



## More than fair: Outcome dependence, system justification, and the perceived legitimacy of authority figures

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### ARTICLE INFO

#### Article history:

Received 21 January 2010

Revised 29 August 2010

Available online 17 September 2010

#### Keywords:

Legitimacy

Outcome dependence

Procedural fairness

System justification

Power

### ABSTRACT

Legitimacy is a source of power for authorities because it promotes voluntary deference on the part of followers. From a system justification perspective, there is also reason to believe that power is a source of perceived legitimacy. We report five studies demonstrating that in addition to procedural fairness and outcome favorability, outcome dependence is an independent contributor to perceived legitimacy. In two cross-sectional field studies and one panel study, we hypothesized and found that dependence on an authority figure is positively associated with appraisals of legitimacy, measured in terms of trust and confidence in, empowerment of, and deference to authority. These effects were demonstrated in educational, political, and legal settings. Two additional experiments provided direct causal evidence for the hypothesized effect on both perceived legitimacy and voluntary deference (i.e., acquiescence to additional requests). We also found that participants assigned to a high (vs. low) dependence condition judged their outcomes to be more favorable, despite the fact that the outcomes were identical in the two conditions; this effect was mediated by perceived legitimacy. Taken as a whole, these findings suggest that perceived legitimacy is enhanced not only when authorities exercise fair procedures and deliver favorable outcomes, but also when subordinates are dependent on them. Implications for society and the study of legitimacy and social power are discussed.

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While it is possible to govern using only the powers to sanction and to provide incentives, research consistently shows that authorities are more effective when they can also draw upon their followers' feelings of responsibility and sense of obligation to voluntarily obey (e.g., Tyler, 2006a; Tyler & Blader, 2000; Tyler & Jost, 2007; Tyler & Lind, 1992). This sense of obligation flows from judgments that it is appropriate, proper, and just for certain individuals to make decisions that affect others. That is, perceptions of legitimacy lead subordinates to believe that it is their obligation to defer to and obey the decisions and rules they make (French & Raven, 1959; Jost & Major, 2001; Kelman & Hamilton, 1989; Tyler, 2006a, b; Zelditch, 2001).

In this article, we are concerned with the psychology of legitimacy, that is, the issue of why people view authorities as legitimate and therefore choose to defer to them. A large body of social science research

demonstrates that key antecedents of legitimacy are perceptions of procedural justice (e.g., Tyler, 2001, 2003, 2006a, b; Tyler & Lind, 1992) and outcome valence and fairness (Muller, 1979; Rogowski, 1974). When people evaluate the procedures by which leaders exercise their authority as fair and when they find the outcomes they have obtained to be favorable,<sup>2</sup> they tend to view those leaders as having greater legitimacy and are more willing to comply with their directives.

Our goal is to investigate the concurrence of another, distinct motivation that leads authorities to be viewed as legitimate, namely, the motivation to justify the existing system of authority relations (e.g., Jost & Banaji, 1994; Jost, Banaji, & Nosek, 2004; Jost & Hunyady, 2005). Drawing on system justification theory, we suggest that people are motivated to view authority figures as deserving of their position and, hence, as legitimate. We further predict that this motivation will be particularly strong in settings in which people are dependent upon those authorities for desired resources, that is, when the authorities have power over them (Fiske & Berdahl, 2007; Haines & Jost, 2000; Kay & Zanna, 2009). Hence, we hypothesize that the perceived legitimacy of authorities may derive from three sources: (a) the fairness of the actions by which they exercise their authority, (b) the

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<sup>1</sup> This article is based in part on a doctoral dissertation submitted by Joanneke van der Toorn to the Department of Psychology at New York University, under the mentorship of John T. Jost. This research was supported in part by a Henry Mitchell MacCracken Fellowship to Joanneke van der Toorn and National Science Foundation Award BCS-0617558 to John T. Jost. We thank Brandon Brockmyer and Lauren Dunivant for their assistance with data collection and Richard Crisp, Aaron Kay, and Jan-Willem van Prooijen for insightful comments on an earlier version of the article.

<sup>2</sup> Although outcome fairness and outcome valence are clearly different, they are conceptually and empirically related (Brockner & Wiesenfeld, 1996). For the purposes of this article, we use the term *outcome favorability* to capture both.

favorability of the outcomes that they dispense, and (c) the degree of outcome control that they are seen as possessing or, conversely, the degree to which the perceiver is dependent upon them.

### Legitimacy and judgments of fairness

As French and Raven (1959) observed, “legitimate power is the power which stems from internalized values ... which dictate that [an authority] has a legitimate right to influence [a person] and that [the person] has an obligation to accept this influence” (p. 159). Perceived legitimacy has been assessed in three distinct ways – in terms of trust and confidence in authorities, in terms of the voluntary empowerment of authority, and as the obligation to obey.

Numerous studies have shown that perceptions of authorities as legitimate lead people to voluntarily accept and obey rules and decisions from these authorities (e.g., Tyler, 2006a; Tyler & Lind, 1992). Research examining the origins of perceived legitimacy has focused on the influence of procedural and distributive fairness judgments (see Tyler, 1997, for a review). Procedural fairness judgments, especially the sense that one is treated with dignity and respect and is given a voice in determining the procedures of decision-making, are important predictors of legitimacy perceptions in a host of settings, including educational, political, organizational, and legal realms (Tyler, 2006a). The perceived ability of authorities to deliver desirable and fair outcomes has also been found to enhance legitimacy (Muller, 1979; Rogowski, 1974). Based on other theoretical frameworks in social psychology, however, there is reason to believe that the perceived legitimacy of authorities may also be derived from motivational factors in addition to fairness cues and outcome favorability judgments. In this article, we draw on system justification theory in proposing outcome dependence as an additional antecedent of the perceived legitimacy of authority figures.

### System justification and legitimation

According to system justification theory, people are motivated to see their social system as relatively fair and just, to defend and bolster existing social arrangements, and to support social hierarchies even when doing so is not necessarily in their own interest (Jost & Banaji, 1994; Jost et al., 2004). People are thought to system justify because doing so satisfies basic epistemic, existential, and relational needs (e.g., Jost & Hunyady, 2005; Jost, Ledgerwood, & Hardin, 2008). In other words, believing that the social system is the way it *should be* helps to reduce uncertainty and manage threat and creates a sense that there is common ground to maintain shared reality.

One way in which people defend social systems is by legitimizing them and seeing those in power as deserving of their position. Rather than acknowledging that a system is unjust or a power position is undeserved, people legitimize the status quo in order to cope with and feel better about inequalities and power asymmetries. System justification refers to a motivated, goal-directed process (Jost et al., 2010) that is more pronounced when (a) the system is threatened, (b) the system is perceived to be inevitable, and (c) one feels dependent on (or controlled by) the system (e.g., Jost & van der Toorn, *in press*). In this article, we focus on this last condition, that is, the effects of dependence.<sup>3</sup>

To the extent that people feel highly dependent on a given system—and therefore experience the world as less predictable and controllable—they should be more strongly motivated to defend and justify it (see also Kay & Zanna, 2009; Laurin, Shepherd, & Kay, 2010; Lerner,

1980; van der Toorn et al., 2010). Some prior research suggests that perceived dependence on a particular social system may be associated with increased motivation to justify or rationalize that very system. For example, Kay et al. (2009) found that increased dependence on a system led participants to perceive policies that were presented as part of the status quo as more fair, desirable, and reasonable, in comparison with policies that were not associated with the status quo. Similarly, Kay, Gaucher, Napier, Callan, and Laurin (2008) demonstrated that threatening individuals' sense of personal control led them to perceive the government as more responsible and benevolent.

