulation checks or political knowledge uniquely predicted the social dimension. However, the need for understanding manipulation check and political knowledge uniquely predicted the economic dimension, such that lower need for understanding and lower political knowledge predicted greater economic liberalism. In the third step, the manipulation check for need for inclusiveness interacted with political sophistication to predict the social dimension of political liberalism. Also, the need for change manipulation check by political knowledge interaction, and need for understanding manipulation check by political knowledge interaction uniquely predicted the economic dimension. Generally, the pattern of interactions found was consistent with those observed in Studies 1 and 2.

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<sup>7</sup> See Appendices HH and II for the regression results of the four needs predicting the social and economic dimensions of liberalism for Studies 1 and 2, respectively.

*The Role of Dispositional Needs in Predicting Political Liberalism: A Replication of Studies 1 and 2*

A replication of the analyses from Studies 1 and 2 using the dispositional needs was also conducted (because the manipulations failed) to determine whether a similar pattern of results would emerge for explicitly and implicitly measured political liberalism. Note that the following analyses were based on composite scores using standardized items from the individual difference measures outlined in the Needs section earlier.

Partial correlations were run between each of the four need scores with explicit political liberalism, the social dimension of liberalism, the economic dimension of liberalism, and implicit liberalism (IAT), controlling for sex (see Table 6)<sup>8</sup>. Consistent with predictions and the findings from Studies 1 and 2, Need for Inclusiveness, Need for Understanding, and Need for Change were positively related to explicit political liberalism, the social dimension of liberalism, and implicitly measured political liberalism (IAT), although the relations with implicit liberalism were only marginal. Also, the associations between political liberalism with Need for Understanding were only marginally significant. Contrary to predictions and the results from Study 2, yet consistent with Study 1, Avoidance of Decisional Commitment was unrelated to the measures of political liberalism. Finally, the economic dimension of liberalism was unrelated to the four needs.

To evaluate whether the four needs uniquely predicted the four political liberalism variables, and to examine whether political knowledge moderated these relations, a series

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<sup>8</sup> Partial correlations between the four individual difference needs and political liberalism, the social dimension of liberalism, and the economic dimension of liberalism are shown in Appendix JJ.

of hierarchical regression analyses were conducted. All variables were first standardized (see Aiken & West, 1991). Sex was entered in the first Step. In the second Step, political knowledge, Need for Inclusiveness, Need for Understanding, Need for Change, and Avoidance of Decisional Commitment were entered. In the third Step, the four interaction terms (between each of the four needs and political knowledge) were entered. The findings for each political liberalism variable are discussed next and shown in Table 7.

Table 6

*Partial correlations between the four needs with explicit and implicit political liberalism for Study 3 controlling for sex*

	Political Liberalism	Social Liberalism	Economic Liberalism	IAT
Need for Inclusiveness	.22**	.32**	.02	.12 <sup>†</sup>
Need for Understanding	.14 <sup>†</sup>	.24**	-.03	.12 <sup>†</sup>
Need for Change	.17*	.22**	.06	.13 <sup>†</sup>
Avoidance of Decisional Commitment	-.04	-.08	.04	.07

*Note.*  $N = 116$ . One-tailed significance tests are reported. \*\*  $p < .01$ ; \*  $p < .05$ ; <sup>†</sup>  $p < .10$ . Political liberalism is a composite of three items (general, social, and economic).

Concerning explicit political liberalism, in the first Step sex was a significant predictor, such that women reported greater liberalism than men. In the second Step, Need for Inclusiveness uniquely predicted greater political liberalism. In the third Step, the interaction between Need for Inclusiveness by political knowledge was significant (see Table 7). Simple slope analyses were conducted to explore the significant interaction

(see Aiken & West, 1991). Simple slopes were probed at 1 SD above, 1 SD below, and at the mean on political knowledge and at three values of Need for Inclusiveness (i.e., 1 SD above, 1 SD below, and at the mean). As shown in Figure 5, for the simple regression with political liberalism regressed onto Need for Inclusiveness, the slope was significantly different from zero for high,  $sr^2 = .06$ ,  $t(105) = 2.74$ ,  $p = .003$ , and mean  $sr^2 = .03$ ,  $t(105) = 2.06$ ,  $p = .020$ , levels of political knowledge. The relation was non-significant at low levels ( $p = .395$ ).

For the social dimension of liberalism, in the first Step, sex was a unique predictor. In the second Step, Need for Inclusiveness and Need for Change uniquely predicted greater social liberalism. In the third Step, the interaction between Need for Inclusiveness by political sophistication was marginally significant (see Table 7).

With respect to the results for the economic dimension of political liberalism, in the first Step sex was a significant predictor. However, there were no significant effects in Step 2. In Step 3, the interactions between Need for Inclusiveness, Need for Understanding, and Need for Change by political sophistication were marginally significant (see Table 7).

Finally, for implicit political liberalism, in the first Step, sex was a non-significant predictor. Only Avoidance of Decisional Commitment uniquely predicted implicitly measured liberalism at Step 2, and this relation was only marginally significant and very small. Contrary to predictions, in the third step, none of the interactions predicted implicit political liberalism (see Table 7).

Table 7

*Regression results for dispositional needs predicting political liberalism in Study 3*

Steps:	Political Liberalism			Social Liberalism			Economic Liberalism			IAT		
	1	2	3	1	2	3	1	2	3	1	2	3
Sex	1.11**	.93*	.78*	.99*	1.00*	.83 <sup>†</sup>	1.47**	1.17**	1.06**	.06	.06	.05
Need for Inclusiveness		.33*	.36*		.55**	.55**		.07	.09		.03	.03
Need for Understanding		.10	.17		.26	.31 <sup>†</sup>		-.06	.05		.03	.04
Need for Change		.21	.24 <sup>†</sup>		.36*	.37*		.09	.11		.04	.04
Avoidance of Commitment		.06	.09		.06	.09		.08	.13		.05 <sup>†</sup>	.04 <sup>†</sup>
Political Knowledge		-.12	-.05		.06	.09		-.26 <sup>†</sup>	-.18		-.00	.00
PK by Need for Inclusiveness			.30*			.26 <sup>†</sup>			.23 <sup>†</sup>			.02
PK by Need for Understanding			-.14			-.07			-.25 <sup>†</sup>			-.02
PK by Need for Change			.13			-.10			.29 <sup>†</sup>			.00
PK by Avoidance of Commitment			.08			.14			.07			-.01
$R^2$	.07	.14	.18	.04	.18	.20	.10	.12	.17	.01	.06	.06
$R^2$ Change		.07	.04		.14**	.02		.02	.05		.05	.01

*Note.*  $N = 116$ . \*\*  $p < .01$ ; \*  $p < .05$ , <sup>†</sup>  $p < .10$ . Unstandardized coefficients are reported. Avoidance of Commitment = Avoidance of Decisional Commitment; PK = political knowledge. Political Liberalism is a composite of three items (general, social, and economic). Sex was coded with women = 1, men = 0.



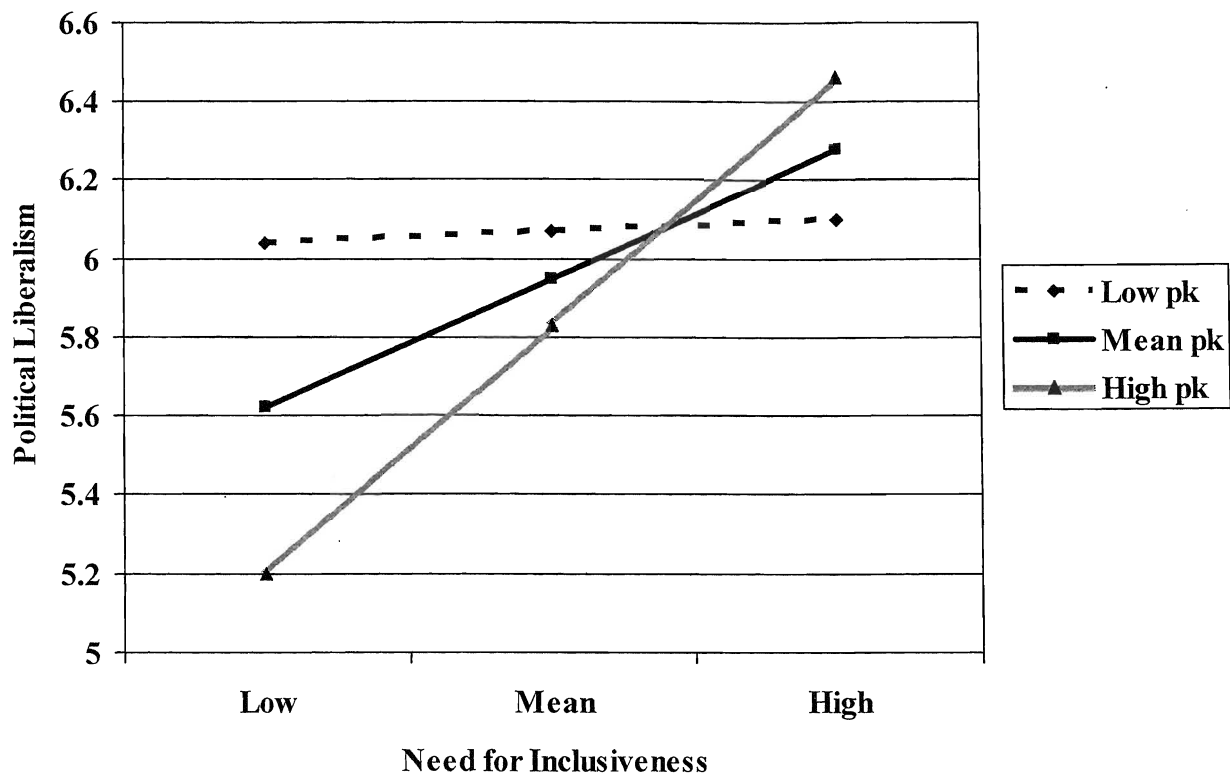


Figure 5. Interaction between Need for Inclusiveness and political knowledge (pk) on political liberalism (Study 3).

## Discussion

The goal of Study 3 was to determine whether situationally induced Need for Inclusiveness, Need for Understanding, Need for Change, and Avoidance of Decisional Commitment could foster greater endorsement of political liberalism. To prime participants with the four proposed needs, the scrambled-sentence manipulation (Skrull & Wyer, 1979) was used. Contrary to previous research successfully utilizing the scrambled sentence manipulation (e.g., Bargh et al., 1996), the prime did not successfully induce a state of any of the four proposed needs. As a result, the role of situationally induced needs on political liberalism could not be assessed.

The relations between political liberalism and individual difference measures of the four needs were examined across conditions in an attempt to replicate the findings from Studies 1 and 2 on both explicitly and implicitly measured political liberalism. Consistent with Studies 1 and 2, greater political liberalism was positively associated with greater Need for Inclusiveness, Need for Understanding (although this association was only marginal), and Need for Change. Also, consistent with Study 1, Avoidance of Decisional Commitment was unrelated to political liberalism. Further, to explore the relations more fully, the social and economic dimensions of political liberalism were examined separately. Results demonstrated that whereas Need for Inclusiveness, Need for Understanding, and Need for Change were positively related with the social dimension of political liberalism, they were all unrelated to the economic dimension of political liberalism. Also, regression analyses showed that Need for Inclusiveness uniquely predicted political liberalism, as well as social liberalism; and, Need for Change was a unique predictor of greater social liberalism.

These findings suggest that Need for Inclusiveness, Need for Understanding, and Need for Change might be especially relevant for the social dimension of political liberalism. However, another (and I propose more likely) explanation is that participants in the present study defined their ideology more in terms of the social rather than economic dimension. Conover and Feldman (1981; see also Johnson & Tamney, 2001; Tetlock, 1989) argue that individuals' structure and/or meaning of ideology can vary, with some individuals placing more emphasis on social issues and others on economic issues. Thus, the lack of findings for the economic dimension in the dispositional need analyses might be a result of participants defining their ideology more in terms of social issues than economic ones. Younger adults especially might be more aware of social issues than economic issues. For instance, first year university students are probably more likely to know how they feel about (and understand) social issues such as abortion compared to economic issues such as tax reform.

Contrary to the majority of research on political ideology, with the exception of a handful of recent studies (e.g., Friese et al., 2007; Knuston et al., 2007), Study 3 also examined implicitly measured political liberalism using an IAT. Although the relations were only marginally significant, implicitly measured political liberalism was positively linked with Need for Inclusiveness, Need for Understanding, and Need for Change, consistent with the findings for explicitly measured political liberalism in Studies 1, 2 and 3.

Recently, the nature of the association between implicit and explicit measures of attitudes has been a topic of considerable discussion in psychology. Whereas some researchers report strong relations between explicit and implicit measures, others find no

association (see Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005; Hofmann, Gschwendner, Nosek, & Schmitt, 2005). According to a meta-analysis by Hofmann, Gawronski et al., the average correlation between implicit and explicit measures is .24. In the present study, the association between explicitly measured and implicitly measured liberalism was moderate ( $r = .48$ ). This finding is consistent with previous works in the political domain. For instance, Knutson et al. (2007) found a positive relation ( $r = .50$ ) between party affiliation IAT scores and explicit political affiliation scores. Similarly, Karpinski et al. (2005) reported that participants' Bush-Gore IAT scores strongly correlated with their explicit assessments of Bush and Gore ( $r = .61$ ).

In addition to examining the relations between political liberalism and the four needs, the potential moderating role of political sophistication between the needs and political liberalism was also tested. Similar to the results of Studies 1 and 2, the relation between Need for Inclusiveness and political liberalism was moderated by political knowledge such that among those with a high or moderate level of political knowledge, the relation between Need for Inclusiveness and political liberalism was positive. Considering this finding in combination with the results from Studies 1 and 2, the interaction between a desire to be inclusive rather than exclusive and political knowledge appears to be fairly consistent.

The main limitation of Study 3 was the unsuccessful manipulation of the four proposed needs. Thus, the primary purpose of Study 4 was to determine whether a more meaningful and less subtle manipulation of a need associated with political liberalism could foster greater endorsement of political liberalism. Studies 1, 2 and 3 suggested that a chronic desire for inclusiveness is associated with greater endorsement of political

liberalism (although the zero-order association was only marginal in Study 2). Therefore, Study 4 focussed on Need for Inclusiveness. According to a motivated social cognition perspective (Jost, Glaser et al., 2003a; Kruglanski, 1996), situationally induced Need for Inclusiveness, similar to a chronic Need for Inclusiveness, should foster greater political liberalism.

## STUDY 4

### Method

#### *Participants*

Participants were 43 undergraduate students from Brock University ( $M_{age} = 19.81$ ;  $SD = 2.25$ ; 74.4% female, 25.6% male), who participated for course participation or \$2. With respect to ethnicity, 67.4% of participants identified themselves as White, 16.3% Asian, 7% Black, 4.7% other, and 2.3% each Aboriginal and Hispanic/Latino/South American. Of the 36 participants who reported their religious affiliation, 36.1% identified themselves as Catholic, 19.4% as other, 13.9% as atheist, 11.1% as Protestant, 5.6% each Anglican and Baptist, and 2.8% each Jewish, Hindu, and Multiple.

#### *Procedure*

In groups of approximately 5 to 10, participants individually read and signed consent forms (see Appendix KK). Need for Inclusiveness was then manipulated using a perceived similarity task (see Ames, 2004). In particular, participants who were randomly assigned to the Need for Inclusiveness condition read the following instructions:

Even though you may have a few differences, you likely have a lot in common with most people in the world. We'd like you to focus on the important ways in which most people in the world are similar to you. In the space below, write about some truly important ways in which most people are similar to you. Discuss whatever you think is important—beliefs, interests, anxieties, dreams, values, and so on.

In contrast, those randomly assigned to the control condition read the following instructions:

A recent survey comparing web-based and television-based news media found that although they have a few differences, web-based and television-based news media also have some things in common.

We'd like you to focus on some ways in which web-based and television-based news are (a) similar and (b) different from one another. Discuss whatever you think is relevant.

Participants in both conditions were provided with one piece of paper to write their responses. Next, participants completed a questionnaire package consisting of measures of the similarity manipulation check, political liberalism, political sophistication, and demographic variables. Finally, participants were provided with written debriefing (see Appendix LL).

