

Replication of Kipnis' "Does Power Corrupt?"

By
Matthew Gregoire MacLellan

A Thesis Submitted to
Saint Mary's University, Halifax, Nova Scotia
In Partial Fulfillment of a
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Combined Honours in English and Psychology

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Approved: Dr. Catherine Loughlin
Supervisor

Approved: Dr. Victor M. Catano
Examiner

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Abstract

In 1972, David Kipnis conducted an experimental study where participants (28 MBA students) acted as supervisors for a simulated task. Half of the participants were told they had a number of institutional powers to employ when motivating their subordinate; the others were not given these instructions. What was found was that not only did almost all of those participants told they could use these powers use them, their opinion of their own performance and that of their subordinates was greatly affected by this priming. The purpose of this pilot study was to explore whether the results of Kipnis' study would apply today, and whether his choice of participants (MBA students) could have impacted his results. In contrast to Kipnis' research, in this study, across 28 leadership attempts, participants were very unlikely to use power under any condition (only one-in-twelve without power and one-in-sixteen with power). If these findings are supported in a larger sample they suggest that norms around managing have changed and the blatant use of power is less acceptable. While there were no easily apparent differences between the groups (MBA or IDS) or conditions (power or no-power) in their opinion of their own performance or that of their subordinates, we did observe other interesting results: 1) IDS students were considerably more likely to question the study and the scales than the MBA participants, and 2) considerable incentives may be necessary in our time-crunched society to get participants for this type of labour intensive research.

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Introduction

"It is difficult to be sat on all day, every day, by some other creature, without forming an opinion on them. On the other hand, it is perfectly possible to sit all day, every day, on top of another creature and not have the slightest thought about them whatsoever" (Adams, 1987).

While Douglas Adams' observation in *Dirk Gently's Holistic Detective Agency* was immediately referencing a horse and the mechanical monk that sat atop it, some social psychological research suggests that this take on power relations may have some validity in the workplace.

In his landmark study "Does Power Corrupt" (1972), David Kipnis explores the nature of powerholder/subordinate relationships in an organizational setting. Searching the literature using the Saint Mary's University academic search engine, using keywords: "Power", "Kipnis", "Control", "Institutional Setting", "Influence", "Self-esteem", "Organizational Setting", "Power Holder", "Subordinate", "Organizational Hierarchy" and "Power Differences", I was unable to find a contemporary replication of Kipnis' 1972 work. I was unable to find such a replication when doing a Google Scholar search for the same terms and "Replication of 'Does Power Corrupt'". Searching Google Scholar for all articles that cite "Does Power Corrupt?" (Kipnis, 1972) yielded no replication. Searching for a contemporary replication began to feel like searching for a purple elephant: not finding one didn't prove it didn't exist, it just proved we hadn't found it. In a final effort to unearth such a replication, I reached out to a group of recognized experts in the field of organizational behaviour who do related work (This group included editors of *The Journal of Personality and Social Psychology*; Dr. Deborah Gruenfeld, Dr. Jeffrey Pfeffer, Dr. Jennifer Overbeck, Dr. Jim Cameron, Dr. Jeffrey Simpson, Dr. Lowell Gaertner, Dr. Verlin B Hinsz, Dr. Mark van Vugt and Dr. Theresa K. Vescio) none of who knew of any published replication of Kipnis' study. Therefore, the first goal of this study was to replicate this 1972 study today; to modernize Kipnis' protocol from 40 years ago (i.e., to adapt it to modern technological communication); and to test management power and influence tactics in motivating responses from direct reports. I also wanted to determine if the participants' academic discipline could determine their tactics chosen.

Literature Review

In 1972, Kipnis analyzed whether or not individuals given institutional powers – the ability to give raises, deductions, transfer employees, etc. – would rely more on these institutional powers when motivating subordinates, and less on persuasive abilities, than leaders not given these powers. The view these leaders took of their subordinates, of themselves, whether they wished to distance themselves from their subordinates, and the extent to which they attributed the subordinates' success to their leadership abilities was also of interest when comparing those leaders given power compared with those who needed to rely solely on the power of persuasion (Kipnis, 1972).

In Kipnis' experiment, 28 business students were divided into groups of leaders that had institutional powers (ability to give raises, transfer employees, etc.) and those with no institutional powers. The groups were told they could rely on whatever motivational means they had at their disposal. Of 198 separate leadership attempts made by the power-holding leaders, only 32 (16 percent) relied on their persuasive abilities – as opposed to 100 percent of those leaders with no institutional powers (Kipnis, 1972).

