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NEED FOR COGNITIVE CLOSURE AND CONSERVATIVE POLITICAL BELIEFS:
DIFFERENTIAL MEDIATION BY PERSONAL WORLDVIEWS.

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ABSTRACT

The paper investigates the relationships between motivated social cognition (need for cognitive closure), personal worldviews (traditional, modern or postmodern), and conservative political beliefs. The relationships were analyzed in a sample of 189 Polish adults. High need for closure was found to be associated with support for both traditional and modern worldviews. Although different in content (i.e. endorsing different values and assumptions about the methods and limits of cognition), the worldviews share similar formal characteristics: both assume the absolute nature of values and the existence of definite truths. However, acceptance of the traditional worldview was related political conservatism (i.e., support for nationalist and isolationist opinions and a stronger role for traditional, religious values in public life), whereas acceptance of the modern worldview was associated with a rejection of conservative political beliefs. Moreover, personal worldviews mediated the relationship between need for closure and political beliefs: support for social conservatism was mediated by acceptance of the traditional worldview, whereas acceptance of the modern worldview predicted rejection of conservative values.

Interest in the psychological underpinnings of political preferences, dating back to the classic work of Adorno, Frenkel-Brunswik, Levinson and Sanford (1950) and many other scholars (Altemeyer, 1996, 1998; Christie, 1954; Eyseneck, 1954, Rokeach, 1960; Sidanius, 1988; Stone 1980; Tetlock, 1983, 1984; Tomkins, 1963), has experienced a resurgence in recent years, with a growing number of studies exploring the epistemic motivations behind certain political beliefs, especially conservative ones. Of these motivations, one of the most frequently cited and examined is the need for cognitive closure – i.e., a desire to quickly formulate and firmly hold onto clear opinions rather than accepting cognitive uncertainty (Jost, Kruglanski, Glaser & Sulloway, 2003a; see also Chirumbolo, 2002; Golec, 2001, 2002a,b; Jost, Kruglanski, & Simon, 1999; Kimmelmeier, 1997; Kossowska & van Hiel, 2003)². A high need for closure urges individuals to acquire knowledge and form definite opinions on an unknown issue as quickly as possible by *seizing on* the most accessible information. It also motivates people to protect and *freeze* an opinion once it is acquired. Need for closure is often thought of as an individual difference, but it can be also heightened or attenuated by situational factors such as time pressure, fatigue, or personal accountability for one’s decisions (Kruglanski & Webster, 1996; Webster & Kruglanski, 1994). Importantly, a large body of work – thoroughly examined in a seminal review by Jost and his colleagues (2003a) – suggests that the need for cognitive closure (and other associated variables, like intolerance of ambiguity, uncertainty avoidance, low cognitive complexity, and close-mindedness) is reliably associated with conservative political beliefs (i.e., resistance to change, preference for order, and anti-egalitarianism; see Jost et al. 2003a).

However, in a response to Jost et al. (2003a), Greenberg and Jonas (2003) argue that different political beliefs may be driven by the same cognitive motivation and that the need for closure may be seen as a ‘content free’ variable that motivates people to *seize* and *freeze* (see Kruglanski & Webster, 1996) on whatever ideological context that happens to be available. According to Jost et al. (2003b), relationships between motivated closed-mindedness and political

² Other often studied individual difference variable include personal need for structure (Altemeyer, 1998; Schaller, Boyd,

beliefs other than conservative ones - e.g., socialist economic arrangements (Golec, 2001, 2002a, b; Kossowska & van Hiel, 2003) or leftist and liberal social beliefs (McFarland, , Ageyev & Abalakina-Paap, 1992; Tetlock, 1983, 1984)³ - are rare and constitute exceptions that prove the more general rule that the need for closure should be associated with whatever beliefs support a stable social order with minimal potential for change (e.g., support for features of the old Soviet regime following the collapse of communism in the late 1980s and early 1990s; see McFarland et al., 1992). In this paper we offer a reformulation of this debate by arguing that people high in need for closure may be attracted to political ideas whose content differs on the surface, but which share certain important formal and structural characteristics.

We argue that people high in need for closure may be attracted to certain beliefs not because they are accessible or because they secure forms of social organization that are relatively simple, stable and predictable, but because they are grounded in more general worldviews whose philosophical implications satisfy the need for closure better than others. People high in need for closure may be attracted to worldviews in which values are understood as absolute rather than relative. They may be also more likely to appreciate worldviews that assume a definite rather than an approximate nature of truth. What exactly the values and truths are with respect to their content may be of minimal importance with regard to the satisfaction of the *seizing* and *freezing* tendencies associated with the need for closure. However, the exact content of these values and truths may have important consequences for other, more specific political opinions and actions. Thus, the need for closure may result in a preference for general worldviews with certain formal characteristics. Worldviews that share formal features can be, however, quite different with respect to their particular political content. Since people are likely to derive particular political

Yohannes & O'Brien, 1995), openness to experience (McCrae, 1996), intolerance of ambiguity (see Jost et al, 2003a).

³ For example, some results suggest that the relationship between need for closure and political beliefs may be context dependent. High need for closure seems to predict not only preference of certain social organization (hierarchy, order illustrated for example by reoccurring relationship between high need for closure and support for conservative social values) but also support for existing status quo and rejection of change (illustrated, for example, by different effects of high need for closure on economic preferences in Western and post-communist countries).

beliefs from the content of their general worldviews, the need for closure may, in consequence, indirectly motivate very different political preferences.

This argument is consistent with claims made both by Greenberg and Jonas (2003) and by Jost et al. (2003a, b). We argue that the need for closure may produce a drive for stability, definite answers, and resistance to change, *and* that it may motivate people to support political beliefs with different content depending on social and political context. We suggest that this drive for stability and definiteness is satisfied by general assumptions individuals make about values, truths, and the nature of surrounding reality that are more basic than particular political programs and the social orders they envision. In order to further develop our argument, we introduce the concept of *personal worldviews*.