### *Measures*

*Similarity manipulation check.* To assess whether the similarity manipulation was successful, participants responded to three items used by Ames (2004) on a scale from “strongly disagree” (1) to “strongly agree” (7): “In general, I am similar to most people in the world”, “I think I am very similar to other people in the world”, and “I’m motivated by very different things than most people in the world”. A composite score was computed by averaging the first two items ( $r = .66, p < .001$ )<sup>9</sup>. Results for the composite as well as the third item are displayed. Higher scores indicated greater perceived similarity.

*Political liberalism.* Political liberalism was again measured using a composite of the three items outlined in the previous studies (i.e., general, social, economic;  $\alpha = .83$ ). In addition, participants completed six items specific to either a left-wing (liberal) or right-wing (conservative) ideology concerning general outlook, social policy, and economic policy on a scale from “not at all liberal”/ “not at all conservative” (1) to “extremely liberal”/ “extremely conservative” (9) (see Appendix MM). A composite score using the average of the three items specific to liberalism was calculated (Left-

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<sup>9</sup> The reliability for the composite using all three items, with the third item reverse-keyed, was extremely low ( $\alpha = .47$ ).

Wing Ideology;  $\alpha = .91$ ). Higher scores reflected greater endorsement of liberalism or a left-wing ideology. A composite score using the average of the three items specific to conservatism was also calculated (Right-Wing Ideology;  $\alpha = .89$ ). Higher scores reflected greater endorsement of conservatism or a right-wing ideology. To assess liberal political attitudes, participants responded to seven items concerning health-care, divorce law, abortion, reducing income differences, same-sex marriage, lowering taxes, and money for the military (see Appendix NN). A score was computed by reverse-scoring politically conservative items and then averaging the items ( $\alpha = .64$ ).<sup>10</sup> Higher scores indicated greater liberal political attitudes.

*Political sophistication.* The same nine-item political knowledge test used in Studies 2 and 3 was administered (see Appendix E). Scores were computed by summing the number of correct responses. Higher scores reflected greater political knowledge.

## Results

Means and standard deviations of Study 4 variables, and zero-order correlations among Study 4 variables are displayed in Table 8. An  $\alpha$  level of .05 was used for significance tests. The data were screened to ensure that statistical assumptions were met. In addition to examining political liberalism, left-wing ideology, and right-wing ideology as composite scores, the social and economic dimensions of each variable were analysed separately to further explore the nature of the effects.

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<sup>10</sup> Liberal political attitudes were also assessed in Studies 1, 2 and 3; however, all showed low reliabilities. To measure liberal political attitudes in Study 1, seven items measured participants' attitudes toward political issues (based on items used by Johnson & Tamney, 2001; see Appendix LL;  $\alpha = .51$ ); in Study 2, participants responded to five items (see Appendix LL;  $\alpha = .31$ ); in Study 3, participants responded to the same five items used in Study 2 (see Appendix LL;  $\alpha = .42$ ). Across all three studies, scores were computed by reverse-scoring politically conservative items and then averaging the items. Higher scores indicated greater political liberalism. See Appendix JJ for the relations between the four needs and liberal political attitudes in Studies 1, 2 and 3. See appendices HH, II, and OO for regression results of needs predicting liberal political attitudes for Studies 1, 2 and 3, respectively.



Table 8

*Means, standard deviations, and zero-order correlations for Study 4 variables*

	<i>M (SD)</i>	1	2	3	4	5	6	7	8	9	10	11	12
1. Political Liberalism	5.78 (1.44)	--											
2. Social Liberalism	6.07 (1.83)	.90**	--										
3. Economic Liberalism	5.33 (1.52)	.77**	.48**	--									
4. Left-Wing Ideology	5.14 (1.72)	.53**	.53**	.28*	--								
5. Social Left-Wing	5.35 (2.18)	.55**	.61**	.21 <sup>†</sup>	.95**	--							
6. Economic Left-Wing	4.88 (1.61)	.36**	.30*	.36**	.86**	.71**	--						
7. Right-Wing Ideology	4.17 (1.64)	-.84**	-.71**	-.65**	-.44**	-.45**	-.33*	--					
8. Social Right-Wing	3.93 (1.97)	-.82**	-.81**	-.48**	-.48**	-.54**	-.29*	.93**	--				
9. Economic Right-Wing	4.42 (1.66)	-.62**	-.36**	-.73**	-.25 <sup>†</sup>	-.18	-.34*	.84**	.61**	--			
10. Liberal Political Attitudes	3.40 (0.69)	.70**	.77**	.38**	.47**	.53**	.24 <sup>†</sup>	-.48**	-.57**	-.20 <sup>†</sup>	--		
11. Political Knowledge	2.07 (1.62)	-.01	-.00	-.06	-.10	-.07	-.12	.01	.02	.08	.04	--	
12. Perceived Similarity	4.38 (1.21)	-.14	-.22	.14	-.14	-.19	.10	.17	.26 <sup>†</sup>	-.05	-.05	-.13	--
13. Perceived Similarity 3	3.98 (1.44)	-.03	.10	-.13	.19	.26 <sup>†</sup>	.19	.04	-.12	.20	.18	.26 <sup>†</sup>	.03

*Note.*  $N = 43$ . \*\*  $p < .01$ ; \*  $p < .05$ ; <sup>†</sup>  $p < .10$ . Political liberalism is a composite of three items concerning general outlook, social policy, and economic policy on a scale from conservative to liberal. Left-Wing Ideology is a composite of three items concerning general outlook, social policy, and economic policy on a scale from not at all liberal to extremely liberal. Right-Wing Ideology is a composite of three items concerning general outlook, social policy, and economic policy on a scale from not at all conservative to extremely conservative. Perceived Similarity = composite of the first two items. Perceived Similarity 3 = third item. Significance tests for relations with political knowledge, perceived similarity, and perceived similarity 3 are two-tailed.

### *Manipulation Checks*

An independent samples *t*-test was conducted to assess whether the similarity manipulation was successful. Results showed that there were no significant differences between the control group ( $M = 4.36$ ;  $SD = 0.91$ ) and the Need for Inclusiveness condition ( $M = 4.41$ ;  $SD = 1.46$ ) on perceived similarity,  $t(41) = -0.14$ ,  $p = .890$  (or on the third perceived similarity item,  $p = .915$ ).

### *Between Group Differences*

Two multivariate analyses of covariance (MANCOVA) were conducted to test whether participants in the Need for Inclusiveness condition reported greater political liberalism compared to those in the control condition. The first MANCOVA examined the three liberal composite variables (political liberalism, left-wing ideology, and liberal political attitudes). Sex was entered as a covariate because it was significantly correlated with liberal political attitudes ( $r = -.44$ ,  $p = .003$ ), indicating that women were higher on liberal political attitudes compared to men. The second MANCOVA examined the four individual social and economic dimension items used to create the political liberalism and left-wing ideology variables. Age was entered as a covariate because it was significantly correlated with the economic dimension of liberalism ( $r = -.31$ ,  $p = .044$ ).

Results showed that for the first MANCOVA conducted on the composite variables, the multivariate effect for condition was significant,  $F(3, 38) = 5.36$ ,  $p = .002$ . Univariate tests showed that participants in the Need for Inclusiveness condition reported significantly greater liberal political attitudes (see Table 9). Although participants in the Need for Inclusiveness condition reported greater political liberalism and left-wing

Table 9

*Means and standard deviations by condition, and results of univariate and tests for dependent measures in Study 4*

	Need for		<i>F</i>	<i>p</i>	<i>d</i>
	Inclusiveness	Control			
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )			
Political Liberalism	6.05 (1.39)	5.49 (1.48)	1.40	.121	.38
Left-Wing Ideology	5.45 (1.84)	4.81 (1.57)	1.33	.127	.39
Liberal Political Attitudes	3.71 (0.60)	3.10 (0.62)	13.28	.0005	1.00
Social Liberalism	6.64 (1.84)	5.48 (1.66)	4.53	.020	.66
Economic Liberalism	5.36 (1.53)	5.29 (1.55)	.01	.464	.05
Social Left-Wing	5.82 (2.44)	4.86 (1.80)	2.12	.076	.45
Economic Left-Wing	5.05 (1.65)	4.71 (1.59)	.43	.259	.21
Right-Wing Ideology	4.02 (1.62)	4.33 (1.69)	.39	.268	-.19
Social Right-Wing	3.64 (2.10)	4.25 (1.81)	1.00	.161	-.31
Economic Right-Wing	4.45 (1.74)	4.40 (1.67)	.02	.443	.03

*Note.*  $N = 22$  for Need for Inclusiveness condition;  $N = 21$  for control condition. Significance tests are one-tailed. Cohen's  $d$  was calculated using means and standard deviations.

ideology, as expected, these effects did not reach statistical significance (see Table 9).

Results showed that for the second MANCOVA conducted on the four social and economic dimension items, the multivariate effect for condition was not significant,  $F(4, 37) = 1.39, p = .128$ . Univariate tests showed that participants in the Need for Inclusiveness condition reported significantly greater social political liberalism and marginally greater social left-wing ideology (see Table 9). Although participants in the

Need for Inclusiveness condition reported greater economic political liberalism and economic left-wing ideology, these effects did not reach statistical significance (see Table 9).

To examine whether Need for Inclusiveness affected participants reported right-wing ideology, a one-way analysis of variance (ANOVA) was conducted. Although participants in the Need for Inclusiveness condition reported lower right-wing ideology, the effect was not significant,  $F(1, 40) = .39, p = .268$  (see Table 9). To determine whether Need for Inclusiveness affected participants reported social right-wing ideology and economic right-wing ideology, a MANOVA was conducted. The multivariate effect for condition was non-significant,  $F(2, 40) = 0.96, p = .196$ . Univariate tests also revealed that participants in the Need for Inclusiveness condition did not report significantly different levels of economic or social right-wing ideology than those in the control condition (see Table 9).

A series of hierarchical regressions were run to examine whether political knowledge moderated the effects of condition on each of the dependent measures. Sex was controlled for in the regression predicting liberal political attitudes, and age was controlled for in the regression predicting economic political liberalism (Step 1). For the remaining ideology variables, in Step 1, condition and (standardized) political knowledge were entered. In the second step, the interaction between condition and political knowledge was entered. Results showed that political knowledge did not significantly moderate the effects for any of the dependent variables (all  $ps > .188$ , one-tailed).

## Discussion

The purpose of Study 4 was to test whether situationally induced Need for Inclusiveness could foster greater political liberalism. Consistent with hypotheses and a motivated social cognition perspective, participants in the Need for Inclusiveness condition reported significantly greater social liberalism and liberal political attitudes, as well as marginally greater social left-wing ideology, compared to those in a control condition (even though the manipulation check was unsuccessful). Contrary to expectations, there were no significant differences between conditions on political liberalism, economic liberalism, left-wing ideology, and economic left-wing ideology, although the pattern of means was in the expected direction. It is possible that Need for Inclusiveness is more specific to the social dimensions. Nevertheless, I propose that a more likely explanation (discussed earlier) is that participants in the present study defined their ideology more in terms of social issues than economic issues. As a result, effects of situationally induced Need for Inclusiveness were shown on the social dimensions but not the economic dimensions. Also of note, there were no significant differences between the two conditions on the right-wing ideology variables suggesting that Need for Inclusiveness might be more specific to greater liberalism rather than low conservatism (see also Conover & Feldman, 1981).

Contrary to Studies 1, 2 and 3, political sophistication did not moderate these effects. However, the level and range of political knowledge scores among Study 4 participants was particularly low and unvaried (lower than Studies 1, 2 and 3). Consequently, the restricted range might have hampered the likelihood of detecting a moderating role of political knowledge (Cohen et al., 2003; McClelland & Judd, 1993).

Alternatively, the lack of moderation could be specific to situationally induced needs. Perhaps, political sophistication plays a moderating role among the relations between chronic needs with political liberalism, but not with situationally induced needs and political liberalism. Future research is needed to explore this possibility.

Although the results of Study 4 suggest that the Need for Inclusiveness condition fostered greater political liberalism compared to a control condition, it is important to note that the manipulation check for perceived similarity was non-significant. Using a comparable manipulation, Ames (2004, Studies 2 and 3) successfully fostered greater perceived similarity among participants in a perceived similarity condition compared to those in a dissimilarity condition. Unlike Ames' design, however, the control condition used in the present study was not a dissimilarity manipulation (i.e., write about how dissimilar you are to most people in the world). Rather, participants in the control condition were asked to write about similarities *and* differences of two types of media. Therefore, participants in the control condition might also have been influenced by a similarity prime. Thus, it is somewhat unclear whether the similarity manipulation did indeed foster greater Need for Inclusiveness. Future research relying on a more direct measure of Need for Inclusiveness (vs. perceived similarity) as well as a dissimilarity control condition is necessary.

## GENERAL DISCUSSION

This dissertation was intended to extend previous research examining the psychological variables that underlie political ideology (e.g., Block & Block, 2006; Jost, Glaser et al., 2003a; Thorisdottir et al., 2007). Given that most research on political ideology focuses almost entirely on political conservatism, the present dissertation aimed to fill a gap in the literature by exploring the social-cognitive needs or motives underlying political liberalism. On the basis of general psychological theoretical perspectives on political ideology, empirical work examining political conservatism, and empirical research studying differences between liberals and conservatives, I hypothesized that four psychological needs would predict the endorsement of political liberalism, namely: Need for Inclusiveness, Need for Understanding, Need for Change, and Avoidance of Decisional Commitment.

In Studies 1, 2 and 3 – two student samples and a diverse sample of community adults – I examined whether a Need for Inclusiveness, Need for Understanding, Need for Change, and a Avoidance of Decisional Commitment predicted greater endorsement of political liberalism (note that the relations with the four proposed needs and political liberalism were tested in Study 3 given the failed manipulation). In Study 4, I tested whether situationally induced Need for Inclusiveness fostered greater political liberalism. As outlined in the Introduction, some research suggests that political sophistication might moderate the relation of needs and motives with political ideology (e.g., Converse, 1964; Federico & Schneider, 2007; Jacoby, 1991). Thus, I expected that the proposed links between (or effects of) the four needs and political liberalism would be stronger among

individuals higher in political sophistication. This prediction was tested in all four studies.

Across Studies 1, 2 and 3, a fairly consistent pattern of correlations between the needs and political liberalism emerged: Need for Inclusiveness, Need for Understanding, and Need for Change all related to greater endorsement of political liberalism (although the relations between political liberalism and Need for Inclusiveness in Study 2, and between liberalism and Need for Understanding in Study 3 were marginally significant). Avoidance of Decisional Commitment was also related to political liberalism; however, this association only emerged marginally in Study 2. In Study 3, liberalism was also assessed using an implicit tool, the Implicit Association Test or IAT (Greenwald et al., 1998). As mentioned earlier, researchers such as Burdein et al. (2006) have emphasized the importance of incorporating measures tapping participants' automatic responses in addition to consciously controlled responses in research in the political domain. Friese et al. (2007), for example, found that implicitly assessed political party preferences, in addition to explicitly measured party preference and voting intention, predicted participants' voting behaviour. Consistent with the pattern of results found for explicitly measured liberalism in the present dissertation, the results from Study 3 demonstrated that Need for Inclusiveness, Need for Understanding, as well as Need for Change all related to greater implicitly measured political liberalism, although these relations were only marginally significant.

To more fully explore the nature of the relations between the four proposed needs with political liberalism in Study 3, the measure of explicit liberalism was split into social and economic dimensions. Several previous researchers have shown that political



ideology can be summarized by two dimensions, one typically concerning social issues and one concerning economic issues (e.g., Ashton et al., 2005; Choma et al., 2007). In Study 3, analyses showed that Need for Inclusiveness, Need for Understanding, and Need for Change significantly related to the social dimension of liberalism, but not the economic dimension (see Table 6). The needs proposed to be underlying liberalism in the present dissertation might be more relevant for the social dimension than the economic dimension. Yet, as I proposed earlier, it is possible that this pattern of findings might be better explained by the notion that participants in the present studies defined their ideology more in terms of the social dimension than the economic dimension (see Conover & Feldman, 1981).

To summarize, Need for Inclusiveness, or a desire to be inclusive and nurturing was positively associated with greater liberalism, as predicted. Need for Understanding, or a desire for cognitive complexity and inquisitiveness was also significantly related to greater endorsement of political liberalism. In addition, Need for Change, or a desire for new and novel experiences, sensation-seeking, and change was related to greater political liberalism. Contrary to predictions, Avoidance of Decisional Commitment was unrelated to political liberalism in Studies 1 and 3, and only weakly linked with liberalism in Study 2. In fact, the correlation between Avoidance of Decisional Commitment with political liberalism was close to zero in Studies 1 and 3. However, Avoidance of Decisional Commitment demonstrated an association with political liberalism through an interaction with political sophistication in Study 1. This result was explored earlier (see Study 1 Discussion), and will be explained further in this General Discussion.

