

## Original Papers

*Polish Psychological Bulletin*  
 2015, vol. 46(4) 523–534  
 DOI - 10.1515/ppb-2015-0059

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### Agentic Thinking About Others Makes Them Closer

**Abstract:** *A substantial amount of research showed that agency (concerning goal attainment) and communion (concerning relationships maintenance) are two basic dimensions of content in social cognition. Based on the well-supported idea that people typically think about themselves and close others in agentic rather than communal terms, we tested the hypothesis that agentic (but not communal) thinking about unknown others makes them subjectively closer. This hypothesis was confirmed in four experiments differently priming agentic versus communal thinking on others. As predicted, increases in closeness resulting from the agentic thinking about others were constrained to cognitive load conditions where participants were occupied with a parallel task. We conclude that the agentic content of thoughts about others serves as an intuitive, heuristic cue of their psychological closeness.*

**Key words:** *Agency, Communion, Closeness*

Many crime movies start with scenes showing elaborate preparations for a crime. Obviously, the reason is to involve the audience and – possibly – to induce them to take the culprits’ side by making him or her psychologically closer. But why does it work? In the present paper we offer a simple, though somewhat counter-intuitive answer to this question. We depart from the thesis that there are two basic content dimensions in social cognition – agency and communion. We summarize findings that in perceptions of (distant) others communal content dominates over agentic one and that the opposite is true for self-perceptions. Because people typically think about themselves and close others in an agentic way (i.e. as doers), we hypothesize that thinking in agentic terms about unknown others makes them psychologically closer. We present four experiments where we primed agentic or communal thinking on unknown persons and measured resulting perceptions of their closeness. Using different methods of priming, all these studies showed that agentic thinking on others makes them closer, but only in cognitive load conditions.

#### Psychological Closeness

Psychological closeness is a feeling of connectedness, attachment, and unity with another person (cf. Aron, Aron & Smollan, 1992; Dibble, Levine & Park, 2012; Goldstein & Cialdini, 2007). Although in loving relationships

closeness is virtually synonymous with intimacy, “closeness has a larger conceptual bandwidth and range of application than intimacy” as Dibble et al. (2012, p. 565) noted. Numerous research suggest that closeness can be a fleeting state experienced without genuine intimacy which typically is a source of the former. Psychological closeness can be easily induced by perspective-taking (Galinsky & Moskowitz, 2000), priming of an interdependent mindset (Gino & Galinsky, 2012) or sharing an incidental characteristic like birthday (Finch & Cialdini, 1989), a name (Pelham, Carvallo & Jones, 2005) or even papillary lines or mysterious brainwaves which participants know nothing about (Goldstein & Cialdini, 2007).

Interestingly, increased psychological closeness has important consequences even when it results from seemingly ephemeral states or trivial coincidences. Transient surges in closeness lead to increases in compliance and helping (Burger, Messian, Patel, del Prado & Anderson, 2004), sharing of emotional states like dissonance (Norton, Monin, Cooper & Hogg, 2003) and treating others’ actions as own actions of the perceiver (Galinsky, Ku & Wang, 2008). When people feel close to strangers they even infer their own attributes from a latter’s behavior implicitly engaging in vicarious self-perception (Goldstein & Cialdini, 2007). Finally, feeling close to another person who engages in selfish or generous behavior leads people to behave more selfishly or generously

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themselves. These changes in behavior are driven by vicarious justification – when people feel psychologically close to others they are more prone to consider the latter’s selfish behavior as less shame-worthy or their generous behavior as kinder (Gino & Galinsky, 2012). To conclude, psychological closeness can have far reaching consequences even if based on weak and peripheral cues. In the present work we propose yet another cue for closeness – thinking on others in agentic categories.

### Agency and Communion in Social Cognition

There is a general agreement that social cognition involves two basic dimensions of content – agency (competence) and communion (warmth). While agentic content refers to qualities relevant to goal-attainment, such as intelligence, competence or tenacity, communal content refers to qualities relevant to the maintenance of social relationships, such as being kind, fair, sincere, or moral. This distinction appears with different names, such as masculine-feminine, agentic communal, task-versus relation-orientedness, individualistic-collectivistic, intellectually-socially good-bad, competence-morality, or competence-warmth (Fiske, Cuddy & Glick, 2007; Judd, James-Hawkins, Yzerbyt & Kashima, 2005). These distinctions are not identical, but they show a substantial overlap when studied empirically on the level of abstract trait-names frequently used to capture their meaning (Abele & Wojciszke, 2007). A variety of research showed these two types of content are independent (instead of being opposite poles of the same dimension) and play a prominent role in various operations involved in the perception of others (Abele & Wojciszke, 2014), the self (Wojciszke, 2005) and social groups (Cuddy, Fiske & Glick, 2008).

One of the most reliable findings stemming from the literature on these “Big Two” content dimensions is the primacy of communion over agency in person perception. Compared to agentic categories, communal ones are more accessible (Wojciszke, Bazinska & Jaworski, 1998) and processed faster (Abele & Bruckmüller, 2011), more sought for when selecting information on others (De Bruin & Van Lange, 2000), and used more frequently to interpret behavior (when the two interpretations are equally possible – Wojciszke, 1994). Importantly, communal information decides more strongly on evaluative impressions and attitudes concerning both individuals (Wojciszke, et al., 1998) and social groups (Leach, Ellemers, & Barreto, 2007; see Leach, Bilali & Pagliaro, 2013 for a review).