If people justify social systems in part because they are dependent on those systems, they should also justify the position of groups and individuals who control those systems (i.e., those who have power within the system). There is evidence suggesting that a sense of powerlessness can lead people to justify power differences between groups. Specifically, an experiment by Haines and Jost (2000) indicated that outcome dependence can be ‘internalized’ quite rapidly and can elicit perceptions of legitimacy even in the absence of information about quality of treatment. Participants were placed in a low power situation in relation to a bogus outgroup. They were told that the outgroup would determine whether the participants possessed sufficient skill on a task and decide, on the basis of their performance, whether to allow them to leave early or stay for further instructions. Participants were then asked to evaluate the outgroup on several dimensions. The findings indicated that people tend to exaggerate the extent to which power differences are legitimate and ascribe positive traits to powerful outgroup members, even when no substantive explanations are given for the power differences (see also Batalha, Akrami, & Ekehammar, 2007 for a replication).

Because social systems can range in size from small-scale systems (such as the family) to large-scale systems (such as the nation-state), it is conceivable that people will legitimize powerholders in interpersonal, even dyadic, hierarchical relationships (Wakslak, Jost, & Bauer, *in press*). Pepitone's (1950) seminal study on motivational effects in social perception, for example, showed that people who are dependent on an authority figure for reaching a goal distort their perceptions of his or her attributes in a ‘facilitative’ direction. Specifically, he found that high school students who were motivated to win a free ticket to a basketball game ascribed more positive characteristics to the members of the board who made the decision concerning the award of the ticket. Thus, participants *wanted* to believe that the authority figures controlling their fate were benevolent and therefore distorted their perception of the powerholders' attributes in a positive direction (see also Stevens & Fiske, 2000). Likewise, people want to believe that those to whom they are linked possess positive qualities (Tyler & Sears, 1977).

Power differences in relationships and interactions reflect the dependence of one person (or group) on another, insofar as “power resides implicitly in the other's dependence” (Emerson, 1962, p. 32). The motivational effects of outcome dependence include, among other things, self-promotional concerns and expectancy-confirming behavior (Copeland, 1994), as well as increased attention to stereotype-inconsistent information (Bogart, Ryan, & Stefanov, 1999; Erber & Fiske, 1984; Neuberg & Fiske, 1987; Rodriguez-Bailon, Moya, & Yzerbyt, 2000; but see Overbeck & Park, 2001). Our hypothesis is that dependence on authorities for desired resources activates system justification motivation, and this contributes to the legitimation of powerholders. The idea is that when an individual is dependent on a powerful other, he or she is motivated to perceive the powerholder as relatively legitimate in order to rationalize the system of authority relations and to feel better about the status quo.

### The concept of outcome dependence

In their conceptualization of power as the ability to influence, French and Raven (1959) identified legitimacy as one of five bases of power; the other four were reward, coercion, expertise, and

<sup>3</sup> The three conditions may be related in that feelings of dependence may be increased when the system is perceived to be inevitable and dependence on an authority may be perceived as a threat to the legitimacy of the system. Furthermore, outcome dependence often goes hand in hand with decreased feelings of personal control, which also increase system justification motivation (Kay et al., 2008). Although these constructs are sometimes difficult to distinguish, we focus on the effects of outcome dependence in this article.

reference.<sup>4</sup> Fiske and Berdahl (2007) regarded legitimacy as a basis of power only insofar as it yields control over resources that affect others' well-being. They defined power more narrowly as the relative control one has over another's desired outcomes. Our conceptualization of outcome dependence is akin to this definition, but from the perspective of the powerless. In other words, one is outcome dependent on an authority when that authority controls the social and/or material outcomes the person desires. Following Fiske and Berdahl (2007), these outcomes include an individual's mental and physical health, safety, and economic well-being.

In thinking about dependence, it is useful to distinguish between two possible consequences. First, people may be more highly motivated to gather and process information about others on whom they are dependent, resulting in more accurate and less stereotype-consistent attributions (Neuberg & Fiske, 1987). Second, they may be motivated to process information in biased ways to maintain the sense that the authority is benevolent (Pepitone, 1950; Stevens & Fiske, 2000) and legitimate (Haines & Jost, 2000). To account for both types of findings, Clark and Wegener (2008) distinguished empirically between dependence and outcome desirability. They found that dependence influenced the level of objective processing of target information (when outcome desirability was low), whereas outcome desirability influenced biases in information processing (when dependence was high).

Our hypotheses concern dependence on authorities for desired resources. We assume that the degree of outcome favorability contributes to a sense of dependence, but we do not assume that the resources that are obtained *are* favorable. For example, even a student who is receiving poor grades should perceive her teacher as more legitimate to the extent that she *really* needs a passing grade to stay in school or to maintain eligibility for extracurricular activities. Outcome dependence should not be confused with obtaining (or expecting to obtain) favorable outcomes.

To the extent that outcome dependence makes the world seem less predictable and controllable, it should increase system justification motivation (Jost & van der Toorn, *in press*; Kay et al., 2008, 2009). Thus, the more people feel dependent on an authority figure, the more they should be motivated to perceive him or her as legitimate. To some extent, dependence is in the eye of the beholder and does not entail that one is entirely dependent on the authority figure in terms of objective standards. It is the *perception* of outcome dependence that is crucial to our argument. It is well known that a sense of legitimacy can contribute to power (e.g., Fiske & Berdahl, 2007; French & Raven, 1959). In this article, we propose that power can also lead to legitimacy through the process of system justification.

## Overview of research

We conducted five studies to test the hypothesis that outcome dependence contributes to the perception of authority figures as legitimate. The research will be presented in two parts. In the first part, we report on results from three studies that were carried out in real-world settings. In the second part, we present findings from two experiments.

### Studies 1–3

Three field studies focus on legitimacy perceptions in educational, political, and legal settings, the same types of settings in which the effects of procedural fairness have been investigated. The three studies differ in terms of their samples and the types of relationships that group members have with the authority figures in question. Nevertheless, because the study designs are very similar, we report the methods and results of the three studies together.

Prior studies have operationalized legitimacy in three ways, namely in terms of trust and confidence in authorities, empowerment of authorities, and the perceived obligation to voluntarily defer. Across studies, we address all three operationalizations of legitimacy. In each study, we adjust statistically for main and interactive effects of procedural fairness and outcome favorability judgments. This allows us to investigate the general hypothesis that dependence is independently and significantly related to legitimacy appraisals, over and above the effects of perceptions of procedural fairness and outcome favorability. However, it is conceivable that dependence only affects legitimacy perceptions when outcome favorability is high. If so, our theoretical argument would be weakened, insofar as we are proposing that the effect of outcome dependence on legitimacy is due to system justification rather than self-interest motivation (or a desire to reciprocate favorable outcomes).