PERSONAL WORLDVIEWS

Drawing on a broad psychological tradition (e.g. Boski, 2002; Borowiak, 2001a; Hofstede, 1980; Schwartz, 1996; Stemplewska-Żakowicz, 2001; Triandis, 1995), we define personal worldview in this paper as a discrete cognitive meta-structure, made up of two types of beliefs: (1) epistemological assertions regarding the nature of truth, cognition (i.e., method of discovering the truth), and reality (i.e., whether it is objective or subjective); and (2) axiological assertions about professed values (i.e., whether values are absolute or relative) that define individual identity⁴. Worldviews consist of concepts, explanative categories, and values through which individuals perceive reality, define life experiences, and construct identities. Personal worldviews are constructed by individuals in their socio-cultural environments. For this reason, a typology of worldviews is drawn from the typology of cultural media serving to construct them. Most useful for these purposes is the widely accepted tripartite classification of cultural materials currently used in philosophy (Lyotard, 1979; Jameson, 1998; Rorty, 1991) and sociology (Bauman, 1998a,b);

⁴ The meaning of the term worldview has different interpretations in the domains of philosophy, sociology and psychology (e.g. Berger & Luckman, 1966; Giddens, 1992; see also Borowiak 2001a, b). Even within the field of psychology it assumes a different meaning when defined, for example, by educational or developmental psychology or psychology of religion (Borowiak, 2001a, 2004; see James, 1991; Bond, et al, 2002; Hofstede, 1980; Schutz, 1970; Schwartz, 1994, 1996; Triandis, 1995).

2003; Giddens, 1992) and which has now found its way into the field of psychology (Kvale, 1992; Stemplewska-Żakowicz, 2001; Martin & Sugarman, 2000). This typology consists of the worldviews generally referred to as traditional (i.e., pre-modern or religious), modern (i.e., scientific or rational) and postmodern (i.e., existential or relativistic). These three types of cultural discourse (or sets of cultural beliefs) coexist in the socio-cultural sphere as frameworks for interpretation of individual and collective experience⁵.

These personal worldviews - traditional, modern and postmodern - may be seen as ideal types of cultural discourse accepted and personalized by individuals (Borowiak, 2001b; 2004). To elaborate, the traditional worldview is based on belief in a single, unshakeable truth of a transcendental, non-human character, not susceptible to rational verification or evaluation. Such ultimate truth gives legitimization to values that are understood as definite and absolute. The bringing into universal being of “the one truth” is expected to guarantee an ideal social order. Within this worldview the main values are dedication, devotion, and self-sacrifice in the name of the foundational truth, and life events are interpreted largely in terms of fate and destiny. In the traditional worldview, interpretation of experience comes about by relating it to the transcendental reality and absolutized values. Individual identity is treated as given, permanent, and unchangeable. Its bases are perceived to be inherited from ancestors, and the past is idealized as a storehouse of experiential guidelines and memories about one’s roots.

The modern worldview developed mostly as a critique of traditional ones. Nevertheless, it also supports a belief in ‘one, ultimate truth’. In this case, however, the truth is verifiable and legitimized by rational, scientific means, rather than being given and guaranteed by some transcendent reality. Social order and life events are interpreted in terms of mechanisms and rights. Making sense of one’s experience involves the application of a cause-and-effect structure,

⁵ There is an idea of progress and historical development implied by this classification of cultural beliefs. Interestingly, similar progress and change in understanding nature of human cognition and values is reflected in development on individual level. Recent theories of cognitive and moral development differentiate developmental stages in which people absolutize values from these in which people relativize values (Perry, 1970, 1981, Sinnott, 1989; see also Kohlberg & Kramer, 1969). Thus, previous formulations already suggest that individual assumptions about values, goals and limits of human cognition parallel those functioning in socio-cultural realm.

while the building of one's identity is self-discovery, which is understood as getting to know the 'real self' and jettisoning irrational beliefs regarding oneself. Knowledge is the central value, and the goal of living is freeing oneself and others of erroneous beliefs that are devoid a rational foundation. The imperative of tolerance leads to supporters of truths that are not rational and scientific in nature being regarded as people to whom the truth must be pointed out through a process of education (Bauman, 1998a, b). The modern worldview looks to the future rather than the past, toward a new existence where the dreams of progress are finally to be realized.

In turn, the postmodern worldview surfaced as a critique of the basic assumptions of the modern worldview. Above all, it casts doubts on the existence of an objective truth that is independent of social and historical context: i.e., the place and time where it arises. Within this worldview, the process of scientific enquiry is treated as the *production* of truth, rather than its discovery. All "truths" are perceived as fragmentary and partial; therefore, the primary cultural value is the ability to perceive the particularity of one's own truths and remain open to other "truths" and engage in discussion with them. No "best" description of human experience is assumed to exist, thus excluding the possibility of its inter-subjective evaluation. Life events are interpreted in terms of chance and serendipity. Moreover, the self is believed not to exist; there are many potential selves, and all of them are fluid and variable. Freedom is the central value, while the goal of living is the continuously renewed creation of one's identity (Rorty, 1989, 1991). The greatest interest is aroused by the present, as it is the only moment that is real and accessible.

