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Beyond high and low: Obstacles and opportunities associated with conceptualizing middle power and other middle-range effects

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Abstract

Researchers disproportionately develop and test research questions aimed at understanding the effects of extreme—compared to intermediate or fluctuating—positions and states. Commonly applied theoretical frameworks and methodological tools reflect and serve to perpetuate this binary focus on extreme effects. Here, I attempt to lay the foundation for researchers to more rigorously and consistently study middle-range effects in the psychological sciences in general and in the social power literature in particular. In proposing three different conceptualizations of “middle power,”—*power fluctuation*, *power tension*, and *medium power*—I identify theoretical and methodological obstacles and opportunities related to studying middle power. Overall, I argue that the landscape between a construct's poles is neither vacuous nor hypothetical space. Rather, it is potentially fertile, yet largely unharvested, scholarly terrain. Simply put, the middle matters, and deserves greater attention.

1 | INTRODUCTION

To determine if a relationship exists between two variables, researchers often ask some version of the following question: Does variable *x* exert a different effect on outcome *y* at high and low levels of *x*? Although this approach may be a logical starting point for many research questions, prioritizing the effects of the extreme ends of a variable's continuum on various outcomes may mask or otherwise distort potentially unique effects associated with intermediate or fluctuating positions and states.

This concern is particularly pronounced in fields where experimental methods dominate. By designing experiments that only manipulate high and low levels of a predictor variable, researchers assume a linear relationship exists between x and y . Even in the context of analyzing continuous data, some researchers have advocated for using the extreme group approach (e.g., see Cross et al., 2002; Feldt, 1961), which involves selecting individuals on the basis of extreme scores of x and examining the relationship between x and y only for those extreme scoring individuals. Others have defended the use of median splits on the grounds that they facilitate analytic ease and communication clarity (Iacobucci et al., 2015a, 2015b). These approaches function to suppress interest in and knowledge of middle-range effects (e.g., see also work on the *binary bias*, Fisher & Keil, 2018, and the *extremity bias*, Fiske, 1980; Madan et al., 2014; Skowronski & Carlston, 1987), which is problematic because as Preacher and colleagues astutely note, “true dichotomies are not common in psychology” (Preacher et al., 2005, p. 186). Consequently, artificially dichotomizing a variable has numerous costs (Cohen, 1983; Irwin & McClelland, 2003; MacCallum et al., 2002).

In this article, I lay the foundation for scholars to more rigorously and consistently study middle-range effects in general and in the social power literature in particular. I begin by noting the lack of existing studies designed to test middle-power effects. Then, I overview theoretical obstacles and opportunities related to studying middle power. In particular, I distinguish among three conceptualizations of middle power—*power fluctuation*, *power tension*, and *medium power*—and discuss how each conceptualization may relate to various outcomes. Then, I review methodological obstacles and opportunities related to measuring and manipulating middle power. I conclude by proposing several future directions for interested scholars to consider.

2 | THE PERVASIVE, YET UNREALISTIC, VIEW OF POWER AS BINARY AND STATIC

Conferring, experiencing, and wielding power—that is, asymmetric control over valued resources in social relations (Keltner et al., 2003; Magee & Galinsky, 2008; Thibaut & Kelley, 1959)—are unavoidable features of social and organizational life that profoundly affect individuals' cognition, attitudes, and behaviors (Anderson & Brion, 2014; Fleming & Spicer, 2014; Galinsky et al., 2015; Guinote, 2017; Sturm & Antonakis, 2015). Indeed, the distinction between having and lacking power is as consequential as any distinction scholars make in the social sciences. However, dominant theories and methodological traditions treat power as a binary and static construct and are thus ill-equipped to accommodate the complexity of modern life and the velocity of technological innovation that will continue to make experiencing and wielding dynamic and, at times, contradictory power states increasingly common. As a result, some existing and future findings may obscure power's relationship with certain outcomes (e.g., see Anicich, 2014). This is especially true in the field of social psychology where experimental methods that are rarely designed to detect nonlinear relationships dominate. Much of the existing work in the power literature disproportionately prioritizes studying the antecedents and consequences of experiencing extreme power states. For example, in a review of over 550 studies that either manipulated or measured a variable related to social stratification (e.g., power, status, organizational rank, etc.), I found that 94.6% of study designs focused exclusively on the effects of the extreme ends of the relevant stratifying variable's distribution (e.g., the effects of high vs. low power; Anicich, 2016). In fact, none of the 392 reviewed studies that manipulated (vs. measured) a stratifying variable included a middle-rank condition. This is problematic because, at a minimum, one must observe three levels of a construct in order to make any claims regarding the presence or absence of nonlinear relationships with various outcomes.

