

Article

Deepening the Relationship Between the Need for Epistemic Certainty and People's Compliance with Social Power: The Moderating Role of Work Unit Tightness

Daniela Di Santo ^{1,*} , Alessio Tesi ¹ , Antonio Aiello ¹  and Antonio Pierro ²

¹ Department of Political Sciences, University of Pisa, 56126 Pisa, Italy; alessio.tesi@unipi.it (A.T.); antonio.aiello@unipi.it (A.A.)

² Department of Social and Developmental Psychology, Sapienza University of Rome, 00185 Rome, Italy; antonio.pierro@uniroma1.it

* Correspondence: daniela.disanto@unipi.it

Abstract: The present paper builds on previous research exploring the relationship between the need for cognitive closure (NCC) and employees' compliance with harsh social power to propose a moderating role of perceived tightness within a work unit in organizational settings. Specifically, the study aimed to test the cross-level interaction between NCC and the perceived work unit tightness in fostering employee compliance with harsh power. Using a convenience sampling method, we enrolled 290 employees from pre-existing work units in Italian organizations in a cross-sectional study. We obtained employee scores on the NCC scale, willingness to comply with harsh social power tactics, and ratings of their perceived work unit tightness. Multilevel modeling was applied to test cross-level interaction. The model revealed a positive effect of NCC on the willingness to comply with harsh social power tactics when employees perceived their unit culture as tight. This study advances previous research by showing the role of tight culture in shaping the relationship between NCC and power compliance.

Keywords: need for cognitive closure; cultural tightness; social norms; social power



Academic Editor: Denis Bernardeau-Moreau

Received: 14 August 2024

Revised: 8 January 2025

Accepted: 8 January 2025

Published: 11 January 2025

Citation: Di Santo, Daniela, Alessio Tesi, Antonio Aiello, and Antonio Pierro. 2025. Deepening the Relationship Between the Need for Epistemic Certainty and People's Compliance with Social Power: The Moderating Role of Work Unit Tightness. *Social Sciences* 14: 32. <https://doi.org/10.3390/socsci14010032>

Copyright: © 2025 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Social power is considered a fundamental construct in the social sciences (Russell [1938] 2004), as it is pervasive and implicit in interpersonal relationships (Vince 2014). In organizational settings, power dynamics deserve attention because they affect worker motivation and productivity (Kovach 2020). Power research has examined factors influencing power use and compliance, focusing on individual differences and contextual factors (Pierro et al. 2008; Koslowsky and Stashevsky 2005). Within this framework, several studies have focused on analyzing the relationship between the need for cognitive closure (NCC) and power compliance (Bélanger et al. 2015; Pierro et al. 2012; Di Santo et al. 2020). NCC has been defined as a stable desire for epistemic certainty ("sure" and "rapid" knowledge) or any definitive answer that contrasts with confusion and ambiguity (Kruglanski 2004). Research has steadily found that people with a higher NCC are more likely to comply with authoritarian, direct, forceful, and controlling approaches to influence others (i.e., harsh power tactics) (Bélanger et al. 2015; Pierro et al. 2012; Di Santo et al. 2020). However, the relationship between NCC and power compliance has been studied primarily at the individual level (Bélanger et al. 2015; Pierro et al. 2012; Di Santo et al. 2020). Moreover, sociocultural dimensions, such as shared norms and expectations of behavior in a social

group, can interact significantly with individual characteristics in modulating attitudes and responses (Fulmer et al. 2010; Contu et al. 2023). Less is known about how the interaction between NCC and contextual factors, such as the strength of social norms, shapes compliance with power tactics.

This study addresses this gap by proposing that perceived work unit tightness—a contextual variable reflecting the strength of social norms and sanctioning systems within a work unit (Di Santo et al. 2021)—moderates the relationship between NCC and harsh power compliance. According to tightness–looseness theory (Gelfand et al. 2006), tight (vs. loose) contexts exhibit higher social order, greater coordination, and less deviance (Gelfand et al. 2006, 2011), as they place greater pressures on conformity and behavioral homogeneity among their members (Jackson et al. 2020; Gelfand 2018). Work units perceived as tight have clear and enforced rules that reduce ambiguity (Di Santo et al. 2021). Building on the idea that individual preferences can be shaped (e.g., reinforced) by the social environment (Heisig and Schaeffer 2019; Aguinis et al. 2013), it is worth examining whether a perceived tight environment can interact with individual differences in endorsing specific power tactics. NCC is an in-person difference characterized by a motivational mindset that drives a preference for directive and unequivocal leadership, uniformity of responses, and consensus within the group (i.e., as a means of ensuring the rapid reduction of uncertainty) (Pierro et al. 2003; Kruglanski et al. 2006). Accordingly, we were interested in testing the hypothesis that the relationship between NCC and harsh power compliance may vary as a function of the degree of perceived work unit tightness such that the relationship would be stronger for units with high perceived tightness and weaker for units with high perceived looseness. We detail the related literature below.

1.1. Social Power and NCC

Research on social power distinguishes between agents of influence and targets of influence, where the former has the potential or ability to produce changes in the target's beliefs, attitudes, or behaviors by using available resources (French and Raven 1959; Raven 2008). The agent's power can originate from multiple sources, such as the ability to punish or reward, expertise and extensive experience, and credibility and legitimacy due to a higher position. According to Raven (Raven et al. 1998), these power sources are grouped into “harsh” and “soft” categories depending on the target's lesser or greater freedom to choose whether or not to comply (Raven et al. 1998). Raven's Interpersonal Power Interaction Model (IPIM) (Raven et al. 1998) outlines that power, in its harsh form, is represented by several sources, such as personal and impersonal coercion, personal and impersonal reward, legitimate position, legitimacy based on equity, and legitimacy based on reciprocity. The model also includes “soft” tactics, namely expertise, informational power, referent power, and legitimate dependence, which allow for more freedom of the target of influence.