Other statistical interaction patterns are also possible. Brockner and Wiesenfeld (1996) proposed that procedural fairness frequently interacts with outcome favorability. Specifically, their literature review suggested that the effect of procedural fairness on decision satisfaction is greater when outcome favorability is low (vs. high), because people should be less concerned about procedural issues when they have obtained the outcomes they desired than when they have not. In this article we consider the possibility that this pattern would also emerge with respect to perceived legitimacy and attitudes concerning authority figures.

It is also conceivable that dependence would interact with procedural fairness in predicting legitimacy appraisals. Van Prooijen, Van den Bos, and Wilke (2007) found that the positive effect of voice (vs. no voice) on perceptions of procedural fairness was greater when outcome dependence was relatively low (vs. high). The authors interpreted this pattern as suggesting that people are more skeptical about whether their views will be considered by authority figures when they are highly dependent on them. Although it is unclear whether these findings are directly applicable to perceptions of legitimacy, we included an interaction term for the outcome dependence by procedural fairness effect (as well as the other two-way interaction terms described above) in the statistical analyses for all three studies. This enabled us to determine whether the effect of dependence on perceived legitimacy of authority was contingent on any of our other focal variables.

## Method

In Study 1 we examined conflict resolution experiences of students at a large public university ( $n = 380$ ; 37% male; mean age = 19.68,  $SD = 2.39$ ) who had brought a school-related conflict to an academic authority for resolution. Each student was asked to recall the last time they experienced a conflict that they brought to an authority figure at the university. Types of self-reported conflicts involved grade-related concerns, questions about course requirements, and other issues of academic and extracurricular life.

Study 2 was conducted in the context of a naturally occurring social dilemma—the California water shortage. It focused upon the legitimacy of the governmental authority that makes water allocation decisions. Four hundred and one adult residents of a large city experiencing a water shortage were interviewed by telephone (46% male; mean age = 42.12,  $SD = 15.74$ ). These participants were drawn from a larger pool that constituted a random sample of affected residents. The completion rate was 63%, which is reasonably good for a telephone survey. Participants were informed that the survey was being conducted by a University-based survey research center and that their answers would help the researchers understand how the water shortage should be handled (see also Tyler & DeGoey, 1995).

Study 3 was a panel study of New Yorkers who were interviewed over the telephone at two points in time (1 year apart) about crime in

<sup>4</sup> Raven (1965) later included *information* as an additional basis of power.

**Table 1**  
Intercorrelations and summary statistics (Studies 1 through 3).

Variable	<i>M</i>	<i>SD</i>	<i>n</i>	$\alpha$	1	2	3	4	5	6	7	8	9	10	11
<i>Study 1: University</i>															
1. Outcome dependence	3.35	0.87	1												
2. Procedural fairness	2.47	0.75	14	0.95	.05										
3. Outcome favorability	2.52	0.99	3	0.89	-.05	.62***									
4. Legitimacy	2.45	0.89	7	0.95	.16**	.70***	.45***								
5. Age	19.68	2.38			-.08	-.11*	-.13*	-.09							
6. Sex	0.37	0.48			.05	.08	.05	.09*	-.15**						
<i>Study 2: Water shortage</i>															
1. Outcome dependence	3.29	0.56	4	0.56											
2. Procedural fairness	2.80	0.52	10	0.89	.00										
3. Outcome favorability	3.06	0.66	4	0.83	-.03	.42***									
4. Legitimacy-empowerment	2.71	0.67	4	0.66	.17**	.34***	.25***								
5. Legitimacy-deference	3.73	0.54	1		.18***	.25***	.26***	.19***							
6. Age	41.88	15.74			.02	-.05	.03	.01	-.09 <sup>^</sup>						
7. Sex	0.46	0.50			-.09	.08	.00	.14**	.01	.05					
8. Income	4.46	2.26			.00	-.05	-.09	.02	-.02	.01	.05				
9. Education	6.48	1.25			-.04	-.07	-.08	.04	.00	.11*	-.06	.37***			
<i>Study 3: Police</i>															
1. Outcome dependence t1	1.94	0.57	10	0.80											
2. Procedural fairness t1	3.07	0.70	11	0.94	-.31***										
3. Outcome favorability t1	3.23	0.69	3	0.77	-.42***	.54***									
4. Legitimacy t1	2.86	0.67	6	0.72	-.13***	.27***	.14***								
5. Legitimacy t2	2.94	0.67	6	0.77	-.11**	.29***	.22***	.57***							
6. Age	2.98	1.18			-.18***	.18***	.12**	.10**	.13***						
7. Sex	0.44	0.50			-.02	.08*	.02	.10**	.12**	.00					
8. Income	3.85	2.02			-.16***	-.02	.00	.13**	.12**	.00	.18***				
9. Education	5.98	1.54			-.10**	-.10**	-.08*	.07*	.07 <sup>^</sup>	-.08*	.03	.51***			
10. Hispanic	0.22	0.41			.17***	-.03	-.05	-.08*	-.11**	-.16***	-.03	-.19***	-.28***		
11. African-American	0.28	0.45			.11**	-.21***	-.07*	-.04	.01	.01	-.07*	-.08*	-.05*	-.33***	
12. Asian	0.11	0.32			-.07*	.04	.07*	-.03	.01	-.09*	.04	-.04	.04	-.19***	-.22***

Note. Entries are Pearson correlations. In all studies, sex was dummy-coded with female as the reference group. In Study 3, three dummy codes were created for ethnicity with Caucasian as the reference group. <sup>^</sup>  $p < .10$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

their neighborhood and perceptions of the police.<sup>5</sup> The final sample included 830 participants (44.2% male; average age between 45 and 54 years old; average annual household income between \$40,000 and \$50,000; 66.3% completed a college degree or higher; 37.6% were Caucasian, 21.8% were Hispanic, 27.7% were African American, and 11.3% were Asian).<sup>6</sup>

#### Construct measurements

All items were assessed with Likert-type scales. Table 1 contains information about number of items, reliabilities (Cronbach's alpha), and descriptive statistics for all variables in the three datasets.

**Outcome dependence.** Each study used a different operationalization of outcome dependence. In Study 1, we measured participants' sense of dependence on the academic authority figure in terms of the extent to which they perceived him or her to have the power to resolve the conflict (e.g., "How much authority did this individual have in

deciding what to do?"). In Study 2, we assessed participants' dependence on the government in terms of the perceived importance and impact of the water shortage in their lives (e.g., "How much of an impact is the water shortage having on you and the other members of your household?"). In Study 3, we measured participants' dependence on the police for helping them to manage the threat of crime as a function of their neighborhood circumstances. Dependence in this last case does not derive from a personal relationship with an authority figure per se but rather from a situation of relative powerlessness (e.g., "How high is the crime rate in your neighborhood?").