These three personal worldviews are sometimes treated as orthogonal factors: they may coexist and be accepted at the same time. Studies show, however, that there is a reoccurring pattern of relationships between different personal worldviews: people who accept the traditional worldview tend to reject the postmodern one, whereas people who accept the modern worldview also tend to accept postmodern claims. Traditional and modern worldviews are also positively related, although the relationship is relatively weak (Borowiak, 2001b; 2004). This pattern of relationships is consistent with the theoretical assumptions behind the tripartite classification of

worldviews. The traditional belief in ultimate truth and transcendent reality and the postmodern 'privatization' of truths and values are contradictory and mutually exclusive. However, the postmodern worldview can be seen as resulting from the modern one, which acknowledges limitations in its own assumptions and principles. Therefore, there is some overlap in the conceptual and explanatory categories that make up the modern and postmodern worldviews (Bauman, 1996, 1998a, b, 2003). Moreover, the weak yet positive relationship between modern and traditional worldviews results from a common characteristic of these two postures: they share a similar belief in the existence ultimate truths and absolute values, even though they assume different and often exclusive ways of arriving at the truth and attribute significance to different values (see Gellner, 1992).

NEED FOR CLOSURE, WORLDVIEWS, AND POLITICAL BELIEFS

As the preceding discussion suggests, there are reasons to think that values in general can be understood in two ways: as substantial, absolute, and concrete; or abstract, disputable, and relative (see also Kohlberg, 1984; Tomkins 1963). From this perspective, traditional and modern worldviews share similar formal characteristics, even if they are strikingly different in their content. As noted previously, they both assume the existence of definite, absolute truths in which definite, absolute values can be grounded. While the traditional worldview values religion, tradition, and the past, whereas the modern worldview values science, change, and progress, these are seen as ways of achieving virtually the same epistemic goals: ultimate reassurance, definite answers, and an escape from ambiguity. Therefore, there is no difference between the traditional and modern worldviews with respect to the formal characteristics of the cognitive construction of reality provided by these worldviews. However, on this score, differences exist between the traditional and modern worldviews and the postmodern one, in that the latter that assumes the existence of no definite truths or values and sees reality as ever-changing and never totally or firmly defined.

As such, people striving to achieve stable and reassuring closure should find the absolutism of the traditional and modern worldviews more appealing than the relativism of the postmodern one. Evidence for this prediction can be found in studies on cognition and religious beliefs. These studies indicate that people who absolutize rationality and knowledge in order to undermine religious claims tend to be as uncomfortable with cognitive ambiguity as those who absolutize religious claims. For example, in Wulff's classification of approaches to religion, both Literal Affirmation (an outlook which assumes the factual existence of the religious realm and treats religious beliefs in literal terms) and Literal Disaffirmation (an outlook which rejects the existence of a religious realm of any sort and totally denies that religious beliefs have even a symbolic meaning) – both of which treat religion in a concrete and literal way, with one rigidly supporting and the other rigidly rejecting the transcendent realm – were found to be related to low cognitive development and high cognitive rigidity. In contrast, Reductive Interpretation (i.e., an outlook that rejects the factual existence of a transcendental realm but which affirms the deeper meaning of religious symbols) – which treats religion as a spiritual quest, or as a metaphor for and approximation of concrete reality – was related to higher levels of cognitive development and lower cognitive rigidity (Wulff, 1997; see also Fontaine, Duriez, Luyten & Hutsebaut, 2003). In addition, people who treat religion as hermeneutics – neither rejecting nor literally accepting it (e.g. religion as quest orientation; Barron, 1963) – were found to be open-minded, complex, tolerant of ambiguity, less dogmatic, and lower in need for closure (Duriez, Fontaine & Hutsebaut, 2000; see also Fowler, 1981; Hutsebaut, 1996; Saroglou, 2002; Wulff, 1997). Thus, there are reasons to believe that the need for closure underpins certain approaches to truth and values (i.e., one that are definite, absolute, and stable) rather than others (i.e., one that are metaphorical, relative, and changeable).

In turn, political preferences can be seen as resulting from personal worldviews and reflecting the content of the values and basic truths individuals accept. The traditional worldview, with its orientation towards the past and its rejection of whatever deviates from the one “right”

way of doing things, is likely to result in conventionalism, a punitive attitude towards social deviants, and support for social hierarchy and control – i.e., the outlook typically described as “conservative” (see Jost et al., 2003a). The modern worldview, with its orientation towards the future and progress and its emphasis on tolerance and education, should lead to acceptance of a more liberal politics, with support for individual rights and social freedoms, equality, and education. This link between the modern worldview and liberalism makes sense especially in Poland and other postcommunist countries, where liberal discourse was developed in opposition to political regimes and focused not on claims of epistemological relativity but rather on universal morality that supports basic human rights. However, it might be also expected that political liberalism, with its emphasis on individual freedoms, may be an expression of the postmodern worldview, with its claims of relativity and individual choice. This orientation would seem to be particularly descriptive of liberalism as it is manifested in the established democracies of Western Europe and North America.

Along these lines, we argue that the effects of the high need for cognitive closure on political beliefs may be mediated by personal worldviews. A high need for closure may underlie personal worldviews that differ in their content but which share certain formal characteristics, i.e. the traditional and modern worldviews. Since these two worldviews differ in the political preferences they imply, a high need for closure may be indirectly associated with political conservatism via support for the traditional worldview and indirectly associated with a rejection of conservatism via support for the modern worldview. Thus, in the present study we investigated two hypotheses: (1) the need for cognitive closure should be *positively* related to the acceptance of the traditional and modern worldviews and *negatively* related to support for the postmodern worldview; and (2) personal worldviews should mediate the relationship between the need for closure and political conservatism, with the need for closure being related to support for conservatism via the traditional worldview and a rejection of conservatism via the modern

worldview. We also expected that the rejection of conservative beliefs would be related to the acceptance of both modern and postmodern worldviews.

METHOD

PARTICIPANTS

The study was conducted using a convenience sample of 189 Polish adults aged 18 to 44 ($M = 24.5$; $SD = 5.09$), of these 122 were female and 67 male. Three participants had a primary school education, 91 had a high school education, 63 were students and 22 had a college education (ten subjects did not indicate their education level). The questionnaires were distributed by authors and 2 student research assistants to the shoppers in a large shopping centre in Warsaw's district Praga during 5 consecutive days in summer 2004. Participants took on average 20 minutes to complete the questionnaire. They were given sweets in exchange for their participation.