Harsh power, as opposed to soft power, allows supervisors to be coercive (e.g., through punishments and rewards) while leaving subordinates with little freedom to negotiate or resist supervisors' influence (Raven et al. 1998). However, the impact and degree of effectiveness of power tactics may depend on the circumstances under which they are used and the characteristics of subordinates (Elangovan and Xie 1999; Koslowsky et al. 2001). Consistent with this, scholars (Bélanger et al. 2015; Pierro et al. 2012) have provided evidence that subordinates' choice to endorse a particular type of power tactic used by superiors varies according to the “fit” with the personal and motivational characteristics of the influenced agent. Although soft tactics are generally well accepted by employees (Koslowsky et al. 2001), subordinates high (compared to low) on the NCC scale reported

greater willingness to comply with harsh social power tactics and less willingness to comply with soft power tactics (Bélanger et al. 2015).

A high NCC induces a preference for autocratic influence structures that allow the formation of rapid consensus with the leader's directives (Pierro et al. 2003) as people high in NCC dislike ambiguity, make decisions quickly, and form firm and lasting impressions and judgments (Kruglanski 2004; Roets et al. 2015). Aligned with the idea that supervisors' harsh (as opposed to soft) power tactics accelerate consensus formation because of their greater clarity, firmness, and lack of ambiguity, they are a means of achieving the rapid closure desired by subordinates with a high NCC (Bélanger et al. 2015; Pierro et al. 2012; Di Santo et al. 2020).

1.2. The Interaction Hypothesis: NCC and Perceived Work Unit Tightness on Compliance with Harsh Power Tactics

Research on social power suggests that situational and workplace factors also significantly influence the use of and preference for power tactics (Koslowsky and Stashevsky 2005; Schwarzwald et al. 2004; Ostroff et al. 2003). However, the role of culture in shaping the relationship between NCC and harsh power compliance remains unexplored. The cultural dimension of work unit tightness refers to the extent to which social norms are strong, clear, and strictly enforced within a work unit (Di Santo et al. 2021). According to cultural tightness–looseness theory (Gelfand et al. 2006), social groups sit on a spectrum of social norms and allowance for deviance, which can range from strong norms and little tolerance for deviance (i.e., tightness) to weaker norms and greater permissiveness (i.e., looseness) (Gelfand et al. 2006, 2011). This continuum has been observed in different cultural contexts (Gelfand et al. 2011; Harrington and Gelfand 2014). People may internalize the characteristics of their culture and exhibit personal attributes such as greater regulatory strength, a need for structure, and dutifulness in tighter societies (Gelfand et al. 2011; Harrington and Gelfand 2014). Research has also shown that tight nations tend to have more authoritarian leadership than looser ones (Gelfand et al. 2011; Jackson et al. 2020), and support for strong norms fosters a preference for strong, authoritarian leadership because it is believed to be able to maintain order and enforce existing norms (Jackson et al. 2020; Contu et al. 2024). Moreover, by providing people with little freedom in their behavioral choices, cultural tightness enforces conformity and homogeneity of behavior (Gelfand et al. 2006). The more a group is ruled by a tight culture, the more it is perceived as highly formal and disciplined, with constraints, firm rules, and clear standards of behavior to follow (Gelfand et al. 2011). Groups that adopt strong and unequivocal directives (e.g., autocratic leaders, autocratic decision-making structures, and centralized political power) ensure faster decisions and less discussion and hesitation, ultimately favoring rapid epistemic closure (Pierro et al. 2003; Kruglanski 1996).

We were interested in understanding contextual effects, that is, how an environmental attribute affects processes at a lower level (i.e., the individual level). In other words, we were concerned with observing the variation in lower-level relationships across work units (i.e., cross-level interaction) where (high-level) contextual characteristics moderate the strength of the relationship at the individual level (Heisig and Schaeffer 2019; Aguinis et al. 2013). According to an interactionist perspective (Fulmer et al. 2010; Contu et al. 2023; Hardin and Higgins 1996), when individuals share personal attributes with others in a context, they may feel that their impressions, beliefs, evaluations, feelings, and behaviors are socially validated (Hardin and Higgins 1996). In other words, people may perceive that the social environment is mainly composed of similar people who mirror them, consistent with the concept of “shared reality” (Hardin and Higgins 1996). Shared reality refers to being more confident in one's impressions to the extent that those impressions match and are perceived as agreed upon by others (Hardin and Higgins 1996). According to scholars,

the group is an epistemic provider of certainty because social norms and shared beliefs about expected behavior (Taggar and Ellis 2007; Cialdini and Trost 1998) allow group members to experience a shared reality in which deviant behavior (i.e., undermining the achievement of group goals) is defined and ultimately condemned (Kruglanski et al. 2006; Mannetti et al. 2010). NCC, as a desire for epistemic certainty, is sensitive to the situational normative context (Kruglanski et al. 2007). For example, when the context normatively supports organizational change, the inability of individuals with a high NCC to cope with change is mitigated (Kruglanski et al. 2007).

On this basis, we propose that subordinates with high (vs. low) NCC are more willing to comply with harsh tactics when their work unit culture is perceived to have strong (vs. weak) social norms. In contrast to tight cultures, loose cultures allow for greater flexibility, innovation, and individual autonomy, which reduces pressure for consensus and conformity and can potentially weaken the positive relationship between NCC and compliance with harsh power. Conversely, a tight cultural environment may amplify NCC compliance with social power tactics that ensure greater closure.

We formulated the following moderation hypothesis:

H1. *The positive effect of NCC on compliance with harsh social power tactics will be more pronounced as the perceived cultural tightness of the work unit increases.*

Following the literature that considers and uses work units as a level of analysis in sociocultural research (e.g., Di Santo et al. 2021; Ostroff et al. 2013), we tested our moderation hypothesis by recruiting pre-existing work units. Multilevel modeling allowed for the examination of both individual and group-level effects (Fulmer et al. 2010; Gelfand et al. 2011).

2. Materials and Methods

2.1. Participants and Procedure

We recruited 290 employees (162 women and 128 men, $M_{\text{age}} = 42.85$, $SD_{\text{age}} = 10.82$) from 32 work units ($M_{\text{unit size}} = 14.08$, $SD = 7.63$) from seven different organizations in Italy¹. A total of 59.7% of the participants had a university degree, 36.6% had a high school degree, 2.8% had a post-graduate degree/qualification, and 1% had a junior high school degree. The average length of their employment was 13.77 years ($SD = 10.30$). Employees participated in the study on a voluntary basis after reading an introductory letter explaining its purpose. Participants gave their informed consent to participate in the study. Next, they completed an online questionnaire that included the measures described below. Participants also completed demographic measures (i.e., age, gender, education, and job tenure).