As the power literature matures and high- versus low-power effects continue to accumulate, scholars may be tempted to assume, on the basis of linear extrapolation, that they also understand the nuances of middle-power effects. However, this assumption may be misguided (see Figure 1). Although scholars in various fields have offered useful perspectives related to the importance of studying curvilinear relationships (Grant & Schwartz, 2011; Le et al., 2011; Pierce & Aguinis, 2013; Swaab et al., 2014), these perspectives have been insufficiently advanced in the social power literature.

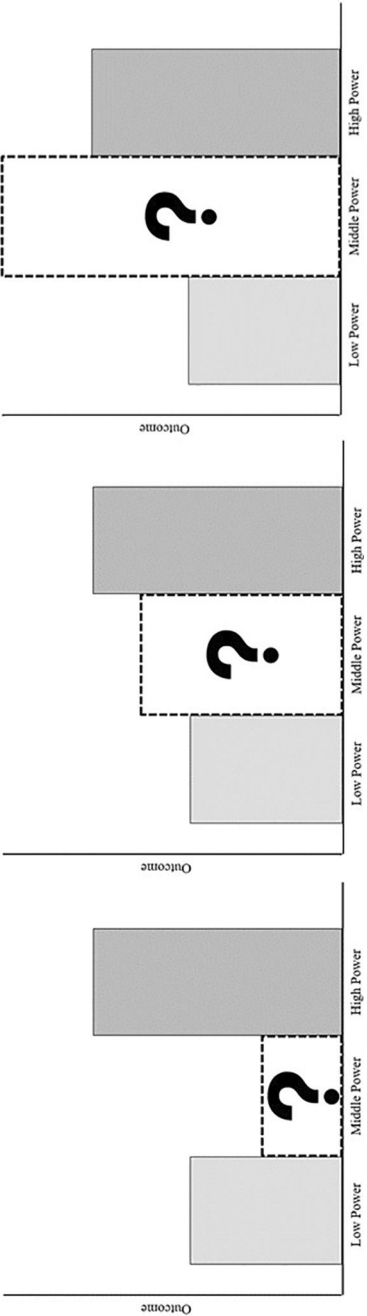


FIGURE 1 Illustration of how common experimental designs are unable to detect middle-power effects and why researchers should not assume a linear relationship between variables

Moving beyond a binary conceptualization of power will further contextualize social power research (Schaerer, Lee, et al., 2018) and contribute to a growing body of work that takes seriously the importance of studying the full range of power effects (Anicich & Hirsh, 2017a; Scherer, du Plessis, et al., 2018) and the consequences of dynamic power experiences (Aime et al., 2014; Smith & Hoffman, 2016). Doing so will also help address the lack of research on the “multiple coexisting roles that individuals play in organizations,” such as when “a given manager is high in power in that he has asymmetrical control over his subordinates but is also low in power in that the manager's boss has asymmetrical control over him” (Anderson & Brion, 2014, p. 85). In the following sections, I review initial theoretical and empirical efforts aimed at extending the binary view of power and propose three conceptualizations of middle power to guide future extensions of this work.

3 | THEORETICAL OBSTACLES AND OPPORTUNITIES RELATED TO MIDDLE POWER

In recent decades, the study of social power has been almost synonymous with the application of the Approach-Inhibition Theory of Power (Keltner et al., 2003), which specifies that experiencing elevated power is associated with increased rewards and freedom and thereby activates approach-related tendencies, whereas experiencing reduced power is associated with increased threat, punishment, and social constraint and thereby activates inhibition-related tendencies. The elegance and utility of this theory is reflected in the nearly 4000 Google Scholar citations it has accumulated to date. However, the Approach-Inhibition Theory of Power is constrained by its emphasis on two distinct systems described in reinforcement sensitivity theory (Gray, 1982)—the behavioral approach system (BAS) and the behavioral inhibition system (BIS)—that provide the neural and motivational foundation for understanding the experiences of high and low power. In linking the experiences of high and low power to activation of the BAS and the BIS, respectively, Keltner et al. (2003) framework spawned a generation of empirical research emphasizing the often divergent effects of high and low power on various outcomes. Subsequent theories and organizing frameworks related power have similarly embraced a binary view of power including the Situated Focus Theory of Power (Guinote, 2007), the Social Distance Theory of Power (Magee & Smith, 2013), and the Agentic-Communal Model of Power (Rucker et al., 2012; Rucker & Galinsky, 2016). Although these theories represent substantial contributions to the field, none is equipped to speak to the psychology of middle power.