Interestingly, the opposite is true for self-perception – people tend to interpret their own behavior in agentic rather than communal terms and they are much more willing to develop their agentic virtues (like time management) than communal ones (like giving support to others) (Abele & Wojciszke, 2007). Moreover, global self-esteem is much more dependent on what people think about their agency than communion, both when the thinking is measured in correlational designs (Wojciszke, Baryła, Parzuchowski, Szymkow & Abele, 2011) and manipulated experimentally (Wojciszke & Sobiczewska, 2013). The correlational findings

were replicated on a very large sample ( $N > 180\,000$ ) involving participants from 11 countries (Gebauer, Wagner, Sedikides & Neberich, 2013) as well as in samples coming from extremely individualistic countries (The Netherlands, United Kingdom, USA) or collectivistic ones (China, Columbia, Japan) (Wojciszke & Bialobrzeska, 2014).

Why should communion be more important than agency in person perception, while the opposite is true for self-perception? The answer is provided by the Double Perspective Model (DPM) of social cognition (Abele & Wojciszke, 2014; Wojciszke et al., 2011) which departs from the already discussed notion that agency and communion constitute two fundamental dimensions of social cognition. DPM assumes that people construe meaning in motivationally relevant terms and, therefore, communion is more relevant when perceiving others, while agency is more relevant in self-perception. Whereas agentic qualities are directly rewarding for their possessors (whatever one does, it is better to do it in an intelligent and efficient way), communal qualities are rewarding mainly for the surrounding others (who profit from my friendliness and honesty which may be costly for me). This notion of self- versus other profitability (Peeters, 1992) leads to a well-supported idea that agentic categories denote interests of an acting person, while communal categories reflect interests of others who are recipients of the action in question (Abele & Wojciszke, 2014).

Indeed, whose interests are served by an action may determine whether it is construed in agentic terms (when it serves self-interest) or communal ones (when it serves interest of others). For example, when Adam ingeniously fixes his own car, he is perceived as skillful, but when he fixes his neighbor’s car he is perceived as helpful. This reasoning was tested by Cislak and Wojciszke (2008) who studied perceptions of a local politician by describing two lines of his actions. One was related to a business firm and served (or counteracted) his own interests and another was related to a foundation and served (or counteracted) interests of others (inhabitants of a town, i.e. his constituency). The two lines of actions were counterbalanced in such a way that the perceivers were always exposed to exactly the same behaviours (one serving self-interest, one the interests of others). The results revealed that actions serving the self-interest led to higher inferences of agency than actions counteracting this interest, but had no effect on inferences of communion. An exactly opposite pattern emerged for acts serving interests of others – they led to higher inferences of communion but had no effect on inferences of agency. Moreover, these inferences systematically influenced global attitudes and voting intentions. The perceivers strongly wanted to vote for the other-interest politician and this was mediated by inferences of his communal qualities. To a lower degree, they also wanted to vote for the self-interest politician and this was completely mediated by inferences of his agentic qualities. This study suggests that there is an association between agency and thinking about the self, as well as between communion and thinking about others, though the latter is probably weaker because people frequently think about some others (close and interdependent ones) in agentic categories.

## Hypotheses

DPM assumes that perceptions of other people are dominated by communion over agency, whereas perceptions of the self are dominated by agency over communion, and there is ample empirical evidence for both assertions (see Abele & Wojciszke, 2014, for review). However, not all others were created equal. Some persons (like romantic partners or children) are so close that they are symbolically included into the self and actually treated like the self (Aron et al., 2004). Partners of communal – as opposed to exchange – relationships serve each other’s well-being in a non-contingent way similar to the way they serve their own well-being (Clark & Mills, 2011). Close friends’ behavior is interpreted in agentic terms to a degree which is only slightly lower than the degree shown when interpreting one’s own behavior, but behavior of distant peers is interpreted definitely in communal, not agentic terms as found by Wojciszke & Abele (2008). The same authors showed also that the tendency to focus on agentic qualities extends to the perception of persons on whom the perceiver is instrumentally dependent – like a boss in efficiency-oriented organizations, where the employee’s outcomes depend on the boss’ agency. Finally, Abele and Brack (2013) showed that although people are typically more interested in others’ communal than agentic qualities, they prefer agentic qualities in interdependent relationships (like cooperating on a joint task).

Associations are bidirectional (Strack & Deutsch, 2004). If people typically think about themselves and close others in agentic terms, then thinking about unknown others in agentic terms should make them feel subjectively closer, compared to thinking about the same persons in communal terms. In other words, we hypothesize that the agentic content of thinking about others can serve as a heuristic cue of their closeness. Because such a feeling of closeness is actually baseless, it may be rejected when under closer scrutiny, just like a variety of feelings is discarded as a source of information when they are discovered to be biased or not valid (Schwarz, 2012). Basing on bidirectional associations is a hallmark of the automatic/impulsive system of information processing as opposed to the conscious/reflective system (which is based on propositions). Strack and Deutsch (2004) who proposed this thesis accumulated a substantial amount of supportive evidence. For example, positive or negative valence of information is associated with some motor programs, therefore presenting valenced information activates those programs and vice versa – performing the latter selectively primes the positive or negative valence. Specifically, processing positive versus negative information is facilitated depending on whether perceivers are nodding their heads (a sign of approval) or shaking their heads (a sign of disapproval) (Förster & Strack, 1996). And the other way round – when listening to a message consistent with their attitudes, participants spontaneously nodded more often than in the counter-attitudinal message condition (Wells & Petty, 1980). Of course, people are not aware of such processes and they do not consciously

infer positivity from nods nor negativity from head shakes. Rather, they automatically use associations which are bidirectional in nature.