2.2. Measures

Need for cognitive closure (NCC). Participants responded to the Italian version of the Revised NfCS (Pierro and Kruglanski 2005), a self-report scale that measures stable individual differences on NCC. Participants were presented with 14 items (e.g., “Any solution to a problem is better than remaining in a state of uncertainty”) with which they expressed their agreement/disagreement on a 6-point Likert-type scale (1 = strongly disagree, 6 = strongly agree). A total NCC score was calculated by averaging the responses to each item ($\alpha = 0.81$).

Perceived work unit tightness (unit-level variable). Work unit tightness was measured through the version adapted to the work context (Di Santo et al. 2021) of the tightness–looseness scale (Gelfand et al. 2011). The scale included ten statements assessing the amount and clarity of social norms in the work unit, the degree of tolerance for violations, and over-

all compliance with social norms. Consistent with previous studies (Di Santo et al. 2021; Gelfand et al. 2011), respondents read the following instructions:

“The following statements refer to your WORK UNIT as a whole. Please indicate whether you agree or disagree with each statement using the following scale. Note that statements sometimes refer to ‘social norms’, which are rules of behavior that are generally unwritten but may also be formalized/written.”

Example items include “In my work unit, there are many social norms that must be strictly followed” and “In my work unit, there are very clear expectations for how people should act in most situations”, on which agreement/disagreement was expressed on a 6-point Likert-type scale (1 = strongly disagree, 6 = strongly agree). A total score was calculated by averaging the responses to each item ($\alpha = 0.78$), where high scores reflected high levels of perceived tightness. Although the individual degree of perceived tightness within a work unit may vary, tightness is conceptualized as a group-level variable that provides a holistic view of the social norms generally present in a work unit (Di Santo et al. 2021). Following a previously applied procedure (Di Santo et al. 2021; Gelfand et al. 2011), individual evaluations were aggregated to the unit level using the within-group mean for each unit. High inter-rater agreement within the group ($r_{wg(j)}$) (James et al. 1993) justifies the use of the unit mean as an indicator of a group-level variable, with values of 0.70 or higher considered acceptable (James et al. 1993). We obtained an $r_{wg(j)}$ of 0.88 (SD = 0.11) for tightness, providing support for data aggregation, which is comparable to that obtained in other studies (Di Santo et al. 2021; Gelfand et al. 2011).

Furthermore, following Kenny and Judd (Kenny and Judd 1996), we used intraclass correlation (ICC) to evaluate the nonindependence of the observations. The intraclass correlation coefficients (ICC1 and ICC2) for perceived tightness of the work units were 0.12 and 0.57, respectively, and were comparable to aggregate constructs in the literature (e.g., Di Santo et al. 2021; Gelfand et al. 2011; Chen et al. 2009). Finally, our work unit aggregation was accounted for by significant between-group variance assessed via a one-way ANOVA, $F(31,258) = 2.33, p < 0.001$ (Chen et al. 2009; Liden et al. 2006).

Compliance with harsh power. Participants filled out the Italian version (Pierro et al. 2004) of the Worker’s Format of the Interpersonal Power Inventory (IPI) (Raven et al. 1998) to examine subordinates’ willingness to comply with their supervisors’ (harsh) power tactics. Previous research has confirmed the factor structure of the IPI using confirmatory factor analysis (Pierro et al. 2012). The IPI format is as follows:

“Often supervisors ask subordinates to do their job somewhat differently. Sometimes, subordinates resist doing so or do not follow the supervisor’s directions exactly. Other times, they will do exactly as their supervisor requests. We are interested in those situations which lead subordinates to follow the requests of their supervisor.”

Participants were presented with 21 statements measuring the seven harsh power tactics outlined by the IPIM (three items per power tactic). Participants indicated the extent to which each descriptive statement represents a personal reason for compliance. Participants expressed their scores on a scale ranging from 1 (definitely not a reason) to 7 (definitely a reason). Support for the structural validity of harsh power constructs is presented in different studies (see Pierro et al. 2012, 2013, among others).

In the present sample, the results of a PCA on the seven aggregate harsh power tactics revealed only one factor with eigenvalues greater than 1, accounting for 58.97% of the variance: all the seven aggregate power tactics loaded on the same factor with factor loading greater than 0.62. To further probe the unidimensionality of the harsh power construct, we conducted a Parallel Analysis (Horn 1965) using a Principal Components approach

to compare random data eigenvalues to the eigenvalues for actual data (O'Connor 2000; Fabrigar and Wegener 2012). The results revealed that the first factor of the actual data had a larger eigenvalue (4.128) than the corresponding first factor of the random data (mean eigenvalue = 1.226, percentile = 1.303). However, the second eigenvalue from the actual data (0.909) was lower than the second random eigenvalue (mean = 1.132, percentile = 1.183). The results clearly indicate that one component should be retained. Thus, also consistent with prior research (Raven et al. 1998; Schwarzwald et al. 2004; Pierro et al. 2004), we computed a total score of compliance with harsh (impersonal and personal reward and coercion, legitimacy of position, equity, and reciprocity, $\alpha = 0.93$) power tactics.

3. Results

Descriptive statistics and correlations between variables are shown in Table 1. Individual-level NCC was significantly and positively correlated with both perceived tightness at the unit level and with compliance with harsh power tactics. Additionally, there was a significant and positive relationship between perceived tightness at the unit level and compliance with harsh power tactics. This finding suggests that employee adherence to harsh power tactics may be more pronounced in perceived tight work units.

Table 1. Bivariate correlations and descriptive statistics.

	M	SD	1	2	3	4	5	6	7
1. Gender	—	—	—						
2. Age	42.85	10.82	0.031	—					
3. Education	—	—	0.001	−0.309 **	—				
4. Job tenure	13.77	10.30	0.090	0.795 **	−0.260 **	—			
5. Individual-level NCC	3.54	0.73	−0.020	0.192 **	−0.118 *	0.110	—		
6. Perceived tightness at the unit level	3.78	0.35	−0.023	0.079	−0.066	0.014	0.201 **	—	
7. Individual-level compliance with harsh tactics	3.51	1.11	−0.109	−0.264 **	0.020	−0.275 **	0.209 **	0.162 *	—

Notes: N = 290; unit N = 32; gender codified as Male = 1, Female = 2; * $p \leq 0.05$, ** $p \leq 0.001$.