These findings are reminiscent of Philip Zimbardo's 1971 prison experiment at Stanford University. In his experiment, Zimbardo randomly assigned students, who were deemed to be both psychologically and physically healthy, to be either prisoners or guards in a makeshift prison setup in a basement at Stanford University. The result was the experiment needed to be ended after six days, eight days before it was scheduled to end. The participants lost their frame of reference during the experiment, that is, behaved as if they believed an individual in their respective role in the real world would behave. Relevant to our current discussion, those students assigned to the role of guards, despite being randomly selected, abused the powers given to them; forcing prisoners to do push-ups, withholding rights to use the washroom, initiating role calls and forcing them to sleep on the concrete (Zimbardo, 2007).

The assertion that people arbitrarily assigned institutional powers will abuse those powers is corroborated by more contemporary studies. Those individuals given a selection of influencing tactics when trying to affect the behaviour of their subordinates, co-workers, and bosses were found to use those tactics relying on rationality more often

when trying to convince their superiors than their co-workers and both their superiors and co-workers more often than their subordinates (Kipnis, Schmidt & Wilkinson, 1980).

In Kipnis' 1972 study, the assigned leaders were asked to evaluate their subordinate's value to the company, the subordinate's abilities, whether they would rehire that subordinate, and whether they would recommend the subordinate for a promotion. What was found was that those participants given power gave their subordinates significantly lower ratings. There was even an inverse relationship between the number of times the power-holding participants attempted to influence their subordinates and the "worth" score they gave them after the experiment (Kipnis, 1972).

Returning to the Douglas Adams quote, it has been argued that subordinates form more complete pictures of powerholders than powerholders do of their subordinates and that the attention powerholders pay to their subordinates is inversely correlated to the amount of institutional power the powerholder is given. Powerholders are more likely to base their opinion of their subordinates on prescribed stereotypes. An example of one of these stereotypes is: women make good teachers and secretaries but not welders. In high-power discrepancy relationships, the powerholders are more likely to pay attention to information that corroborates their stereotypes than that which contradicts them (Fiske, 1993; Goodwin, Operario & Fiske, 1998).

There is some evidence that refutes this claim: in an experiment where participants were divided into student roles (low-power) and professor roles (high-power) and were asked to exchange several emails regarding a meeting. On a recall task, the participants assigned to the professor roles remembered more details of the exchange than the participants assigned to the student roles. One explanation for this is that individuals in perceived positions of power take more responsibility in their interactions than those in low-power positions (Overbeck & Park, 2001). It is possible that individuals in power positions are seen as less attentive because, on average, there are multiple subordinates to one powerholder, and therefore, in a case where they are largely outnumbered, the powerholder needs to stereotype their subordinates. The example given by Overbeck and Park (2001) is that of a professor with many students: it may appear as if the professor is not as knowledgeable about their students as they are him; however, if the professor is able to categorize a large group of students based on criterion such as performance in the

class, they are actually showing a good deal of attention and any stereotyping is a necessity when interacting with such a large group.

A lack of attention to details may be due to powerholders' predisposition to ignoring irrelevant stimuli. In experiments where contextual information was irrelevant, powerholders were more likely to focus on central information, where powerless participants considered both equally. In situations where contextual information was important, both powerholders and powerless participants were equally likely to focus on contextual and central information (Guinote, 2007).

Some evidence claims that powerholders are less likely to consider their subordinates as relevant, focal entities - in that they are less likely to adopt the perception of others. In an experiment where participants were divided into two groups – high-power primed and low-power primed – and asked to draw an "E" on their forehead, those participants that were high-power primed (powerholders) were significantly more likely to draw a self-oriented "E" (Galinsky, 2003).

It has been suggested that the ability to influence subordinates can lead to increased self-esteem in powerholders. While Kipnis found no difference in self-esteem between supervisors with institutional powers and those without (Kipnis, 1972), more recent research has shown that increased power is positively correlated with increased self-esteem (Wojciske & Struzynska-Kujalowicz, 2007). While heightened self-esteem and self-enhancement may have detrimental effects in social situations (Anderson, Srivastava, Beer, Spataro & Chatman, 2002), there are some advantages to having high self-esteem based on perceived power differences in terms of goal-oriented behaviour. Those that perceive having power are more likely to resist situational pressure and conformity and will rely more heavily on internal measures of success, which can lead to more creative initiatives. The positives of having people who are not overly concerned with situational variables are that they can potentially introduce novel ideas and are less affected by groupthink (Galinsky, Gruenfeld, McGee, Whitson & Liljenquist, 2008).

While powerholders are more likely to base their decisions on internal criteria than situational factors, it seems they are less likely to attribute their workers' efforts to the workers' own internal motivations. Non-power-holding participant leaders were almost three-times as likely to attribute their workers' efforts to internal motivators as

those power-holding participant leaders, who were more likely to attribute their workers' motivations to being something external like pay (Kipnis, 1972). In some cases, the subordinates' efforts were even attributed to the powerholder's authoritarian supervision (Brief, Aldag & Russell, 1979).