**Procedural fairness.** Across all three studies, perceived procedural fairness was assessed by asking participants about the fairness of treatment by the authorities (e.g., whether they felt treated with dignity and respect), as well as the fairness of decision making procedures utilized by the authorities (e.g., whether they were given voice and whether the authorities sought information and were unbiased). Sample items include: "Overall, how fairly were you treated by this individual?" (Study 1); "How fair do you think the procedures the [government] uses to make its policies are?" (Study 2); and "The police in your neighborhood give people a chance to express their views before making decisions" (Study 3).

**Outcome favorability.** In Study 1, we measured both the valence and perceived fairness of the outcome of the conflict resolution experience (e.g., "How favorable was the outcome to you?"). In Study 2, we asked about the favorability of the water conservation decisions made by the authority (e.g., "Past water conservation decisions made by the [governmental agency] have been very favorable to you and to the other members of your household" (*Agree–Disagree*)). In Study 3, we assessed the perceived effectiveness of the police in fighting crime and providing help (e.g., "How effective are the police in your neighborhood at helping people who ask them for help?").

<sup>5</sup> The sample frame was based upon lists of eligible telephone numbers and did not include cell phones. If an answering machine was reached, participants were called again later. When a call was answered, the individual with the most recent birthday was interviewed. The interviews were conducted in either English or Spanish, depending on the preference of the respondent.

<sup>6</sup> The time one sample consisted of 1,653 individuals (64% of eligible participants) who were part of a stratified random sample of households in the city, with an overrepresentation of Hispanic and African-American participants to increase diversity. Approximately 1 year following the first interview, attempts were made to contact and interview all wave 1 participants again. These attempts were successful with a subset of 879 of those originally interviewed (a 53% response rate). Although efforts were made to trace and reinterview those participants who had moved, only those participants still living within the same neighborhood were included in the final analysis ( $n = 830$ ). A comparison of this subsample to the original sample revealed no significant differences in ethnicity, sex, age, income, or level of education. The sample was weighted to approximate a random sample of the people living in New York City.

*Legitimacy of authority figures.* Across the studies, three distinct operationalizations of legitimacy were used, namely trust and confidence in the authority (Study 1), empowerment of the authority (Study 2), and the perceived obligation to voluntarily defer to the authority (Studies 2 and 3). Sample items include: “To what extent do you trust this individual?” (Study 1); “The [government agency] should have the authority to do whatever they think is best to conserve our water supply” (*Agree–Disagree*, Study 2); and “The NYPD is a legitimate authority and people should obey the decisions officers make” (*Agree–Disagree*, Study 3).

*Results and discussion*

The goal of these studies was to identify a previously unrecognized influence on legitimacy, which is not linked to the specific manner by which authorities exercise their authority. In each analysis, we tested the hypothesis that participants who felt dependent on an authority figure would judge that authority to be more legitimate, adjusting for the effects of procedural fairness and outcome favorability. Multiple regression analyses, with all variables entered simultaneously, were used to examine the influence of outcome dependence, procedural fairness, and outcome favorability on legitimacy perceptions. For Study 1, we adjusted for sex and age. For Studies 2 and 3, we also adjusted for income and education. For Study 3, we adjusted for ethnicity as well. Results are summarized in Table 2.

The results of Study 1 revealed that, as hypothesized, students who felt that authorities had more power rated those authorities as more legitimate,  $b = .15$ ,  $SE = .04$ ,  $\beta = .15$ ,  $t(316) = 3.67$ ,  $p < .001$ . This relationship was present after adjusting for perceptions of the procedures enacted and the outcomes delivered. Thus, regardless of whether students felt fairly treated and regardless of whether the result of the conflict resolution was favorable to them, those who were more dependent on the authority perceived him or her as more legitimate.

Procedural fairness was also associated with perceived legitimacy,  $b = .82$ ,  $SE = .06$ ,  $\beta = .70$ ,  $t(316) = 13.69$ ,  $p < .001$ , but outcome favorability was not,  $b = .01$ ,  $SE = .05$ ,  $\beta = .01$ ,  $t(316) = .15$ ,  $ns$ . The analysis yielded a significant interaction between procedural fairness and outcome favorability,  $b = -.15$ ,  $SE = .05$ ,  $\beta = -.12$ ,  $t(316) = -3.00$ ,  $p < .01$ , such that the positive association between procedural fairness and perceived legitimacy was greater when outcome favorability was low (vs. high), as suggested by Brockner and Wiesenfeld (1996). None of the other variables interacted with dependence,  $t$ 's < 1.15. A large proportion of the variance in perceived legitimacy was explained by our overall model, adjusted  $R$ -squared = .52,  $F(8, 316) = 44.72$ ,  $p < .001$ . The findings of Study 1, then, support our predictions, although there are still several open questions. First, we have considered only one operationalization of legitimacy, namely trust and confidence in the character of authorities, whereas other studies have measured legitimacy in terms of deference to and empowerment of authority figures (Tyler, 2006a,b). Second, given that Study 1 involved college students, the generalizability of our conclusions could be limited.

Study 2 addressed the effects of outcome dependence on the degree of authority that participants grant to a third-party decision maker and their willingness to defer to that authority. The results with regard to empowerment of authority indicated that dependence was significantly associated with perceived legitimacy,  $b = .24$ ,  $SE = .06$ ,  $\beta = .20$ ,  $t(337) = 4.08$ ,  $p < .001$ , adjusting for procedural fairness, outcome favorability, and the demographic variables. As in Study 1, procedural fairness was significantly associated with perceived legitimacy,  $b = .35$ ,  $SE = .07$ ,  $\beta = .27$ ,  $t(337) = 5.03$ ,  $p < .001$ , and so was outcome favorability,  $b = .15$ ,  $SE = .05$ ,  $\beta = .15$ ,  $t(337) = 2.80$ ,  $p < .01$ . None of the interaction terms reached significance in this study, all  $t$ 's < 1. A significant amount of variability with respect to the empowerment of authority was explained by our model, adjusted  $R$ -squared = .17,  $F(10, 337) = 8.19$ ,  $p < .001$ .