For these reasons, we predict that agentic thinking about others results in a heightened subjective closeness (compared to thinking about them in communal categories) mainly or solely in cognitive load conditions, where the mind is occupied by another task being performed at the same time and the baselessness of closeness intuitions is hard to detect. This prediction was tested in four experiments where participants read an ambiguous description of a target person and then showed graphically how close they felt towards the person. The basic 2 (content of thinking: agentic vs. communal) x 2 (cognitive load: yes vs. no) design was used in all studies. In Experiment 1 we showed the basic effect that agentic thinking on strangers makes them psychologically closer than thinking in communal terms but only in the cognitive load condition. Experiment 2 replicated this finding using a different priming manipulation. Experiment 3 showed that this effect was not constrained to manipulations enforcing the application (as opposed to mere activation) of agentic versus communal categories, neither was it moderated by personal orientation (agentic vs. communal) of the participants. In Experiment 4, a control (no priming) group for the content of thinking was added, which allowed us to show that the basic effect is driven by the agentic but not communal thinking on the target person.

## Experiment 1

In this initial experiment participants were asked to consider a list of either agentic or communal traits while forming an impression of a target person who was described in an ambiguous manner with regard to these two qualities. Because our hypothesis was that an increase in the perceived closeness resulting from agentic thinking will be especially visible when this process has an intuitive nature, we also manipulated cognitive load using a dual-task paradigm. Finally, to check whether the perceived closeness is dependent on attitudes towards the target persons, two attitudinal dependent measures were introduced as well.

### Method

**Participants and overview.** Thirty-eight female college students (18–30 years old) participated in the study presented as dealing with impression formation in conditions of minimal information. Therefore, they always read the same six-sentences long description of a person of their own age (young student) and sex. The description was ambiguous with respect of agency and communion and read “Ann W. is a student and she lives in a sorority. When having appointments she is usually on time. She is good at math. Sometimes she meets her friends in a pub, but sometimes prefers to be alone. Occasionally she takes odd jobs to earn additional money.” The participants were asked to imagine this person and to answer a few questions about her including an estimate of how close she was to



them. Before reading the description of the target two manipulations were introduced – priming of agentic versus communal categories and cognitive load making the basic 2 (priming) x 2 (load) design (with 9–10 persons randomly assigned to each of the four conditions).

**Procedure and manipulations.** Cognitive load was the first manipulated variable. In the cognitive load condition participants were asked to perform a short series of math operations and keep in mind the resulting six-digit number till the end of the experiment. In the no load conditions this part of procedure was omitted. To manipulate activation of agentic versus communal categories, participants received a short list of appropriate traits (either agentic or communal) to be inferred about the target person. Agentic (clever, effective, efficient, energetic, intelligent, and well-organized) and communal (fair, honest, selfless, sincere, loyal, and truthful) traits were selected from a Polish language list of 300 traits (Abele & Wojciszke, 2007) in such a way that they were equally representative for their content domains (agency vs. communion) and balanced for global favorability. Then participants read an ambiguous (with respect of agency vs. communion) description of the target person whose gender and age were always presented as similar to their own characteristics. Finally, participants answered several questions about the agentic or communal traits of the target person.

**Dependent measures.** To measure the main dependent variable, the perceived distance between the target person and the self, participants were given a sheet of paper with a 15 x 15 cm square containing a small circle in the center. Participants were told the circle represented their self and they were asked to draw another circle representing the target person in whatever distance they wanted, in such a way as to show how close the person was to them. The distance was measured in centimeters (ranging from 0 to 11 cm). To make the interpretation easier, the distance measure was reverted to directly show the perceived closeness between the self and the target person. The validity of this measure of closeness was shown in a pilot mass-testing where 297 Polish participants rated closeness towards a person who was always described in the same way with the exception of her nationality, which was either Polish (ingroup) or German (outgroup for participants). The Polish target person was perceived as significantly closer ( $M = 6.92$ ,  $SD = 2.57$ ) than the German target ( $M = 6.28$ ,  $SD = 2.65$ ),  $t(295) = -2.11$ ,  $p = .017$ ,  $d = 0.25$ .

Remaining variables included a willingness to meet the target person on a scale ranging from 1 (*I would never want to meet her*) to 6 (*I would like to speak with her about important personal matters*), and perceived similarity on a scale from 0 to 100%. Both these variables correlated significantly with the perceived closeness – for the willingness of contact the correlation was  $r(37) = .46$ ,  $p = .004$ , for the perceived similarity it was  $r(37) = .50$ ,  $p = .02$ .

## Results and Discussion

The perceived closeness was subjected to a 2 (activated traits: agentic vs. communal) x 2 (cognitive load: yes vs. no) analysis of variance which yielded the expected interaction between the two factors,  $F(1, 37) = 4.79$ ,  $p = .036$ ,  $\eta_p^2 = .13$ . As can be seen in Table 1, this interaction meant that agentic thinking about the target person in the cognitive load condition yielded a significantly higher estimate of closeness than the remaining three conditions, which is also corroborated by an appropriate contrast analysis,  $F(1, 38) = 4.55$ ,  $p = .040$ ,  $\eta_p^2 = .12$ . According to the comparisons between means shown in Table 1, the difference in closeness between agentic and communal priming was large ( $d = 1.02$ ) in the cognitive load condition, though in the no load condition it was small and insignificant.

A similar two-factorial analyzes of variance performed on the measures of willingness to meet the target person and perceived similarity to her yielded no significant effects. Especially the interactions involving both factors appeared insignificant,  $F_s < 1$ . This renders explanations of the present effect in terms of changes in global attitudes and/or perceived similarity implausible. We conclude, then, that agentic thinking about other persons makes them feel closer, but only in the cognitive load condition and this effect does not stem from attitudinal factors.

## Experiment 2

The content priming used in the previous study was very blatant and practically forced participants to use the appropriate categories to complete the experimental task. Therefore in the next experiment we used a more subtle priming method using a paradigm of two apparently unrelated studies. Before the main task of impression formation as based on impoverished information, participants completed an “unrelated” task of thinking about a problem involving one of the two contents. To prime agentic or communal categories participants were asked to think about qualities of a person whom they would charge with a task of negotiating a labor dispute or a person whom they would confide with a personal secret. This task was shaped after Wojciszke et al. (1998, Study 2) who showed that thinking about a negotiator resulted in a higher interest in agentic than communal traits of target persons, while thinking about confiding personal secrets resulted in a higher interest in communal than agentic traits.