In the case of "behaviour technologies" – defined by Kipnis (1993) as "...empirically validated techniques that are used to cause Person B to do something B would ordinarily not do" – those leaders who used more autocratic behaviour technologies were less likely to consider their subordinates self-controlling, that is, internally motivated (Kipnis, 1993). Interestingly, those supervisors who are granted institutional powers were less likely to wish to meet their subordinate outside of the experiment setting. When asked if they would like to meet the subordinate they were supervising remotely, for a coffee or a coke, only 35 percent of participants in the power condition expressed an interest compared with 79 percent of those participants in the no-power condition (Kipnis, 1972). However, the assertion that powerholders are less likely to want to meet with subordinates outside the organizational setting may be overly simplistic. In cases where powerholders view their subordinates as instrumental they may actually be *more* likely to approach them (Gruenfeld, Inesi, Magee & Galinsky, 2008). It may be possible that there are different levels of approach: interpersonal versus strategic. While powerholders may be more likely to approach subordinates than those with low-power, this contact is largely superficial and is in keeping with evidence that powerholders are likely to objectify and stereotype their subordinates (Anderson & Berdahl, 2002; Keltner, Gruenfeld & Anderson, 2003).

To this point, we have been looking at the hypotheses and results obtained from "Does Power Corrupt?" (Kipnis, 1972) and some more recent studies that either support or refute Kipnis' findings. Despite my best efforts, I was unable to find any direct replications in the past 38 years. Surely, in that time, norms for interpersonal relationships have changed substantially.

While the times may have changed, the literature does not point to an increase in positive social values in the workplace over time. In a 2006 survey, the average college student scored higher in narcissism than 65 percent of respondents in the early 1980's. Generation Y – also referred to as "GenMe" – is more likely to have higher expectations

of their workplace, even right out of college, than did previous generations. It turns out a modern age of possibilities where one is told they can "do anything" may have negative connotations when overly internalized. Interestingly, the number of people being treated for depression in the United States more than tripled between 1987 and 1997 (Twenge & Campbell, 2008). This could potentially be correlated with the widening gap between life expectations and the often crushing reality of the professional life of the post-modern twenty-something.

This tendency toward self-involvement, coupled with evidence that the current generation is no more motivated by the drive for social good than previous generations (Twenge, Campbell, Hoffman & Lance, 2010), leads us to believe that the behaviour and attitudes of participants given institutional powers in our study, in 2013, will likely not differ from those in 1972.

One potential confound in Kipnis' 1972 study was all the participants were business students. When a group of MBA students and managers were given the Mach V test for Machiavellianism – those that score high are said to be more likely to be manipulative, to attempt to persuade others, and less likely to be persuaded – MBAs were found to have significantly higher scores than the manager group. Perhaps the business students' predilection for Machiavellianism could confound the findings that power corrupts, when the effect of power is only tested using business students (Siegel, 1973).

Power in-and-of-itself is not necessarily an end. Some individuals see power as a means to advance that individual's personal cause (exchange-oriented), where others tie power with social responsibility (communal-oriented). When a group of student participants (selected based on their Communal or Exchange Orientation Scale scores) were given the task of dividing work between themselves and absent participants, the results were different. Exchange-oriented participants used the task to achieve self-serving goals by assigning more work to the absent participants, where the communal-oriented participants acted more responsibly by assigning more work to themselves (Chen, Lee-Chai & Bargh, 2001).

Ferrero et al (2005) argue that economic theories endorse self-interest and those that study economics are more likely to behave in a self-interested manner than others. It is through the restructuring of institutional design and the permeation of social norms and

language, that these authors argue economic theory has worked as a self-fulfilling prophecy and changes the way its prescribers view themselves and the world around them. Classical economics, which promotes the power of the free market, has won the battle for hegemony in academics and modern political philosophy. Those that are more likely to be taught economic theory are more likely to have it pervade their outlook.

In an experiment comparing the communal orientation of business and economics students compared with nurses, Cadsby and Maynes (1991) found nurses more likely to cooperate than business and economics students. The experiment was a threshold game where participants were placed in groups and given an amount of tokens. They were told if they donated a prescribed amount of their tokens – which had a real-world, cash value – to a central pot and the accumulated number of donated tokens from the group equalled or exceeded 25, they would get their donated tokens back with a bonus amount. What they found was the business and economics students were considerably less likely to donate to the pot than were the nurses (Cadsby & Maynes, 1991).

A series of free-riding experiments adds weight to this argument of economist self-interest. These experiments, similar to the threshold game described above, provided tokens to a group of participants. The participants could either invest in small personal investments or larger communal investments. The communal investments would yield a larger return than the personal investments, but required a minimum donation from the whole group. If a participant didn't invest in the communal investment but the investment still reached the minimum sum, that individual would receive the same pay-out as those that invested – they would free-ride. The assumption was most participants would attempt a free-rider strategy. This assumption was refuted for all groups except the group of economics graduate students, who showed a significantly higher tendency toward free-riding (Cadsby & Maynes, 1998).