**Table 2**  
Summary of Regression Analysis for Variables Predicting Legitimacy (Studies 1 through 3).

Variable	B	SE B	$\beta$
<i>Study 1</i>			
Trust and confidence in authority			
Outcome dependence (A)	0.15	0.04	.15***
Procedural fairness (B)	0.82	0.06	.70***
Outcome favorability (C)	0.01	0.05	.01
A × B	0.05	0.06	.04
A × C	0.06	0.05	.06
B × C	−0.15	0.05	−.12**
Age	0.01	0.02	.03
Sex	0.06	0.07	.03
<i>Study 2</i>			
Empowerment of Authority			
Outcome dependence (A)	0.24	0.06	.20***
Procedural fairness (B)	0.35	0.07	.27***
Outcome favorability (C)	0.15	0.05	.15**
A × B	0.08	0.12	.04
A × C	−0.04	0.09	−.03
B × C	−0.03	0.07	−.02
Age	0.00	0.00	−.03
Sex	0.18	0.07	.13**
Income	0.00	0.02	−.01
Education	0.05	0.03	.09 <sup>^</sup>
Deference to Authority			
Outcome dependence (A)	0.21	0.05	.21***
Procedural fairness (B)	0.14	0.06	.13*
Outcome favorability (C)	0.15	0.05	.18**
A × B	0.07	0.11	.04
A × C	−0.11	0.08	−.08
B × C	−0.12	0.06	−.11*
Age	0.00	0.00	−.10 <sup>^</sup>
Sex	0.05	0.06	.05
Income	−0.01	0.01	−.03
Education	0.03	0.03	.06
<i>Study 3</i>			
Deference to authority			
Outcome dependence t1 (A)	0.09	0.04	.08*
Procedural fairness t1 (B)	0.13	0.04	.13**
Outcome favorability t1 (C)	0.09	0.04	.10*
A × B	0.02	0.06	.01
A × C	0.03	0.06	.02
B × C	0.04	0.04	.04
Legitimacy t1	0.52	0.03	.53***
Age	0.03	0.02	.05
Sex	0.08	0.04	.06 <sup>^</sup>
Income	0.02	0.01	.05
Education	0.01	0.02	.02
Hispanic	0.01	0.06	.00
African American	0.13	0.05	.09*
Asian	0.02	0.07	.01

Note. In all studies, sex was dummy-coded with female as the reference group. In Study 3, three dummy codes were created for ethnicity with Caucasian as the reference group. All other variables were centered at their means. <sup>^</sup> $p < .10$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Similar results were obtained with regard to deference to authority. Outcome dependence was significantly associated with deference to authority,  $b = .21$ ,  $SE = .05$ ,  $\beta = .21$ ,  $t(337) = 4.06$ ,  $p < .001$ , even after adjusting for procedural fairness, outcome favorability, and the demographic variables. Perceptions of procedural fairness and outcome favorability were both associated with deference to authority,  $b = .14$ ,  $SE = .06$ ,  $\beta = .13$ ,  $t(337) = 2.33$ ,  $p < .05$ , and  $b = .15$ ,  $SE = .05$ ,  $\beta = .18$ ,  $t(337) = 3.31$ ,  $p < .01$ , respectively. None of the interaction terms involving outcome dependence reached significance, both  $t$ 's < 1, but the interaction between procedural fairness and outcome favorability did,  $b = -.12$ ,  $SE = .06$ ,  $\beta = -.11$ ,  $t(337) = -1.99$ ,  $p < .05$ . Specifically, the positive association between procedural fairness and perceived legitimacy was greater when outcome favorability was low (vs. high), consistent with Brockner and Wiesenfeld (1996). A significant proportion of variability in deference to authority

was explained, adjusted  $R$ -squared = .13,  $F(10,337) = 6.16$ ,  $p < .001$ . In sum, regardless of whether California residents felt fairly treated and that they were allocated enough water, the more dependent they felt on the governmental agency the more authority they granted it, and the more they were willing to defer to its decisions. The results of Study 2 replicate (almost exactly) those of Study 1, using different measures of outcome dependence and perceived legitimacy and a much more heterogeneous sample.

The results of these first two studies, then, are highly similar and consistent with our hypotheses. However, because the study designs were cross-sectional in nature, the direction of causality between felt dependence and perceived legitimacy is ambiguous. In Study 3 we compared perceptions of authority figures at two different time points, so that we could investigate our hypothesis longitudinally. Specifically, we investigated whether people who need the police because they live in a dangerous neighborhood view them as more legitimate, irrespective of whether the police act in a just or favorable manner. As hypothesized, participants who felt that neighborhood conditions were worse at time one viewed the police as more legitimate at time two,  $b = .09$ ,  $SE = .04$ ,  $\beta = .08$ ,  $t(651) = 2.00$ ,  $p < .05$ , adjusting for procedural fairness, outcome favorability, and legitimacy at time one, as well as demographic variables. Thus, somewhat counterintuitively, we found that people living in relatively unsafe, threatening conditions were more (rather than less) likely to perceive the police as legitimate, adjusting for other factors.

As expected, participants who viewed the police as exercising their authority in procedurally fair ways also viewed the police as significantly more legitimate,  $b = .13$ ,  $SE = .04$ ,  $\beta = .13$ ,  $t(651) = 3.23$ ,  $p < .01$ . Judgments of outcome favorability predicted legitimacy,  $b = .09$ ,  $SE = .04$ ,  $\beta = .10$ ,  $t(651) = 2.50$ ,  $p < .05$ , and perceived legitimacy at time one predicted perceived legitimacy at time two,  $b = .52$ ,  $SE = .03$ ,  $\beta = .53$ ,  $t(651) = 16.07$ ,  $p < .001$ . None of the interaction effects were significant,  $t < 1$  in all cases. A sizeable proportion of the variance in perceived legitimacy at time two was explained by the full model, adjusted  $R$ -squared = .37,  $F(14, 651) = 28.27$ ,  $p < .001$ .

The panel design of Study 3 allowed us to better investigate directional relationships among variables, so we considered the opposite direction of causality, namely the hypothesis that perceived legitimacy led to feelings of dependence. We assessed the alternative model by regressing perceived outcome dependence at time two on perceived outcome dependence, procedural fairness, outcome favorability, and legitimacy (as well as the demographic variables) at time one, adjusted  $R$ -squared = .55,  $F(11, 654) = 75.17$ ,  $p < .001$ . Results indicated that dependence at time one was the only focal variable that was significantly related to dependence at time two,  $b = .67$ ,  $SE = .03$ ,  $\beta = .68$ ,  $t(654) = 22.53$ ,  $p < .001$ . Legitimacy at time one was unrelated to dependence at time two,  $t < 1$ , a finding that strengthens our confidence that outcome dependence fosters perceived legitimacy rather than the other way around. Thus, the results of Study 3 suggest that people who need the police because they live in a dangerous neighborhood tend to view the police as more legitimate, regardless of whether the police are seen as acting fairly or effectively.

#### Ruling out Alternative Explanations

Despite the clear and converging evidence obtained in these three field studies, their designs warn against drawing firm conclusions. The longitudinal design of Study 3 provided some opportunity to investigate causal effects, but we cannot definitively rule out the possibility that people in more dependent life situations also happen to be more deferential than people who possess more control over their lives. In other words, there may be individual differences in the extent to which people perceive themselves (accurately or not) as powerless and the extent to which they assume authority figures are legitimate. Psychodynamic theories of authoritarianism, for instance, contend that certain individuals repress their resentment

toward leaders and substitute an exaggerated deference (Adorno, Frenkel-Brunswick, Levinson & Sanford, 1950; Fromm, 1941; Reich, 1970; Sanford, 1966).<sup>7</sup>

There is a question, however, as to whether authoritarianism (conceptualized as submissiveness) reflects a stable predisposition to defer to powerful others or whether it, too, can be triggered by dependence on authority figures. Although most contemporary research on the authoritarian personality addresses chronic individual differences in social and political attitudes, the notion that authoritarianism is intensified in response to threatening or insecure circumstances is an important part of the original theory (e.g., Adorno et al., 1950; Fromm, 1941; Reich, 1970; Sanford, 1966). For example, in his book *Escape from Freedom*, Fromm (1941) argued that some individuals make themselves dependent on powerful others in an unconscious attempt to escape unbearable feelings of powerlessness. Although social psychological evidence exists to suggest that members of socially disadvantaged groups sometimes do harbor deferential attitudes toward high-status outgroups and negative attitudes toward low-status ingroups (e.g., Henry & Saul, 2006; Jost, Pelham, & Carvallo, 2002; Jost, Pelham, Sheldon, & Sullivan, 2003; Lane, 1959), we do not think that the authoritarian personality can explain the relationship between outcome dependence and perceived legitimacy that we observed in our first three studies. In any case, it is important to rule out the empirical possibility that individual differences in the tendency to defer to authority figures are responsible for our findings.