Although Need for Inclusiveness, Need for Understanding, and Need for Change all correlated with greater political liberalism, only certain needs uniquely predicted political liberalism when entered simultaneously into a regression. In particular, Need for Inclusiveness was a unique predictor of greater political liberalism in Studies 1 and 3. Need for Change uniquely predicted greater political liberalism in Studies 1 and 2, but did not in Study 3. Need for Understanding and Avoidance of Decisional Commitment were unique predictors in Study 2 only. As mentioned throughout this dissertation, one potential explanation for this inconsistency is overlapping variance among the needs (see Cohen et al., 2003; Tabachnick & Fidell, 2001). In circumstances where two predictor variables (e.g., Need for Change and Need for Understanding) account for a portion of shared variance in a criterion variable (e.g., political liberalism), one is typically dropped as a unique predictor when tested simultaneously (Cohen et al., 2003; Tabachnick & Fidell, 2001; Tzelgov & Henik, 1991). Therefore, given the overlapping variance among certain needs, it is not surprising that all three needs did not emerge as unique predictors in each study.

The role of political sophistication or expertise in political ideology has been debated for decades (see Jost, 2006). Previous researchers have shown that certain factors such as education level and political sophistication can increase ideological consistency (e.g., Jacoby, 1991; Judd & Krosnick, 1989; Lavine et al., 1997; Luskin, 1987; Millar & Tesser, 1986; Zaller, 1992), suggesting that the relation between the four proposed needs with political liberalism might be moderated by political sophistication. As discussed in the Introduction, findings demonstrating that individuals low in political expertise are less likely to use abstract ideological constructs to organize their political attitudes (e.g.,

Converse, 1964) do not necessarily imply that individuals who are less politically sophisticated are non-ideological (see Jost, 2006). Instead, this body of research suggests that the relations between political ideology and the relevant underlying needs or motivations might be stronger among individuals higher in political sophistication. Thus, political sophistication was examined as a potential moderator in the present dissertation.

Several of the proposed needs interacted with political knowledge to predict political liberalism in Studies 1, 2 and 3, the most consistent being a Need for Inclusiveness. In Studies 1, 2 and 3, Need for Inclusiveness predicted greater political liberalism among those with a higher or moderate knowledge of politics, but not among those with a low level of political knowledge. Similarly, this pattern emerged for Need for Change among the community participants of Study 2. Finally, Avoidance of Decisional Commitment also interacted with political sophistication such that among those with a high knowledge of politics, the relation with political liberalism was positive. In contrast, the relation between Avoidance of Decisional Commitment and political liberalism was negative among those with a low knowledge of politics. Thus, a comparable pattern of interaction was replicated across Studies 1, 2 and 3: Among those with a greater knowledge of politics, the association between a certain need and political liberalism tended to be stronger and positive. This pattern is consistent with a recent study conducted by Kimmelmeier (2007) who found that political interest moderated the relation between cognitive orientation (rigidity) and conservatism, such that the relation was stronger and positive among those with a greater interest in politics.

What remains unclear however, is why the relation between the proposed needs and political liberalism is stronger among those higher in political sophistication? There

are several potential explanations, all of which beg future investigation. First, it is possible that these findings are simply an artifact of measurement. As I proposed in the Introduction, individuals higher in political sophistication are likely better able to accurately indicate their political ideology, compared to those lower in political sophistication, who might do so with a greater degree of error. If this is the case, then a significant relation between liberalism and the proposed needs (e.g., Need for Inclusiveness) might emerge among those higher in political sophistication simply because there is less error in their self-reported ideology. However, inherent in this explanation is the assumption that individuals with a greater knowledge of politics utilize their knowledge, and this might not always be the case, as discussed next.

The majority of research examining political sophistication has assumed that its effects are a result of informational processes, such that individuals with ideological-specific knowledge rely on this base to interpret and make sense of political attitudes/stimuli (e.g., Converse, 1964). Recent work by Federico and Schneider (2007), however, has demonstrated that while a greater knowledge of politics is related to ideological consistency or constraint, the relation is moderated by a motivation to utilize this knowledge base. In particular, they found that the relation between expertise and constraint was stronger among individuals with a greater motivation to evaluate. Thus, perhaps it is not solely the possession of political expertise that moderates the relation between needs and liberalism, but a motivation to apply that expertise. These findings imply that the moderating effects of political sophistication found in the present dissertation between needs and political liberalism might be further moderated by a motivation to use one's political knowledge.

One way to further investigate the role of political sophistication and motivation to evaluate could be with experimental research. In the future, researchers should manipulate political consistency or constraint (e.g., a seminar on the meaning of liberal and conservative, and the typical issues-stances that accompany these orientations) and motivation to use this knowledge base (e.g., encourage participants to think about their attitudes and self-placement in light of this knowledge).

As discussed earlier, the detection of interactions in correlational designs are difficult because of issues related to the nature of distributions of predictor variables (e.g., restricted range, fewer cases at extreme values, etc.) and lower statistical power (Aiken & West, 1991; Cohen et al., 2003; Jaccard et al., 1990; McClelland & Judd, 1993). As such, the challenges in detecting interactions in non-experimental designs might explain why consistent interactions between political sophistication and certain needs were not found. For example, the interactions of Avoidance of Decisional Commitment and Need for Change with political sophistication were only found in one study each.

To account for the difficulties of testing moderation with correlational data, future research should manipulate participants' level of political knowledge. In contrast to correlational or observational designs in which the range and variability of scores is dependent upon the population sampled, experimental manipulation of a moderator variable permits a test of moderation using extreme ranges, making it easier to detect moderation (McClelland & Judd, 1993). Such experimental research would help to clarify whether political sophistication similarly moderates the relations of all chronic needs associated with political liberalism, or whether the moderating influence of political sophistication is reserved for certain needs.

The results from Studies 1, 2 and 3 provide some evidence for the role of chronic social-cognitive needs or motives in peoples' endorsement of political liberalism. Such findings can account for some of the variation in individuals' political ideology; however, results specific to individual differences cannot explain variations in political ideology entirely. As discussed in the Introduction, according to a motivated social cognition perspective, both dispositional and situational variables multiply determine peoples' political ideology (Jost, Glaser et al., 2003a; Kruglanski, 1996). Previous research has illustrated the effects situational variables can have on individuals' political leanings (e.g., Bonanno & Jost, 2006; Doty et al., 1991; Jost et al., 2003a; Kruglanski & Webster, 1991; McCann, 1997; Sales, 1973). Therefore, to fully understand why individuals adopt certain political ideologies, the role of situationally induced needs must be examined. As such, in Studies 3 and 4 a Need for Inclusiveness, a Need for Understanding, a Need for Change, and an Avoidance of Decisional Commitment were individually manipulated and their impact on the endorsement of political liberalism was assessed.

Unfortunately, the scrambled-sentence prime (Bargh et al., 1996; Skrull & Wyer, 1979) used in Study 3 did not successfully raise the salience of the four proposed needs (see Study 3, Discussion). Therefore, as an additional test of the role of situationally induced social-cognitive needs on expressions of political liberalism, in Study 4, Need for Inclusiveness was manipulated using a perceived similarity exercise (see Ames, 2004). Study 4 also examined the influence of Need for Inclusiveness on political liberalism, independent of political conservatism. In Studies 1, 2 and 3, political liberalism was assessed using a uni-dimensional scale, and thus, could not inform whether the proposed needs were uniquely linked with political liberalism. To address this, separate measures

of political liberalism and political conservatism were employed in Study 4. Contrary to expectations, the difference between conditions on a composite measure of political liberalism was not significant. Further, the effect for social left-wing ideology was only marginally significant. However, participants in the Need for Inclusiveness condition reported significantly greater social political liberalism and liberal political attitudes compared to those in a control group. Presumably, reflecting on how similar one is to most people in the world fostered greater liberalism (however, this is uncertain given that the manipulation check failed). Therefore, Study 4 provided some empirical support for the notion that situationally induced social-cognitive needs – at least Need for Inclusiveness – might foster greater endorsement of political liberalism.

Contrary to predictions, political knowledge did not moderate the effects of manipulated Need for Inclusiveness on political liberalism. Low variability in political knowledge scores may account for the lack of moderation (Cohen et al., 2003; McClelland & Judd, 1993; see Study 4 Discussion). As suggested above, future research should examine the moderating role of political sophistication by directly manipulating participants' level of political knowledge to increase the likelihood of detecting an interaction (see McClelland & Judd, 1993). This would inform whether the effects of situationally induced needs (in comparison to individual difference needs) are similarly subject to moderation, or whether political knowledge only moderates the relations with individual difference needs.

In summary, the present dissertation examined the role of four dispositional, as well as situationally-induced needs, on the endorsement of political ideology, especially liberalism. By examining the motivational underpinnings of political ideology with a

focus on political liberalism, the findings of the present dissertation indicate that there might be other needs underlying political ideology that have been overlooked. Across four studies involving samples of first year university students, fourth year university students, and a diverse sample of community adults, the present dissertation provided some empirical support for the prediction that the endorsement of political liberalism is multiply determined by both chronic and situationally induced social-cognitive needs or motives, primarily: Need for Inclusiveness, Need for Understanding, and Need for Change. Also, Study 4 provided some evidence that there might be certain needs (perhaps Need for Inclusiveness) that are linked with political liberalism in particular. Further, the present research identified one moderating variable of the association between needs with political ideology – political sophistication.

Several qualifications of the present findings and suggestions for future research should be noted. First, future research on political liberalism should look beyond the specific needs proposed in the current dissertation. For example, the needs and motives explored in the present studies are not exhaustive. There might be other needs or motivations that promote greater political liberalism through dispositional and/or situational avenues. Future research is needed to identify any such variables. Moreover, there are other influences, outside of needs or motivations that likely affect people's endorsement of certain political ideologies. For instance, variables such as demographic characteristics (see Knight, 1999), developmental factors (see Sears & Levy, 2003), and socialization influences (e.g., Altemeyer, 1981, 1998), also play a role in predicting an individual's political orientation.



Second, because I propose that some of the needs associated with political liberalism are different, not just opposite, from those that foster political conservatism (see also Conover & Feldman 1981), future research should test whether needs are differentially related to *separate* measures of liberalism versus conservatism. In particular, future research should employ a measure similar to the bi-dimensional scale of political ideology used in Study 4. Such research would provide empirical evidence for the notion that some needs are related to greater liberalism and not necessarily low conservatism. For instance, the effects in Study 4 of Need for Inclusiveness fostering greater liberalism and left-wing ideology, but not lower right-wing ideology, suggest that Need for Inclusiveness might be more relevant to liberalism than conservatism.

Third, and related to the above two points, an analysis of the relations between separate measures of liberalism and conservatism with the four proposed needs of liberalism, as well as the needs reviewed by Jost, Glaser et al. (2003a) associated with conservatism, would greatly extend current knowledge concerning the social-cognitive needs fostering liberalism and conservatism. In the present dissertation, I proposed that *some* of the needs or motives underlying liberalism are different than those that underlie political conservatism. A simultaneous examination of several needs proposed to underlie liberalism and conservatism using separate measures of these constructs would allow researchers to directly test which needs are *distinctly* related to liberalism versus conservatism (see Conover & Feldman 1981), and which needs are *similarly* (although oppositely) related to liberalism and conservatism. This line of inquiry would allow researchers to further explore what kinds of needs are associated with liberalism versus conservatism, or even the number of needs that underlie these political ideologies.

Fourth, although the present dissertation examined the role of situationally induced Need for Inclusiveness, additional experimental research is needed to examine whether situationally induced Need for Understanding, Need for Change, Avoidance of Decisional Commitment or related variables, similarly foster greater endorsement of political liberalism. Importantly, a greater understanding of how real-life events (e.g., 9/11, Bonanno & Jost, 2007) heighten the salience of certain needs or motives associated with liberalism and/or conservatism and the impact this might have on individuals' political ideology, political attitudes, political involvement and voting preferences is needed. For example, a study by Willer (2004) showed that approval ratings for U.S. President George W. Bush were associated with increased terror warnings.

Further, an examination of the interaction of dispositional with situationally induced needs or motives on political ideology would also extend current knowledge. For example, perhaps individuals chronically high in Need for Inclusiveness who are exposed to a situation characterized by a high Need for Inclusiveness might be especially high on political liberalism.

Finally, and as recommended by others (e.g., Federico & Schneider, 2007), researchers should sample from diverse populations, especially beyond university samples. To adequately understand the role of social-cognitive needs or motivations, as well as other variables, in expressions of political ideology, it is imperative that proposed associations are examined among diverse populations with varying levels of potential moderating variables (e.g., political expertise). Indeed, limiting the possible range of scores of potential moderators drastically reduces the chances of detecting an interaction, even if one does exist (Cohen et al., 2003; McClelland & Judd, 1993; Pitt & West, 2001).

Failing to test the generalizability of our findings limits our understanding of political ideology and the many variables that contribute to it, relate to it, and are influenced by it.

In conclusion, although liberals and conservatives differ on certain needs, as Klein's quote at the beginning of this dissertation suggests, liberals and conservatives probably have one major thing in common: their ideologies are probably both influenced by underlying needs and motivations. Future researchers exploring chronic and situational sources of social-cognitive needs, and their interaction, would greatly expand current knowledge about political orientation (both political conservatism and liberalism), especially our understanding of the reasons – motivated and otherwise – for why individuals adopt certain political ideologies.

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## Appendix A

**Brock University: Participants Informed Consent Statement**

Project Title: General Attitudes and Personality

Principle Investigator: Becky Choma  
 PhD Student, Psychology Department  
rc98ac@brocku.ca ; 905-688-5550 ext. 4680

Supervisor: Dr. Carolyn Hafer  
 Brock University Professor  
chafer@brocku.ca ; 905-688-5550 ext. 4297

**PURPOSE/INFORMATION:** You are being invited to participate in a study investigating how people's personality is related to their general attitudes, values, and beliefs. You will be given 2 copies of this consent form that you will read and may ask any questions. Then, you will be asked to sign both copies, one will be handed to the researcher and one you will keep for your own records. After you have signed the consent form you will be asked to complete a questionnaire taking approximately 30 (or 60-90) minutes. After you have handed in your questionnaire the researcher will provide you with a debriefing form explaining the specific purpose of the study.

**RISKS/BENEFITS:** There are no known risks for participating in this study. If you have any questions, you may contact the researcher or her supervisor. The information from this study will help with the completion of a PhD dissertation and contribute to research on personality and attitudes. *This study counts as a 1.5 hour study for PSYC course research apprenticeships.*

**CONFIDENTIALITY:** Your name will only be associated with this consent form. There will be **no way** of knowing what you wrote. All consent forms and data will be kept in a locked room at all times and destroyed 5 years after publication. Only Becky Choma and Dr. Carolyn Hafer will have access to this data. Any information gathered from this research will be **anonymous**.

**CONTACT:** If you have questions at any time about the study or the procedures you may contact the researcher, Becky Choma, at Brock University in the Psychology Department, and through email: rc98ac@brocku.ca, her Supervisor, Dr. Carolyn Hafer, Brock University, 688-5550, extension 4297 or chafer@brocku.ca. This project has been reviewed and received ethics clearance through the Office of Research Ethics Board (File # 05-010). If you have any pertinent questions regarding your rights as a participant, please contact the Research Ethics Officer at reb@brocku.ca, 905-688-5550 ext 3035.

**PARTICIPATION:** Your participation in this study is voluntary; you may decline to participate at any time without consequences to yourself by informing the researcher of this decision. If you withdraw from the study before you are done the questionnaire your questionnaire will be omitted from analysis upon your request. Due to the anonymous nature of this study, data cannot be withdrawn once submitted. You have the right to omit any question(s) you choose.

**FEEDBACK AND PUBLICATION:** The results from this study will be incorporated into a PhD dissertation and may be used in any journal articles, presentations, or books published. The results of this research study may be available approximately one year from now. Would you like to receive a copy of the results (**circle**)? Please provide an email address where the results can be sent: \_\_\_\_\_

**CONSENT:** You must be at least 20 years of age to participate in this study.

I have read and understand the above information. I have received a copy of this form. I understand that I may ask questions in the future. I agree to participate in this study.