3.1 | Summary and extension of the Approach-Inhibition-Avoidance theory of power

In response to this theoretical limitation, Anicich and Hirsh (2017a) recently advanced a framework that extends the Approach-Inhibition Theory of Power on the basis of insights from revised reinforcement sensitivity theory (Gray & McNaughton, 2000; McNaughton & Corr, 2004). Specifically, Anicich and Hirsh's (2017a, 2017b) Approach-Inhibition-Avoidance (AIA) theory of power highlights the value of conceptualizing power based on the stability of one's vertical orientation in a social hierarchy. According to the AIA theory of power, low power is associated with individuals possessing a relatively stable upward vertical orientation in relation to others in their social network, whereas high power is associated with individuals possessing a relatively stable downward vertical orientation in relation to others in their social network. Importantly, individuals whose subjective sense of power is neither consistently higher nor lower than the power of others in their social network are said to have a bidirectional (i.e., unstable) vertical orientation and therefore must engage in more vertical codeswitching—that is, “the act of alternating between behavioral patterns directed toward higher-power and lower-power interaction partners” (Anicich & Hirsh, 2017a, p. 663). The key insight from the AIA theory of power is that individuals in these middle-power states may have unique psychological experiences and behavioral tendencies that cannot be understood in the context of existing conceptualizations of power.

In particular, conceptualizing power as the ratio of upward to downward interactions that one experiences (or is likely to experience given the perceived composition of one's social network) highlights the dynamic and

temporal nature of power and necessarily includes a consideration of the middle. Consequently, research questions that were once irrelevant or inaccessible are more relevant and accessible in this context. For example, Anicich and Hirsh (2017a) made initial strides in proposing that, under some conditions, the experience of middle power may be associated with distinct emotions (anxiety), attentional focus (on diffuse and uncertain threats), cognition (systematic and controlled), and behavior (inhibited and situationally constrained) compared to individuals experiencing higher and lower-power states. Those authors developed their predictions by drawing on role transition (Ashforth et al., 2000), role conflict (Rizzo et al., 1970), identity conflict (Hirsh & Kang, 2016), and biopsychological (Gray & McNaughton, 2000) theories.

In subsequent empirical tests of the AIA theory of power, Anicich et al. (2021) proposed that vertical code-switching (a behavioral act) can lead to the experience of *power fluctuation* (a cognitive perception), defined as the extent to which one subjectively perceives oneself as alternating between psychological states of high and low power (or vice versa) across situations. Using a mix of survey, experimental, and experience-sampling methods, they found that power fluctuation is associated with two indicators of reduced well-being—psychological distress and somatic symptoms (e.g., headache, lower back pain). Anicich et al. further demonstrated that these effects are mediated by role conflict and role overload, and are weaker for individuals in routine (vs. non-routine) task environments. Working around the same time, Sabey et al. (2020) documented both negative *and* positive effects of power fluctuation. Specifically, they found that daily power fluctuation (i.e., day-to-day, within-person variance in self-reported power) as well as general power fluctuation (person-to-person, between-person variance in self-reported power) increase perspective taking and contribution to team performance, but also result in frustration and emotional exhaustion. The Sabey et al. (2020) findings point to the intriguing possibility that power fluctuation is associated with both costs and benefits that may manifest at different levels of analysis (e.g., intrapersonal and interpersonal).

Extending this work will require greater clarity regarding the different ways of conceptualizing “middle power.” To that end, in the next section, I propose three distinct conceptualizations of middle power and offer some initial predictions pertaining to each.

3.1.1 | Three ways to conceptualize middle power

Interpreting midpoint scale responses is notoriously challenging. Indeed, a study of the use and interpretation of scale midpoints revealed that respondents' interpretations of the meaning of midpoint values varied widely and were most commonly interpreted as: “no opinion,” “don't care,” “unsure,” “neutral,” “equal/both,” and “neither” (Nadler et al., 2015), leading some to describe scale midpoints as “a dumping ground” for respondents (Chyung et al., 2017, p. 17). In the context of social power research, existing measures of social power (e.g., Sense of Power Scale, Anderson et al., 2012) can provide information regarding where one falls on the sense of power continuum in the context of a particular setting or relationship from low to high but offer no information regarding the interpretation of a mid-level score.

This limitation has important theoretical implications. For example, a mid-level sense of power score could indicate one of three different conceptualizations of middle power: (1) That one sometimes feels a low sense of power and sometimes feels a high sense of power (sequential “Power Fluctuation” interpretation), (2) that one simultaneously feels a sense of low power and a sense of high power, perhaps on different bases of social power (e.g., low legitimate power, but high expert power, French et al., 1959) or in relation to different, concurrent interaction partners (e.g., meeting with one's boss *and* subordinate; simultaneous “Power Tension” interpretation), or (3) that one feels a sense of power to a medium extent on average or in a particular moment (“Medium Power” interpretation) (see Figures 2 and 3).