It is also conceivable that people legitimize the authorities on which they depend because they expect these authorities to provide them with more favorable outcomes; this possibility, too, should be ruled out. To eliminate all of these possible confounds, we adopted an experimental approach that allowed for a more direct investigation of cause and effect relationships regarding the variables of interest. We, therefore, conducted two experiments in which outcome dependence was first manipulated in the laboratory and the perceived legitimacy of authority figures was measured subsequently.

## Study 4

### Method

#### Participants and design

Eighty-five students (79% female; mean age = 19.12,  $SD = 1.13$ ; 4.7% African American; 30.6% Asian; 44.7% Caucasian; 10.6% Latino) at New York University participated in this study in exchange for partial course credit. Participants were randomly assigned to one of four conditions in a 2 (Outcome dependence: high vs. low)  $\times$  2 (Procedural fairness: high vs. low) factorial design.

#### Procedure

The experiment was conducted in laboratory rooms equipped with computer terminals; experimental materials were presented with the use of MediaLab social science research software (Jarvis, 2006). Up to four participants were scheduled to participate at a time, but each participant was seated in a separate room.

The procedure was modeled on that of Haines and Jost (2000). Participants were told that they would be assisting with a pilot study conducted for the New York State Health Management Organizations (HMO) Coalition in collaboration with the NYU Wellness Exchange program. They were instructed that the HMOs were interested in understanding the advantages and disadvantages of group-based versus individual-based assessment of patients and that the NYU Wellness Exchange program was interested in students' abilities to provide peer counseling. Participants were informed that extensive

<sup>7</sup> Osterreich (2005) has recently returned to this conception of discomfort with adult autonomy as the basis of authoritarianism.

research suggests that intake interviews are an important step in the clinical assessment procedure and were asked to assess the likelihood that patients would develop a mental illness based on their intake interviews. All participants were told that they had been assigned to the “individual-based” assessment group and therefore would complete the task individually. They were then informed that they had been paired with a student in an adjacent room and asked to click a button that read “Randomly Determine My Role” to determine whether they would be assigned to the *evaluator* or *evaluatee* role in the experiment. In actuality, all participants were assigned the role of evaluatee and were informed that the student in the adjacent room had been assigned the role of evaluator. This was done to ensure that participants would view the greater authority of the evaluator as random or arbitrary at the start of the experiment.

Participants were instructed to read each mental health clinic intake excerpt, write a brief assessment, and send each assessment to their evaluator using the computer. These excerpts were adapted from postings on a Borderline Personality Disorder Internet forum (<http://www.psychforums.com/>). Participants were informed that the evaluator's computer was linked to theirs through the local intranet to facilitate the assessment process and so that the evaluator could send additional instructions to them.

Participants assigned to the high dependence condition were told that their evaluator would decide how much time they must spend in the lab after completing the task. Participants assigned to the low dependence condition were not told that their evaluation would have any additional consequences. As participants proceeded with the writing assessment task, they received text messages on their screen, ostensibly sent by the evaluator, containing information about the evaluation process. In actuality, these messages were pre-programmed to appear at certain intervals throughout the task. Participants in the high procedural fairness condition received messages indicating the use of relatively fair evaluation criteria, whereas participants in the low fairness condition received messages implying unfair evaluation criteria.

Upon completion of the assessment task, all participants received a message stating that the evaluator would now rate their overall performance on the task and that this process would take several minutes. While waiting for their results, participants were asked for their impressions of the evaluator, ostensibly so that the experimenters could collect feedback on what types of instructors are optimal for teaching clinical skills. The items measured participants' perceived dependence on the evaluator and their perceived fairness of the evaluation process; these were intended as manipulation checks. They were also asked to rate the favorability of their expected outcome and their perceived legitimacy of the evaluator. Participants were then informed that they had successfully completed the experiment and would be free to leave the lab after answering a final series of questions assessing outcome favorability and demographic background information.

## Materials

**Outcome dependence manipulation.** Participants assigned to the high dependence condition were told that the evaluator had the power to decide whether they could leave the lab early or not. Specifically, they were told that if they performed well, the evaluator would release them from the study immediately. However, if they performed poorly, the evaluator would instruct them on how to identify crucial indicators in intake interviews and write clinical assessments, and ask them to repeat their assessments to determine if further instruction would be required. Participants assigned to the low dependence condition were told that the evaluator in the adjacent room would judge their performance without any mention made of additional consequences.<sup>8</sup>

<sup>8</sup> It is important to note that participants in both conditions were told that they would be evaluated. Hence, the conditions differ in the degree of outcome dependence but not in terms of the potential for self-esteem threat.

**Procedural fairness manipulation.** Participants assigned to the high procedural fairness condition received messages indicating that the evaluator was using fair procedures, whereas participants in the low procedural fairness condition received messages of similar length and content but which indicated that the evaluator was using unfair procedures. These messages were designed to capture several of Leventhal's (1980) procedural justice criteria. In the high procedural fairness condition, the evaluator communicated clear criteria for evaluation (“Setting ground rules”), asked the evaluatee to convey information about their thought processes (“Gathering Information,” and “Providing voice”), and closely followed the guidelines prepared by the experimenter (“Safeguards”). In the low procedural fairness condition, these criteria were violated.

More specifically, the high procedural fairness messages were as follows: “Hi. I thought I'd send you a message to let you know how I plan to evaluate the assessments that you send me. Basically, if you present a good reason for your assessment, supported by evidence from the excerpt, I will give you a good score”; “I've read through a few of the assessments you've sent so far. I am looking mostly to see if you are connecting what is said in the sample with what you think might be indicative of a mental health problem”; “I know these entries are pretty short. Not a lot of information to go on. Just do the best you can and given your interest in psychology, you should be ok”; and “I have received certain guidelines and will use them to judge your performance. Why don't you include a bit of information about your overall thought processes in your last assessment? That way I will have a better idea of how you came to your conclusions. Thanks!”