## Method

**Participants.** Two-hundred-fifty undergraduates participated in this experiment (87% of them were women).

**Procedure and manipulations.** The procedure was similar to that of Experiment 1. Participants were randomly assigned to the cognitive load or no load condition like in Experiment 1.<sup>1</sup> In the cognitive load condition participants

<sup>1</sup> Additionally, deliberation was manipulated on two levels. In the deliberation condition participants were asked to think as long as they wanted before making their judgments. In the no deliberation condition they were asked to fill a questionnaire (unrelated to the present study) which took about 15 minutes and subsequently they filled the dependent measures. However, this deliberation manipulation produced neither main effects nor interactions on any dependent variables and it was dropped in further analyzes.

**Table 1. The perceived closeness between self and others who were thought about in agentic or communal terms in different conditions of studies 1–4**

Condition	Communal	Agentic	<i>t</i>	<i>d</i>
Study 1.				
No load	7.99 (2.11)	7.13 (2.38)	-0.81	-0.36
Cognitive load	6.96 (2.50)	8.93 (0.68)	2.41*	1.02
<i>t</i>	0.96	-2.30*		
<i>d</i>	0.44	-1.17		
Study 2.				
No load	6.97 (2.31)	7.39 (1.98)	1.20	0.15
Cognitive load	6.45 (2.50)	7.95 (1.71)	3.99***	0.70
<i>t</i>	1.03	-1.76		
<i>d</i>	0.20	-0.31		
Study 3.				
No load	6.72 (2.40)	5.59 (2.75)	-1.56	-0.43
Cognitive load	5.53 (3.02)	7.00 (2.08)	2.00*	0.57
<i>t</i>	1.49	-2.11*		
<i>d</i>	0.44	-0.59		
Study 4.				
No load	7.12 (2.25)	7.40 (2.00)	0.49	0.14
Cognitive load	5.64 (2.40)	8.48 (1.49)	5.21***	1.46
<i>t</i>	2.30*	-2.26*		
<i>d</i>	0.65	-0.62		

\* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

were asked to perform a short series of math operations and keep in mind the resulting six-digit number till the end of the experiment. In the no load conditions this part of procedure was omitted. At the next step, participants were asked to think about qualities making a good negotiator (agency priming) or a trustworthy person (communion priming). Specifically, they were instructed: "Imagine that you have to decide whether Ann W. can be charged with a task of an impartial negotiator in a complicated dispute between management and employees in a factory (or: whether you can confide Ann W. with a personal secret). To decide this, you should, of course, know what kind of person Ann W. is, for example, what her important traits are. Write down all the traits you would like to know (whether or not Ann has the trait) to make such a decision." Then participants read the previously used 8 sentences description of a target person presented as similar to them in age and gender and then answered questions concerning the perceived closeness of the target person.

**Measures.** The main dependent variable was the perceived distance between the target person and the self,

measured with the same graphic method as previously. The distance measure was reverted to show directly the perceived closeness between self and the target person. The perceived similarity and willingness of contact were measured as well. The former correlated with the perceived closeness  $r(249) = .32, p < .001$ , and so did the latter,  $r(249) = .46, p < .001$ .

### Results and Discussion

The perceived closeness measure was subjected to a 2 (priming: agentic vs. communal) x 2 (cognitive load: yes vs. no) analysis of variance with both factors manipulated between participants. This analysis revealed two effects. One was the main effect of priming,  $F(1, 243) = 12.66, p < .001, \eta_p^2 = .05$ , such that the perceived closeness was greater after the agentic ( $M = 7.68, SD = 1.86$ ) than the communal ( $M = 6.57, SD = 2.41$ ) priming. The second effect was a priming by cognitive load interaction,  $F(1, 243) = 3.76, p = .054, \eta_p^2 = .02$ . As can be seen in the second panel of Table 1, the interaction meant that the simple effect of agentic versus communal priming

on the perceived distance was significant and large only in the cognitive load condition, but it failed to emerge in the no load condition.

Although the perceived similarity and the willingness of contact were substantially correlated with the perceived closeness these variables showed neither the main effect of the content priming nor the interaction of between priming and cognitive load. It can be concluded, that despite entirely different method of priming, the present study faithfully replicated findings of Experiment 1.

### Experiment 3

In Experiment 3 we checked whether the own communal or agentic orientation serves as a moderator of the present effect. People vary greatly in the extent to which they see themselves as agentic or communal beings (Helgeson & Fritz, 1998). It is possible that the present effect of inferring closeness from the agentic thought content is confined to persons seeing themselves as highly agentic because for them agency is more important. On the other hand, the effect may be stronger with respect to persons of high communal orientation as experimental priming of this orientation results in increased psychological closeness to strangers (Gino & Galinsky, 2012). To explore these possibilities we measured agentic and communal orientations in participants of this study.

#### Method

**Participants.** Ninety-eight junior college students participated (all were men 18–19 years old).

**Procedure and manipulations.** The procedure was identical to that of Experiment 2 with the exception that at the very end participants filled measure of agentic and communal orientations.

**Measures.** The main dependent variable was the perceived distance between the target person and the self, measured with the same graphic method as in the previous study. The distance measure was reverted to show directly the perceived closeness between self and the target person. Like in previous studies, the graphical measure of closeness correlated with both the perceived similarity,  $r(97) = .54$ ,  $p < .001$ , and the willingness to contact the target person  $r(97) = .43$ ,  $p < .001$ .