Importantly, these three conceptualizations of middle power may have different effects on various outcomes due to their distinguishing characteristics. For example, *power fluctuation* involves the sequential activation of opposite power states which exposes individuals to different behavioral expectations and norms across situations.

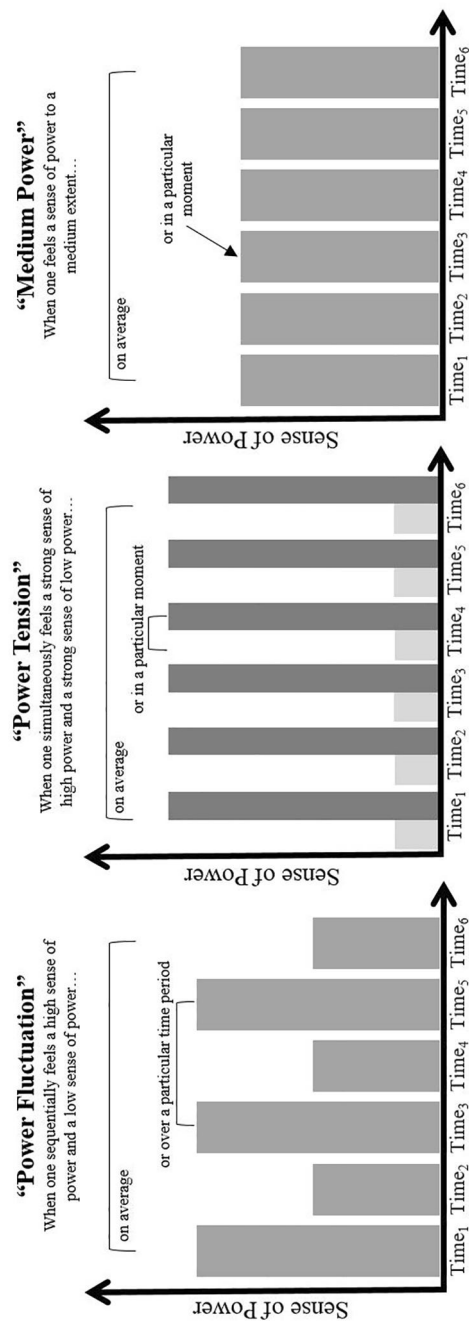


FIGURE 2 Visualization of the different ways of conceptualizing “middle power” over time or in a particular moment

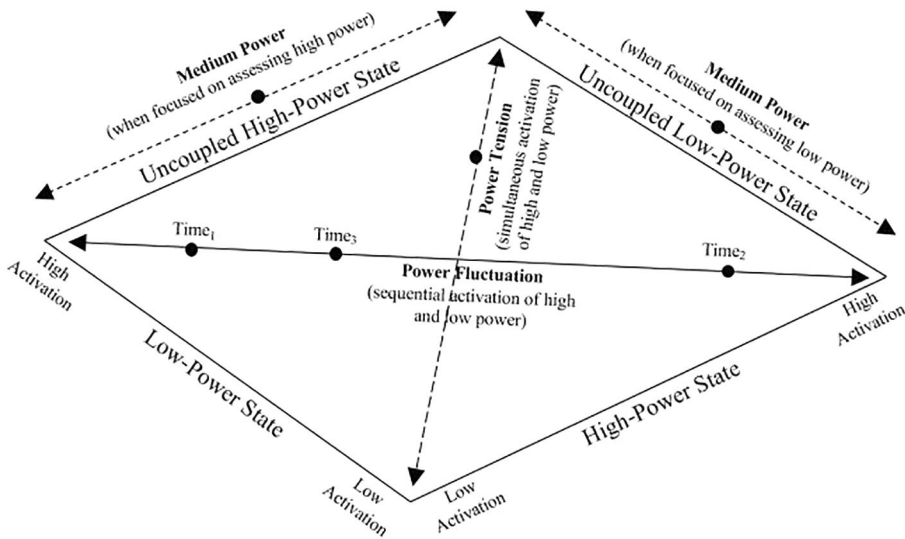


FIGURE 3 Bivariate power plane depicting the three conceptualizations of middle power. Adapted from Figure 1 in Cacioppo & Berntson (1994), the left axis represents the extent to which a low-power state has been activated, and the right axis represents the extent to which a high-power state has been activated. Along each axis, the level of activation increases with movement away from the front axis intersection. The solid diagonal extending from the left to the right axis intersections depicts the experience of power fluctuation over three time periods. The dashed diagonal extending from the back to the front axis intersections depicts the experience of power tension. Movement along this diagonal corresponds to the simultaneous and equivalent activation of opposite power states. The arrows alongside the axes represent uncoupled changes in high- and low-power activation. The axes representing uncoupled changes in high- and low-power activation reflect the idea that “low power should not be treated as the opposite of high power by default” (Schaerer, du Plessis, et al., 2018, p. 87). Overall, these diagonals and axes, and vectors parallel to them, illustrate the three conceptualizations of middle power.