To test our interaction hypothesis, multilevel modeling was applied using SPSS PROC MIXED. We entered the main effects of the individual NCC and perceived tightness at the unit level; we then entered the cross-level interaction between them.

Following the recommendations in the literature (Enders and Tofighi 2007; Hofmann and Gavin 1998; Raudenbush 1989), individual-level NCC was centered within the unit; the Level 2 variable/moderator (perceived tightness at the unit level) was grand-mean centered. The cross-level interaction between NCC at the individual level and perceived tightness at the unit level was based on these centered scores.

Participant demographics (i.e., age, gender, education, and job tenure) were entered as control variables. The intercept was a random effect, entered at the unit level. Our results presentation (Table 2) is focused on fixed effects. Multilevel model was analyzed using maximum likelihood (ML) estimation.

The analysis conducted showed a significant and positive main effect of individual-level NCC on compliance with harsh power tactics. The analysis also showed a positive and close-to-significant effect of perceived unit-level tightness on compliance with harsh power tactics. Importantly, there was a significant and positive cross-level interaction between individual-level NCC and perceived tightness at the unit level on compliance with harsh power tactics, confirming our moderation hypothesis².

A simple slope analysis was conducted to deepen these interaction effects. Simple slope analysis revealed that the relationship between individual-level NCC and compliance with harsh power tactics was significant and positive at high perceived tightness at the unit

level (1 SD above the mean), $b = 0.52$, $SE = 0.12$, $t = 4.14$, $p < 0.001$; this relationship became nonsignificant at low perceived tightness at the unit level (1 SD below the mean), $b = 0.14$, $SE = 0.14$, $t = 0.97$, $p = ns$ (see Figure 1)

Table 2. Employees' compliance with harsh power tactics as a function of individual-level NCC and perceived tightness at the unit level: a multilevel analysis.

Fixed Effects	b	SE	t	p	LL 95% CI	UL 95% CI
Intercept	5.193	0.598	8.690	<0.001	4.017	6.370
Level 1 variables						
Individual-level NCC	0.327	0.091	3.603	<0.001	0.148	0.506
Gender	−0.159	0.118	−1.349	0.178	−0.392	0.073
Age	−0.021	0.009	−2.230	0.027	−0.039	−0.002
Education	−0.130	0.112	−1.158	0.248	−0.351	0.091
Job tenure	−0.010	0.010	−1.068	0.287	−0.029	0.009
Level 2 variables						
Perceived tightness at the unit level	0.475	0.237	2.004	0.055	−0.010	0.959
Cross-level variables						
Individual-level NCC * Perceived tightness at the unit level	0.510	0.249	2.052	0.041	0.021	1.000

Notes: N = 290; unit N = 32.

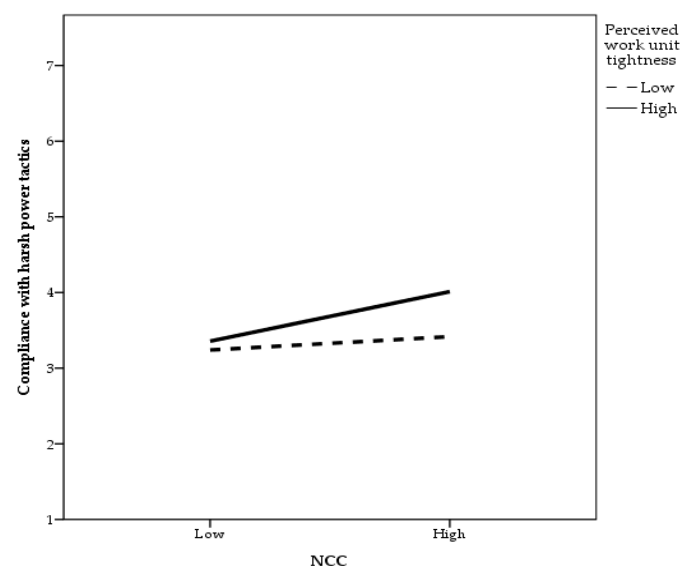


Figure 1. Employees' compliance with harsh power tactics as a function of individual-level NCC and perceived work unit tightness.

4. Discussion

This research highlights the interplay between subordinates' NCC and their unit's culture in shaping compliance behaviors. First, our results confirm previous findings (Bélanger et al. 2015; Pierro et al. 2012; Di Santo et al. 2020) regarding the positive effect of NCC on subordinates' compliance with harsh power. We also found a positive and marginally significant effect of the perceived work unit tightness on subordinates' compliance with harsh power. Notably, subordinates' NCC positively predicted compliance with harsh power only at high (as opposed to low) perceived tightness at the unit level. Thus, confirming our moderation hypothesis, the positive effect of NCC on compliance with harsh power tactics was more pronounced as the perceived cultural tightness of the work unit increased. These results suggest that people's compliance with harsh power is predicted not only by their level of NCC (Bélanger et al. 2015; Pierro et al. 2012) but also by (1) the cultural arrangement of the work unit in terms of social norms and sanctions and (2) the interaction

between them. This point supports the idea that individual preferences may be reinforced by environmental attributes (Heisig and Schaeffer 2019; Aguinis et al. 2013).

Our findings also aim to expand the literature on how cultural tightness influences employee attitudes in the workplace (Di Santo et al. 2021; Aktas et al. 2016) as well as the occurrence, support, and observance of authoritarian directives (Jackson et al. 2020; Contu et al. 2024; Gelfand et al. 2017; Gelfand and Lorente 2021). Importantly, our results revealed that the systematic positive relationship between NCC and compliance with harsh power tactics (Bélanger et al. 2015; Pierro et al. 2012; Di Santo et al. 2020) is susceptible to variations based on cultural and regulatory context. For example, homogeneous groups that are punitive toward deviants may favor the emergence of authoritarian directives (Gelfand et al. 2011; Jackson et al. 2020), typically preferred by a mindset devoted to uniformity and consensus-seeking (Kruglanski et al. 2006; Contu et al. 2024; Mannetti et al. 2010). Therefore, epistemic closure could be met more effectively through compliance with harsh social power in tight groups. In contrast, in loose environments, less pressure to conform and greater acceptance of different behaviors and opinions (Gelfand et al. 2017) likely mitigate NCC's influence on compliance. This enriches our understanding of how contextual factors can alter the relationship between individual differences and behavioral outcomes, demonstrating that the culture of tightness and looseness in the work unit can be a helpful framework for understanding power compliance.