MEASUREMENT

Participants were asked to complete a questionnaire containing (1) the Political Beliefs Scale (see Mazurek, Wojciszke, & Baryła, 2001), (2) the 'How do you view and the world around you?' Questionnaire (Borowiak, 2001b, 2004), with subscales measuring the traditional, modern and postmodern worldviews and (3) a Polish adaptation of the Need for Cognitive Closure Scale (Golec 2001, 2002a,b; see also Kossowska & van Hiel, 2003).

Political Beliefs Scale

The Political Beliefs Scale contains 10 items that have been used on various occasions in opinion polls conducted in national samples of Poles. Together, they form a scale with very high reliability ($\alpha = .89$) (see Mazurek, Wojciszke & Baryła, 2001; Boski, 1993). Participants were asked to indicate how much they disagree or agree with each of the 10 items on a response scale ranging from '1 = definitely disagree' to '6 = definitely agree'. The actual items ask about preferred forms of social organization and preferred values for the regulation of social order and the organization of the state (e.g. "Christian values should have special place in Polish politics" or

“Poland should be only for Poles”). Higher scores indicate support for conservatism in the Polish context, i.e., support for a religious, national state and the rejection of a secular, European state (see Boski, 1993, Golec, 2001, 2002a,b).

Personal worldviews

The 36-item ‘How do you view yourself and the world around you?’ Questionnaire (Borowiak, 2004) was used in order to measure acceptance of the three personal worldviews discussed above. The questionnaire contains three 12-item subscales measuring the (a) traditional, (b) modern, and (c) postmodern worldviews. Participants evaluated the statements in each scale independently since all types of worldviews may coexist in individual mentality. Therefore, each person obtained three independent scores: the higher the score in a given scale, the greater the acceptance of the world-view it corresponds to.

In the items in each subscale, participants are asked to indicate how much they agree with each statement using a Likert-type scale ranging from ‘1 = definitely disagree’ to ‘6 = definitely agree’. The subscale measuring acceptance of the traditional worldview consisted of items referring to belief in the transcendental validation of truth, the ultimate nature of truth, and the absolute nature of values (e.g., “The most important thing in a person’s life is a deep and authentic faith” or “To be oneself is to be aware of one’s roots”; $\alpha = .89$). Support for the modern worldview was measured items reflecting the absolutization of rationality and progress (e.g. “Only opinions that are rationally justified should be accepted” or “I am who I am only because of my education and self- improvement”; $\alpha = .88$). Acceptance of the postmodern worldview was assessed using items reflecting a belief in the relative nature of cognition and values (e.g. “We create truths for our own purposes” or “Creating an ever new image of oneself is the main task in life”; $\alpha = .66$). See Appendix 2 for further information on these items.

The statements making up the items in the “How do you view yourself and the world around you?” Questionnaire were developed from content analyses of cultural texts representative of traditional, modern and postmodern discourse. Statements representing

traditional discourse were taken from the encyclical letters of Pope John Paul II. They were carefully chosen in order to avoid reference to particular religious beliefs; rather, they represented guidelines about how to believe and how to relate to values. Statements representing modern discourse were based on writings of philosophers from the Age of Enlightenment. Finally, statements representing postmodern discourse were chosen from works of key postmodern philosophers and sociologists (e.g., Bauman, Lyotard, Rorty). The statements corresponding to these three personal worldviews were evaluated for consistency with criterial aspects of traditional, modern and postmodern discourse by two experts: a cultural anthropologist and cross-cultural psychologist (whose ratings were highly correlated; $r = .93$). The resulting items were then pretested in a sample of 205 Polish adults. The psychometric properties of the questionnaire were then evaluated in a second sample of 716 Polish and 114 Swiss adults. Exploratory and confirmatory factor analyses conducted on the items in the questionnaire consistently produced a three-factor solution with factors corresponding to the traditional, modern, and postmodern worldviews. The pattern of relationships between the worldviews was the same in the Polish and Swiss samples. Participants from both samples differed with respect to their acceptance of the three worldviews in a theory-consistent way: Compared to the Polish participants (from a relatively traditional and homogenous culture), Swiss participants (from a relatively postmodern and heterogeneous culture; see Boski 2002; Hofstede, 1991; Schwartz, 1996) were more likely to accept the postmodern worldview and less likely to accept traditional and modern worldviews. Personal worldviews were also related to age: as theory would predict, the traditional worldview was more strongly endorsed accepted by older participants, while the modern worldview and especially the postmodern worldview were more strongly endorsed by younger participants in both countries. These findings provide theoretical validation of the three scales.⁶ (Borowiak, 2004).

⁶ The external validity of the scales was also confirmed through inter-group comparisons between students of theology and psychology: according to expectations theology students accepted traditional worldview and rejected postmodern one more strongly than psychology students (Borowiak, 2004)

In the present study, a principal axis factor analysis with direct oblimin rotation conducted on the 36 items of the ‘How do you view yourself and the world around you?’ Questionnaire revealed a three-factor solution with loadings for the traditional worldview scale ranging from .37 to .87; loadings for modern worldview scale ranging from .51 to .77; and loadings for postmodern worldview scale ranging from .24 to .74. The three-factor solution explained 43.15 % of variance. Moreover, there was a negative correlation between the traditional and postmodern subscales ($r = -.27, p < .0002$) and a positive correlation between the modern and postmodern subscales ($r = .21, p < .003$). The relationship between traditional and modern subscales was negative and non-significant ($r = -.10; p = .53$) (see Table 1). These results corroborate earlier findings and are in agreement with theoretical suggestions offered by the sociological and anthropological literatures (Bauman, 1996, 2003; Gellner, 1992; Jameson, 1998). Similarly, the present results corroborate the earlier finding that support for the traditional worldview is positively correlated with age ($r = .14; p < .05$).