Therefore, individuals who experience power fluctuation need to adapt their cognition and behavior to a greater extent than individuals who experience less dynamic forms of middle power, which may lead to negative outcomes such as increased uncertainty and emotional exhaustion. However, the corresponding exposure to diverse settings, information, and interaction partners may also be associated with a number of positive outcomes such as increased perspective taking, creativity, integrative complexity, social networking, and goal progress.

The simultaneous (vs. sequential) experience of opposite power states, on the other hand, will produce countervailing behavioral expectations and norms, which may perpetuate a behavioral equilibrium where individuals remain “frozen” in a steady state with no behavioral change (e.g., see Lewin, 1947). For this reason, the experience of *power tension* may be associated with outcomes such as behavioral inhibition, cognitive dissonance, and constrained thinking to a greater extent than other forms of middle power.

Medium power, by definition, is less influenced by extreme power states than the experiences of power fluctuation and power tension. Consequently, medium power is more likely to be perceived as a singular, distinct state as opposed to multiple, competing power states (akin to the way some individuals identify as members of the middle class instead of as members of both lower and upper classes). This perception of a singular, distinct power state may contribute to increased role clarity, identity clarity, and related outcomes.

Table 1 summarizes these differences and provides references to literatures that are theoretically adjacent to each conceptualization of middle power. A close inspection of these literatures may reveal interesting opportunities for further theoretical integration.

TABLE 1 Summary of three conceptualizations of middle power

"Middle power" conceptualization	Description	Relative to other conceptualizations of middle power may result in elevated...	Theoretically adjacent literatures
Power fluctuation	Sequential experience of high- and low-power states	• Uncertainty/instability • Emotional exhaustion • Perspective taking • Creativity • Integrative complexity • Social networking • Goal progress	• Linguistic codeswitching (Heller, 1988) • Cross cultural code-switching (Molinsky, 2007) • Cultural frame switching (Benet-Martínez et al., 2002) • Role transitions (Ashforth, 2000)
Power tension	Simultaneous experience of high- and low-power states	• Behavioral inhibition • Cognitive dissonance • Constrained thinking	• Mixed emotions (Larsen & McGraw, 2011, 2014) • Biracial identity (Kerwin & Ponterotto, 1995; Skinner et al., 2020) • Middle ground approach to paradox (Leung et al., 2018)
Medium power	Static experience of middling power state	• Role/identity clarity • Perception of experiencing a distinct power state	• Middle class socio-economic status (Ehrenreich, 1989; Lott, 2012; Manstead, 2018)

4 | METHODOLOGICAL OBSTACLES AND OPPORTUNITIES RELATED TO MIDDLE POWER

Scholars have (unsurprisingly) tested binary theories of power using methodological tools that are designed to compare the effects of binary power states. In this section, I overview the challenges associated with studying middle power using existing methodological tools. Then, I discuss recent methodological advances that may offer a path forward.

4.1 | Measuring middle power using ideal point models

Historically, scholars have overwhelmingly embraced Likert's (1932) method of measurement that assumes responses follow a dominance-based model (i.e., stronger agreement with positively worded scale items indicates a higher standing on the measured attribute). For this reason, researchers tend to only include items representing positive or negative attribute values, while excluding intermediate items with low item-total correlations (Cao et al., 2015; Chernyshenko et al., 2007). However, Item Response Theory (IRT; Embretson & Reise 2000) scholars have argued that this approach may result in unreliable attribute estimates (Chernyshenko et al., 2007; Dalal et al., 2014; Drasgow et al., 2010; Stark et al., 2006). Drasgow et al. (2010, p. 468) succinctly summarize this shortcoming by noting that "Likert was misled because, as is so common in psychology, he looked only for linear relations." As a result, "curvilinear...trends may have been obfuscated in past studies by the application of the pervasive dominance model of measurement" (Carter et al., 2014, p. 565).

In response to this shortcoming, scholars have proposed that ideal point models (Coombs, 1964; Thurstone, 1928) should be used instead of dominance-based models. Ideal point models do not assume monotonically increasing relationships between true attribute strength and the respondent's endorsement rating. Rather, ideal point models are based on the idea that respondents are more likely to endorse items that are located near their true standing on the latent attribute continuum. If an item is too extreme or not extreme enough to describe a

respondent, the respondent will be less likely to strongly endorse that item (Carter et al., 2014). For example, when responding to an intermediate item such as “The amount of power I have at work relative to others is about average,” low-power individuals should tend to reject this item because their perceived power is below average, and high-power individuals should also tend to reject this item, because their perceived power is above “average.”