Additionally, individual differences in the agentic and communal orientation were measured as potential moderators of the expected interaction between the content category and cognitive load. We used the Agentic and Communal Orientations Questionnaire (developed in Polish by Wojciszke & Szlendak, 2010) which consists of 15 agentic (e.g. competent, efficient and determined) and 15 communal (e.g. friendly, tolerant, and trustworthy) trait names answered on seven-point, self-descriptive ratings scales. This questionnaire typically shows a two-factorial structure and the two scales show high reliability – in the present study Cronbach's  $\alpha$  was .90 for both scales. The participants showed slightly stronger agentic ( $M = 5.19$ ,  $SD = 0.82$ ) than communal orientation ( $M = 4.97$ ,  $SD = 0.90$ ), although this difference was barely

significant,  $t(97) = 2.08$ ,  $p = .040$  and the variability in both orientations was very similar to that reported by Wojciszke and Szlendak (2010) for large samples of women and men.

#### Results and Discussion

Initial analyzes showed that none of the manipulations influenced the scores of agentic and communal orientations. Therefore, in the main analysis we employed a linear simultaneous regression where the perceived closeness served as a dependent variable with the priming by cognitive load interact serving as a predictor. The list of predictors included also the agentic and communal scores (standardized) as well as two higher order interactions: (a) agentic orientation by cognitive load by priming and (b) communal orientation by cognitive load by priming. Results of regression analysis can be shown in Table 2. The agentic and communal orientations influenced the perceived closeness neither as main effects nor in interaction with any other variable. Out of all predictors only the priming by load interaction appeared significant,  $\beta = .25$ ,  $t(96) = 2.54$ ,  $p < .05$ . As can be seen in Table 1 (third panel), this interaction meant that the effect of agentic versus communal priming on the perceived distance was significant only in the cognitive load condition. This effect disappeared in the no load condition and the agentic or communal orientation played no role in the priming effect. Neither agentic nor communal participants were more prone to the present effect.

In order to allow for comparison of the results of Experiment 3 with Experiments 1 & 2, results of ANOVA will be discussed below. Analysis revealed significant interaction between priming and cognitive load,  $F(1, 94) = 6.33$ ,  $p = .014$ ,  $\eta_p^2 = .06$ . There was no effect of priming in the no load condition,  $p = .119$ . Under cognitive load, psychological closeness was greater after the agentic priming ( $M = 3.99$ ,  $SD = 2.07$ ) than after the communal one ( $M = 5.47$ ,  $SD = 3.02$ ),  $p = .050$ .

Interaction between priming and cognitive load was also found for perceived similarity,  $F(1, 94) = 5.63$ ,  $p = .020$ ,  $\eta_p^2 = .06$ , and for willingness to contact the target person  $F(1, 94) = 7.22$ ,  $p = .009$ ,  $\eta_p^2 = .07$ . In the case of perceived similarity, a post-hoc comparison showed no significant differences between groups (all  $p$ 's  $> .067$ ). In the case of willingness to contact the target person, there was no effect of priming under cognitive load,  $p = .205$ . In the no load condition, willingness to contact was lower after the agentic priming ( $M = 2.77$ ,  $SD = 1.03$ ) than after the communal one ( $M = 3.33$ ,  $SD = 0.96$ ),  $p = .013$ . This effect may stem from a link between liking (clearly associated with willingness to contact) and communal traits (Wojciszke, Abele & Baryła, 2009).

Because Experiments 2 & 3 were confounded with respect to gender (only men in Experiment 3, mostly women in Experiment 2), and because both studies applied the same methodology, joint analysis of variance were performed in order to study gender effects on psychological closeness. This analysis showed no main effect of gender,  $F(1, 338) = 3.28$ ,  $p = .071$ , nor a gender interaction with cognitive load,  $F(1, 338) = 0.81$ ,  $p = .368$ , nor gender

**Table 2. Results of regression analysis with perceived closeness as a predicted variable**

Predictor	$\beta$			$t$		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Agentic orientation	-.01	-.03	-.02	-.05	-.24	.22
Communal orientation	.08	.08	.05	.72	.77	.47
Priming by load interaction		.25*	.25*		2.54	2.51
Agentic orientation by priming by load interaction			.15			1.40
Communal orientation by priming by load interaction			.01			.08
$R^2$	.01	.07	.09			
$R^2$ Change	.01	.06*	.02			

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

by priming interaction,  $F(1, 338) = 1.26$ ,  $p = .262$ . Also the second-order interaction appeared not significant,  $F(1, 338) = 0.17$ ,  $p = .682$ .

Results for willingness to contact and for perceived similarity are different than in Experiments 1 & 2. But still, results for these variables are different than for psychological closeness. Therefore, it can be concluded that effect of agentic thinking on psychological closeness does not stem from attitudinal factors. In addition, neither agentic nor communal orientation of participants influenced this result. Finally, there is no impact of gender on obtained results.

#### Experiment 4

Previous studies brought consistent findings but they lacked a control group where no content was primed. It is unclear, then, whether the obtained effects are due to increases in the perceived closeness in groups after agentic priming, or rather to decreases in the perceived closeness in groups after communal priming. Therefore, in this final experiment we included a control group without priming any content. Second, we changed the manipulation of cognitive load. In experiments 1–3 cognitive load was introduced by asking participants to remember numbers (resulting from computations), which by their very nature may be associated with agentic content. Therefore, in the present experiment we asked participants to keep in mind names of some plants.

We also extended our measure of psychological closeness which was allowed by changing the target person to a politician seeking election. In keeping with the definition of closeness as a feeling of connectedness, attachment, and unity we asked whether the perceived politician “was one of us” and how well would he represent the participant’s interest if elected (in addition to the previously used graphic measure). Finally, to elucidate the validity of this measure of closeness we also asked participants whether they would like to vote for the target politician. We expected that the same conditions which appeared conducive to feelings of

closeness (agentic thinking on a stranger under cognitive load) would also increase the intention to vote for the politician. Because previous studies showed that feeling close to a person increases willingness to act for the person’s interests (Burger et al., 2004) we also predicted that psychological closeness will be a mediator between the agentic thinking about a (male) politician and the intention to vote for him. Choosing a politician as a target person allowed for ecologically valid extension of dependent measure, and for connection between it and declared behavior toward the target. Furthermore, this allow exploration of practical consequences of thinking about a target person in agentic categories.