Participant's signature \_\_\_\_\_ Date \_\_\_\_\_

Investigator's signature \_\_\_\_\_ Date \_\_\_\_\_

**\*\*PLEASE KEEP A COPY OF THIS CONSENT FORM FOR YOUR RECORDS\*\***

## Appendix B

**DATE:** August 24, 2005

**FROM:** Linda Rose-Krasnor, Chair  
Research Ethics Board (REB)

**TO:** Carolyn Hafer, Psychology  
Becky CHOMA

**FILE:** 05-010 CHOMA

**TITLE:** General Attitudes and Personality

The Brock University Research Ethics Board has reviewed the above research proposal.

**DECISION:** Accepted as clarified, however, please add the Research Ethics Officer contact information to the letter for Manager/Owners.

This project has received ethics clearance for the period of August 24, 2005 to May 30, 2006 subject to full REB ratification at the Research Ethics Board's next scheduled meeting. The clearance period may be extended upon request. *The study may now proceed.*

Please note that the Research Ethics Board (REB) requires that you adhere to the protocol as last reviewed and cleared by the REB. During the course of research no deviations from, or changes to, the protocol, recruitment, or consent form may be initiated without prior written clearance from the REB. The Board must provide clearance for any modifications before they can be implemented. If you wish to modify your research project, please refer to <http://www.brocku.ca/researchservices/forms> to complete the appropriate form **Revision or Modification to an Ongoing Application**.

Adverse or unexpected events must be reported to the REB as soon as possible with an indication of how these events affect, in the view of the Principal Investigator, the safety of the participants and the continuation of the protocol.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and clearance of those facilities or institutions are obtained and filed with the REB prior to the initiation of any research protocols.

The Tri-Council Policy Statement requires that ongoing research be monitored. A Final Report is required for all projects upon completion of the project. Researchers with projects lasting more than one year are required to submit a Continuing Review Report annually. The Office of Research Services will contact you when this form *Continuing Review/Final Report* is required.

Please quote your REB file number on all future correspondence.

LRK/bb

**Office of Research Ethics**  
Brock University  
Office of Research Services  
500 Glenridge Avenue  
St. Catharines, Ontario, Canada L2S 3A1  
phone: (905)688-5550, ext. 3035 fax: (905)688-0748  
email: reb@brocku.ca  
<http://www.brocku.ca/researchservices/ethics/humanethics/>

## Appendix C

**Brock University Written Debriefing Form**

Project Title: General Attitude and Personality

Principle Investigator: Becky Choma  
 PhD Student, Psychology Department  
rc98ac@brocku.ca ; 905-688-5550 ext. 4680

Supervisor: Dr. Carolyn Hafer  
 Brock University Professor  
chafer@brocku.ca ; 905-688-5550 ext. 4297

The purpose of this research is to understand why people adopt certain political ideologies. For example, either liberal or conservative—*not* the political parties—instead general ways of thinking or viewing the world. Other research examining political ideologies has found that political conservatism is related to many personality traits.

One group of researchers, specifically, Jost, Glaser, Kruglanski, and Sulloway predicted that some people hold conservative ideologies to fulfill some of their psychological needs. Although there is a large body of research showing that conservatism is related to many personality traits, there is minimal research examining the relationship between liberalism and personality.

Because there is minimal research on liberalism, the present study aims to fill this gap by examining what personality traits are related to liberalism. Theory and research on political ideology--both on conservatism and liberalism, and research on the differences between conservatives and liberals suggests that there are four main groups of psychological needs/motives related to political liberalism: (1) Need for Inclusiveness, (2) Need for Understanding, (3) Need for Change/Need to Rebel, and (4) Fear of Commitment to a Decision/Need to be Accurate. Findings from this study will help to understand what personality traits may be related to political liberalism.

It is important to remember that there is a range in beliefs and a variety of ways of viewing the world. For example, people have different political ideologies, or different religious beliefs. And all viewpoints deserve consideration and respect.

*Please* do not show this form to other potential participants, this is for your viewing. This is so that other potential participants do not find out about the study beforehand; this could prevent them from responding naturally to the questions. Thank you for your cooperation.

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact the Research Ethics Officer at 905-688-5550, extension 3035. This project has been reviewed and received ethics clearance through the Office of Research Ethics Board (File # 05-010).

**Thank you for your time and support in participating in this study!!**

**Becky**

**If you have any questions or concerns please feel free to contact any of the following:**

Becky Choma (Principle investigator)

Dr. Carolyn Hafer (Supervisor)



## Appendix E

**Please answer each of the following questions to the best of your ability.**

1. Who is the Governor General of Canada? \_\_\_\_\_
2. Who is the Prime Minister of Canada? \_\_\_\_\_
3. What is the name of the Prime Minister's political party? \_\_\_\_\_
4. What job or political offices do the following hold?
  - i. Jacques Chirac \_\_\_\_\_
  - ii. Tony Blair \_\_\_\_\_
  - iii. Gilles Duceppe \_\_\_\_\_
5. Who is the head of the UN? \_\_\_\_\_
6. What party has the most seats in the House of Commons? \_\_\_\_\_
7. How many readings does a bill go through in the House of Commons? \_\_\_\_\_
8. Where does a bill go after it passes the House of Commons? \_\_\_\_\_
9. Who is the former Conservative Party MP who crossed the floor and joined the Liberal Party in May of 2005? \_\_\_\_\_  
What position was this person appointed? \_\_\_\_\_
10. Name the four political parties with the most seats in the House of Commons. \_\_\_\_\_  
\_\_\_\_\_

*Note.* Questions 1, 2, 3, 4i, 4iii, 5, 7, 8, and 9 were used in Studies 2, 3, and 4.



## Appendix F

1. I have a soft heart.	1	2	3	4	5
2. I go out of my way for others.	1	2	3	4	5
3. I think of others first.	1	2	3	4	5
4. I will do anything for others.	1	2	3	4	5
5. I like to please others.	1	2	3	4	5
6. I wouldn't harm a fly.	1	2	3	4	5
7. I make enemies.	1	2	3	4	5
8. I oppose authority.	1	2	3	4	5
9. I believe that I am better than others.	1	2	3	4	5
10. I seek danger.	1	2	3	4	5
11. I put people under pressure.	1	2	3	4	5
12. I try to outdo others.	1	2	3	4	5
13. I believe only in myself.	1	2	3	4	5

## Appendix G

## Inquisitiveness:

1. I'm interested in learning about the history and politics of other countries.
2. I find TV nature programs to be very boring.
3. I enjoy looking at maps of different places.
4. I know the capital cities of many countries.
5. I would like to visit the ruins of ancient civilizations.
6. I would be very bored by a book about the history of science and technology.
7. I like to keep up with news about scientific discoveries.
8. I've never really enjoyed looking through an encyclopaedia.

## Creativity:

1. I prefer doing things the way I've always done them, rather than waste time looking for a new way.
2. I would like a job that requires following a routine rather than being creative.
3. I think I could develop some good ideas for television commercials.
4. I would like the job of drawing a comic strip or an editorial cartoon.
5. I have often solved problems by using new ideas that other people had not imagined.
6. I would enjoy creating a work of art, such as a novel, a song, or a painting.
7. People have often told me that I have a good imagination.
8. I don't think of myself as the artistic or creative type.

## Unconventionality:

1. I like hearing about opinions that are very different from those of most people.
2. I think that paying attention to radical ideas is a waste of time.
3. People sometimes describe me as unconventional.
4. I would avoid hanging around with people who have unusual opinions.
5. I like people who have unconventional views.
6. I think of myself as a somewhat eccentric person.
7. Most people would consider some of my beliefs to be quite strange.
8. I find it boring to discuss philosophy.

## Altruism-Antagonism:

1. I am a soft-hearted person.
2. I would feel very badly if I were to hurt someone.
3. I have sympathy for people who are less fortunate than I am.
4. I try to give generously to those in need.
5. I try to respect other people's feelings.
6. I like the idea that only the strong should survive.
7. It wouldn't bother me to harm someone I didn't like.
8. People see me as a hard-hearted person.

## Appendix H

1. The similarities between genders/races/people of different religions/etc are greater than the differences.
2. I tend to value similarities over differences when I meet someone.
3. At one level of thinking we are all of a kind.
4. I can understand almost anyone because I'm a little like everyone.
5. Little differences among people mean a lot.
6. I can see myself fitting into many groups.
7. There is a potential for good and evil in all of us.
8. When I look into the eyes of others I see myself.
9. I could never get accustomed to living in another country.
10. When I first meet someone I tend to notice differences between myself and the other person.
11. "Between" describes my position with regards to groups better than "in" and "out."
12. The same spirit dwells in everyone.
13. Older persons are very different than I am.
14. I can tell a great deal about a person by knowing their ethnicity.
15. There is a certain beauty in everyone.
16. I can tell a great deal about a person by knowing his/her age.
17. Men and women will never totally understand each other because of their inborn differences.
18. Everyone in the world is very much alike because in the end we all die.
19. I have difficulty relating to persons who are much younger than I.
20. When I meet someone I tend to notice similarities between myself and the other person.

*Note.* Items 7 and 11 were excluded in Study 2. Items 1, 2, 4, 10 and 20 were used in Study 3.

## Appendix I

1. I talk a lot of different people at parties
2. I feel comfortable around people.
3. I make friends easily.
4. I warm up quickly to others.
5. I start conversation.
6. I often feel uncomfortable around others.
7. I avoid contacts with others.
8. I keep others at a distance.
9. I am hard to get to know.
10. I avoid company.

## Appendix J

1. I like to solve complex problems	1	2	3	4	5
2. I love to read challenging material.	1	2	3	4	5
3. I have a rich vocabulary	1	2	3	4	5
4. I can handle a lot of information.	1	2	3	4	5
5. I enjoy thinking about things.	1	2	3	4	5
6. I am not interested in abstract ideas.	1	2	3	4	5
7. I avoid philosophical discussions.	1	2	3	4	5
8. I have difficulty understanding abstract ideas.	1	2	3	4	5
9. I am not interested in theoretical discussions.	1	2	3	4	5
10. I avoid difficult reading material.	1	2	3	4	5

## Appendix K

1. I believe in the importance of art.
2. I enjoy hearing new ideas.
3. I love to learn new things.
4. I get excited by new ideas.
5. I like music.
6. I do not enjoy going to art museums.
7. I believe that too much tax money goes to support artists.
8. I do not like concerts.
9. I do not like poetry.
10. I do not enjoy watching dance performances.

## Appendix L

1. I would like to live for while in a different country.
2. I like to visit new places.
3. I seek adventure.
4. I try to do too difficult things.
5. I dislike changes.
6. I am attached to conventional ways.
7. I dislike the unknown.
8. I don't like to travel.
9. I would never go hang-gliding or bungee-jumping.
10. I am a creature of habit.

*Note.* Items 9 and 10 were excluded from Study 2. Item 10 was excluded from Study 3.

## Appendix M

1. I break rules.	1	2	3	4	5
2. I know how to get around the rules.	1	2	3	4	5
3. I enjoy crude jokes.	1	2	3	4	5
4. I use swear words.	1	2	3	4	5
5. I cheat to get ahead.	1	2	3	4	5
6. I resist authority.	1	2	3	4	5
7. I would never cheat on my taxes.	1	2	3	4	5
8. I try to follow the rules.	1	2	3	4	5
9. I stick to the rules.	1	2	3	4	5
10. I respect authority.	1	2	3	4	5

*Note.* Item 7 was excluded from Study 2.



## Appendix N

Each of the items below contains two choices, A and B. Please indicate by circling the either A or B which of the choices most describes your likes or the way you feel. Please choose the one which better describes your likes or feelings. In some cases you may find items in which you do not like either choice. In these cases mark the choice you dislike least.

It is important you respond to all items with only one choice, A or B. We are interested only in your likes or feelings, not in how others feel about these things or how one is supposed to feel. There are no right or wrong answers as in other kinds of tests. Be frank and give your honest appraisal of yourself.

1. A. I dislike the sensations one gets when flying.  
B. I enjoy many of the rides in amusement parks.
2. A. I would like a job which would require a lot of traveling.  
B. I would prefer a job in one location.
3. A. I am invigorated by a brisk, cold day.  
B. I can't wait to get into the indoors on a cold day.
4. A. I often wish I could be a mountain climber.  
B. I can't understand people who risk their necks climbing mountains.
5. A. I dislike all body odours.  
B. I like some of the earthy body smells.
6. A. I get bored seeing the same old faces.  
B. I like the comfortable familiarity of everyday friends.
7. A. I like to explore a strange city or section of town by myself, even if it means getting lost.  
B. I prefer a guide when I am in a place I don't know well.
8. A. I find the quickest and easiest route to a place and stick to it.  
B. I sometimes take different routes to a place I often go, just for variety's sake.
9. A. I would not like to try any drug which might produce strange and dangerous effects on me.  
B. I would like to try some of the new drugs that produce hallucinations.
10. A. I would prefer living in an ideal society where everyone is safe, secure and happy.  
B. I would have preferred living in the unsettled days of our history.
11. A. I sometimes like to do things that are a little frightening.  
B. A sensible person avoids activities that are dangerous.
12. A. A person should change jobs from time to time simply to avoid getting into a rut.  
B. A person should find a job which is fairly satisfying to him and stick with it.

13. A. I order the dishes with which I am familiar, so as to avoid disappointment and unpleasantness.  
B. I like to try new foods that I have never tasted before.
14. A. I can't stand riding with a person who likes to speed.  
B. I sometimes like to drive very fast because I find it exciting.
15. A. If I were a salesman I would prefer working on a commission if I had a chance to make more money than I could on salary.  
B. If I were a salesman I would prefer a straight salary rather than the risk of making little or nothing on a commission basis.
16. A. Rules and regulations have their proper and valid functions, and therefore should be observed without exception.  
B. I often feel tempted to break minor rules just for the hell of it.
17. A. I would like to take off on a trip with no pre-planned or definite routes, or timetables.  
B. When I go on a trip I like to plan my route and timetable fairly carefully.
18. A. I would like to try parachute jumping.  
B. I would never want to try jumping out of a plane, with or without a parachute.
19. A. I would prefer to specialize in studying one particular subject.  
B. I would like to study many different kinds of subjects.
20. A. I do not like the irregularity and discord of most modern music.  
B. I like to listen to new and unusual kinds of music.

## Appendix O

1. I feel as if most people would be surprised to know the “real” me.
2. I often (more than 50% of the time) feel overwhelmed when I picture myself in a specific job.
3. When faced with several options in an important area in my life, I have a difficult time deciding which option would be the best one.
4. If I wore the type of clothes I really want to wear, I’m afraid my friends wouldn’t want to spend time with me.
5. Once I make a major decision, I feel as if I cannot change my mind.
6. Sometimes I’m afraid that being successful will lead to personal loneliness.
  
7. Being labelled a successful person means I always have to be a “super” person – and that gets very tiring.
8. I feel badly about myself for quite a while (more than two weeks) when I have made a mistake about an important decision.
9. My friends tell me I have trouble making decisions.
10. Being successful (e.g., in school, work, sports, etc) has caused a lot of problems in my life.
11. Sometimes I will ignore a decision I should make because I don’t want to make a mistake.
12. People have higher expectations for those who succeed – and the pressure can be too intense.
13. I often keep my thoughts to myself because I’m afraid my friends would disapprove.
  
14. There are times when I do not make an important decision because I am afraid of failing.
15. When I feel I have made a mistake about an important decision, I don’t worry or dwell upon it.
16. I often (more than 50%) of the time “shrug off” compliments from others because the comments do not truly reflect who I am.
17. I worry that I won’t find the best major/job/career for me.
18. If I become successful in my job, I’m afraid I will lose close ties to important people in my life.
19. It upsets me when important people in my life are disappointed in my decisions.
  
20. I feel as if I have always had trouble making decisions.
21. It rarely bothers me when my friends do not agree with the choices I make about important events in my life.
22. I often (more than 50% of the time) feel confident that I will succeed at what I choose to do.
23. I often (more than 50% of the time) worry that I will be disappointed in my performance, no matter what major or career I choose.
24. If I dated someone for more than 6 months it would be hard to spend as much time on myself (my friends, my work, etc) as I would like.
25. If I am a leader in my career, I’m afraid a lot of people won’t like me.

26. I feel a great deal of pressure from significant people in my life whenever I am facing a major decision.
27. I know that I make mistakes and I am comfortable when I do so.
28. When I'm faced with an important decision, I change my mind a lot.
29. After I have made a decision about an important issue, I continue to think about the alternatives I did not choose.
30. When I make a major decision, I feel as if I'm losing out on many other opportunities.
31. I can never do well enough.
32. I consider myself to be a person who has difficulty making decisions.
33. I wouldn't date a person my friends disliked; then they would dislike me, too.
  