Numerous scholars working primarily in the domain of personality assessment have demonstrated that using an ideal point model (e.g., generalized graded unfolding model (GGUM); Roberts et al., 2000) that contains both extreme and intermediate items can improve attribute measurement compared to a dominance-based model (e.g., see Chernyshenko et al., 2007; Stark et al., 2006; Tay et al., 2009). Importantly, the benefits associated with using ideal point models are likely to extend beyond personality assessment (e.g., see Drasgow et al., 2010; Tay & Ng, 2018). More specifically, in a review of IRT practices in organizational research, Foster et al. (2017, p. 469) conclude that ideal point “models like the GGUM hold great promise for organizational research.” As it relates to the assessment of middle power, these findings suggest that adding moderately worded power items (i.e., middle-power items) to existing power measures that only include extreme-worded items (e.g., Sense of Power Scale, Anderson et al., 2012; or the Perceived Workplace Power Scale, Yu et al., 2019) could be both theoretically and empirically prudent.

4.1.1 | Recommendations for writing middle-power items

Progress in studying middle-range effects in general and in the social power literature in particular has been slow in part because “little is known about how to write good intermediate items” (Cao et al., 2015, p. 256). Fortunately, Cao et al. (2015) recently provided recommendations for developing intermediate items in the context of ideal point models that may be useful to researchers who are interested in developing middle-power items. In particular, these authors introduced the FACT framework, an acronym featuring four recommendations for constructing ideal intermediate items. The first recommendation (“Frequency”) is to include words or phrases in the item indicating a statement’s moderate frequency such that respondents for whom the statement always or rarely applies both tend to reject the item (e.g., “Sometimes I feel as though I am powerless”). The second recommendation (“Average”) is to construct items that ask respondents to compare themselves to people on average (e.g., “The amount of power I have at work relative to others is about average”). The third recommendation (“Condition”) is to specify a particular condition in the item so that the respondent’s endorsement becomes conditional on certain occasions (e.g., “My wishes do not carry much weight when I am around certain people”). The fourth recommendation (“Transition”) is to structure transitions into items such that extreme descriptions are avoided (e.g., “My job affords me power, but some people at work ignore my ideas and opinions anyway”). These four recommendations are intended to add contextual information to reduce item extremity.

Two other recommendations related to constructing intermediate items are worth noting. First, Dalal et al. (2014) demonstrated that items without a middle response option fit an ideal point model better than identical items that included a middle response option. Thus, intermediate items assessed in the context of an ideal point model should include an even number of response options. Second, double-barreled items may be appropriate when constructing intermediate response options because “double-barreled item design...appropriately captures the fundamental ‘both-and’ nature of paradoxes” (Zhang et al., 2015, p. 560) and thus, “for some situations, these items can be useful” (Zickar, 2020, p. 218).

4.2 | Measuring power fluctuation as variability in momentary power states

Unlike the medium power and power tension conceptualizations of middle power, the power fluctuation conceptualization of middle power is inherently dynamic and longitudinal. In this section, I review three ways researchers may assess power fluctuation.

TABLE 2 Items included in the Power Fluctuation Scale (Anicich et al., 2021)

1. It is common for me to alternate between feeling powerful and powerless
2. I fluctuate between feeling like I have control over others and feeling like others have control over me
3. My perception of how much power I have in relation to others changes throughout the day
4. I feel powerful in some situations and powerless in other situations
5. The amount of power I feel like I have tends to vary
6. I often go back and forth between experiencing a high sense of power and a low sense of power

First, researchers may use the Power Fluctuation Scale developed and validated by Anicich et al. (2021) to assess self-reported power fluctuation captured at a single time point (see Table 2).

Alternatively, researchers may assess power fluctuation by measuring the variability of momentary power states over time. This approach leverages recent advances in personality psychology suggesting that personality traits can be conceived as a frequency distribution of momentary states (e.g., see Whole Trait Theory; Fleeson & Jayawickreme, 2015, and the Personality Dynamics Model; Sosnowska et al., 2019). In other words, traits have both a mean level *and* often substantial moment-to-moment variability (Baird et al., 2006; Fleeson, 2001; Nettle & Fleeson, 2010). Scholars can assess variability in power states over time (i.e., power fluctuation) in two ways. The first method involves asking participants to report their momentary sense of power each day (or multiple times per day) over multiple days (e.g., “Right now, I feel powerful”; see Anicich et al., 2020) using an experience sampling or daily diary design and then estimating the standard deviation (SD) of the reports for each person. The only two papers to date that have explicitly assessed power fluctuation used this method (Anicich et al., 2021; Sabey et al., 2020).