The low procedural fairness messages read: “Hi. I thought I'd send you a message to let you know how I plan to evaluate what you send me. Basically, you should know that I am looking for very specific answers, so if you can figure those out, I will give you a good score”; “I've read through a few of the assessments you've sent so far. I'm not interested in the reasons you give for your assessments, it just matters whether I agree with you”; “I know these entries are pretty short. Not a lot of information to go on. Just do the best you can. I know you are pretty new to psychology, so I don't expect you to do well”; and “I have received certain guidelines, but don't think I will use them to judge your performance. Why don't you include a bit of information about your overall thought processes in your last assessment? That way I will have a better idea of what you're all about. Thanks!”

**Outcome dependence manipulation check.** To ensure that the outcome dependence manipulation was effective, participants were asked to indicate the extent to which they agreed with the following item on a 9-point scale (1 = *not at all dependent*, 9 = *completely dependent*): “How dependent do you currently feel on the evaluator in the other room?”

**Procedural fairness manipulation check.** To ensure that the procedural fairness manipulation was successful, participants were asked to indicate the extent to which they agreed with the following items on a 9-point scale (1 = *not at all*, 9 = *extremely*): “Do you feel fairly treated by the evaluator?”; “Do you feel respected by the evaluator?”; “Do you feel the evaluator treats you in an ethical manner?”; “Do you think that the procedures the evaluator employs to evaluate your performance are fair?”; “Do you think the evaluator is benevolent in evaluating your performance?”; and “Do you think the evaluator is neutral and unbiased towards you?” (Cronbach's alpha = .91).

**Outcome expectancy scale.** Although we did not manipulate outcome expectancy directly, we did include two items to test whether our experimental manipulations affected the expectations participants had with regard to the outcome of their evaluation. Participants were asked to indicate the extent to which they agreed with the following two items on a 9-point Likert scale (1 = *not at all*, 9 = *extremely*): “How fair do you think the outcome of his/her evaluation will be?”;

**Table 3**  
Intercorrelations and summary statistics (Study 4).

Variable	M	SD	1	2	3	4	5	6	7	8
1. Outcome dependence condition	−0.04	1.01	–							
2. Procedural fairness condition	0.08	1.00	.04	–						
3. Dependence scale	3.88	2.36	.27*	.03	–					
4. Procedural fairness scale	5.24	1.80	.02	.41***	.26*	–				
5. Outcome expectancy	4.64	1.69	.10	.24*	.08	.64***	–			
6. Legitimacy scale	4.94	1.71	.26*	.32**	.34**	.73***	.58***	–		
7. Outcome favorability	6.42	1.70	.42***	.30**	.20^	.50***	.43***	.47***	–	
8. Age	19.12	1.13	−.10	−.14	−.26*	.03	−.01	−.20^	−.15	–
9. Sex	1.79	0.41	.21^	−.02	.01	−.19^	−.10	−.07	.04	.05

Note: Entries are Pearson Correlations. Sex was coded '1' for males and '2' for females. ^  $p < .10$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

and “How satisfied do you think that you will be with the outcome of the evaluation?” (Pearson  $r[83] = .61$ ,  $p < .001$ ).

**Legitimacy scale.** Participants indicated the extent to which they perceived the evaluator to be legitimate by responding to the following items on 9-point scales (1 = *not at all*, 9 = *extremely*): “Does the evaluator have the right to evaluate your assessments of the clinic intake samples?”; “How legitimate is the evaluator in judging your performance on the task?”; and “To what extent do you intend to unquestioningly accept the evaluator’s judgment of your assessments?” (Cronbach’s  $\alpha = .71$ ).

**Outcome favorability scale.** All participants, regardless of condition, received the same outcome. To determine whether *perceived* outcome favorability was affected by condition, participants were asked to indicate their level of agreement with these two items on 9-point scales (1 = *not at all*, 9 = *extremely*): “How satisfied are you with the outcome of the evaluation?” and “How fair is the outcome of the evaluation?” (Pearson  $r[83] = .79$ ,  $p < .001$ ).

## Results

Means, standard deviations, and intercorrelations are shown in Table 3.

### Manipulation checks

To determine whether the outcome dependence manipulation influenced participants’ sense of dependence on the evaluator, we performed a two-way ANOVA. To ensure that the manipulations were effective across levels of the other variable, we included outcome dependence, procedural fairness, and their interaction in the analysis. The results indicate that participants assigned to the high dependence condition reported significantly higher levels of felt dependence on the evaluator ( $M = 4.51$ ,  $SE = .36$ ) than participants in the low dependence condition ( $M = 3.28$ ,  $SE = .35$ ),  $F(1,81) = 5.97$ ,  $p < .05$ ,  $MSE = 5.34$ . There was no main effect of the fairness manipulation, nor did the interaction term reach significance,  $F_s < 1$ ,  $ns$ .

A parallel analysis was conducted to determine whether the procedural fairness manipulation was effective. The results indicate that participants assigned to the high procedural fairness condition

**Table 4**  
ANOVA testing the effects of dependence, procedural fairness and their interaction on perceived legitimacy.

Variable	Sum of squares	df	Mean square	F
Outcome dependence condition (A)	14.36	1	14.36	5.86*
Procedural fairness condition (B)	23.48	1	23.48	9.29**
A × B	0.22	1	0.22	.09
Within groups	204.75	81	2.53	
Total	2316.56	85		

Note. Adjusted  $R$ -squared = .13,  $F(3,81) = 5.25$ ,  $p < .01$ . ^  $p < .10$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

perceived their treatment by the evaluator as fairer ( $M = 5.92$ ,  $SE = .24$ ) than did participants assigned to the low fairness condition ( $M = 4.47$ ,  $SE = .27$ ),  $F(1,81) = 16.34$ ,  $p < .001$ ,  $MSE = 2.72$ . Neither the main effect for the dependence manipulation nor the interaction term attained significance,  $F_s < 2$ ,  $ns$ . Hence, both manipulations worked precisely as intended.

### Perceived legitimacy

To test our main hypothesis that dependence and procedural fairness exert independent effects on legitimacy ratings, we conducted a 2 (Outcome dependence: high vs. low) × 2 (Procedural fairness: high vs. low) ANOVA with legitimacy ratings as the dependent variable. As shown in Table 4, results reveal a significant main effect of dependence condition on legitimacy ratings, such that participants assigned to the high dependence condition rated the evaluator as more legitimate ( $M = 5.32$ ,  $SE = .25$ ) than did participants assigned to the low dependence condition ( $M = 4.49$ ,  $SE = .24$ ),  $F(1,81) = 5.68$ ,  $p < .05$ ,  $MSE = 2.53$ .<sup>9</sup> Thus, our hypothesis that outcome dependence leads to enhanced perceptions of legitimacy was supported.

The analysis also yielded a significant main effect of procedural fairness condition on perceived legitimacy, such that participants assigned to the high fairness condition rated the evaluator as more legitimate ( $M = 5.44$ ,  $SE = .23$ ) than did participants assigned to the low fairness condition ( $M = 4.38$ ,  $SE = .26$ ),  $F(1,81) = 9.29$ ,  $p < .01$ ,  $MSE = 2.53$ . The interaction between dependence and procedural fairness was not significant,  $F(1,81) = .09$ ,  $ns$ ,  $MSE = 2.53$ .