As a young MBA concentrating in economics, I remember discussing the prisoner's dilemma in class. The scenario, as it was explained to me, was two prisoners (partners) are brought into separate interrogation rooms. They are each told that if they implicate their partner, and their partner doesn't implicate them, their sentence would be minimal; if they implicate their partner and the partner implicates them, they would receive some mid-level sentence; if their partner implicates them and they don't implicate

their partner, they would receive the maximum sentence allowed. After the class spoke through the various scenarios, we were told by the instructor, in no uncertain terms, that you should always implicate the other guy; if you don't, he will. That same year I remember seeing *The Dark Knight* in theatres. There was a scene where two boats full of people were rigged with explosives. The passengers in each boat had a remote control to blow up the other boat, thereby saving themselves. If no boat's passengers chose to blow up the other boat in a matter of time, both boats would be blown up by the Joker. Neither boat's passengers chose to blow the other boat up and Batman stopped the Joker from blowing them both up so everybody got to live and it was suggested that people are not as intrinsically self-interested as the Joker believed. Perhaps this was supposed to be an uplifting moment in the movie - proof of the positive undertones of human nature. All I could think was that nobody on those boats was taught the prisoner's dilemma as I was, otherwise they were acting irresponsibly.

This is not to say being granted institutional powers is not a significant predictor of Machavellian tendencies in management practices. Rather, we believe both the presence of institutional powers and academic orientation help create a predictive model for managerial attitudes. We expect those business/economics students granted institutional powers to behave similarly to those participants in Kipnis' original study. We do not expect there to be any overarching effect of time between when the experiment was originally conducted (1972) and now but do expect disciplinary differences (business students versus international development studies students).

Present Study: Scope and Purpose

An experiment like this requires a great deal of time and effort to do properly. Our immediate purpose is to conduct a pilot study to determine whether or not our modified paradigm would work for a larger data-collection scenario. Therefore, our main concern is to gauge the feasibility of a larger study using our proposed paradigm. Ideally, this pilot study should provide sufficient information to develop a sound research paradigm and produce enough procedural information to develop useful recruitment and collection procedures.

Methods

Participants

Recruitment emails were sent to entire MBA and international development studies (IDS) programs at two universities. One MBA department was petitioned on two separate occasions, four months apart. Seven university students, four MBA students and three students studying IDS were recruited to act as the manager in an industrial simulation experiment, over 28 leadership attempts. The average age of the IDS participants was 23 years old; 35 years old for MBAs.

Tasks

Participants were placed alone in a room with a computer. Each participant was told they would supervise two other university students in an adjacent room. They were told that the goal of the experiment was to see whether there is a difference in managerial effectiveness when the manager is in the same room as their subordinate rather than communicating remotely through email. Each participant was told they had been assigned to the remote condition and will need to supervise two subordinates, who were supposedly in another room, via email. In reality, there were no subordinates in the other room and their output was predetermined. To increase motivation, participants were told this task was generally a good test of executive ability. They were told their job was to operate the company at a profitable level by maintaining the efficiency of the workers.

The participants were told their subordinates would be working on a Sudoku puzzle. Participants were told their subordinates would work on the Sudoku puzzle for three, three-minute rounds.

Every three minutes, the participants received an email from an assistant informing them of the subordinates' output. The participants were told the role of the assistant was to make sure the subordinates had the necessary materials and to report the output to the participant. They were told that the standard output for a three-minute trial is 10 numbers for the Sudoku task (see Appendix A).

Participants were told their job was to motivate their subordinates by sending them an email at the end of each round.

Experimental Conditions

Four of the participants (two MBAs) were given a number of institutional powers and three were not. At the start of the experiment, every participant was told to listen to a recording on the desktop of the computer they were working at. The recording went over the business of their company and their roles. At the end of the recording, half of the participants were informed of the following institutional powers they were authorized to use: two-dollar pay increase per trial, threatening to deduct two dollars from the worker's pay, or even firing a worker. In addition to having these instructions read they were given a sheet listing these powers (see Appendix B).

For those not given institutional powers, this section of the recording was omitted as was the sheet reminding them of those powers. These participants could only rely on their persuasive abilities to motivate their subordinates (see Appendix C).

At the conclusion of the study, each participant was given a questionnaire to complete, rating their performance, their subordinates' performance, and the arrangement of the study (see Appendix D).

Measurements

Before beginning the task, participants were asked to complete three surveys: one was a distractor survey (see Appendix E) meant to solidify the deception that the study was to determine the effectiveness of supervising by email. The others were measures of communal orientation (see Appendix F) and propensity to objectify others (see Appendix G). At the conclusion of the study, participants were asked to fill out another survey based on that used in Kipnis' original study (see Appendix D).