#### Method

**Participants.** One hundred sixty two college students (72% of them were women) of age 18–20 participated in this study.

**Procedure and manipulations.** The procedure of Experiment 1 was used, but with several modifications. The first manipulated variable was cognitive load. In the cognitive load condition participants were asked to read a text about plants growing at the savannah and to keep in mind six names of plants appearing in the text till the end of the experiment. In the no load condition participants only read the text. Then, to manipulate activation of agentic versus communal categories, participants received a short list of appropriate traits to be inferred about the target person (the same that was used in Experiment 1). In the control condition this step was omitted (participants did not infer any traits). Finally, participants read an ambiguous (with respect of agency vs. communion) description of the target person. This description was slightly different from that of previous studies as it described a candidate in local elections. Finally, participants answered several questions about the target person.

**Measures.** Psychological closeness was the main dependent variable measured with three questions. The first was showing graphically the distance as in previous studies. The second was a question of whether the target person was “one of us, a genuine citizen of our region”



answered on a scale from -3 (definitely not one of us) to 0, to 3 (definitely one of us). The third was a question about how well would the target person represent participants' interests if elected. It was answered on a scale from -3 (not at all) to 0, to 3 (fully). Answers to the two latter questions were averaged in order to obtain single measure of goal synergy. Additionally, we assessed an intention to vote for the target politician on a seven point scale ranging from -3 (definitely not) to 0, to 3 (definitely yes).

## Results and Discussion

**Psychological closeness.** Graphical measure of psychological closeness was subjected to a 3 (priming: agentic vs. control vs. communal) x 2 (cognitive load: yes vs. no) analysis of variance with both factors manipulated between participants. This analysis revealed two significant effects. One was the main effect of priming,  $F(2, 154) = 8.60, p < .001, \eta_p^2 = .10$ , such that the psychological closeness was greater after the agentic priming ( $M = 3.07, SD = 1.84$ ) than after the communal one ( $M = 4.62, SD = 2.42$ ) or lack of any ( $M = 4.36, SD = 2.15$ ). The control group did not differ from the communal priming group. However, interpretation of this effect is constrained by an interaction between priming and cognitive load,  $F(2, 154) = 4.99, p = .008, \eta_p^2 = .06$ .

As can be seen by comparing the left and right panel of Figure 1, the interaction meant that there was no effect of priming in the no load condition,  $F(2, 77) = 0.82, p = .445$ . However, the effect of priming was significant and strong in the cognitive load condition,  $F(2, 77) = 11.92, p < .001, \eta_p^2 = .24$ , with the agentic priming group yielding higher estimates of closeness ( $M = 8.48, SD = 1.49$ ) than the communal priming group,  $M = 5.64, SD = 2.40$ , and this difference was significant,  $t(51) = 5.21, p < .001, d = 1.46$ . The agentic priming group differed also from the control (no priming) group,  $M = 6.58, SD = 2.47, t(52) = 3.42, p = .001, d = 0.95$ . This data suggest clearly that the effect

is driven by differences in the agentic priming condition, not by the differences in the communal priming. Although the perceived closeness was the lowest in the communal priming under cognitive load condition (see Figure 1), this mean did not differ significantly from the no priming/cognitive load condition,  $t(51) = 1.41, p = .165$ .

**Goal synergy.** Goal synergy (averaged answers to questions about "being one of us" and about representing participants' interests, on a scale ranging from -3 to 3) correlated with psychological closeness,  $r(160) = .40, p < .001$ . This measure was also subjected to a 3 (priming: agentic vs. control vs. communal) x 2 (cognitive load: yes vs. no) analysis of variance with both factors manipulated between participants. This analysis revealed significant interaction between priming and cognitive load,  $F(2, 156) = 5.14, p = .007, \eta_p^2 = .06$ . The interaction meant that there was no effect of priming in the no load condition,  $F(2, 78) = 0.81, p = .448$ . However, the effect of priming was significant and strong in the cognitive load condition,  $F(2, 78) = 10.34, p < .001, \eta_p^2 = .12$ , with the results for the agentic priming group ( $M = 1.24, SD = 1.15$ ) significantly higher than for the communal priming group ( $M = 0.02, SD = 1.66$ ),  $t(51) = 3.13, p = .003, d = 0.88$ , and for the control group ( $M = 0.25, SD = 1.38$ ),  $t(53) = 2.89, p = .006, d = 0.79$ . There was no difference between the communal priming and control (no priming) conditions,  $t(52) = 0.56, p = .580$ . Results, very similar to those for psychological closeness, are shown in the Figure 2.

**Voting intention.** Voting intentions (measured on a scale ranging from -3 to 3) correlated with the perceived closeness,  $r(160) = .33, p < .001$ , and with the goal synergy,  $r(162) = .66, p < .001$ . The former were also subjected to a 3 (priming) by 2 (cognitive load) analysis of variance which revealed an interaction of the two variables as the sole significant effect,  $F(2, 154) = 3.51, p = .034, \eta_p^2 = .04$ . This interaction was similar in shape to that found for psychological closeness and goal synergy (Figures 1 & 2).