34. I am rarely satisfied with decisions I make.
35. Choosing a major/career has been very difficult for me.
36. Picking a major/career has been difficult for me because I'm not sure that I will get mostly A's.
37. When I choose my career, it is important to me that my parents/friends/spouse/family are pleased.
38. Sometimes I feel trapped when it is time to make an important choice.
39. I worry about what my friends think regarding important decisions that I make.
40. Whenever I am faced with an important decision, I worry about whether or not I will make the wrong choice.

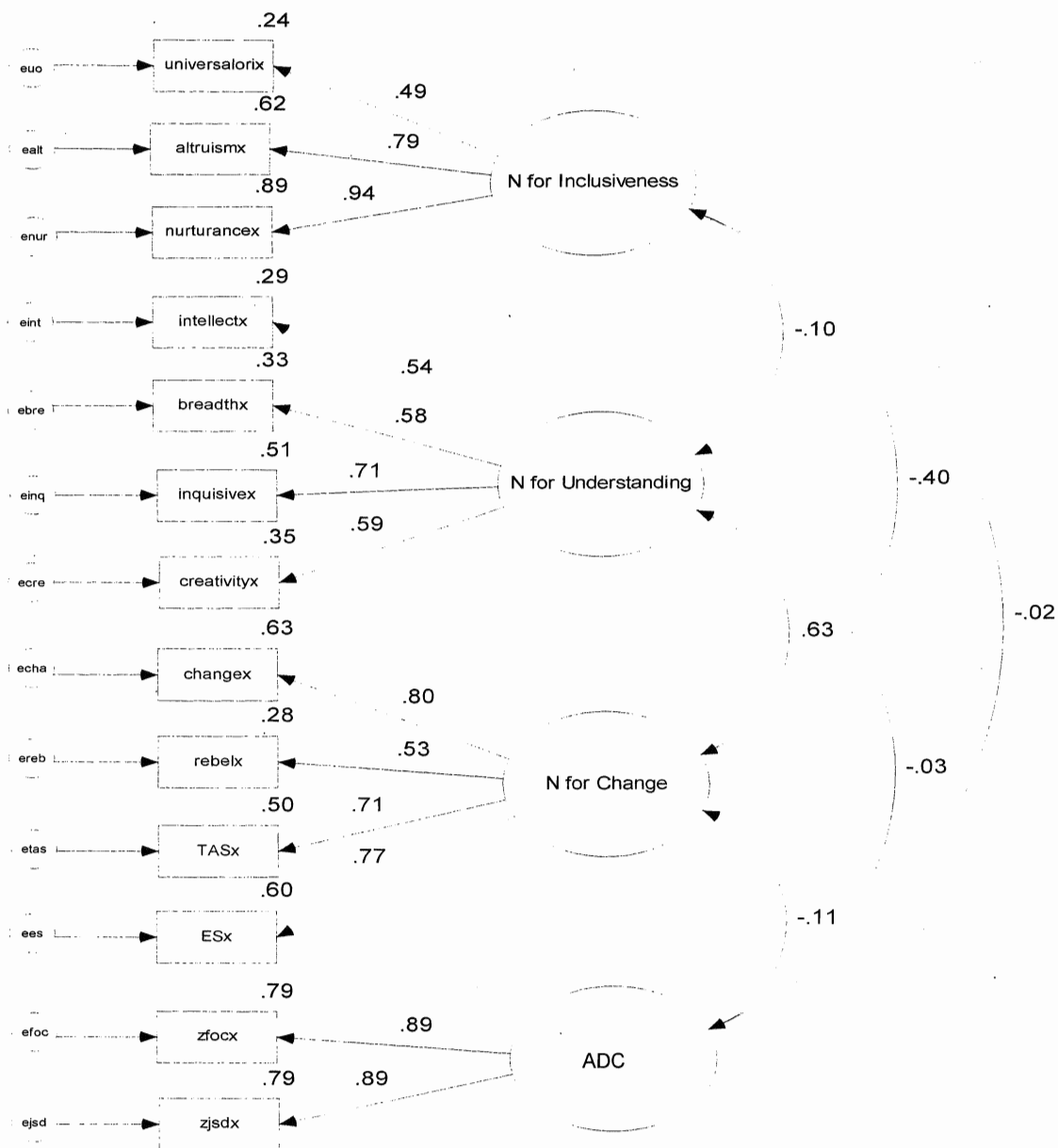
*Note.* Items 11, 14, 20, 30, 32, 33, 37, and 40 were used in Study 2. Items 11, 14, 20, 32, and 40 were used in Study 3.

## Appendix P

1. I have difficult making decisions.
2. I have a tendency to change my mind according to the last opinion I hear.
3. After deciding something, I tend to worry about whether my decision was wrong.
4. I frequently find myself afraid of not doing the right thing.
5. I often have the sense that others know better than I do.
6. Often I put off making difficult decisions.
7. I often don't trust myself to make the right decision.
8. I often trust the judgement of others more than my own.
9. My judgements about situations often turn out to be mistaken.
10. I often worry about whether a decision I made will have bad consequences.
11. In making a decision, I often tire myself out by switching back and forth from one conclusion to another.
12. I am included to have trouble knowing where to stand on an issue.
13. When making a decision, I often feel confused because I have trouble keeping all relevant factors in mind.
14. In almost all situations I am confident of my ability to make the right choices.
15. I often don't know what to feel or believe.
16. I wish I were more confident in my opinions.
17. Many times I don't know what to do next.
18. I have a great deal of confidence in my opinions.
19. Frequently, I doubt my ability to make sound judgements.

## Appendix Q

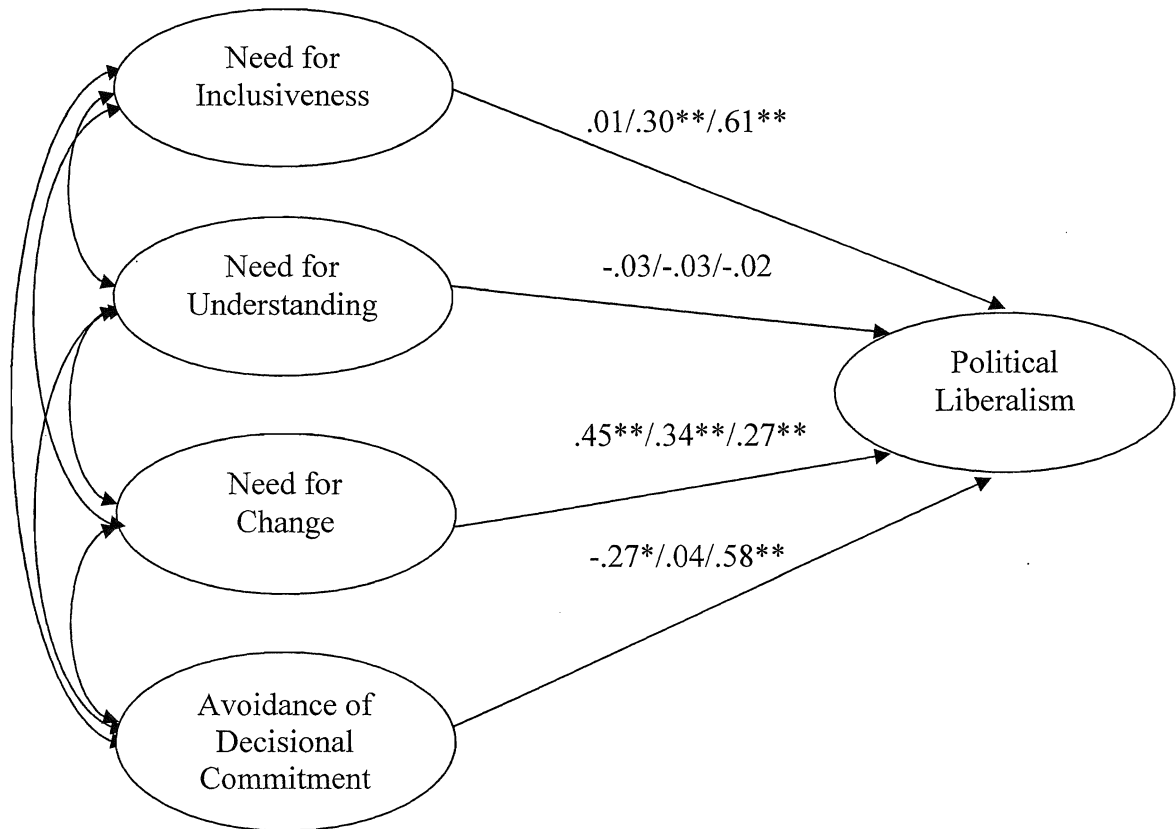
## Confirmatory factor analysis results for Study 1: Standardized estimates



Note.  $N = 201$ . Model fit was poor,  $\chi^2(60) = 302.33$ , CFI = .777, RMSEA = .142. The residual variance for fear of commitment was negative in an initial analysis of the model. Therefore, in order to test the model, the paths for fear of commitment and judgemental self-doubt were constrained. Not surprisingly, all of the indicators for Need for Change showed moderate correlations with Need for Understanding and Need for Inclusiveness, and the indicators for Need for Understanding showed moderate correlations with Need for Change.

## Appendix R

*SEM results for Study 1: Four needs predicting political liberalism by political knowledge group*



*Note.* The unconstrained model was fully saturated and thus had perfect fit, CFI = 1.00. The constrained structural pathways model had poor fit,  $\chi^2(8) = 20.68$ ,  $p = .008$ , CFI = .888, RMSEA = .091. The residual covariances by group were consulted. There was a large significant covariance between political liberalism and Avoidance of Decisional Commitment,  $z = 2.21$ ,  $p < .05$ ; therefore, the constraint on Avoidance of Decisional Commitment was freed. Model fit improved,  $\chi^2(6) = 11.24$ ,  $p = .081$ , CFI = .954, RMSEA = .067. The residual covariances between political liberalism and Need for Inclusiveness were much larger than the other covariances for the low and high political knowledge groups,  $z = -1.63$ ,  $z = 1.43$ , respectively. The constraint for Need for Inclusiveness was freed and model fit was perfect,  $\chi^2(4) = 3.86$ ,  $p = .426$ , CFI = 1.00, RMSEA = .00. Standardized regression weights are reported for low/mean/high political group respectively. Participants in the low group scored 0 to 2, the mid group scored 3 to 6, and the high group scored 7 to 11. \*\*  $p < .01$ ; \*  $p < .05$ ; †  $p < .10$  (one-tailed).

## Appendix S

*Correlations among the latent need variables in Study 1*

	Need for Inclusiveness	Need for Understanding	Need for Change
Low Political Knowledge:			
Need for Inclusiveness	--		
Need for Understanding	-.13	--	
Need for Change	-.51**	.61**	--
Avoidance of Decisional Commitment	-.05	.01	-.04
Mean Political Knowledge:			
Need for Inclusiveness	--		
Need for Understanding	.13	--	
Need for Change	-.33**	.49**	--
Avoidance of Decisional Commitment	-.01	-.11	-.18 <sup>†</sup>
High Political Knowledge:			
Need for Inclusiveness	--		
Need for Understanding	.50*	--	
Need for Change	-.40 <sup>†</sup>	.40 <sup>†</sup>	--
Avoidance of Decisional Commitment	-.24	.06	.53*

*Note.* Ns: Low Group = 56, Mean Group = 113, High Group = 26. \*\*  $p < .01$ ; \*  $p < .05$ ; <sup>†</sup>  $p < .10$  (two-tailed).



## Appendix T

## Brock University: Participants Informed Consent Statement

Project Title: General Attitudes and Personality

Principle Investigator: Becky Choma, M.A.  
 PhD Student, Psychology Department  
[rc98ac@brocku.ca](mailto:rc98ac@brocku.ca) ; 905-688-5550 ext. 4680

Supervisor: Dr. Carolyn Hafer  
 Brock University Professor  
[chafer@brocku.ca](mailto:chafer@brocku.ca) ; 905-688-5550 ext. 4297

**PURPOSE/INFORMATION:** You are being invited to participate in a study investigating how people's personality is related to their general attitudes, values, and beliefs. You will be given 2 copies of this consent form that you will read. You can ask any questions you may have about the information in this form. Then, you will be asked to sign both copies; one will be handed to the researcher and one you will keep for your own records. After you have signed the consent form you will be asked to complete a questionnaire taking approximately 20 minutes. After you have handed in your questionnaire the researcher will provide you with a debriefing form explaining the specific purpose of the study and a \$5 gift certificate for a coffee shop as a small token of our appreciation.

**RISKS/BENEFITS:** There are no known risks for participating in this study. If you have any questions, you may contact the researcher or her supervisor. The information from this study will help with the completion of a PhD dissertation and contribute to research on personality and attitudes.

**CONFIDENTIALITY:** Your name will only be associated with this consent form. There will be **no way** of connecting your name to anything you wrote. All consent forms and data will be kept locked at all times and destroyed 5 years after publication. Consent forms will be kept in a separate from the questionnaires to preserve anonymity. Only Becky Choma and Dr. Carolyn Hafer will have access to these data. Again, any information gathered from this research will be **anonymous**.

**CONTACT:** If you have questions at any time about the study or the procedures you may contact the researcher, Becky Choma, at Brock University in the Psychology Department, [rc98ac@brocku.ca](mailto:rc98ac@brocku.ca). You may also contact Ms. Choma's Supervisor, Dr. Carolyn Hafer, Brock University, 688-5550, extension 4297 or [chafer@brocku.ca](mailto:chafer@brocku.ca). This project has been reviewed and received ethics clearance through the Office of Research Ethics Board (File # 05-010). If you have any questions regarding your rights as a participant, please contact the Research Ethics Officer at [reb@brocku.ca](mailto:reb@brocku.ca), 905-688-5550 ext 3035.

**PARTICIPATION:** Your participation in this study is voluntary; you may decline to participate at any time without consequences to yourself by informing the researcher of this decision. If you withdraw from the study before you are done the questionnaire your questionnaire will be omitted from analysis upon your request. Due to the anonymous nature of this study, data cannot be withdrawn once submitted. You have the right to omit any question(s) you choose.

**FEEDBACK AND PUBLICATION:** The results from this study will be incorporated into a PhD dissertation and may be used in any journal articles, presentations, or books published. The results of this research study may be available approximately one year from now. If you are interested in the results, please contact either of the researchers at that time.

**CONSENT:** You must be at least 20 years of age to participate in this study.

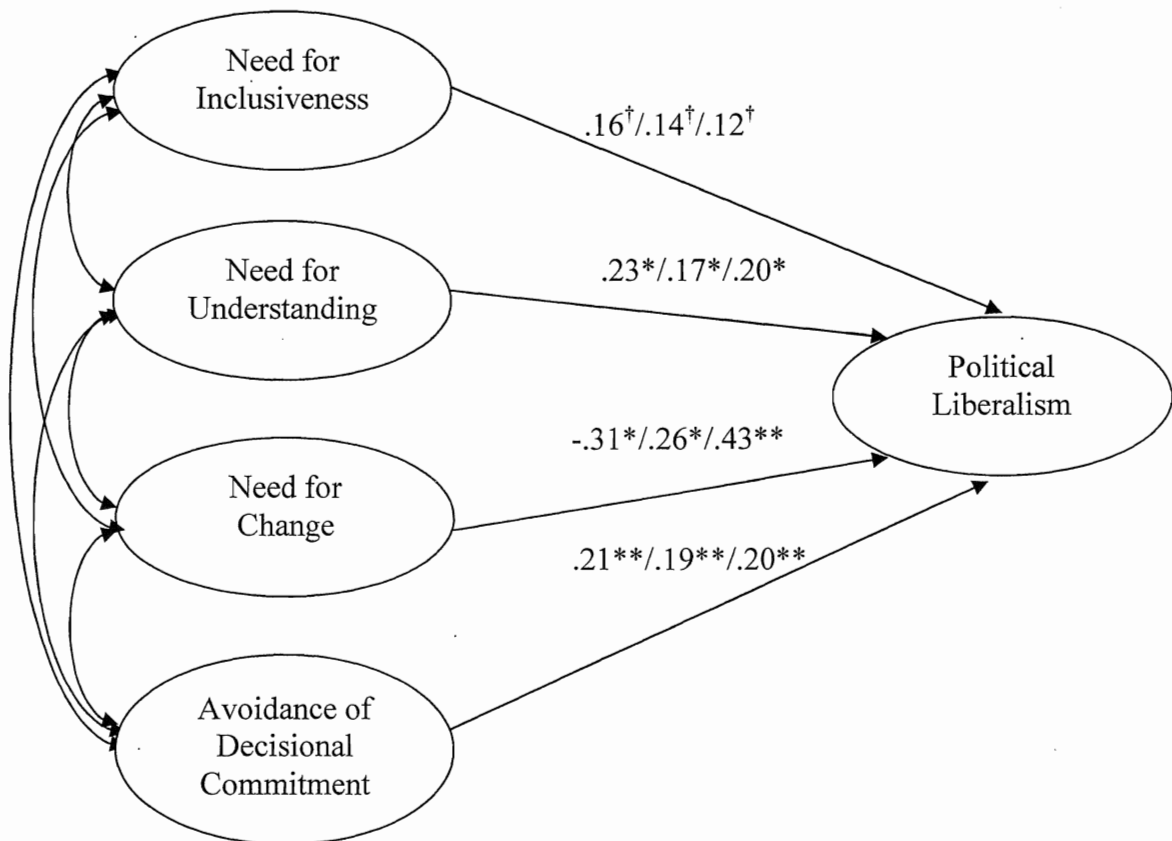
I have read and understand the above information. I have received a copy of this form. I understand that I may ask questions in the future. I agree to participate in this study.