Distractor Survey. The distractor survey was designed to determine whether or not the participant was comfortable using electronic means of communication. There was concern that without this type of scale, participants would become suspicious of the study's goal.

Communal Orientation Scale. The communal orientation scale, developed by Chen, Lee-Chai, and Bargh (2001), measures whether or not participants tend toward communal- or exchange-based interactions.

Objectification Scale. This measurement was taken from Gruenfeld and colleagues' (2008) "Power and the Objectification of Social Targets". The participants

are primed by having them recount a hierarchical relationship from their past. The Likert-type items that follow measure the extent to which the participant objectified (relationship was goal oriented) the other individual in that relationship.

Kipnis Scale. This scale was based on Kipnis' original measurement used in the 1972 study, "Does Power Corrupt?".

Results

In both power and no-power conditions, reviewing participant emails to subordinates showed they were highly unlikely to use any kind of power when attempting to persuade – only one-of-twelve leadership attempts in the power group, and one-in-sixteen in the no-power group, attempted to use institutional powers (punishment) when influencing subordinates (see Figure 1).

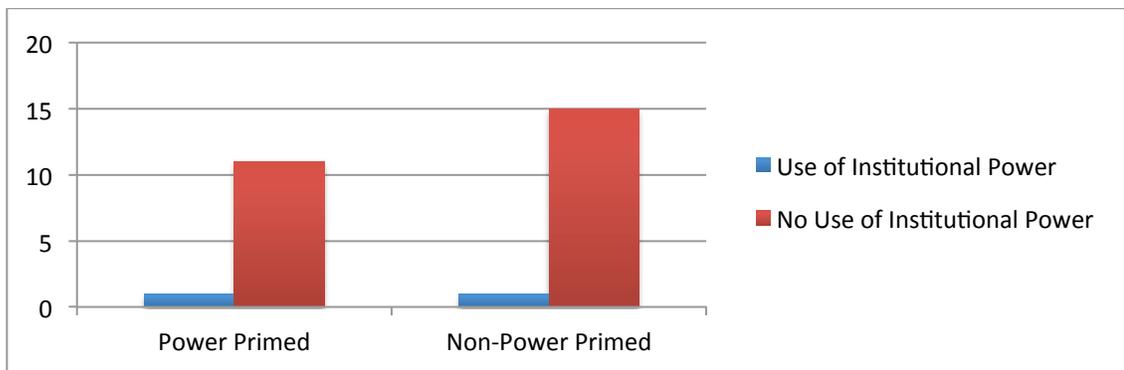


Figure 1. In both power and no-power conditions, only one participant per condition used any kind of institutional power (threat of punishment), during 28 total leadership attempts in emails with subordinates.

There were no significant differences in how MBA or IDS participants responded in the communal orientation scale – both seemed to trend toward communal orientation. What was interesting, was that the IDS participants seemed more likely to respond with extremes (circling a one or a five, on a five-point Likert-type scale) when that extreme indicated a communal orientation. There was no noticeable difference between those in the power and no-power conditions.

On the objectification scale, there was no noticeable difference between those in the power and no-power conditions; although, the IDS participants trended against objectification, valuing the relationship with the aforementioned individual in the prime, regardless of whether that individual helped them achieve their goals. The MBA

participants ran more of a spectrum: one greatly valuing the personal relationship, one showing some level of objectification, and two showing a great deal of objectifying when considering the relationship they outlined in the prime.

After reviewing the emails the participants sent to their subordinates, we noticed that all participants in the power condition, regardless of discipline, offered to give their subordinates a two-dollar raise for improved performance. Interestingly, only one participant (one of the IDS participants) in the power condition, threatened to deduct two-dollars from a subordinate.

In the post-experimental (Kipnis, 1972) scale, there was no significant differences in how the participants viewed their or their subordinates' performance between conditions and academic disciplines. Interestingly, all the IDS participants wrote notes on the scale; for example, placing a question mark after an item they did not understand, or even correcting a typo on the scale. All IDS participants also, in some way, indicated on the scales that they wished to respond outside of the given values (e.g. circling an imaginary 3.5 value). This relates to a similar finding, that two of the three IDS participants openly questioned whether the subordinates existed, compared with only one of the four MBA participants. Interestingly, all of the MBA participants were more willing to meet their subordinates for a beer or coffee after the experiment concluded (as indicated by their response to item 13).

Discussion

The study set out to Kipnis' (1973) study on power. The most notable result was the participants' reluctance to use institutional powers when attempting to persuade their subordinates via email. In Kipnis' study, participants primed to use institutional powers used them in their motivational communications 84% of the time. In our replication, only one of the 12 power-primed leadership attempts resulted in participants using these institutional powers as motivational tools. Across all 28 leadership attempts, only twice did participants evoke the institutional powers available to them as managers. This is a stark difference from what was found 40 years ago.