However, Lang and Goh (2020, p. 150) note one challenge associated with using SD to assess variability is that “individuals with extreme values on the scale—very high or very low—inevitably have a restricted amount of possible variability on the SD.” To overcome this challenge, researchers can assess power fluctuation by applying the psychometric principles of item response tree models (Böckenholt, 2012), which are based on the idea that a response decision can have multiple underlying processes (see Pläninger, 2021, pp. 4 and 5). The logic underlying item response tree models is based on the observation that there are two ways to get an average score on a scale: (1) consistently endorse options around the middle of the scale or (2) use the extreme options intermittently. Researchers could distinguish between the medium power and power fluctuation conceptualizations of middle power described previously by using the trait variability tree model (Lang et al., 2019; Lievens et al., 2018, for an informative and succinct description of this method see Lang & Goh 2020, pp. 150 and 151).

4.3 | Manipulating middle power

Social power research—like social psychological research more generally—relies heavily on the experimental method. In this section, I briefly review three of the most commonly used social power manipulations and suggest ways that scholars may modify these manipulations to include a middle-power condition. It is important to note, however, that additional construct validation work may be needed before implementing the following recommendations given the potential difficulty of experimentally inducing the degree of psychological complexity associated with middle power.

4.3.1 | Scenario and role-based power manipulations

Social power is often experimentally manipulated by randomly assigning participants to a real or imagined high-power boss/supervisor role or low-power employee/subordinate role (e.g., see Anderson & Berdahl, 2002;

Anicich et al., 2016; Côté et al., 2011; Holtgraves & Joong-Nam, 1990). A typical study using this method involves asking participants to imagine occupying a high or low-power role in a fictional organization or giving participants actual control over some aspect of another participant's experience (e.g., task assignment, lottery ticket allocation, bonus payment determination, etc.). This type of manipulation may be modified to manipulate each conceptualization of middle power (i.e., power fluctuation, power tension, and medium power). For example, Anicich et al. (2021, Study 2) manipulated power fluctuation in the context of a simple organizational simulation in which participants responded to sequential behavioral cues that were intended to generate a high, low, or fluctuating sense of power. In a follow-up experiment, these authors manipulated power in the context of a consulting scenario by assigning participants to one of three roles: analyst (low-power condition), consultant (power fluctuation condition), or senior consultant (high-power condition). Consultants were described as “fluctuating between interacting with the senior consultants who you report to in the hierarchy and the analysts who report to you in the hierarchy” (see Anicich et al., 2021, Study 3).

Scholars in other fields have designed manipulations that more closely resemble the medium power conceptualization of middle power. For example, Katz-Navon et al. (2020, p. 106) included “Medium-Level” and “Middle-Range” conditions in the context of manipulating moderate levels of a particular leadership style (see Appendices B and C in that paper for the precise manipulation language).

4.3.2 | Power recall manipulation

Another common method of manipulating social power involves asking participants to recall a particular incident from their life in which they had power over another individual or individuals or in which someone else had power over them (e.g., see Galinsky et al., 2003). Researchers may include a third condition when using this manipulation to incorporate the power fluctuation conceptualization of middle power (e.g., “Please recall a particular incident in which you felt as though your power fluctuated across situations in relation to another individual or individuals.”), the power tension conceptualization of middle power (e.g., “Please recall a particular incident in which you felt as though you *simultaneously* had power over another individual or individuals *and* in which someone else had power over you.”), and the medium power conceptualization of middle power (e.g., “Please recall a particular incident in which you felt as though you had a medium or average amount of power over another individual or individuals.”).

4.3.3 | Economic game manipulations

Researchers have also manipulated power in the context of economic games. In the ultimatum game, an “allocator” divides resources between himself/herself and a “recipient,” who then decides whether to accept or reject the offer (Forsythe et al., 1994; Güth et al., 1982). If the recipient accepts the offer, then the resources are divided as proposed by the allocator. However, if the offer is rejected, then both parties receive nothing. In the dictator game, the allocator also divides resources but, in this game, the recipient has no say in the allocation decision (Forsythe et al., 1994). Thus, the recipient has substantial power in the ultimatum game, but no power at all in the dictator game. Crucially, recipient power can be modified by changing the recipient's veto power (also known as the delta factor, Suleiman, 1996). Thus, a middle-power “delta game” may be designed such that the delta value is set somewhere between 0 (standard ultimatum game) and 1 (standard dictator game) with recipients becoming less powerful as the delta value increases (Suleiman, 1996). For example, a game involving $\text{delta} = 0.8$ means that a rejected offer would only be diminished by 20%. Several studies have used modified delta games to manipulate varying levels of power (Barends et al., 2019; Handgraaf et al., 2008; Van Dijk et al., 2004).