Participant's signature \_\_\_\_\_ Date \_\_\_\_\_  
 Investigator's signature \_\_\_\_\_ Date \_\_\_\_\_

PLEASE KEEP A COPY OF THIS CONSENT FORM FOR YOUR RECORDS

## Appendix U

*SEM results for Study 2: Four needs predicting political liberalism by political knowledge group*



*Note.* The unconstrained model was fully saturated and thus had perfect fit, CFI = 1.00. The constrained structural pathways model had poor fit,  $\chi^2(8) = 17.22, p = .028$  CFI = .896, RMSEA = .078. The residual covariances by group were consulted. There was a large significant covariance between political liberalism and Need for Change,  $z = -2.45, p < .05$ ; therefore, the constraint on Need for Change was freed. Model fit improved substantially,  $\chi^2(6) = 4.82, p = .567, CFI = 1.00, RMSEA = .00$ . Standardized regression weights are reported for low/mean/high political group respectively. Participants in the low group scored 0 to 2, the mid group scored 3 to 6, and the high group scored 7 to 9. \*\*  $p < .01$ ; \*  $p < .05$ ; <sup>†</sup>  $p < .10$  (one-tailed).

## Appendix V

*Correlations among the latent need variables in Study 2*

	Need for Inclusiveness	Need for Understanding	Need for Change
Low Political Knowledge:			
Need for Inclusiveness	--		
Need for Understanding	.31 <sup>†</sup>	--	
Need for Change	.30	.62**	--
Avoidance of Decisional Commitment	-.06	-.26 <sup>†</sup>	-.28 <sup>†</sup>
Mean Political Knowledge:			
Need for Inclusiveness	--		
Need for Understanding	.42**	--	
Need for Change	.14	.37**	--
Avoidance of Decisional Commitment	-.19	-.22 <sup>†</sup>	.11
High Political Knowledge:			
Need for Inclusiveness	--		
Need for Understanding	.62**	--	
Need for Change	.30	.28 <sup>†</sup>	--
Avoidance of Decisional Commitment	-.45*	-.25	.15

*Note.* Ns: Low = 53, Mean = 81, High = 59. \*\*  $p < .01$ ; \*  $p < .05$ ; <sup>†</sup>  $p < .10$  (two-tailed).

## Appendix W

Project Title: What's the Story? Cognitive Performance and General Attitudes      Jan 07- Sept 08

Principal Investigator: Becky Choma  
PhD Student, Psychology Department  
[becky.choma@brocku.ca](mailto:becky.choma@brocku.ca); 905-688-5550 ext. 4680

Supervisor: Dr. Carolyn Hafer  
Brock University Professor, Psych Dept  
[chafer@brocku.ca](mailto:chafer@brocku.ca); ext. 4297

**PURPOSE/INFORMATION:** You are being invited to participate in a study investigating how people's cognitive performance is related to their general attitudes, values, and beliefs. You will be given 2 copies of this consent form to read and sign. One copy will be handed to the researcher and one you will keep for your own records. Next, you will be asked to complete a Language Abilities Task, a Categorizing Words Task on the computer, and a paper and pencil questionnaire measuring your general attitudes, values and beliefs. The entire session should take approximately 1 to 1.5 hours. After you have finished your questionnaire the researcher will provide you with a debriefing form explaining the specific purpose of the study. You may ask questions about the research at any time.

**RISKS/BENEFITS:** There are no known risks for participating in this study. If you have any questions, you may contact the researcher or her supervisor. The information from this study will help with the completion of a PhD dissertation and contribute to research on cognitive performance and general attitudes.

**CONFIDENTIALITY:** Your name will only be associated with this consent form. All consent forms and data will be kept in a locked room at all times. Only Becky Choma, Dr. Carolyn Hafer, and their Research Assistants will have access to this data. Any information gathered from this research will be anonymous. All consent forms will be shredded after a period of 5 years. Survey and computer data will be de-identified and therefore not include any identifying information. These data will be kept indefinitely for the purpose of future analyses on related research questions about general attitudes, values, and beliefs. When these data are destroyed, the survey data will be shredded, and the data file containing computer scores will be deleted.

**CONTACT:** If you have questions at any time about the study or the procedures you may contact the researcher, Becky Choma, or her Supervisor, Dr. Carolyn Hafer (see above contact information). This project has been reviewed and received ethics clearance through the Office of Research Ethics Board (File # 06-108). If you have any pertinent questions regarding your rights as a participant, please contact the Research Ethics Officer at [reb@brocku.ca](mailto:reb@brocku.ca), 905-688-5550 ext 3035.

**PARTICIPATION:** Your participation in this study is voluntary; you may decline to participate at any time without consequences to yourself by informing the researcher of this decision. If you withdraw from the study before you are done the questionnaire or computer tasks, your questionnaire and computer scores will be omitted from analysis upon your request. Due to the anonymous nature of this study, data cannot be withdrawn once submitted. You have the right to omit any question(s) you choose.

**FEEDBACK AND PUBLICATION:** The results from this study will be incorporated into a PhD dissertation and may be used in any journal articles, presentations, or books published. The results of this research study will be available approximately one year from now. If you would like a copy of the results, please contact the researcher at that time.

**CONSENT:** I have read and understand the above information. I have received a copy of this form. I understand that I may ask questions in the future. I agree to participate in this study.  
Please check appropriate box:

- I am participating in this research project for 1 hour of research participation in a psychology course and will not receive monetary payment for my participation.
- I am participating in this experiment for \$10. This experiment will not count toward research participation hours in a psychology course

\_\_\_\_\_  
Signature of participant

\_\_\_\_\_  
Course for participation      Signature of researcher

\*\*PLEASE KEEP A COPY OF THIS CONSENT FORM FOR YOUR RECORDS\*\*

## Appendix X

DATE: December 1, 2006

FROM: Julie Stevens, Vice-Chair  
Research Ethics Board (REB)

TO: Carolyn Hafer, Psychology  
Becky CHOMA

FILE: 06-108 CHOMA

TITLE: What's The Story? Cognitive Performance and General Attitudes

The Brock University Research Ethics Board has reviewed the above research proposal.

**DECISION: Accepted as clarified.**

This project has received ethics clearance for the period of December 1, 2006 to December 31, 2007 subject to full REB ratification at the Research Ethics Board's next scheduled meeting. The clearance period may be extended upon request. *The study may now proceed.*

Please note that the Research Ethics Board (REB) requires that you adhere to the protocol as last reviewed and cleared by the REB. During the course of research no deviations from, or changes to, the protocol, recruitment, or consent form may be initiated without prior written clearance from the REB. The Board must provide clearance for any modifications before they can be implemented. If you wish to modify your research project, please refer to <http://www.brocku.ca/researchservices/forms> to complete the appropriate form **Revision or Modification to an Ongoing Application**.

Adverse or unexpected events must be reported to the REB as soon as possible with an indication of how these events affect, in the view of the Principal Investigator, the safety of the participants and the continuation of the protocol.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and clearance of those facilities or institutions are obtained and filed with the REB prior to the initiation of any research protocols.

The Tri-Council Policy Statement requires that ongoing research be monitored. A Final Report is required for all projects upon completion of the project. Researchers with projects lasting more than one year are required to submit a Continuing Review Report annually. The Office of Research Services will contact you when this form *Continuing Review/Final Report* is required.

Please quote your REB file number on all future correspondence.

JS/law

Brenda Brewster, Research Ethics Assistant  
Office of Research Ethics, MC D250A  
Brock University  
Office of Research Services  
500 Glenridge Avenue  
St. Catharines, Ontario, Canada L2S 3A1  
phone: (905)688-5550, ext. 3035 fax: (905)688-0748  
email: reb@brocku.ca  
<http://www.brocku.ca/researchservices/ethics/humanethics/>

## Appendix Y

Need for Inclusiveness:

Please construct grammatically correct 4-word sentences from the string of 5 words included in each line as quickly as possible.

1. are human we all falling	
2. pointed differ really people don't	
3. those lights bright moment are	
4. vacation alike are extraordinarily people	
5. orientation Monday on falling starts	
6. chilly was pointed the wind	
7. telephoned turn off the alarm	
8. they movie a sometimes rented	
9. very quickly walks chimney she	
10. one city together we are	
11. the we vacation program installed	
12. lights turn the on city	
13. interests they box equivalent have	
14. interests we common polite share	
15. wrench the adjustable tree is	
16. out shopping they are boat	
17. are equal all utilities we	
18. telephone we all are similar	
19. the walked cat by envelope	
20. are one we group envelope	
21. the one and quickly same	
22. we all accepted tree are	
23. automobile goals they common share	
24. should everyone included mirrors be	
25. the she polite award deserved	
26. an he ocean onion chopped	
27. flowers the beautiful utilities smell	
28. minimal differences boat have people	
29. for them mirrors everyone applauded	
30. are alike very they moment	

## Need for Understanding:

Please construct grammatically correct 4-word sentences from the string of 5 words included in each line as quickly as possible.

1. need comprehend I to falling	
2. pointed it on conduct research	
3. those lights bright smiling are	
4. vacation inquisitive people are most	
5. orientation Monday on scarf starts	
6. chilly was rounded the wind	
7. paper turn off the alarm	
8. they movie a rain rented	
9. very quickly walks mountain she	
10. investigated city that will be	
11. the we wonder program installed	
12. lights turn the on running	
13. studying we box time spend	
14. understand I to polite need	
15. wrench the adjustable leaf is	
16. out shopping they are clock	
17. examine problems complex utilities we	
18. telephone he very is curious	
19. the walked cat by plate	
20. open to she's ideas envelope	
21. to I want quickly learn	
22. he'll the truth tree realize	
23. automobile information I more need	
24. want I know mirrors to	
25. the she often award deserved	
26. an he eating onion chopped	
27. flowers the beautiful over smell	
28. the facts boat all consider	
29. for them candle everyone applauded	
30. analyse now it let's moment	

## Need for Change:

Please construct grammatically correct 4-word sentences from the string of 5 words included in each line as quickly as possible.

1. can great transformation be falling	
2. pointed valuable is personal growth	
3. those lights bright smiling are	
4. vacation exciting is now	
5. orientation Monday on scarf starts	
6. chilly was rounded the wind	
7. paper turn off the alarm	
8. they movie a rented	
9. very quickly walks mountain she	
10. different city I did something	
11. the we wonder program installed	
12. lights turn the on running	
13. needed our box was journey	
14. idea what novel polite a	
15. wrench the adjustable leaf is	
16. out shopping they are clock	
17. needed original something utilities we	
18. telephone he very is curious	
19. the walked cat by plate	
20. wanted more she diversity envelope	
21. to I want quickly travel	
22. I still developing tree am	
23. automobile things we alter can	
24. new a start mirrors fresh	
25. the she often award deserved	
26. an he eating onion chopped	
27. flowers the beautiful over smell	
28. something new boat tried I	
29. for them candle everyone applauded	
30. can creative be she moment	



## Avoidance of Decisional Commitment:

Please construct grammatically correct 4-word sentences from the string of 5 words included in each line as quickly as possible.

1. was hesitant he quite falling	
2. pointed fence-sitting just they are	
3. those lights bright smiling are	
4. vacation decisions avoid making I	
5. orientation Monday on scarf starts	
6. chilly was rounded the wind	
7. paper turn off the alarm	
8. they movie a rain rented	
9. very quickly walks mountain she	
10. undecided city I am completely	
11. the we wonder program installed	
12. lights turn the on running	
13. unsure we box really are	
14. flip-flopping we really polite were	
15. wrench the adjustable leaf is	
16. out shopping they are clock	
17. will unresolved remain utilities it	
18. telephone he very is curious	
19. the walked cat by plate	
20. are still we wavering envelope	
21. very he's being quickly wishy-washy	
22. they so are fickle tree are	
23. automobile avoidant you being are	
24. are they untrusting mirrors quite	
25. the she often award deserved	
26. an he eating onion chopped	
27. flowers the beautiful over smell	
28. quite doubtful boat am I	
29. for them candle everyone applauded	
30. is waffler a he moment	

Control:

Please construct grammatically correct 4-word sentences from the string of 5 words included in each line as quickly as possible.

1. can successful transformation be falling	
2. pointed rapid is personal growth	
3. those lights bright smiling are	
4. vacation flawless that is now	
5. orientation Monday on scarf starts	
6. chilly was rounded the wind	
7. paper turn off the alarm	
8. they movie a rain rented	
9. very quickly walks mountain she	
10. gifts city she always gives	
11. the we wonder program installed	
12. lights turn the on running	
13. her I box park normally	
14. along he gleefully polite skipped	
15. wrench the adjustable leaf is	
16. out shopping they are clock	
17. needed optimistic someone utilities we	
18. telephone he very is curious	
19. the walked cat by plate	
20. cleared the he table envelope	
21. to I want quickly prepare	
22. I still do tree occasionally	
23. automobile now please it clean	
24. stayed we watch mirrors to	
25. the she often award deserved	
26. an he eating onion chopped	
27. flowers the beautiful over smell	
28. sent yesterday boat was it	
29. for them candle everyone applauded	
30. encourages discussion more she moment	

## Appendix Z

## Brock University Written Debriefing Form/re-consent form

Project Title: **What's the Story? Cognitive Performance and General Attitudes** Jan-Dec 2007

Principal Investigator: Becky Choma  
 PhD Student, Psychology Department  
[becky.choma@brocku.ca](mailto:becky.choma@brocku.ca); 905-688-5550 ext. 4680

Supervisor: Dr. Carolyn Hafer  
 Brock University Professor, Psychology Dept  
[chafer@brocku.ca](mailto:chafer@brocku.ca) ; 905-688-5550 ext. 4297

**PURPOSE/PROCEDURE:** The purpose of this research is to examine whether cues in the environment or characteristics of a situation can influence peoples' endorsement of certain political ideologies. For example, can characteristics of a situation influence whether a person is more liberal or conservative—*not* the political parties—instead general ways of thinking or viewing the world.

Previous research I have conducted has found that people who are more politically liberal tend to be higher in certain personality traits compared to people who are high in political conservatism. Specifically, my research has shown that individuals who endorse political liberalism tend to be higher on a Need for Inclusiveness, Need for Understanding, Need for Change, and Fear of Commitment (to making a decision or course of action).

Although needs and personality traits can explain some of the variation in peoples' political ideology, they do not exhaustively account for why individuals endorse different political ideologies. According to one theory, the motivated social-cognition perspective, situational variables – so characteristics of a situation – also influence why individuals adopt certain political ideologies. Therefore, the present research is investigating whether situational influences that heighten the four needs found to be related to political liberalism in our previous research (Need for Inclusiveness/ Understanding/Change and Fear of Commitment) can motivate people to gravitate in favour of political liberalism versus conservatism.

The first task I gave you, the “Language Abilities Task” is a task used often in social-psychological research. The name of this task is the Scrambled-Sentence Manipulation. Researchers use this task to prime participants with certain concepts. They do this by putting words in the sentences that are related to the concept they are interested in priming. There were 5 versions of the task used in this study; you were given one of these.

*Need for Inclusiveness:* This scrambled-sentence manipulation was meant to prime the concept of inclusiveness, the first need we found to be related to political liberalism. So sentences including words such as, universal, one, together, and belonging were included in the scrambled-sentences.