These results may be partially explained by Fondas' work (1997). Fondas argued that modern management literature and cultures utilize terminology, and thought patterns,

that are now trending toward what is typically considered “feminine”. It is no way the intention of this study – or its author – to categorize management styles based on gender qualities. What is important is this theory that academic thought, the practice of management, and the priorities of organizations may have moved away from the use of power to motivate subordinates, to creating more collaborative and empowering work environments. Of course, this paradigm would need to be applied to a larger population to draw any significant findings.

There were a number of other lessons to be learned from this research, all indicating potential for further research. First, as there were no significant differences between the power and no-power conditions – which could be easily observed from this limited sample – I would recommend re-evaluating this paradigm. Notably, making the participants’ reward dependent on the performance of their subordinates (e.g. they could receive a higher-valued gift card as a bonus for their subordinates performing better on the task) could better motivate them to actively supervise. This would be a better representation of real-world pressures placed on a manager. As it was, the participants in this study had no real motivation for trying to improve their subordinates’ performance, other than pride.

The most interesting results observed were the differences between the MBA and IDS participants. That the IDS participants were more likely to write notes on the scales (creating new values on the scale, correcting typos, etc.), and even question the existence of the subordinates, may indicate that IDS students are more likely to question authority and the status quo. Future research could analyze whether it is in fact true that IDS students are more likely to question authority than MBAs. Are individuals more likely to question authority also more drawn to IDS, or is this a learned trait? Is there a difference between MBAs’ with work experience and those without? Are they all less likely to question authority or did their pre-MBA work experience wear them down to the point where they no longer question authority?

The most important lesson learned from this research was regarding its challenges. The campaign for participants was extensive; however, the rate at which we converted contacts into participants was negligible. Further research needs to be done developing a metric that would-be researchers could use to determine the necessary value

of their reward for participants. As it was, a 10-dollar gift card was not sufficient reward for participating in an experimental study that required one hour of their time, and the necessity to travel to the university for data collection. Also, we were using a somewhat older, more professional sample that would perceive their time as being worth considerably more than 10 dollars per hour.

Potential variables for a metric to determine necessary reward values could be time, necessity for travel, intrusive nature of tasks, professional status and age, and whether or not the extent to which the results of this research would be of interest to the participant population.

While it is possible that the failure to find significant differences between the power and no-power conditions could represent a simple failure of the protocol, it seems more likely that acceptable treatment of direct reports has changed considerably over the past 40 years. It will be interesting to replicate and extend these findings in the future.

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Appendix A: Assistant Emails

Below is the list of emails to be sent to the participants throughout the experiment. For each email, the account the emails are coming from and the time they are sent are included at the top of each email

Sent From: SMUassistant (0:00)

Trials Beginning

Dear Manager,

Your employees have been asked to start the first trial. Please use the following three minutes to review the instructions and ask any questions if needed. You will be notified in 3 minutes when the trial is over. At this time data will be collected from the employees. Expect an email shortly with the employees' production for the first trial.

SMUassistant (3:00)

First Trial Over

Dear Manager,

The first trial has ended. Please standby for productivity reports.

SMUassistant (5:00)

Trial-One Output

Dear Manager,

At the end of the first trial, SubordinateOne produced 11 numbers in the Sudoku task. SubordinateTwo produced 7 numbers in the Sudoku task. Please take the next couple of minutes to send each an email with instructions or motivation. When they have received and read your email, we will begin the second trial.

Their email addresses are: smusubordinate1@gmail.com and smusubordinate2@gmail.com

For confidentiality purposes, please don't include your real name in any emails. You can refer to yourself as SMU supervisor, supervisor or manager if you wish.

SMUassistant (10:00)

Trial Two

Dear Manager,

Your employees have been asked to start the second trial. You will be notified in 3 minutes when the trial is over. Expect an email shortly with the employees' production for the second trial.

SMUassistant (13:00)

Second Trial Over

Dear Manager,

The second trial has ended. Please standby for productivity reports.

SMUassistant (15:00)

Trial-Two Output

Dear Manager,

At the end of the second trial, SubordinateOne produced 10 numbers in the Sudoku task. SubordinateTwo produced 7 numbers in the Sudoku task. Please take the next couple of minutes to send each an email with instructions or motivation. When they have received and read your email, we will begin the third trial.

Their email addresses are: smusubordinate1@gmail.com and smusubordinate2@gmail.com

For confidentiality purposes, please don't include your real name in any emails. You can refer to yourself as SMU supervisor, supervisor or manager if you wish.

SMUassistant (20:00)

Trial Three

Dear Manager,

Your employees have been asked to start the third trial. You will be notified in 3 minutes when the trial is over. Expect an email shortly with the employees' production for the second trial.

SMUassistant (23:00)

Third Trial Over

Dear Manager,

The third, and final, trial has ended. Please standby for productivity reports.