4.1. Limitations

The present study was based on a cross-sectional design with measured and non-manipulated variables. Although previous research has consistently found NCC effects on compliance with harsh power (Bélanger et al. 2015; Pierro et al. 2012; Di Santo et al. 2020), the cross-sectional design does not strictly allow for drawing causal inferences. Future research should replicate and/or extend these effects using longitudinal or experimental designs. In addition, our variables were measured through self-reports, and we cannot entirely rule out the possibility that some biased self-perceptions influenced our data. Although such bias normally leads to an underestimation of interaction effects (Evans 1985; McClelland and Judd 1993), future research would benefit from assessing employees' compliance ratings from more diverse sources (raters). However, because aggregate perceptions of tightness at the unit level approached statistical significance in influencing target compliance with power tactics, we could cautiously conclude that common method/source bias is unlikely to have influenced our results. Using mean-unit perceptions also helps reduce random variance in individual responses and systematic individual differences (e.g., background, prior experiences, personality) (James et al. 1990; Seibert et al. 2004). An additional limitation stems from the sample size and the small number of work units ($N = 32$). The sensitivity analysis conducted found barely enough power to detect a small interaction effect. Although effect size may significantly affect statistical power regardless of sample size at Level 1 and Level 2 (Scherbaum and Ferreter 2009), we underline the importance of testing the model in a larger sample.

4.2. Practical Implications

These findings have potential implications for managers and supervisors. Leaders need to understand what type of power can best motivate their followers. Therefore, for managers and supervisors who want to improve their managerial style, it is important to take the characteristics and needs of their employees into careful consideration. Although employees generally tend to value soft power (Pierro et al. 2012; Koslowsky et al. 2001), the present results provide further confirmation that subordinates with a high NCC are more

likely to respond to harsh power. These subordinates also appear to experience less stress and burnout when supervisors enact harsh power strategies (Bélanger et al. 2016).

Nevertheless, leaders should contemplate both the individual and cultural characteristics of the work units to promote a “person-supervisor” fit, “person-group” fit, or “person-environment” fit (Kristof-Brown et al. 2005; Pierro et al. 2015; Tesi et al. 2023) (i.e., a fit between the culture of the social environment and the characteristics of the employees) to foster smooth organizational functioning. To be effective, a leadership style that privileges harsh methods to gain compliance from subordinates needs to be situated within well-defined, structured, and tight organizational cultures populated by employees who strongly value epistemic certainty. This is consistent with the notion that a leader’s effectiveness is contingent upon the interaction between their leadership style and the situational context (Fiedler 1967; Fiedler and Chemers 1974). Organizations improve effectiveness by aligning leaders with appropriate situations, based on team dynamics, task complexity, and levels of authority (Fiedler 1967; Fiedler and Chemers 1974). Our results are informative about work contexts permeated by a culture of rigid or loose rules and inhabited by followers with low or high levels of need for epistemic certainty. For example, we observed that, unlike in tight work units, NCC did not influence compliance with harsh power in work units perceived as loose (i.e., low tightness). A loose culture could offer an alternative to strong methods and directives, promoting democratic leadership and validating a shared reality of flexibility and permissiveness. According to this notion, future studies could explore whether individuals with a low NCC are more likely to endorse soft power tactics (Pierro et al. 2012), as a means to validate a loose organizational culture. The tightness–looseness continuum could be a key factor in understanding how and why subordinates comply with their leader’s directives. Ultimately, our results could also provide insight into other settings. For example, in collaborative assessment (Aschieri et al. 2023), a more direct and structured approach by professionals could adapt to the preferences of clients high in NCC.

5. Future Directions and Conclusive Remarks

Recommendations for future research include continuing to deepen the interaction between NCC and tightness on different outcomes of interest (e.g., job performance, job satisfaction, organizational deviance, and creativity). The type of organization to which the work units surveyed belong may also influence the results; considering different kinds of organizations could help examine different effects. Another intriguing direction might be to explore the interaction from the perspective of supervisors (Pierro et al. 2012) rather than that of subordinates, thus examining supervisors’ preferences for or use of harsh power tactics. It would also be worth exploring whether and how supervisors’ NCC can contribute to cultural tightening in the work unit.

Additionally, it would be interesting to examine whether subordinates’ NCC in a tight culture influences the emergence of autocratic leadership, extending previous findings on autocratic leadership structures composed of employees with high NCCs (Pierro et al. 2003; Kruglanski et al. 2006). Building on studies that have examined relationships between unit tightness and well-being variables such as job satisfaction (Di Santo et al. 2021), this variable should be explored as a potential outcome of the observed interaction between NCC and perceived tightness. Finally, it would be appropriate to extend the examination to the organizational level and identify further moderators.

In conclusion, the present research underscores the importance of considering group-level factors, such as perceived tightness–looseness (Gelfand et al. 2006), to understand the relationship between NCC and compliance with harsh power tactics. Building on previous research (Bélanger et al. 2015; Pierro et al. 2012; Di Santo et al. 2020), we sought to deepen

the moderating role of perceived work unit tightness (Di Santo et al. 2021). These findings offer potential insights for theory and practice, suggesting that subordinates with a high NCC are more willing to comply with harsh power tactics—generally poorly tolerated by subordinates with a low NCC (Pierro et al. 2012)—in work environments perceived as prescriptive and rigid. Conversely, a flexible and tolerant work environment could reduce overall consent among these subordinates toward authoritarian strategies.