*Need for Understanding:* This scrambled-sentence manipulation was meant to prime the concept of understanding, or wanting to know, the second need we found to be related to political liberalism. So sentences including words such as, thinking, investigate, consider, and know were included in the scrambled-sentences.

*Need for Change:* This scrambled-sentence manipulation was meant to prime the concept of change, the third need we found to be related to political liberalism. So sentences including words such as, different, novel, fresh, and journey were included in the scrambled-sentences.

*Fear of Commitment:* This scrambled-sentence manipulation was meant to prime the concept of fear of commitment, the fourth need we found to be related to political liberalism. So sentences including words such as uncertain, ambivalent, unsure and hesitant were included in the scrambled-sentences.

*Control:* This scrambled-sentence manipulation was meant to be a control condition, and meant to prime neutral concepts, so concepts that are unrelated to political liberalism. So sentences including words such as, exercising, flawlessly, normally, and watches were included in the scrambled-sentences.

I want to make sure that you understand that the scrambled-sentence task you completed was not a measure of your language ability, but instead intended to prime you with concepts associated with political liberalism (unless you were in the control condition, in this case with neutral concepts).

The computer task you completed does measure how you categorize words as I stated earlier; however, this computer task was intended to measure how you sort words into *specific* categories, in the present case, how you sort words into political categories. Therefore, this task measured your implicit or automatic political attitudes. The procedure we used to measure your implicit political attitudes is called the Implicit Attitudes Test, or IAT. You may recall, the IAT first had you categorize pairs of words -- some of these words were cancer or sunshine -- into positive and negative groups. Then, it asked you to categorize words that were more political in nature, so words such as Bush and Clinton, into conservative and liberal groups. Next, the computer asked you to categorize whatever words came onto the screen into either positive or conservative and negative or liberal (and vice versa) groups.

A person's response time to one type of pairing, so positive or conservative and negative or liberal, compared to the other type of pairing, so positive or liberal and negative or conservative, is a measure of their implicit political attitudes. So, if a person is faster to sort words into groups for one pairing of categories versus another, it is reasonable to infer that the faster pairing indicates associated categories -- in other words, if a person responds faster for the conservative or positive pairing, we could infer that this participant views conservative and positive as related. Therefore, this individual's implicit political ideology would likely be conservative.

Now I'll explain the purpose of the questionnaires given to you after you completed the computer task. The questionnaires were intended to measure general attitudes, beliefs and values as stated before. So, for example, one of the questionnaires measured your political ideology by asking you more directly whether you are liberal or conservative. As I mentioned before, we are interested in seeing whether peoples political ideology -- as measured by the computer task and by direct reports on the questionnaire -- changes or shifts as a result of being primed with one of the four needs that have been found to be related to political liberalism.

Now I want to explain why I didn't tell you everything about the purpose of the research until the study was over. If people know everything about the research before they come in here, they may answer the questionnaires according to what they think I am looking for -- either unconsciously or just to be helpful and cooperative. Then I wouldn't know if the answers I am getting are people's true and honest responses or not. I would prefer not to hide anything about the experiment, but I also have to make sure that I am getting spontaneous and realistic responses from people.

It is important to remember that there is a range in beliefs and a variety of ways of viewing the world. For example, people have different political ideologies, or different religious beliefs. And all viewpoints deserve consideration and respect.

*Please* do not show this form to other potential participants, this is for your viewing. The reason I do not want other participants to see this form is so they do not find out about the specific purpose of the language task, computer task, and questionnaires beforehand; this could prevent them from responding naturally to the questions. Thank you for your cooperation.

**RISKS/BENEFITS:** There are no known risks for participating in this study. If you have any questions, you may contact the researcher or her supervisor. The information from this study will help with the completion of a PhD dissertation and contribute to research on cognitive performance and general attitudes.

**CONFIDENTIALITY:** Your name will only be associated with this consent form. All consent forms and data will be kept in a locked room at all times. Only Becky Choma, Dr. Carolyn Hafer, and their Research Assistants will have access to this data. Any information gathered from this research will be anonymous. All consent forms will be shredded after a period of 5 years. Survey and computer data will be de-identified and therefore not include any identifying information. These data will be kept indefinitely for the purpose of future analyses on related research questions about general attitudes, values, and beliefs. When these data are destroyed, the survey data will be shredded, and the data file containing computer scores will be deleted.

**CONTACT:** If you have questions at any time about the study or the procedures you may contact the researcher, Becky Choma, or her Supervisor, Dr. Carolyn Hafer (see above contact information). This project has been reviewed and received ethics clearance through the Office of Research Ethics Board (File # 06-108). If you have any pertinent questions regarding your rights as a participant, please contact the Research Ethics Officer at [reb@brocku.ca](mailto:reb@brocku.ca), 905-688-5550 ext 3035.

**FEEDBACK AND PUBLICATION:** The results from this study will be incorporated into a PhD dissertation and may be used in any journal articles, presentations, or books published. The results of this research study will be available approximately one year from now. If you would like a copy of the results, please contact the researcher at that time.

**RE-CONSENT:** Now that you know more about the study you may decide to withdraw your data immediately from all or certain parts of the investigation. Any data you choose to omit will be destroyed (electronic files deleted and questionnaires shredded) immediately after this session. Please let us know if you would like any of your data withdrawn by checking the appropriate box/es below.

I choose **not to withdraw** any of my data from this investigation.

I would **like to withdraw** the following data from this investigation (check as many as apply):

- my responses to the IAT task (i.e., reaction times).
- my responses on the paper and pencil questionnaires.

I have read and understand the above information. I have received a copy of this form. I understand that I may ask questions in the future.

Participant's signature \_\_\_\_\_ Date \_\_\_\_\_

Investigator's signature \_\_\_\_\_ Date \_\_\_\_\_

(check if applicable) I am participating in this research project for 1 hour of research participation in a psychology course and will not receive monetary payment for my participation.

\_\_\_\_\_  
Signature of participant

\_\_\_\_\_  
Course for participation

\_\_\_\_\_  
Signature of researcher

**Thank you for your time and support in participating in this study!**

If you have any questions or concerns please feel free to contact any of the following:  
Becky Choma (Principle investigator)                      Dr. Carolyn Hafer (Supervisor)

## Appendix AA

**Project Title: What's the Story? Cognitive Performance and General Attitudes**

Principal Investigator: Becky Choma  
 PhD Student, Psychology Department  
[becky.choma@brocku.ca](mailto:becky.choma@brocku.ca) ; 905-688-5550 ext. 4680

Supervisor: Dr. Carolyn Hafer  
 Brock University Professor, Psychology Dept  
[chafer@brocku.ca](mailto:chafer@brocku.ca) ; 905-688-5550 ext. 4297

**PURPOSE/INFORMATION:** You are being invited to participate in a study. This study is part of a larger research study investigating how people's cognitive performance is related to their general attitudes, values, and beliefs. You will be given 2 copies of this consent form to read and sign. One copy will be handed to the researcher and one you will keep for your own records. Next, you will be asked to complete a one-page questionnaire asking you to group phrases or words into categories. The entire session should take approximately 5 to 10 minutes. After you have finished your questionnaire the researcher will provide you with a debriefing form explaining the specific purpose of the study. You may ask questions about the research at any time.

**RISKS/BENEFITS:** There are no known risks for participating in this study. If you have any questions, you may contact the researcher or her supervisor. The information from this study will provide complementary data for the larger study and help with the completion of a PhD dissertation and contribute to research on cognitive performance and general attitudes.

**CONFIDENTIALITY:** Your name will only be associated with this consent form. All consent forms and data will be kept in a locked room at all times. Only Becky Choma, Dr. Carolyn Hafer, and their Research Assistants will have access to this data. Any information gathered from this research will be anonymous. All consent forms will be shredded after a period of 5 years. Survey data will be de-identified and therefore not include any identifying information. These data will be kept indefinitely for the purpose of future analyses on related research questions about general attitudes, values, and beliefs. When these data are destroyed, the survey data will be shredded, and the data file containing computer scores will be deleted.

**CONTACT:** If you have questions at any time about the study or the procedures you may contact the researcher, Becky Choma, or her Supervisor, Dr. Carolyn Hafer (see above contact information). This project has been reviewed and received ethics clearance through the Office of Research Ethics Board (File # 06-108). If you have any pertinent questions regarding your rights as a participant, please contact the Research Ethics Officer at [reb@brocku.ca](mailto:reb@brocku.ca), 905-688-5550 ext 3035.

**PARTICIPATION:** Your participation in this study is voluntary; you may decline to participate at any time without consequences to yourself by informing the researcher of this decision. If you withdraw from the study before you are done the questionnaire or computer tasks, your questionnaire and computer scores will be omitted from analysis upon your request. Due to the anonymous nature of this study, data cannot be withdrawn once submitted. You have the right to omit any question(s) you choose.

**FEEDBACK AND PUBLICATION:** The results from this study will be incorporated into a PhD dissertation and may be used in any journal articles, presentations, or books published. The results of this research study will be available approximately one year from now. If you would like a copy of the results, please contact the researcher at that time.

**CONSENT:** I have read and understand the above information. I have received a copy of this form. I understand that I may ask questions in the future. I agree to participate in this study.  
 (check if applicable) **I am participating in this research project for 1 hour of research participation in a psychology course and will not receive monetary payment for my participation.**

\_\_\_\_\_  
 Signature of participant

\_\_\_\_\_  
 Course for participation

\_\_\_\_\_  
 Signature of researcher

\*\*PLEASE KEEP A COPY OF THIS CONSENT FORM FOR YOUR RECORDS\*\*

## Appendix BB

Listed below are short phrases and words. Please indicate by checking the appropriate box, which of the categories you think each word or phrase belongs to. Also indicate how confident you are with your choice.

Please categorize the list of words and phrases listed below.	Politically Liberal	Politically Conservative	Unsure	How confident are you with your categorizing choice? Circle a number below.				
				Not at all	Not very	Neutral	Confident	Extremely Confident
Gay rights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Bush	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Welfare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Military	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Human Rights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
High taxes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Pro-Abortion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Individual responsibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Universal healthcare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Traditional	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Tax cuts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Pro-environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Big business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Discipline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Tax the rich	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Gay marriage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Competition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Paul Martin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Pro-Immigration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Less immigration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Abortion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Security	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Anti-war	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5

	Politically Liberal	Politically Conservative	Unsure	Not at all	Not very	Neutral	Confident	Extremely Confident
Capitol punishment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Free-trade	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Anti-abortion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Social programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Religious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Anti gay marriage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Pro-military	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Social responsibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Steven Harper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Pro-welfare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Immigration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Private healthcare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5
Gun Control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5



## Appendix CC

Brock University Debriefing Form

Project Title: **What's the Story? Cognitive Performance and General Attitudes**

Principal Investigator: Becky Choma  
PhD Student, Psychology Department  
[becky.choma@brocku.ca](mailto:becky.choma@brocku.ca); ext. 4680

Supervisor: Dr. Carolyn Hafer  
Brock University Professor, Psych Dept  
[chafer@brocku.ca](mailto:chafer@brocku.ca) ; 905-688-5550 ext. 4297

**PURPOSE:** This study is part of a larger study investigating how people's cognitive performance is related to their general attitudes, values, and beliefs. In the larger study which is beginning mid-January 2006, participants will be asked to complete a Language Abilities Task, a Categorizing Words Task on the computer, and a paper and pencil questionnaire measuring their general attitudes, values and beliefs. In order to ensure that the most appropriate words and phrases are being used in the computer task, we needed to assess how these words and phrases are typically categorized. Thus, the present study was intended to do this.

**CONTACT:** If you have questions at any time about the study or the procedures you may contact the researcher, Becky Choma, or her Supervisor, Dr. Carolyn Hafer (see above contact information). This project has been reviewed and received ethics clearance through the Office of Research Ethics Board (File # 06-108). If you have any pertinent questions regarding your rights as a participant, please contact the Research Ethics Officer at [reb@brocku.ca](mailto:reb@brocku.ca), 905-688-5550 ext 3035.

**FEEDBACK AND PUBLICATION:** The results of this research study will be available approximately one year from now. If you would like a copy of the results, please contact the researcher at that time.

**Thank you for your time and support in participating in this study!**

If you have any questions or concerns please feel free to contact any of the following:  
Becky Choma (Principle investigator)                      Dr. Carolyn Hafer (Supervisor)

## Appendix DD

## Political Stimulus Words:

<b>Liberal</b>	<b>Conservative</b>
Clinton	Bush
Pro-choice	Pro-life
Gay marriage	Steven Harper
Pro-environment	Military
Paul Martin	Big business
Anti-war	Private healthcare
High taxes	Less immigration
Universal healthcare	Discipline
Pro-immigration	Security
Human rights	Religious

## Neutral Stimulus Words:

<b>Positive</b>	<b>Negative</b>
Sunshine	Cancer
Rainbow	Funeral
Beautiful	Toothache
Joy	Horrible
Laughter	Awful
Hug	Demon
Gift	Cruel
Comedy	Grief
Fun	Infection
Delightful	Nightmare

## Appendix EE

Thinking about how you feel right now, please read each sentence and indicate your response by circling the relevant number.

1. Please indicate the extent to which you desire change.

1	2	3	4	5	6	7	8	9
Not at all				neutral				Extremely

2. Please indicate the extent to which you believe change is valuable.

1	2	3	4	5	6	7	8	9
Not at all				neutral				Extremely

3. Please indicate the extent to which you want to understand or know.

1	2	3	4	5	6	7	8	9
Not at all				neutral				Extremely

4. Please indicate the extent to which you feel curious or inquisitive.

1	2	3	4	5	6	7	8	9
Not at all				neutral				Extremely

5. Please indicate the extent to which you believe everyone is similar to one another.

1	2	3	4	5	6	7	8	9
Not at all				neutral				Extremely

6. Please indicate the extent to which you believe everyone should be accepted/included.

1	2	3	4	5	6	7	8	9
Not at all				neutral				Extremely

7. Please indicate the extent to which you feel you would have difficulty making a decision or choosing a course of action right now.

1	2	3	4	5	6	7	8	9
Not at all				neutral				Extremely

8. Please indicate the extent to which you believe you would be afraid or unsure in committing to an important decision or course of action right now compared to other people your age.

1	2	3	4	5	6	7	8	9
Not at all				neutral				Extremely

## Appendix FF

*Group means, standard deviations, and differences for manipulation checks and dependent variables for Study 3*

	Need for Inclusiveness ( <i>n</i> = 15)	Need for Understanding ( <i>n</i> = 16)	Need for Change ( <i>n</i> = 16)	Avoidance of Decisional Commitment ( <i>n</i> = 15)	Control ( <i>n</i> = 33)	<i>p</i>
Manipulation Checks:						
Inclusiveness	6.77 (1.61)	6.41 (1.39)	6.44 (1.59)	7.10 (1.20)	6.47 (1.40)	.60
Understanding	7.47 (0.88)	7.41 (1.07)	7.31 (0.87)	7.47 (1.14)	7.53 (1.07)	.97
Change	6.77 (1.29)	6.75 (1.25)	6.22 (1.16)	6.07 (1.62)	6.98 (1.00)	.10
Avoidance of Decisional Commitment	5.10 (2.29)	4.87 (1.94)	5.01 (1.69)	4.10 (1.92)	4.62 (2.03)	.64
Dependent Variables:	( <i>n</i> = 19)	( <i>n</i> = 20)	( <i>n</i> = 20)	( <i>n</i> = 20)	( <i>n</i> = 37)	
Political Liberalism	5.99 (2.05)	5.64 (1.66)	5.83 (1.55)	5.98 (1.33)	6.29 (1.92)	.73
Social Liberalism	6.34 (2.31)	6.32 (2.05)	6.37 (1.76)	6.56 (2.26)	6.92 (2.26)	.81
Economic Liberalism	5.63 (2.04)	4.63 (2.00)	5.16 (1.89)	5.15 (1.53)	5.46 (1.93)	.48
IAT	0.33 (0.34)	0.25 (0.30)	0.24 (0.32)	0.28 (0.39)	0.32 (0.28)	.81

*Note.* Means are displayed and standard deviations are shown in parentheses. Political Liberalism is a composite of three items. None of the results were statistically significant.