Need for cognitive closure

Finally, individual differences in the need for cognitive closure were assessed using a Polish translation of the 42-item Need for Cognitive Closure Scale (Golec 2001, 2002a,b; see also Kossowska & van Hiel, 2003; see Webster & Kruglanski, 1994; for the original scale). Responses were coded so that higher scores indicated a higher need for cognitive closure ($\alpha = .86$).

RESULTS

The first hypothesis tested in the present study was that the need for closure would be positively associated with worldviews that seek to secure a stable and predictable vision of reality, i.e., the traditional and modern worldviews. We also expected that a high need for closure would be associated with a rejection of the uncertain, relativistic postmodern worldview. The results presented in Table 1 indicate support for these predictions. The need for closure was significantly and positively related both to the traditional ($r = .37, p < .001$) and modern ($r = .24, p < .001$) worldviews, but it was negatively related to postmodern worldview ($r = -.13, p < .07$).

In addition, results presented in Table 1 offer preliminary support for our claim that different worldviews may be related to different political beliefs. Support for the traditional worldview was related to political conservatism in the Polish context ($r = .74, p < .001$), whereas acceptance of modern worldview was related to a rejection of conservatism ($r = -.18, p < .015$). Similarly, acceptance of the postmodern worldview was also related to a rejection of conservatism ($r = -.30, p < .001$). The need for closure was positively correlated with support for conservative beliefs ($r = .28, p < .0001$), but a regression analysis including the need for closure and all three personal worldviews as predictors of conservatism reduced this relationship to non-significance, suggesting that one or more of the worldviews may mediate the relationship between the need for closure and conservatism (see Table 2). Therefore, in the next step we examined the main mediation hypothesis, which suggested that the need for closure would be indirectly associated with different political beliefs depending on whether its effects are mediated by the traditional or modern worldview. More precisely, we assumed that a high need for closure would be indirectly related to support for conservatism via the traditional worldview, and that it would be indirectly related to a rejection of conservatism via the modern worldview. Since the results of our correlational analyses revealed that postmodernism may also be related to both the need for closure and political beliefs, we included this worldview in our mediation analyses as well.

The mediation hypothesis was examined using a variation of Baron and Kenny's method (1986) for the assessment of mediation in the regression context. This analysis is summarized in Figure 1. Three sets of ordinary least-squares regressions were performed (see Greene, 2003; see also Baron & Kenny, 1986). In the first regression, the raw relationship between the need for closure and support for conservative political beliefs was examined by regressing scores on the Political Beliefs Scale on the need for closure. In Figure 1, this path is indicated by the dotted line connecting the need for closure and political conservatism. The results of this regression indicated that this relationship was positive and significant, $b = .60, F(1, 188) = 16.24, p < .0001$.

In the second set of regressions, the mediators – each of the worldviews – were regressed on need for closure. The estimates for these paths are shown on the left side of Figure 1. They provide additional support for the hypothesis relating a high need for closure to support for the traditional and modern worldviews. The need for closure was positively associated with acceptance of the traditional worldview, $b = .17$, $F(1, 188) = 30.26$, $p < .001$; and with acceptance of the modern worldview, $b = .13$, $F(1, 188) = 10.99$, $p < .001$. Moreover, the need for closure was negatively related to acceptance of the postmodern worldview, $b = -.09$, $F(1, 188) = 3.29$, $p < .07$.

Finally, the last regression added the mediators to the first regression model. If acceptance of a certain worldview significantly mediates the relationship between the need for closure and political conservatism, then the coefficient for that worldview should be significant and positive, and the magnitude of the coefficient for need for closure should be significantly reduced. On the whole, the predictors included in this full model accounted for a significant portion of the variance in political conservatism, $F(4, 188) = 62.15$, $p < .001$, $R^2 = .58$. The estimates for these paths are shown on the right side of Figure 1. Acceptance of the traditional worldview was significantly related to conservative political beliefs ($b = .67$, $p < .001$), while acceptance of modern worldview was associated with a rejection of conservatism ($b = -.12$, $p < .05$). Similarly, acceptance of the postmodern worldview was associated with a rejection of conservatism ($b = -.13$, $p < .08$). Finally, the relationship between need for closure and conservatism was reduced to non-significance once the three mediators were added to the model ($b = .07$, $p > .54$).

Formal statistical tests of the indirect effects also provided support for our primary mediation hypothesis. The Sobel test (see Baron & Kenny, 1986) was used to test the significance of the indirect effect of the need for closure on conservatism via the traditional, modern and postmodern worldviews. The indirect effects were computed by multiplying the path from need for closure to each mediator by the path from each mediator to political

conservatism. These results are summarized in Table 3. As these results indicate, the need for closure had significant but oppositely signed indirect effects on political conservatism via traditionalism (IE = .11, $z = 5.08$, $p < .00$) and modernism (IE = -.017, $z = -1.86$, $p < .04$), but not via postmodernism (IE = .01, $z = 1.39$, $p = .18$).

The approach proposed by Baron and Kenny (1986) – as well as the Sobel test for the statistical significance of indirect effects – are the most commonly used methods for the analysis of mediation effects in the social sciences (see Preacher & Hayes, 2006). However, when this method is used with multiple mediators – as we have here – multicollinearity and the fact that the approach relies on series of tests rather than considering the effects of all mediators at the same time makes it somewhat problematic (MacKinnon, 2000; Preacher & Hayes, 2006, in press). In order to deal with these issues, we used the *multivariate delta method* (Bishop, Fienberg, & Holland, 1975; Oehlert, 1992) to estimate the total indirect effect and the bootstrapping method proposed by Preacher and Hayes (2006) to obtain the confidence intervals for the total indirect effect and the specific indirect effects of each mediator.