**Figure 1. Psychological closeness between the self and the target person, as a function of priming and cognitive load (Experiment 4)**

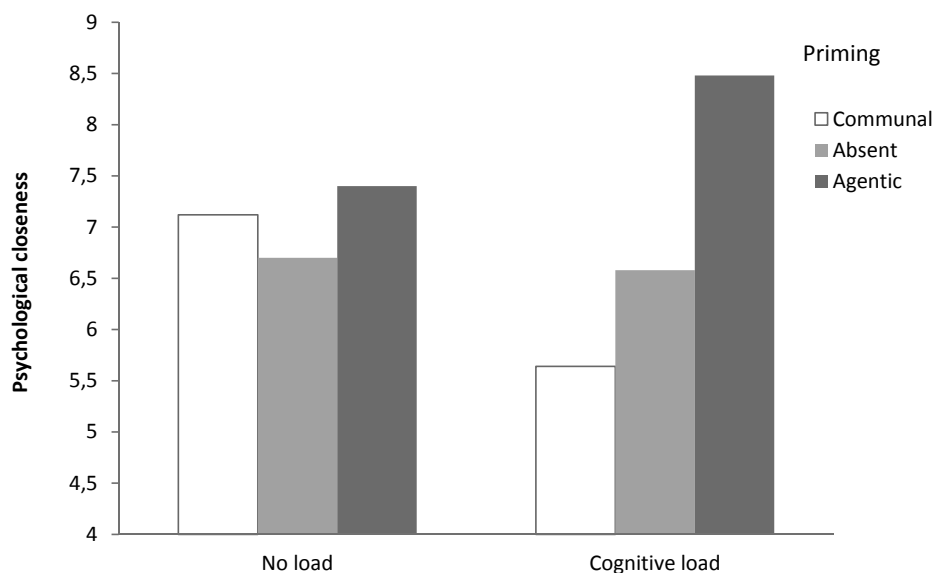
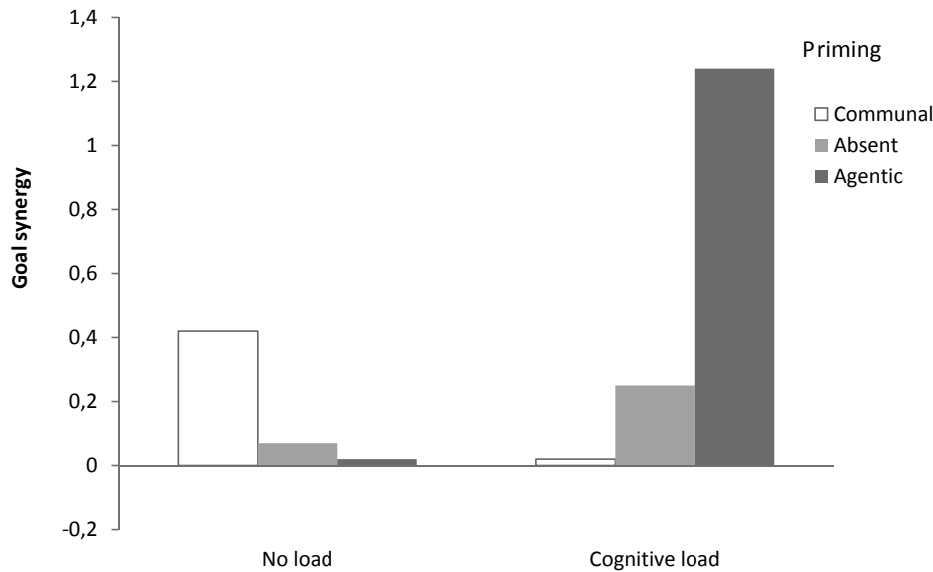




Figure 2. Perceived goal synergy as a function of priming and cognitive load (Experiment 4)



The intention to vote for the target person was the highest in the agentic priming under cognitive load condition ( $M = 0.89, SD = 1.58$ ) and this mean was significantly higher than all other means, which did not differ from each other (and varied from  $-0.63$  in the no priming / no load condition to  $-0.08$  in the communal priming / no load condition).

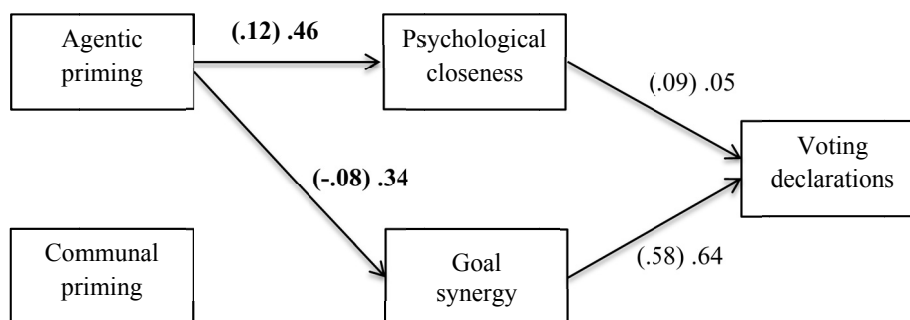
To test the prediction that psychological closeness and goal synergy mediates the relation between the priming by cognitive load interaction and voting intentions, we constructed structural equation model, that can be seen in Figure 3. Model fit indices appeared very good ( $\chi^2 = 5.91, p = .823, CFI = 1.00, RMSEA < .001, SRMR = .052$ ). Furthermore, decrease of fit for model of full mediation in comparison with model including the direct effect between agentic priming and voting intentions is insignificant ( $\Delta\chi^2 = 0.82, n. s., \Delta CFI = 0.00$ ). Therefore, it can be concluded that perceived psychological closeness and goal synergy fully mediate the effect of category priming on voting intentions.

This experiment provided evidence that the closeness effect, obtained in all present studies, results from increased perceptions of closeness after agentic priming, but not from decreased perceptions of closeness after communal priming. This effect was obtained with a different manipulation and using a more complex dependent measure, though identical results emerged for single items contributing to this measure (including the graphical item used in previous studies). The present study also sheds additional light on our measure of closeness – it correlates with an intention to vote for a politician perceived as close and it mediates the influence of agentic thinking about the politician on the intention to vote for him.