Author Contributions: Conceptualization, D.D.S., A.T., A.A. and A.P.; methodology, A.P.; formal analysis, A.P.; investigation, D.D.S., A.T., A.A. and A.P.; data curation, A.P.; writing—original draft preparation, D.D.S.; writing—review and editing, A.T., A.A. and A.P.; supervision, A.A. and A.P.; project administration, A.P. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Ethics Committee of the Dipartimento di Psicologia dei Processi di Sviluppo e Socializzazione, Sapienza University of Rome (15/2021).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The raw data supporting the conclusions of this article will be made available by the authors on request.

Conflicts of Interest: The authors declare no conflict of interest.

Notes

- ¹ We used a convenience sampling method: organizations from various sectors were contacted by the research collaborators and given a standard explanation of the study's purpose. Data were collected from the organizations that voluntarily agreed to participate. The sample consisted of organizations working in health care, industry, and business.
- ² The cross-level interaction was also significant when using the grand-mean centered scores of NCC, $b = 0.586$, $SE = 0.234$, $t = 2.509$, $p = 0.013$. A sensitivity analysis was conducted using the lme4 package (Bates et al. 2015) in R software version 4.4.2 (R Development Core Team 2024) to evaluate the power to detect the interaction effect. The analysis was performed using the Kenward-Roger approximation (R package pbkrtest) (Halekoh and Højsgaard 2014; Kreidler et al. 2021). A small effect was simulated for the interaction (0.11), consistent with the actual standardized effect obtained. Based on 100 simulation iterations, the results indicated that the power to detect the hypothesized interaction effect was ranged from 55.85% to 75.18% with an average of 66% based on a significance level of $\alpha = 0.05$. Caution is appropriate in interpreting this result, because a small interaction effect could significantly affect statistical power (Scherbaum and Ferreter 2009).

References

- Aguinis, Herman, Ryan K. Gottfredson, and Steven Andrew Culpepper. 2013. Best-practice recommendations for estimating cross-level interaction effects using multilevel modeling. *Journal of Management* 39: 1490–528. [CrossRef]
- Aktas, Mert, Michele J. Gelfand, and Paul J. Hanges. 2016. Cultural tightness–looseness and perceptions of effective leadership. *Journal of Cross-Cultural Psychology* 47: 294–309. [CrossRef]
- Aschieri, Filippo, Arnold A. P. van Emmerik, Carlijn J. M. Wibbelink, and Jan H. Kamphuis. 2023. A systematic research review of collaborative assessment methods. *Psychotherapy* 60: 355–69. [CrossRef]
- Bates, Douglas, Martin Mächler, Benjamin M. Bolker, and Steven C. Walker. 2015. Fitting Linear Mixed-Effects Models Using lme4. *Journal of Statistical Software* 67: 1–48. [CrossRef]
- Bélanger, Jocelyn J., Antonio Pierro, and Arie W. Kruglanski. 2015. Social power tactics and subordinates' compliance at work: The role of need for cognitive closure. *European Review of Applied Psychology* 65: 163–69. [CrossRef]
- Bélanger, Jocelyn J., Antonio Pierro, Barbara Barbieri, Nicola A. De Carlo, Alessandra Falco, and Arie W. Kruglanski. 2016. One size doesn't fit all: The influence of supervisors' power tactics and subordinates' need for cognitive closure on burnout and stress. *European Journal of Work and Organizational Psychology* 25: 287–300. [CrossRef]
- Chen, Chun-Hsi Vivian, Ya-Yun Tang, and Shih-Jon Wang. 2009. Interdependence and organizational citizenship behavior: Exploring the mediating effect of group cohesion in multilevel analysis. *The Journal of Psychology* 143: 625–40. [CrossRef]