5 | FUTURE DIRECTIONS

A number of interesting future directions exist for scholars interested in studying middle power in addition to the opportunities described previously. First, researchers could study the effects of middle power in the context of different conceptualizations of hierarchy. It is possible that middle power exerts unique effects based on how individuals mentally represent hierarchy (e.g., as a ladder or a pyramid, Yu et al., 2019), assess hierarchical differentiation (e.g., on the basis of centralization, steepness, or acyclicity; Bunderson et al., 2016; Bunderson & Van der Vegt, 2018), and conceptualize diversity (e.g., as separation, variety, or disparity; Harrison & Klein, 2007). Additionally, increasing interest in more fluid and less hierarchical forms of organizing (Lee & Edmondson, 2017) will create further opportunities for researchers interested in studying middle power—for example, in the context of cross-boundary teaming within and across organizations (Edmondson, 2012; Edmondson & Harvey, 2018; Kerrissey et al., 2020a, 2020b).

Second, constructs related to how individuals experience and respond to role-based or psychological conflicts, tensions, and paradoxes may moderate the effects of different conceptualizations of middle power on various outcomes. For example, individuals who are higher (vs. lower) in *individual ambidexterity* (Bledow et al., 2009; Martin et al., 2019; Papachroni & Heracleous, 2020; Pertusa-Ortega et al., 2020) or have a stronger (vs. weaker) *paradox mindset* (Miron-Spektor et al., 2018; see also Kleiman & Enisman's, 2018 perspective on “conflict mindsets”) may be better equipped to navigate the challenges associated with occupying a middle-power role and/or experiencing fluctuating power states. Similarly, benefits may accrue to middle-power individuals who endorse a *middle-ground approach* to resolving paradoxes, which involves “taking a midway position that acknowledges each of the two opposing elements or positions in a paradox to moderate levels, such that parts of these opposing aspects are preserved” (Leung et al., 2018, p. 445). For example, Leung et al. (2018) found that the sense of conflict resulting from paradoxical mental frames—that is, mental templates that encourage individuals to recognize and embrace contradictions (Smith & Tushman, 2005)—was more strongly associated with creativity when individuals endorsed a low (vs. high) middle-ground approach. The authors reasoned that people who endorse a high middle-ground approach are less likely to reflect on and scrutinize their conflicting experiences and reconcile them with integrative solutions. As a result, these individuals extracted less creative benefits from their paradoxical frames (Leung et al., 2018), suggesting that individuals who experience power fluctuation or power tension and who take a low (vs. high) middle-ground view of their paradoxical situation (i.e., people who more fully embrace and scrutinize their conflicting power experiences) may be more inclined to reap certain benefits (e.g., creativity, integrative complexity, perspective taking).

Third, the middle-ground approach to resolving paradoxes also has implications for studying middle power cross-culturally. For example, Leung et al. (2018, p. 446, see also Gaim & Wählin, 2016; Peng & Nisbett, 1999) note that, compared to dominant Western cultural values, “Traditional wisdom preached in the East Asian culture valorizes the ideals of taking the middle way, avoiding the extremes, tolerating contradictions, and upholding harmony.” Accordingly, Eastern (vs. Western) cultural values may buffer individuals against some of the negative effects (e.g., psychological distress, burnout) of experiencing various types of middle power, but possibly at the expense of some of middle power's potential benefits (e.g., increased creativity).

Finally, researchers may consider using methodological tools such as sociometric badges—a wearable technology similar to an identification badge that can accurately capture interaction partners, speech patterns, and body movements among a group of individuals (Kim et al., 2012; Waber et al., 2008)—to study the antecedents or consequences of power fluctuation (e.g., an employee sequentially interacting with their boss and subordinate in separate, one-on-one conversations) and power tension (e.g., an employee simultaneously engaged in a three-person conversation with their boss and subordinate). Similarly, researchers could perform a network analysis on an email corpus (Rowe et al., 2007; Shetty & Adibi, 2005), for example, to study the antecedents or consequences of power fluctuation (e.g., an employee sequentially emailing their boss and subordinate in separate emails) and power tension (e.g., an employee responding to their boss and subordinate in the same email). Experience-sampling and daily diary methods may similarly allow researchers to study various aspects of middle power.

6 | SUMMARY

Striving to understand the effects of opposing ends of a construct's continuum on a particular outcome is a logical starting point for many scientific endeavors and can generate novel and useful information about the nature of the social and material world. Over time, however, this focus may result in an unnecessarily narrow and incomplete understanding of a particular construct or phenomenon. Fortunately, recent work—which I attempt to summarize and expand on in this article—provides the theoretical foundation, methodological tools, and emerging best practices to more rigorously study middle-range effects than ever before.

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