### General Discussion

All four experiments showed that thinking about target persons in agentic terms makes them subjectively closer compared to thinking about them in communal terms,

Figure 3. Mediation of priming effects on voting declarations (Experiment 4)



Regression weights for the lack of cognitive load condition are given in parentheses.

Bolded results show regression weights that differ significantly between cognitive load and lack of cognitive load conditions.

independently of the specific nature of priming which induces the thinking. The fourth study showed, in addition, that it is due to increases in the perceived closeness after thinking in agentic terms, rather than to decreases in closeness after thinking in communal ones.

The present effect is novel and counter-intuitive because it is discrepant from common predictions derived from the accessibility notion. The latter suggests that it is communal thinking about others which results in perceiving them as relatively closer – due to assimilation processes operating when a category is activated (DeCoster & Claypool, 2004; Higgins, 1996). In our studies the increased closeness effect was not mediated by changes in an attitude towards the target person and perceived similarity, nor moderated by the perceiver's own communal or agentic orientation. However, the effect was clearly confined to conditions of cognitive load where participants were occupied with a parallel task consuming part of their cognitive resources. The average difference (weighed by the sample size) between agentic and communal conditions under cognitive load was  $d = 0.83$  and appeared significant in all four studies (cf. Table 1). When full resources were available the effect disappeared – the average weighed difference between agentic and communal condition in no cognitive load was  $d = -0.08$ . The whole content by load interaction was also partially driven by the difference between load and no load in the agentic thinking condition which was  $d = 0.50$  on average and significant in three studies (cf. Table 1).

Although an efficient process is expected to show under high load (Chaiken & Trope, 1999), its disappearance under low load means that there is another contradictory process occurring. We do not have any process-tracing data at hand, but the feeling-as-information theory (Schwarz, 2012) provides some useful suggestions. This well-supported theory assumes that people attend to their subjective feelings (affective states, bodily sensations, and metacognitive experiences) when making judgments and use them as a source of information just like they use perceptions of the target of their judgments. The use of feelings as a source of data follows the same regularities which govern the use of any other information. Especially, people actively reject information considered as invalid (e.g. biased or unfounded) and we suspect that this may be the case with unfounded feelings of closeness. Psychological closeness is necessary and beneficial for humans but costly – close others require contact, attention, support, and help which consume time and other resources (Baumeister & Leary, 1995). Closeness may be especially taxing when misconstrued. Imagine, for example, the consequences of confiding an intimate information on your sexual life to a gossip or lending a large sum of money to an untrustworthy borrower who disappeared on Bahamas. It is possible, then, that people engage in scrutiny of whether their feelings of closeness towards others are warranted or not, and an unexpected surge of feeling close to a stranger without apparent reason may be a factor inducing a correction process. Such a correction almost by definition would require cognitive resources and, therefore,

be disrupted under high cognitive load, but possible under low load, where unfounded feeling of closeness may be prevented. It is, however, for future research to establish empirically whether and how such a correction process operates.

Previous research showed that when thinking about themselves (and close others) people typically assume an agentic perspective (the point of view of an actor performing an action) leading to the prominence of agentic over communal contents (Abele & Wojciszke, 2014). This association between the self and agentic content is bidirectional and the present research shows that mere thinking about a person in agentic terms can make him or her psychologically closer. Importantly, the content of final inferences about the target is not responsible for this increased closeness. In Experiments 1 and 4 we obtained judgments of the target person's agentic or communal traits (depending on the condition). In none of these studies the judgments of agency correlated with the increased feeling of closeness (expectations of such a correlation can be derived from the accessibility/assimilation notion). So, what counts here is not the content of final perceptions, but the content of mere categories used to think about the persons.

An additional result of the present line of studies is showing validity of a graphical, one-item measure of psychological closeness expressed as spatial distance between the self and another person. The present studies showed that this measure correlates with the perceived similarity, willingness of contact, feeling that a person "is one of us", intention to act for the person's interests (vote), and belief that this person will act for the interests of the perceiver. The present measure is somewhat similar to the Inclusion of Other in the Self Scale (IOSS) (Aron et al., 1992), a single item measure which also uses spatial arrangement. Respondents are presented with seven pairs of circles (one representing the self, one representing the partner) arranged progressively from zero overlap (meaning a low degree of closeness) to almost completely overlapped (meaning the highest closeness) and asked to circle an appropriate pair. Because six of its seven circle pairs overlap, IOSS seems to be more appropriate to measuring higher degrees of closeness than the present spatial measure.

Agentic and communal thinking on others are not the only conceivable ones. Clearly, it is possible to think about others in purely aesthetic or instrumental terms which are void of agency or communion. Nevertheless, these two types of contents are most important in social perception. In one early study participants were asked to recall episodes that had clear positive or negative meaning for the target (either self or another person). The resulting content analysis of over one thousand episodes showed that three fourths of them could be classified as related to communion or agency (Wojciszke, 1994). Information on both fundamental dimensions seems also to be indispensable for fully fledged interpersonal impressions. Kervyn, Bergsieker and Fiske (2012), for instance, demonstrated an "innuendo effect" by showing that when a speaker describes another

person with clearly positive information on one dimension (e.g., communion) but completely omits information concerning the second dimension (i.e., agency) recipients of this information develop a negative impression of the target on the unmentioned dimension (and perceive the target as communal but not agentic). Thus, even if the target information concerns only one dimension, perceivers tend to deduce some hints concerning the second dimension. In more general terms, discerning between the two content dimensions provides important insights in social perception. We hope that the present finding that agentic thinking on others makes them closer is such an insight too.

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#### ACKNOWLEDGMENTS

This study was supported by a Polish National Centre for Science grant (NCN 2012/04/A/HS6/00581).