First, we estimated the total indirect effect and its confidence intervals and the effects of individual mediators in the context of a multiple-mediator model (Preacher & Hayes, 2006; see Table 4). As indicated above, the total effect of need for cognitive closure on political conservatism amounted to $b = .60$, $p < .0001$, while its direct effect was $b = .07$, $p < .57$. The difference between the total and direct effects is the total indirect effect via the three mediators. It has a point estimate of .53 ($z = 3.68$) and a 95% bootstrap confidence interval of .23 to .82. Since zero does not fall into this interval, the total indirect effect of all three mediators is significant. An examination of the specific indirect effects indicates that only traditionalism and modernism are statistically significant and independent mediators of the effect of need for cognitive closure on political conservatism. The specific indirect effect of the need for closure via the traditional worldview is .55 ($z = 4.32$) with a confidence interval of .32 to .82, indicating a significant effect. The point estimate for the specific indirect effect of the need for closure via the

modern worldview is $-.05$ ($z = 1.59$) with a confidence interval of $-.13$ to $-.003$, also indicating a significant effect. Finally, the specific indirect effect of the need for closure via the postmodern worldview is $.02$ ($z = 1.24$) with a confidence interval of $-.001$ to $.089$, indicating a non-significant effect. Thus, we can conclude that a high need for closure is indirectly related to support for conservatism via the traditional worldview and indirectly related to a rejection of conservatism via the modern worldview. Although the indirect effect of the need for closure via the traditional worldview is stronger and more robust than its indirect effect via the modern worldview, the latter remains significant over and beyond the indirect effect via traditionalism.

DISCUSSION

Studies of the relationship between the cognitive and motivational characteristics of individuals and their political preferences are part of a long and rich tradition. Starting with early formulations by Fromm (1941, 1973), Adorno et al. (1950) and Frankel-Brunswik (1949), work in this vein has related cognitive rigidity, simplicity, lack of independent thinking, and intolerance of ambiguity to political conservatism. However, other studies soon reported that similar individual characteristics could also motivate support for radicalism on *both* the right *and* the left (Rokeach, 1960; Eyseneck, 1954; Tetlock, 1983, 1984), support for chronic centrism (Sidanius, 1988), support for whatever political beliefs are accessible in a given context (Jost et al. 1999; see Greenberg & Jonas, 2003), or support for whatever beliefs constitute the *status quo* (Golec, 2001, 2002a, b; Kossowska & van Hiel, 2003). In their review, Jost et al. (2003a, b) claim that conservative political ideologies – supporting a social order that is hierarchical, stable, and predictable – are more likely than any other set of political beliefs to satisfy a psychological need to avoid cognitively complex or ambiguous environments. Exceptions to this rule may exist (e.g. support for socialist economic arrangements in post-communist states motivated by a high need for closure; Golec 2001), but they are scarce and reflect an essentially “conservative” desire to secure a predictable social order with minimal complexity and possibility for change in different historical, cultural, and political contexts.

Our results support and further explain the main claim of Jost et al (2003a, b) and propose an explanation for the existence of the aforementioned exceptions. Our argument follows a line of recent contributions suggesting that motivated closed-mindedness is indirectly rather than directly related to political beliefs. In this vein, recent studies show that the relationship between need for closure and political conservatism may be mediated by more general systems of beliefs (Chirumbolo, 2002; Kossowska, 2006; Van Hiel, Pandelaere & Duriez, 2004).

In this paper, we argue that the need for closure motivates support for generalized *personal worldviews* - cognitive meta-structures consisting of epistemological assumptions about the nature of truth and knowledge and axiological assertions about the nature of esteemed basic values. The worldviews are constructed in socio-cultural contexts and reflect available cultural discourses. Individuals adopt them in order to understand surrounding reality and find guidance for their attitudes and actions. Based on developments within sociology (Bauman, 1998a,b; 2003; Giddens, 1992), philosophy and cultural studies (Lyotard, 1979; Jameson, 1998; Rorty, 1991), and psychology (Kvale, 1992; Martin & Sugarman, 2000; Stemplewska-Żakowicz, 2001), we differentiated between traditional, modern and postmodern worldviews for the purposes of our own work.

Results obtained in a sample of Polish adults confirmed the hypothesis that a high need for closure would be related to support for traditional and modern worldviews, which differ in content but share similar assumptions about absolute and stable nature of values and truths. In addition, the results confirmed that a high need for closure was related to the rejection of a postmodern worldview grounded only in relative truths and values. Unlike the traditional and modern worldviews, it assumes that there is no ultimate knowledge or objective reality. It accepts and endorses uncertainty, change, and the possibility of reinterpreting truths and values (see Borowiak, 2001a). More importantly, the results confirm also the mediational hypothesis that the relationship between the need for cognitive closure and political conservatism would be

differentially mediated by the worldviews. Our mediation analyses indicated that the relationship between need for closure and political conservatism was fully but oppositely mediated by acceptance of traditional and modern worldviews. While a high need for closure was indirectly related to support for conservatism via the traditional worldview, it was indirectly related to a rejection of conservatism via the modern worldview. Nevertheless, the indirect effect via the traditional worldview was substantially stronger than the indirect effect via modern worldview. This result reinforces the conclusions of earlier studies suggesting that the effect of the need for closure on political conservatism is indirect rather than direct, and that it results from more basic assumptions people make about surrounding reality (see Chiurubmolo 2002; Kossowska, 2006; Van Hiel, Pandelaere & Duriez, 2004).