## Appendix GG

*Internal analyses for Study 3: Regression results for manipulation checks predicting political liberalism*

Steps:	Political Liberalism			Liberal Social Dimension			Liberal Economic Dimension			IAT		
	1	2	3	1	2	3	1	2	3	1	2	3
Sex	1.29**	.89 <sup>†</sup>	.65	1.19*	1.00	.84	1.53**	.83 <sup>†</sup>	.59	.11	.08	.07
EffectInc	-.11	-.05	-.26	-.28	-.28	-.52	.27	.33	.22	.03	.03	-.02
EffectUnd	-.42	-.51	-.50	-.28	-.33	-.29	-.66 <sup>†</sup>	-.84*	-.83*	-.05	-.07	-.07
EffectCha	-.06	-.03	.15	-.19	-.10	-.05	.12	.08	.27	-.01	-.01	.04
EffectAdc	.01	.03	-.07	.04	.07	.17	-.17	-.03	-.22	.01	.04	.04
IncMC		.12	.22		.16	.21		.09	.18		-.04	-.02
UndMC		-.24	-.25		-.08	-.10		-.38*	-.38*		.02	.02
ChaMC		.23	.43*		.29	.39		.27	.50*		.05	.08 <sup>†</sup>
AdcMC		-.13	-.07		-.13	-.10		.10	.17		-.00	.01
Know		-.32 <sup>†</sup>	-.16		-.10	-.04		-.48*	-.29		-.03	-.01
KnowxInc			.37*			.44*			.27 <sup>†</sup>			.04
KnowxUnd			-.54*			-.41			-.48*			-.07
KnowxCha			.87**			.50			.88**			.13*
KnowxAdc			-.30			-.49 <sup>†</sup>			-.08			-.08 <sup>†</sup>
R <sup>2</sup>	.13	.19	.30	.08	.10	.17	.17	.29	.37	.03	.07	.14
R <sup>2</sup> Change		.06	.10*		.03	.06		.12*	.08*		.04	.07

Note.  $N = 95$ . \*\*  $p < .01$ ; \*  $p < .05$ ; <sup>†</sup>  $p < .10$  (two-tailed). Variables were standardized; unstandardized coefficients are reported. EffectInc = effects code comparing Need for Inclusiveness to the control condition; EffectsUnd = Need for Understanding condition compared to control condition; EffectsCha = Need for Change condition compared to control condition; EffectsAdc = Avoidance of Decisional Commitment condition compared to control condition; IncMC = inclusiveness manipulation check; UndMC = understanding manipulation check; ChaMC = change manipulation check; AdcMC = avoidance of decisional commitment manipulation check; PK = political knowledge. Political liberalism is a composite of three items. Significant interactions were explored; however, they are not reported here. Sex was coded with woman = 1, men = 0.

## Appendix HH

*Regression results for needs predicting political liberalism variables in Study 1*

Steps:	Social Dimension			Economic Dimension			Liberal Political Attitudes		
	1	2	3	1	2	3	1	2	3
Age	-.04**	-.04**	-.04**	-.02 <sup>†</sup>	-.02*	-.02 <sup>†</sup>	-.03**	-.02*	-.02*
Need for Inclusiveness		.29**	.26**		.27**	.26**		.32**	.30**
Need for Understanding		.06	.02		.09	.05		-.07	-.04
Need for Change		.30*	.29**		.17 <sup>†</sup>	.16 <sup>†</sup>		.45**	.43**
Avoidance of Decisional Commitment		-.00	.00		-.07	-.05		.01	.03
Political Knowledge		.15*	.14*		.06	.05		.03	-.03
PK by Need for Inclusiveness			.15			.13			-.10
PK by Need for Understanding			.07			.04			.11
PK by Need for Change			.04			-.02			.02
PK by Avoidance of Decisional Commitment			.18*			.20*			.18*
$R^2$	.06	.17	.20	.01	.09	.11	.03	.14	.17
$R^2$ Change		.11**	.03		.07*	.03		.11**	.03

*Note.*  $N = 190$  for social and economic dimensions;  $N = 195$  for liberal political attitudes. \*\*  $p < .01$ ; \*  $p < .05$ , <sup>†</sup>  $p < .10$ .

Unstandardized coefficients are reported. PK = political knowledge. Scores for social dimension, economic dimension, and liberal political attitudes were standardized.

Appendix II

*Regression results for needs predicting political liberalism variables in Study 2*

Steps:	Social Dimension		Economic Dimension		Liberal Political Attitudes			
	1	2	1	2	1	2	3	
Sex	--	--	--	--	--	-.41**	-.42**	-.42**
Need for Inclusiveness	.03	.05	.04	.03		.19**	.19*	
Need for Understanding	.33**	.33**	.11	.11		.14 <sup>†</sup>	.14 <sup>†</sup>	
Need for Change	.16 <sup>†</sup>	.12	.17*	.19*		.23*	.20*	
Avoidance of Decisional Commitment	.09	.11 <sup>†</sup>	.14*	.14*		-.07	-.06	
Political Knowledge	.10 <sup>†</sup>	.08	-.08	-.08		.01	.01	
PK by Need for Inclusiveness		.16*		.13 <sup>†</sup>			.17*	
PK by Need for Understanding		-.02		.01			-.00	
PK by Need for Change		.29**		.06			.12	
PK by Avoidance of Decisional Commitment		-.04		.17*			.03	
$R^2$	.14	.22	.06	.10	.04	.17	.20	
$R^2$ Change		.08**		.04		.13**	.03	

*Note.*  $N = 193$  for the social dimension;  $N = 191$  for the economic dimension;  $N = 168$  for liberal political attitudes. \*\*  $p < .01$ ; \*  $p < .05$ , <sup>†</sup>  $p < .10$ . Unstandardized coefficients are reported. PK = political knowledge. Scores for social dimension, economic dimension, and liberal political attitudes were standardized. Because sex was correlated with liberal political attitudes ( $r = -.20, p = .009$ ), it was controlled for in the regression analysis predicting liberal political attitudes. Sex was coded with women = 1, men = 0.

## Appendix JJ

*Zero-order and partial correlations among political liberalism variables and composite needs for Studies 1, 2 and 3*

	Political Liberalism	Social Dimension	Economic Dimension	Liberal Attitudes
Study 1:				
Need for Inclusiveness	.17**	.12*	.26**	.13*
Need for Understanding	.23**	.22**	.16*	.13*
Need for Change	.21**	.20**	.09	.24**
Avoidance of Decisional Commitment	-.04	-.02	-.09	-.07
Study 2:				
Need for Inclusiveness	.11 <sup>†</sup>	.14*	.04	.25**
Need for Understanding	.25**	.32**	.10 <sup>†</sup>	.24**
Need for Change	.19**	.18**	.13*	.18*
Avoidance of Decisional Commitment	.11 <sup>†</sup>	.04	.16*	-.08
Study 3:				
Need for Inclusiveness	.22**	.32**	.02	.19*
Need for Understanding	.14 <sup>†</sup>	.24**	-.03	.10
Need for Change	.17*	.22**	.06	.13 <sup>†</sup>
Avoidance of Decisional Commitment	-.04	-.08	.04	.07

*Note.*  $N = 192$  (Study 1), partial correlations controlling for age.  $N = 197$  (Study 2) and  $N = 195$  (for economic liberalism), and for partial correlations controlling for sex with liberal attitudes only ( $N = 169$ ).  $N = 116$  (Study 3), partial correlations controlling for sex. \*\*  $p < .01$ ; \*  $p < .05$ ; <sup>†</sup> $p < .10$  (one-tailed).



## Appendix KK

Project Title: **General Attitudes: What's the Story?**

**Jan 07- Sept 08**

Principal Investigator: Becky Choma

Supervisor: Dr. Carolyn Hafer

PhD Student, Psychology Department

Brock University Professor, Psychology Dept

[becky.choma@brocku.ca](mailto:becky.choma@brocku.ca); 905-688-5550 ext. 4680

[chafer@brocku.ca](mailto:chafer@brocku.ca); 905-688-5550 ext. 4297

**PURPOSE/INFORMATION:** You are being invited to participate in a study investigating people's general attitudes and beliefs. You will be given 2 copies of this consent form to read and sign. One copy will be handed to the researcher and one you will keep for your own records. Next, you will be asked to complete a paper and pencil questionnaire measuring your general attitudes and beliefs. The entire session should take approximately 15 minutes. After you have finished your questionnaire the researcher will provide you with a debriefing form explaining the specific purpose of the study. You may ask questions about the research at any time.

**RISKS/BENEFITS:** There are no known risks for participating in this study. If you have any questions, you may contact the researcher or her supervisor. The information from this study will help with the completion of a PhD dissertation and contribute to research on cognitive performance and general attitudes.

**CONFIDENTIALITY:** Your name will only be associated with this consent form. All consent forms and data will be kept in a locked room at all times. Only Becky Choma, Dr. Carolyn Hafer, and their Research Assistants will have access to this data. Any information gathered from this research will be anonymous. All consent forms will be shredded after a period of 5 years. Survey will be de-identified and therefore not include any identifying information. These data will be kept indefinitely for the purpose of future analyses on related research questions about general attitudes, values, and beliefs. When these data are destroyed, the survey data will be shredded.

**CONTACT:** If you have questions at any time about the study or the procedures you may contact the researcher, Becky Choma, or her Supervisor, Dr. Carolyn Hafer (see above contact information). This project has been reviewed and received ethics clearance through the Office of Research Ethics Board (File # 06-108). If you have any pertinent questions regarding your rights as a participant, please contact the Research Ethics Officer at [reb@brocku.ca](mailto:reb@brocku.ca), 905-688-5550 ext 3035.

**PARTICIPATION:** Your participation in this study is voluntary; you may decline to participate at any time without consequences to yourself by informing the researcher of this decision. If you withdraw from the study before you are done the questionnaire or computer tasks, your questionnaire and computer scores will be omitted from analysis upon your request. Due to the anonymous nature of this study, data cannot be withdrawn once submitted. You have the right to omit any question(s) you choose.

**FEEDBACK AND PUBLICATION:** The results from this study will be incorporated into a PhD dissertation and may be used in any journal articles, presentations, or books published. The results of this research study will be available approximately one year from now. If you would like a copy of the results, please contact the researcher at that time.

**CONSENT:** I have read and understand the above information. I have received a copy of this form. I understand that I may ask questions in the future. I agree to participate in this study.

Please check appropriate box:

- I am participating in this research project for 1 hour of research participation in a psychology course and will not receive monetary payment for my participation.
- I am participating in this experiment for \$2. This experiment will not count toward research participation hours in a psychology course

\_\_\_\_\_  
Signature of participant

\_\_\_\_\_  
Course for participation

\_\_\_\_\_  
Signature of researcher

**\*\*PLEASE KEEP A COPY OF THIS CONSENT FORM FOR YOUR RECORDS\*\***

## Appendix LL

Brock University Written Debriefing FormProject Title: **General Attitudes: What's the Story?****Jan 07-Sept 2008**

Principal Investigator: Becky Choma  
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The purpose of this research is to examine whether cues in the environment or characteristics of a situation can influence peoples' endorsement of certain political ideologies. For example, can characteristics of a situation influence whether a person is more liberal or conservative—*not* the political parties—instead general ways of thinking or viewing the world.

Previous research I have conducted has found that people who are more politically liberal tend to be higher in certain personality traits compared to people who are high in political conservatism. Specifically, my research has shown that individuals who endorse political liberalism tend to be higher on a Need for Inclusiveness, Need for Understanding, Need for Change, and Fear of Commitment (to making a decision or course of action).

Although needs and personality traits can explain some of the variation in peoples' political ideology, they do not exhaustively account for why individuals endorse different political ideologies. According to one theory, the motivated social-cognition perspective, situational variables – so characteristics of a situation – also influence why individuals adopt certain political ideologies. Therefore, the present research is investigating whether situational influences that heighten Need for Inclusiveness can motivate people to gravitate in favour of political liberalism versus conservatism.

Need for Inclusiveness was manipulated by having participants write about how similar they are to everyone in the world. Those in the control condition wrote a paragraph on the differences between web-based and television-based news media. We expect that those who wrote a paragraph about how similar they are to everyone in the world will be more likely to endorse a more politically liberal ideology in comparison to those in the control condition.

It is important to remember that there is a range in beliefs and a variety of ways of viewing the world. For example, people have different political ideologies, or different religious beliefs. And all viewpoints deserve consideration and respect.

***Please do not show this form to other potential participants***, this is for your viewing. The reason I do not want other participants to see this form is so they do not find out about the specific purpose of the paragraph you wrote and questionnaires beforehand; this could prevent them from responding naturally to the questions. Thank you for your cooperation.

**Thank you for your time and support in participating in this study!**

If you have any questions or concerns please feel free to contact any of the following:  
 Becky Choma (Principle investigator)                      Dr. Carolyn Hafer (Supervisor)

## Appendix MM

1. How liberal or conservative (meaning your general outlook) do you tend to be *in general*?

1	2	3	4	5	6	7	8	9
Extremely Liberal								Extremely Conservative

2. How liberal or conservative (meaning your general outlook) do you tend to be when it comes to *economic policy*?

1	2	3	4	5	6	7	8	9
Extremely Liberal								Extremely Conservative

3. How liberal or conservative (meaning your general outlook) do you tend to be when it comes to *social policy*?

1	2	3	4	5	6	7	8	9
Extremely Liberal								Extremely Conservative

4. How liberal do you tend to be in general?

1	2	3	4	5	6	7	8	9
Not at all Liberal								Extremely Liberal

5. How liberal do you tend to be when it comes to economic policy?

1	2	3	4	5	6	7	8	9
Not at all Liberal								Extremely Liberal

6. How liberal do you tend to be when it comes to social policy?

1	2	3	4	5	6	7	8	9
Not at all Liberal								Extremely Liberal

7. How conservative do you tend to be in general?

1	2	3	4	5	6	7	8	9
Not at all Conservative								Extremely Conservative

8. How conservative do you tend to be when it comes to economic policy?

1	2	3	4	5	6	7	8	9
Not at all Conservative								Extremely Conservative

9. How conservative do you tend to be when it comes to social policy?

1	2	3	4	5	6	7	8	9
Not at all Conservative								Extremely Conservative

## Appendix NN

Items used in Studies 1 and 4:

- 1) The law should be changed to make divorce much more difficult.

1	2	3	4	5
Strongly Disagree				Strongly Agree

- 2) The Canadian health-care system should involve a mixture of public and private initiatives.

1	2	3	4	5
Strongly Disagree				Strongly Agree

- 3) The Canadian government needs to spend more money on the military.

1	2	3	4	5
Strongly Disagree				Strongly Agree

- 4) What is your attitude toward abortion?

1	2	3	4	5
It should never be allowed				It should never be forbidden

- 5) Gay men and lesbians should be allowed to marry.

1	2	3	4	5
Strongly Disagree				Strongly Agree

- 6) A good way to improve life for Canadians is for the government to lower taxes.

1	2	3	4	5
Strongly Disagree				Strongly Agree

- 7) The government ought to reduce the income differences between the rich and poor.

1	2	3	4	5
Strongly Disagree				Strongly Agree

Items used in Studies 2 and 3:

Listed below is a series of general policies that you may or may not support. Please consider each policy and indicate your personal attitude toward it using the scale below.

<b>Extremely Unfavourable</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>Extremely Favourable</b>				
1. Lower taxes for large businesses and higher income individuals						1	2	3	4	5	6	7	8	9
2. Allowing private management of health care facilities						1	2	3	4	5	6	7	8	9
3. Repealing of legal recognition for same-sex marriage						1	2	3	4	5	6	7	8	9
4. Increased spending on military						1	2	3	4	5	6	7	8	9
5. Laws guaranteeing easier access to abortion						1	2	3	4	5	6	7	8	9

## Appendix OO

*Regression results for needs predicting liberal political attitudes in Study 3*

Steps:	Liberal Political Attitudes		
	1	2	3
Sex	.53*	.47*	.39 <sup>†</sup>
Need for Inclusiveness		.17*	.18*
Need for Understanding		.05	.11
Need for Change		.13	.13 <sup>†</sup>
Avoidance of Decisional Commitment		.14 <sup>†</sup>	.14 <sup>†</sup>
Political Knowledge		.01	.06
PK by Need for Inclusiveness			.20*
PK by Need for Understanding			-.14 <sup>†</sup>
PK by Need for Change			.05
PK by Avoidance of Decisional Commitment			-.00
$R^2$	.04	.10	.16
$R^2$ Change		.06	.16

*Note.*  $N = 116$  for liberal political attitudes. \*\*  $p < .01$ ; \*  $p < .05$ , <sup>†</sup>  $p < .10$ . Significance tests were one-tailed. Unstandardized coefficients are reported. PK = political knowledge. Scores for liberal political attitudes were standardized. Sex was coded with women = 1, men = 0.