- Cialdini, Robert B., and Melanie R. Trost. 1998. Social influence: Social norms, conformity and compliance. In *The Handbook of Social Psychology*. Edited by Daniel Todd Gilbert, Susan T. Fiske and Gardner Lindzey. Boston: McGraw-Hill, pp. 151–92.
- Contu, Federico, Daniela Di Santo, Conrad Baldner, and Antonio Pierro. 2023. Examining the Interaction between Perceived Cultural Tightness and Prevention Regulatory Focus on Life Satisfaction in Italy. *Sustainability* 15: 1865. [\[CrossRef\]](#)
- Contu, Federico, Molly Ellenberg, Arie W. Kruglanski, Giuseppe Pantaleo, and Antonio Pierro. 2024. Need for cognitive closure and desire for cultural tightness mediate the effect of concern about ecological threats on the need for strong leadership. *Current Psychology* 43: 11458–69. [\[CrossRef\]](#)
- Di Santo, Daniela, Alessandra Talamo, Flavia Bonaiuto, Cristina Cabras, and Antonio Pierro. 2021. A multilevel analysis of the impact of unit Tightness vs. Looseness culture on attitudes and behaviors in the workplace. *Frontiers in Psychology* 12: 652068. [\[CrossRef\]](#)
- Di Santo, Daniela, Alessio Tesi, Antonio Aiello, and Antonio Pierro. 2020. The relationship between need for closure and compliance to harsh power tactics in high demanding jobs: A study conducted among firefighters and social workers. *Journal of Applied Social Psychology* 50: 599–606. [\[CrossRef\]](#)
- Elangovan, A. R., and Jia Lin Xie. 1999. Effects of perceived power of supervisor on subordinate stress and motivation: The moderating role of subordinate characteristics. *Journal of Organizational Behavior* 20: 359–73. [\[CrossRef\]](#)
- Enders, Craig K., and Davood Tofighi. 2007. Centering predictor variables in cross-sectional multilevel models: A new look at an old issue. *Psychological Methods* 12: 121–38. [\[CrossRef\]](#) [\[PubMed\]](#)
- Evans, Martin G. 1985. A Monte Carlo study of the effects of correlated method variance in moderated regression analysis. *Organizational Behavior and Human Decision Processes* 36: 305–23. [\[CrossRef\]](#)
- Fabrigar, Leandre R., and Duane T. Wegener. 2012. *Exploratory Factor Analysis*. Oxford: Oxford University Press.
- Fiedler, Fred E. 1967. *A Theory of Leadership Effectiveness*. New York: McGraw-Hill.
- Fiedler, Fred E., and Martin M. Chemers. 1974. *Leadership and Effective Management*. Glenview: Scott, Foresman.
- French, John R. P., and Bertram Raven. 1959. The bases of social power. In *Studies in Social Power*. Edited by Dorwin Cartwright. Ann Arbor: Institute for Social Research, pp. 150–67.
- Fulmer, C. Ashley, Michele J. Gelfand, Arie W. Kruglanski, Chu Kim-Prieto, Ed Diener, Antonio Pierro, and E. Tory Higgins. 2010. On “feeling right” in cultural contexts: How person-culture match affects self-esteem and subjective well-being. *Psychological Science* 21: 1563–69. [\[CrossRef\]](#)
- Gelfand, Michele J. 2018. *Rule Makers, Rule Breakers: Tight and Loose Cultures and the Secret Signals That Direct our Lives*. New York: Scribner Book Company.
- Gelfand, Michele J., and Rebecca Lorente. 2021. Threat, tightness, and the evolutionary appeal of populist leaders. In *The Psychology of Populism: The Tribal Challenge to Liberal Democracy*. Edited by Joseph P. Forgas, William D. Crano and Klaus Fiedler. London: Routledge, pp. 276–94.
- Gelfand, Michele J., Jana L. Raver, Lisa Nishii, Lisa M. Leslie, Janetta Lun, Beng Chong Lim, Lili Duan, Assaf Almaliach, Soon Ang, Jakobina Arnadottir, and et al. 2011. Differences between tight and loose cultures: A 33-nation study. *Science* 332: 1100–4. [\[CrossRef\]](#) [\[PubMed\]](#)
- Gelfand, Michele J., Jesse R. Harrington, and Joshua Conrad Jackson. 2017. The strength of social norms across human groups. *Perspectives on Psychological Science* 12: 800–9. [\[CrossRef\]](#) [\[PubMed\]](#)
- Gelfand, Michele J., Lisa H. Nishii, and Jana L. Raver. 2006. On the nature and importance of cultural tightness-looseness. *Journal of Applied Psychology* 91: 1225–44. [\[CrossRef\]](#)
- Halekoh, Ulrich, and Søren Højsgaard. 2014. A Kenward-Roger Approximation and Parametric Bootstrap Methods for Tests in Linear Mixed Models—The R Package pbrtest. *Journal of Statistical Software* 59: 1–32. [\[CrossRef\]](#)
- Hardin, Curtis D., and E. Tory Higgins. 1996. Shared reality: How social verification makes the subjective objective. In *Handbook of Motivation and Cognition, Volume 3. The Interpersonal Context*. Edited by Richard M. Sorrentino and E. Tory Higgins. New York: The Guilford Press, pp. 28–84.
- Harrington, Jesse R., and Michele J. Gelfand. 2014. Tightness–looseness across the 50 united states. *Proceedings of the National Academy of Sciences* 111: 7990–95. [\[CrossRef\]](#) [\[PubMed\]](#)
- Heisig, Jan Paul, and Merlin Schaeffer. 2019. Why you should always include a random slope for the lower-level variable involved in a cross-level interaction. *European Sociological Review* 35: 258–79. [\[CrossRef\]](#)
- Hofmann, David A., and Mark B. Gavin. 1998. Centering decisions in hierarchical linear models: Implications for research in organizations. *Journal of Management* 24: 623–41. [\[CrossRef\]](#)
- Horn, John L. 1965. A rationale and test for the number of factors in factor analysis. *Psychometrika* 30: 179–85. [\[CrossRef\]](#) [\[PubMed\]](#)
- Jackson, Joshua Conrad, Michele Gelfand, and Carol R. Ember. 2020. A global analysis of cultural tightness in non-industrial societies. *Proceedings of the Royal Society B* 287: 20201036. [\[CrossRef\]](#) [\[PubMed\]](#)
- James, Lawrence R., Lois A. James, and Donna K. Ashe. 1990. The meaning of organizations: The role of cognition and values. In *Organizational Climate and Culture*. Edited by Benjamin Schneider. San Francisco: Jossey-Bass, pp. 40–84.