Our results also provide support for Jost and his colleagues' (2003) claim that the relationship between high need for closure and political conservatism is strong and robust and that it results from the ability of conservatism to satisfy the desire for stable definitions of reality characteristic of those high in the need for closure. However, our results suggest also that a high need for closure may also indirectly motivate support for non-conservative beliefs under certain circumstances. In the present study, a high need for closure was associated with support for the modern worldview over and beyond its relationship with support for the traditional one. Moreover, the modern worldview significantly mediated the relationship between the need for closure and rejection of political conservatism. Although the indirect effect of the need for closure via the modern worldview was much smaller than its indirect effect via the traditional worldview, it remained significant even after the latter was taken into account. This suggests that the need for closure may lead to support for *either* conservative or non-conservative political beliefs, depending on which worldview mediates the relationship between the need for closure and political beliefs; the only requirement is that the desire for a stable, predictable reality is satisfied. In other words, the desire for a seemingly stable and predictable world may be secured by absolute truths and values that guarantee achievement of closure, but the specific content of

the truths and values – and the political preferences that result from them – are secondary to these basic epistemological and axiological priorities. In cultural contexts where modern values are available, they may attract people high in need for closure (albeit to a lesser extent than the traditional worldview) and lead to support for a liberal political program more consistent with the values central to the modern worldview.

This finding suggests that cognitively conservative liberals do in fact exist, at least in certain political contexts. In fact, the relationships between need for closure, support for the modern worldview, and political liberalism might seem a little surprising to those more familiar with Western political and cultural contexts, given the strong association between contemporary Western liberalism and the open-endedness of postmodernity. However, it can be explained more easily in the context of Eastern European history and politics. In Poland and other post-communist countries, the liberal discourse was influenced by an emphasis on a binding universal morality (centered on human rights and basic freedoms), rather than the epistemological and moral relativism of more affluent societies. Such ‘modern’ values gave rise to the principles of political and social tolerance and openness in opposition to political repression. Thus, at least in this particular political and historical context, a modern worldview may provide epistemic closure just like traditionalism does, while giving rise to liberal political beliefs instead of conservative ones. However, this does not suggest that the need for closure is a “content free” variable (see Greenberg & Jonas, 2003). Instead, it implies that cognitive closure may be provided by very different worldviews and beliefs, as long as they all share similar formal characteristics that appeal to people high in the need for closure.

As noted above, the results obtained here may depend on the particular cultural and political context in which this study was conducted. Therefore, the generalizability of the relationships between the high need for closure, the modern worldview, and acceptance of liberal political values remains to be established. However, the very finding that a high need for closure may express itself differently depending on political and cultural context provides an important

addition to our knowledge of the relationship between cognitive and motivational process and individuals' political preferences.

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Table 1

Descriptive Statistics and Intercorrelations for Key Variables

Variable	<i>Descriptives</i>		<i>Intercorrelations</i>			
	<u>M</u>	<u>SD</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
1. Need for closure	3.63	.52				
2. Traditional worldview	4.25	1.15	.37***			
3. Modern worldview	4.80	.92	.24**	-.10		
4. Postmodern worldview	4.09	.78	-.13+	-.27***	.22**	
5. Conservatism	2.85	1.10	.28**	.75***	-.18*	-.30***

Note. + $p < .10$ * $p < .05$ ** $p < .001$ *** $p < .000$.

Table 2

Effects of the need for closure and personal worldviews on political conservatism

Predictor	Model 1		Model 2	
	<u>B</u>	<u>SE b</u>	<u>B</u>	<u>SE b</u>
Need for closure	.60***	(.15)	.07	(.12)
Traditional worldview	--	--	.67***	(.05)
Modern worldview	--	--	-.13*	(.05)
Postmodern worldview	--	--	-.12+	(.07)
Constant	.66***	(.55)	.84***	(.54)
<u>F</u> (degrees of freedom)	16.24 (1, 187) ***		62.13 (1, 184) ***	
<u>R</u> ²	.08		.58	
<u>N</u>	188		188	

Note. Standard errors are given in parentheses.

⁺ $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3

Indirect Effects of Need For Closure on Support for Conservative Political Beliefs through Traditionalism, Modernism and Postmodernism

Indirect effects	Indirect effect	Goodman's test	
		Z-score	p-value
Traditional worldview	.11	5.08	.000
Modern worldview	-.017	- 1.86	.040
Postmodern worldview	.01	1.39	.180

Note. All indirect-effect coefficients are unstandardized.

Table 4

Bootstrapped Point Estimates and Confidence Intervals for the Total and Specific Indirect Effects of Indirect Effects of Need For Closure on Support for Conservative Political Beliefs through Traditionalism, Modernism and Postmodernism

Indirect effects	<i>Product of coefficients</i>			<i>Confidence intervals</i>	
	Point estimate	SE	Z	Lower	Upper
Traditional worldview	.5620	.1296	4.32	.3168	.8177
Modern worldview	-.0500	.0315	1.59	-.1276	-.0031
Postmodern worldview	.0252	.0206	1.24	-.0013	.0877
Total	.5376	.1461	3.68	.2326	.8233