SMUassistant (25:00)

Trial-Three Over

Dear Manager,

At the end of the third trial, SubordinateOne produced 13 numbers in the Sudoku task. SubordinateTwo produced 12 numbers in the Sudoku task. Please send me an email when you have finished reading this. There is a final questionnaire you will be asked to complete before finishing the experiment. Thank you.

Appendix B: Instructions to Participants (institutional)

[REMOTE CONDITION]

Instructions:

Welcome to our research study. In an age of increased globalization and remote communication, more and more managers and supervisors are communicating with their employees remotely, either by teleconference or email. The purpose of this research is to analyze how employees' productivity is affected when supervisors are communicating remotely. You have been randomly assigned to the **remote supervisor** condition. You have two employees producing for your company. The task that the employees do is a **Sudoku puzzle** (You can find an example on the desk in front of you). Output is based on how many numbers they correctly fill in the Sudoku puzzle.

The output will be based on three, three-minute trials. **The standard output for a three-minute trial is 10 numbers for the Sudoku task.** There will be a five-minute break between each trial. At the end of each trial, the employees' output will be recorded by the primary researcher and you will receive an email with the output. **Your job is to motivate your employees through email after the first and second trials. Their email addresses are written below.** Please be sure not to mention any personal information in the emails. This task you are doing is often used as a measure of management potential.

When motivating your employees, you have the option to use any of a number of the following institutional powers at your disposal:

- Awarding or promising a \$2 bonus per trial
- Deducting or threatening to deduct \$2 per trial
- Threatening to fire the worker

You will receive a \$10 gift card at the completion of the experiment. Your employees' base pay is \$5. If you have any questions or concerns you can ask the primary researcher will be right in. Similarly, if you wish to quit the experiment, just ask and the researcher will come right in. You have the right to quit at any time. When you have finished listening to the instructions, simply say you have finished and the experiment will begin. You will receive an email indicating the experiment has started.

It is important you try your best to motivate your employees. Thank you for your participation.
SubordinateOne: SMUsubordinate1@gmail.com
SubordinateTwo: SMUsubordinate2@gmail.com

Appendix C: Instructions to Participants (non-institutional)

[REMOTE CONDITION]

Instructions:

Welcome to our research study. In an age of increased globalization and remote communication, more and more managers and supervisors are communicating with their employees remotely, either by teleconference or email. The purpose of this research is to analyze how employees' productivity is affected when supervisors are communicating remotely. You have been randomly assigned to the **remote supervisor** condition. You have two employees producing for your company. The task that the employees do is a **Sudoku puzzle** (You can find an example on the desk in front of you). Output is based on how many numbers they correctly fill in the Sudoku puzzle.

The output will be based on three, three-minute trials. **The standard output for a three-minute trial is 10 numbers for the Sudoku task.** There will be a five-minute break between each trial. At the end of each trial, the employees' output will be recorded by the primary researcher and you will receive an email with the output. **Your job is to motivate your employees through email after the first and second trials. Their email addresses are written below.** Please be sure not to mention any personal information in the emails. This task you are doing is often used as a measure of management potential.

You will receive a \$10 gift card at the completion of the experiment. Your employees' base pay is \$5. If you have any questions or concerns you can ask the primary researcher will be right in. Similarly, if you wish to quit the experiment, just ask and the researcher will come right in. You have the right to quit at any time. When you have finished listening to the instructions, simply say you have finished and the experiment will begin. You will receive an email indicating the experiment has started.

It is important you try your best to motivate your employees. Thank you for your participation.

SubordinateOne: SMUsubordinate1@gmail.com

SubordinateTwo: SMUsubordinate2@gmail.com

Appendix D: Final Questionnaire

Please complete the following questions before leaving the experiment. In all cases, circle the most appropriate response.

- 1) On a five-point scale (one being not enough; five being enough) please rate whether you felt you had sufficient authority to perform your task as supervisor:

1 2 3 4 5

- 2) On a five-point scale (one being very poor; five being very good) please rate your performance as a supervisor:

1 2 3 4 5

- 3) On a five-point scale (one being very poor; five being very good) please rate your competence as a supervisor:

1 2 3 4 5

- 4) On a five-point scale (one being very poor; five being very good) please rate your employees ability to make money for the company:

1 2 3 4 5

- 5) On a five-point scale (one being very poor; five being very good) please rate your ability to persuade your employees to carry out your orders

1 2 3 4 5

- 6) On a five-point scale (one being very poor; five being very good) please rate your employees' performance:

1 2 3 4 5

- 7) On a five-point scale (five one being very poor; five being very good) please rate SubordinateOne's value to the company

1 2 3 4 5

- 8) On a five-point scale (one being very poor; five being very good) please rate SubordinateTwo's value to the company

1 2 3 4 5

- 9) On a five-point scale (one being not likely; five being very likely) please rate the likelihood you would rehire SubordinateOne for a second project