- James, Lawrence R., Robert G. Demaree, and Gerrit Wolf. 1993. rwg: An assessment of within-group interrater agreement. *Journal of Applied Psychology* 78: 306–9. [CrossRef]
- Kenny, David A., and Charles M. Judd. 1996. A general procedure for the estimation of interdependence. *Psychological Bulletin* 119: 138–48. [CrossRef] [PubMed]
- Koslowsky, Meni, and Shmuel Stashevsky. 2005. Organizational values and social power. *International Journal of Manpower* 26: 23–34. [CrossRef]
- Koslowsky, Meni, Joseph Schwarzwald, and Sigal Ashuri. 2001. On the relationship between subordinate's compliance to power sources and organizational attitudes. *Applied Psychology* 50: 455–76. [CrossRef]
- Kovach, Mary. 2020. Leader Influence: A Research Review of French & Raven's (1959) Power Dynamics. *The Journal of Values-Based Leadership* 13: 15. [CrossRef]
- Kreidler, Sarah M., Brandy M. Ringham, Keith E. Muller, and Deborah H. Glueck. 2021. A power approximation for the Kenward and Roger Wald test in the linear mixed model. *PLoS ONE* 16: e0254811. [CrossRef] [PubMed]
- Kristof-Brown, Amy L., Ryan D. Zimmerman, and Erin C. Johnson. 2005. Consequences of individuals' fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology* 58: 281–342. [CrossRef]
- Kruglanski, Arie W. 1996. Motivated gatekeeper of our minds: Need for closure effects on interpersonal phenomena. In *Handbook of Motivation and Cognition, Volume 3. The Interpersonal Context*. Edited by Richard M. Sorrentino and E. Tory Higgins. New York: Guilford Press, pp. 465–96.
- Kruglanski, Arie W. 2004. *The Psychology of Closed Mindedness*. New York: Psychology Press.
- Kruglanski, Arie W., Antonio Pierro, E. Tory Higgins, and Dora Capozza. 2007. "On the Move" or "Staying Put": Locomotion, need for closure, and reactions to organizational change. *Journal of Applied Social Psychology* 37: 1305–40. [CrossRef]
- Kruglanski, Arie W., Antonio Pierro, Lucia Mannetti, and Eraldo De Grada. 2006. Groups as epistemic providers: Need for closure and the unfolding of group-centrism. *Psychological Review* 113: 84–100. [CrossRef] [PubMed]
- Liden, Robert C., Berrin Erdogan, Sandy J. Wayne, and Raymond T. Sparrowe. 2006. Leader-member exchange, differentiation, and task interdependence: Implications for individual and group performance. *Journal of Organizational Behavior* 27: 723–46. [CrossRef]
- Mannetti, Lucia, John M. Levine, Antonio Pierro, and Arie W. Kruglanski. 2010. Group reaction to defection: The impact of shared reality. *Social Cognition* 28: 447–64. [CrossRef]
- McClelland, Gary H., and Charles M. Judd. 1993. Statistical difficulties of detecting interactions and moderator effects. *Psychological Bulletin* 114: 376–90. [CrossRef] [PubMed]
- O'Connor, Brian P. 2000. SPSS and SAS programs for determining the number of components using parallel analysis and Velicer's MAP test. *Behavior Research Methods, Instruments, & Computers* 32: 396–402. [CrossRef]
- Ostroff, Cheri, Angelo J. Kinicki, and Melinda M. Tamkins. 2003. Organizational culture and climate. In *Handbook of Psychology*. Edited by Walter C. Borman, Daniel R. Ilgen and Richard J. Klimoski. Hoboken: John Wiley & Sons, Inc., vol. 12, pp. 565–93.
- Ostroff, Cheri, Angelo J. Kinicki, and Rabiah S. Muhammad. 2013. Organizational culture and climate. In *Handbook of psychology: Industrial and Organizational Psychology (Volume 12)*, 2nd ed. Edited by Irving B. Weiner, Neal W. Schmitt and Scott Highhouse. Hoboken: John Wiley & Sons, Inc., pp. 643–76.
- Pierro, Antonio, and Arie W. Kruglanski. 2005. *Revised Need for Cognitive Closure Scale*. Rome: Università di Roma, La Sapienza, Unpublished work.
- Pierro, Antonio, Anna Sheveland, Stefano Livi, and Arie W. Kruglanski. 2015. Person-group fit on the need for cognitive closure as a predictor of job performance, and the mediating role of group identification. *Group Dynamics: Theory, Research, and Practice* 19: 77–90. [CrossRef]
- Pierro, Antonio, Arie W. Kruglanski, and Bertram H. Raven. 2012. Motivational underpinnings of social influence in work settings: Bases of social power and the need for cognitive closure. *European Journal of Social Psychology* 42: 41–52. [CrossRef]
- Pierro, Antonio, Bertram H. Raven, Clara Amato, and Jocelyn J. Bélanger. 2013. Bases of social power, leadership styles, and organizational commitment. *International Journal of Psychology* 48: 1122–34. [CrossRef]
- Pierro, Antonio, Eraldo De Grada, Bertram H. Raven, and Arie W. Kruglanski. 2004. Fonti, antecedenti e conseguenti del potere in contesti organizzativi: L'Interpersonal power/interaction model. In *Potere e Leadership. Teorie, Metodi e Applicazioni*. Edited by Antonio Pierro. Rome: Carocci Editore, pp. 33–58.
- Pierro, Antonio, Lavinia Cicero, and Bertram H. Raven. 2008. Motivated compliance with bases of social power. *Journal of Applied Social Psychology* 38: 1921–44. [CrossRef]
- Pierro, Antonio, Lucia Mannetti, Eraldo De Grada, Stefano Livi, and Arie W. Kruglanski. 2003. Autocracy bias in informal groups under need for closure. *Personality and Social Psychology Bulletin* 29: 405–17. [CrossRef]
- R Development Core Team. 2024. *R: A Language and Environment for Statistical Computing*. Version 4.4.2. Vienna: R Foundation for Statistical Computing. Available online: <http://www.r-project.org/index.html> (accessed on 8 January 2025).
- Raudenbush, Stephen W. 1989. The analysis of longitudinal, multilevel data. *International Journal of Educational Research* 13: 721–40. [CrossRef]

- Raven, Bertram H. 2008. The Bases of Power and the Power/Interaction Model of Interpersonal Influence. *Analyses of Social Issues and Public Policy* 8: 1–22. [[CrossRef](#)]
- Raven, Bertram H., Joseph Schwarzwald, and Meni Koslowsky. 1998. Conceptualizing and measuring a power/interaction model of interpersonal influence. *Journal of Applied Social Psychology* 28: 307–32. [[CrossRef](#)]
- Roets, Arne, Arie W. Kruglanski, Malgorzata Kossowska, Antonio Pierro, and Ying-yi Hong. 2015. The motivated gatekeeper of our minds: New directions in need for closure theory and research. *Advances in Experimental Social Psychology* 52: 221–83. [[CrossRef](#)]
- Russell, Bertrand. 2004. *Power: A New Social Analysis*, 1st ed. New York: Routledge. First published 1938.
- Scherbaum, Charles A., and Jennifer M. Ferreter. 2009. Estimating statistical power and required sample sizes for organizational research using multilevel modeling. *Organizational Research Methods* 12: 347–67. [[CrossRef](#)]
- Schwarzwald, Joseph, Meni Koslowsky, and Tali Ochana-Levin. 2004. Usage of and compliance with power tactics in routine versus nonroutine work settings. *Journal of Business and Psychology* 18: 385–402. [[CrossRef](#)]
- Seibert, Scott E., Seth R. Silver, and W. Alan Randolph. 2004. Taking empowerment to the next level: A multiple-level model of empowerment, performance, and satisfaction. *Academy of Management Journal* 47: 332–49. [[CrossRef](#)]
- Taggar, Simon, and Robert Ellis. 2007. The role of leaders in shaping formal team norms. *The Leadership Quarterly* 18: 105–20. [[CrossRef](#)]
- Tesi, Alessio, Daniela Di Santo, and Antonio Aiello. 2023. The Pathway between Social Dominance Orientation and Drop out from Hierarchy-Attenuating Contexts: The Role of Moral Foundations and Person-Environment Misfit. *Behavioral Sciences* 13: 712. [[CrossRef](#)]
- Vince, Russ. 2014. What do HRD scholars and practitioners need to know about power, emotion, and HRD? *Human Resource Development Quarterly* 25: 409–20. [[CrossRef](#)]

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.