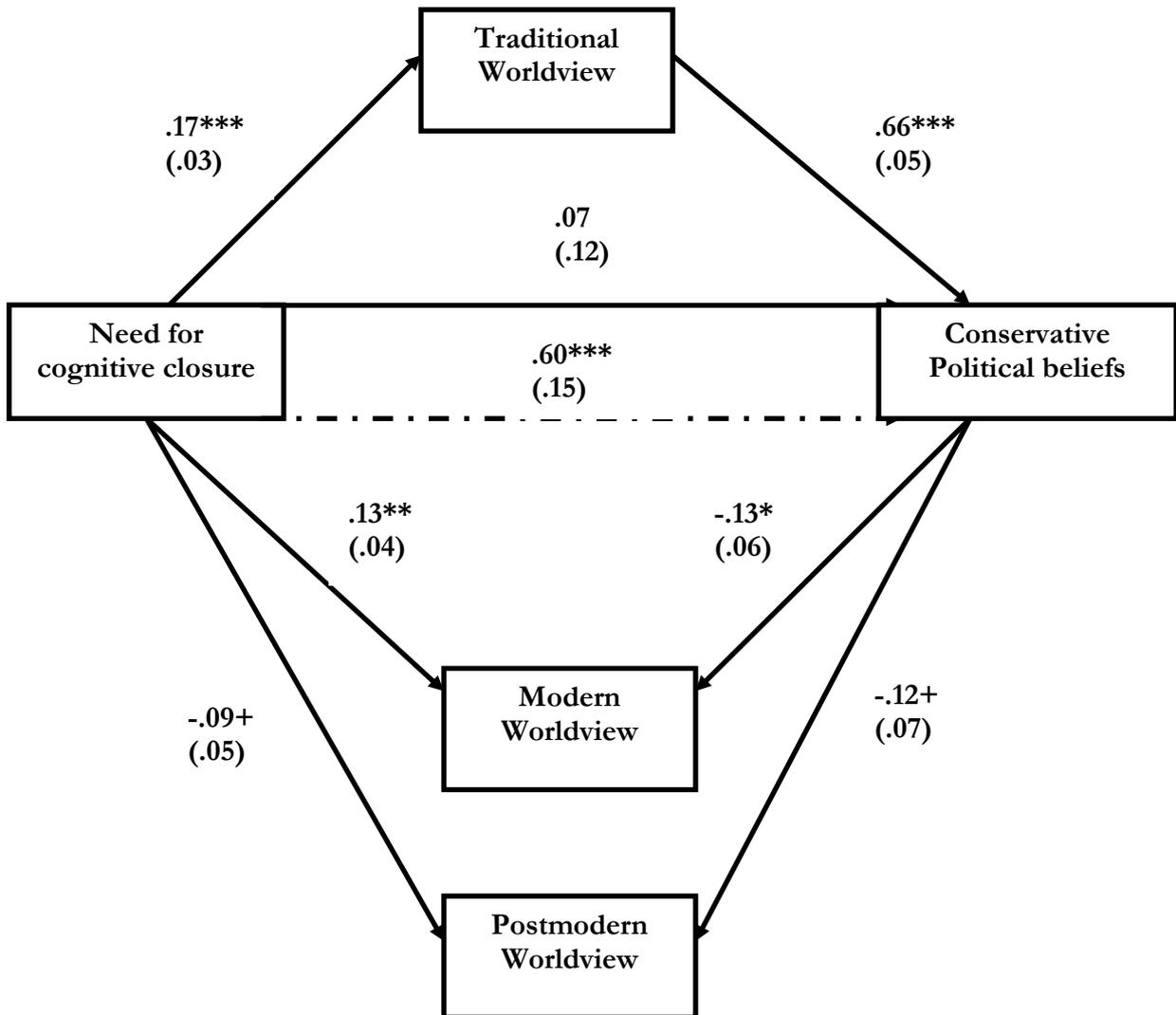


Figure caption

Figure 1. Mediators of the Relationship Between Need for Closure and Conservative Political Beliefs (casual steps model) (+ $p < .10$ * $p < .05$, ** $p < .01$, *** $p < .001$).

Appendix 1

Items of the Political Beliefs Scale

1. Catholicism should be the state religion in Poland
2. Christian values should have a special place in Polish politics
3. Public life in Poland should be guided by the social teaching of the Catholic Church
4. Poland should be only for Poles
5. Poland should be more Catholic
6. Prenatal life should be legally protected
7. The government should fight pornography more effectively
8. Abortion should be legal (reverse-scored)
9. Poland should protect itself from the overflow of fashions and life styles alien to our culture
10. The government should limit and control actions of foreigners in Poland

Appendix 2

Items of the “How do you view yourself and the world around you?” questionnaire (Borowiak, 2001, 2004)

Read the following statements and mark your answer with a small cross in the appropriate box. “*Totally disagree*” means an absolute lack of agreement, whereas “*Totally agree*” means an absolute agreement with a given statement. **What counts is your own opinion, not what others think. Therefore, any answer is correct as long as it is your own.** Try to complete this task rather quickly- the first answer is often the best one.

Totally agree	Agree	Somewhat agree	It is hard to say (I don't know)	Somewhat disagree	Disagree	Totally disagree
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Traditional Worldview

1. Faith gives life meaning.
2. Those who question faith are in error.
3. The most important thing in a person's life is a deep and authentic faith.
4. The truth has been revealed to people.
5. To be oneself is to be aware of one's roots.
6. God is the creator of the world, and human life is dependent on His will.
7. God is the only truth.
8. Truth is in our faith and tradition.
9. Bad people disregard the principles of faith.
10. One cannot avoid one's destiny.
11. Only one truth exists.
12. Proclaiming the truth to others is worthwhile under all circumstances, even when putting our lives in danger.

Modern Worldview

1. One should aspire to disseminate all truths and scientific discoveries so people will act according to them.

2. Only opinions that are rationally justified should be accepted.
3. Rational opinions should be widely disseminated- this is the major purpose of education.
4. I am who I am only because of my education and self- improvement.
5. Through scientific experiments, the truth is revealed.
6. Science is about discovering truths.
7. The truth should be rationally proven.
8. Rules that govern life can be defined and discovered.
9. Truth is a rational judgment, which is scientifically verified.
10. The possibility of understanding the world in a rational manner makes life meaningful.
11. Only what can be rationally explained is true.
12. The most important thing in one's life is a vast and ever growing knowledge.

Postmodern Worldview

1. Truth does not exist- there are only opinions of individual people.
2. We create truths for our own purposes.
3. One creates oneself.
4. Trying to find a permanent meaning in life is an illusion.
5. All truths are partial and incomplete.
6. I desire to continually create myself anew.
7. What is most important in life happens by accident.
8. Even the most ludicrous views and opinions should be tolerated.
9. People should keep their opinions and convictions to themselves.
10. Creating an ever new image of oneself is the main task in life.
11. All truths are relative.
12. Our lives are ruled neither by destiny nor scientific laws, but by chance.

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