1 2 3 4 5

- 10) On a five-point scale (one being not likely; five being very likely) please rate the likelihood you would rehire SubordinateTwo for a second Project

1 2 3 4 5

- 11) On a five-point scale (one being not likely; five being very likely) please rate the likelihood you would recommend SubordinateOne for a position as manager:

1 2 3 4 5

- 12) On a five-point scale (one being not likely; five being very likely) please rate the likelihood you would recommend SubordinateTwo for a position as manager:

1 2 3 4 5

13) On a five-point scale (one being very unwilling; five being very willing) please rate your willingness to meet with your employees for a beer or coffee after the experiment:

1 2 3 4 5

14) Please rate, on a five-point scale (one being not at all; five being very much)

i) The employee's own motivations to do well

1 2 3 4 5

ii) Your orders, instructions and guidance

1 2 3 4 5

iii) The employee's desire to obtain their pay

1 2 3 4 5

15) Please state your program of study:

16) Please state your age:

Appendix E: Distractor Survey

Please complete the following questions before starting the experiment. In all cases, circle the most appropriate response. Responses range from 1 (extremely unlikely) to 5 (extremely likely). Please respond honestly.

- 1) If I have to ask somebody in a professional environment for a favour, I would prefer to do it over email rather than in person.
1 2 3 4 5

- 2) I would prefer to receive bad news from my employer over email rather than in person.
1 2 3 4 5

- 3) If I have to break-up with a significant other, I would prefer to do it over text rather than in person.
1 2 3 4 5

- 4) Anything serious should be discussed in person whenever possible
1 2 3 4 5

- 5) I send, on average, over 10 emails a week
1 2 3 4 5

- 6) I send, on average, over 10 texts a week
1 2 3 4 5

- 7) Communicating over email and talking in person are essentially the same thing

1 2 3 4 5

8) Sometimes it's difficult to understand what people mean in an email without being able to hear their voice

1 2 3 4 5

9) I'd rather just call somebody than text them

1 2 3 4 5

10) I use my smartphone like most people use a PC (circle one if you don't have a smartphone)

1 2 3 4 5

Appendix F: Communal Orientation Scale

For the following statements, please circle the number that best indicates the extent to which that statement reflects your own attitudes as they pertain to professional relationships; responses range from 1 (extremely uncharacteristic) to 5 (extremely characteristic). Please respond honestly.

- 1) It bothers me when other people neglect my needs
1 2 3 4 5
- 2) When making a decision, I take other people's needs and feelings into account.
1 2 3 4 5
- 3) I'm not especially sensitive to other people's feelings.
1 2 3 4 5
- 4) I don't consider myself to be a particularly helpful person.
1 2 3 4 5
- 5) I believe people should go out of their way to be helpful.
1 2 3 4 5
- 6) I don't especially enjoy giving others aid.
1 2 3 4 5
- 7) I expect people I know to be responsive to my needs and feelings.
1 2 3 4 5
- 8) I often go out of my way to help another person
1 2 3 4 5
- 9) I believe it's best not to get involved taking care of other people's personal needs.
1 2 3 4 5

10) I'm the sort of person who comes to the aid of others.

1 2 3 4 5

11) When I have a need, I turn to others I know for help.

1 2 3 4 5

12) When people get emotionally upset, I tend to avoid them.

1 2 3 4 5

13) People should keep their troubles to themselves.

1 2 3 4 5

14) When I have a need that others ignore, I'm hurt.

1 2 3 4 5

Appendix G: Objectification Scale

Please think of a relationship you have, or have had in the past, that is hierarchical (where people are professionally ranked one above the other). The relationship should be one in which the individual either reported directly to you or in which you have disproportionate power or control over him/her, or both. Briefly describe the individual, and the nature of your relationship, in the space below.

For the following statements, please circle the number that best indicates the extent to which that statement reflects your own attitudes regarding the above- relationship; responses range from 1 (extremely uncharacteristic) to 5 (extremely characteristic). Please respond honestly.

1. I think more about what this person can do for me than what I can do for him/her.

1 2 3 4 5

2. I tend to contact this person only when I need something from him/her.

1 2 3 4 5

3. I am interested in this person's feelings because I want to be close with him/her.

1 2 3 4 5

4. I try to motivate him/her to do things that will help me succeed.

1 2 3 4 5

5. The relationship is important to me because it helps me accomplish my goals.

1 2 3 4 5

6. This person is very useful to me.

1 2 3 4 5

7. My relationship with this person is based on how much I enjoy our relationship, rather than how productive our relationship is.

1 2 3 4 5

8. If the nature of my job (or his/her job) changed and this person wasn't helpful anymore, the relationship probably wouldn't continue.

1 2 3 4 5

9. Someone else with the same skill set could become equally important to me.

1 2 3 4 5

10. I really like this person a lot even though s/he is not all that useful to me.

1 2 3 4 5