### Outcome expectancy

We measured outcome expectancies to ensure that the effects of outcome dependence were not driven by the perceived likelihood of obtaining a favorable outcome. For example, if dependence led participants to expect a less favorable outcome, then the effect of dependence on legitimacy might be explained by attempts to ingratiate oneself with the evaluator.

A 2 (Outcome dependence: high vs. low) × 2 (Procedural fairness: high vs. low) ANOVA indicated that outcome dependence did not affect outcome expectancies,  $F(1,81) = .59$ ,  $ns$ ,  $MSE = 2.75$ . The analysis yielded a main effect of procedural fairness, such that participants assigned to the high fairness condition expected a better outcome ( $M = 5.01$ ,  $SE = .24$ ) than did participants assigned to the low fairness condition ( $M = 4.19$ ,  $SE = .27$ ),  $F(1,81) = 5.10$ ,  $p < .05$ ,  $MSE = 2.75$ . The interaction term was not significant,  $F(1,81) = .38$ ,  $ns$ ,  $MSE = 2.75$ .

When outcome expectancy was entered as a covariate in a 2 (Outcome dependence: high vs. low) × 2 (Procedural fairness: high vs. low) ANCOVA with perceived legitimacy as the dependent variable, the main effects for both outcome dependence and fairness remained significant,  $F(1,80) = 5.37$  and  $F(1,80) = 4.38$ , respectively,  $p_s < .05$ ,

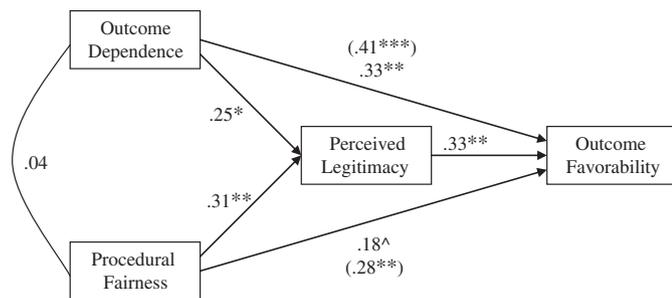
<sup>9</sup> Statistically adjusting for the covariates of sex and age did not affect the conclusions drawn from Studies 4 or 5.

$MSE = 1.81$ , indicating that the effects of outcome dependence and procedural fairness on perceived legitimacy are statistically independent of the effects of outcome expectancy. At the same time, outcome expectancy was a significant covariate,  $F(1,80) = 33.17, p < .001, MSE = 1.81$ , suggesting that outcome expectations do play a role in legitimacy assessments. The interaction of outcome dependence and procedural fairness remained non-significant,  $F(1,80) = .00, ns, MSE = 1.81$ .

**Outcome favorability**

We proposed that outcome dependence and procedural fairness could influence perceived outcome favorability, as measured *after* the outcome was obtained. In a 2 (Outcome dependence: high vs. low)  $\times$  2 (Procedural fairness: high vs. low) ANOVA with outcome favorability as the dependent variable, we obtained significant main effects for both dependence and procedural fairness,  $F(1,81) = 18.02, p < .001$  and  $F(1,81) = 8.58, p < .01$ , respectively,  $MSE = 2.22$ . Participants in the high dependence condition rated the outcome of their evaluation as more favorable ( $M = 7.09, SE = .24$ ) than did participants in the low dependence condition ( $M = 5.72, SE = .23$ ), despite the fact that the outcomes were identical in the two conditions. Similarly, participants in the high fairness condition rated the outcome of their evaluation as more favorable ( $M = 6.88, SE = .22$ ) than did participants in the low fairness condition ( $M = 5.93, SE = .24$ ). The interaction between dependence and procedural fairness did not reach significance  $F(1,81) = .09, ns, MSE = 2.22$ .

Outcome favorability correlated positively with legitimacy ratings,  $r(83) = .47, p < .001$ , so that participants who rated the evaluator as more legitimate were also more likely to be satisfied with the outcome. To determine whether perceived legitimacy mediated the effects of each independent variable on perceived outcome favorability, we constructed a path model using MPLUS 5.21 (Muthén & Muthén, 1998-2009) and tested the significance of the indirect effects of outcome dependence and procedural fairness on outcome favorability through perceived legitimacy using a bootstrapping procedure (see Fig. 1). This procedure, which was based on 5000 bootstrap resamples, makes no assumptions about the distribution of the indirect effect. Statistical significance can be determined by inspecting 95% Confidence Intervals (CIs); if zero is included in the interval, the indirect effect lacks significance (Mackinnon, Lockwood, Hoffman, West, & Sheets, 2002; Preacher & Hayes, 2004). Results revealed that the effect of outcome dependence on outcome favorability was significantly mediated by perceived legitimacy (lower limit = .04, upper limit = .32;  $b = .14, SE = .07, \beta = .08, z = 2.01, p < .05$ ). The effect of procedural fairness on outcome favorability was also significantly mediated by perceived legitimacy (lower limit = .05, upper limit = .38,  $b = .17, SE = .08, \beta = .10, z = 2.14, p < .05$ ). Thus, greater outcome dependence and procedural fairness predicted increased perceived legitimacy of the evaluator, which, in turn, predicted an increase in the perceived favorability of the outcome.



**Fig. 1.** The mediating role of perceived legitimacy in the prediction of outcome favorability on the basis of outcome dependence and procedural fairness (Study 4). Note. The figure displays standardized regression coefficients. The numbers in parentheses represent the coefficients before adjusting for perceived legitimacy.

**Discussion**

The findings from Study 4 indicate that outcome dependence and procedural fairness exert independent effects on the perceived legitimacy of an authority figure, even when adjusting for expectations about the favorability of the evaluation (i.e., outcome expectancy). The experimental manipulation (rather than measurement) of outcome dependence permits us to conclude that a causal relationship exists between outcome dependence and perceived legitimacy. Given that participants were randomly assigned to condition, it is highly implausible that individual differences in personality traits (e.g., authoritarianism) could account for this finding. Our analysis also rules out the possibility that people legitimize the authorities they depend on simply because they hope or expect that these authorities will provide them with more favorable outcomes, insofar as our outcome dependence manipulation did not affect participants' expectations about the outcome they would receive. At the same time, we did find that outcome dependence and procedural fairness affected perceptions of the favorability of the evaluation once it was received. Participants assigned to the high (vs. low) outcome dependence condition perceived the evaluator's feedback as more favorable, and this effect was mediated by ratings of perceived legitimacy. Thus, outcome dependence leads people to be more satisfied with the outcomes they receive, and this is due to their seeing the authority figure as more legitimate. Furthermore, we found that participants assigned to the high (vs. low) procedural fairness condition perceived the evaluator as more legitimate and, as a result, were more satisfied with the outcome they obtained.

The first four studies, then, provide converging evidence that outcome dependence enhances the perceived legitimacy of authority. Nevertheless, a self-proclaimed intention to defer to the wishes of the authority figure is not the same as actual behavior. In our fifth and final study, we assessed the influence of outcome dependence on one important behavioral consequence of perceived legitimacy, namely voluntary deference.

**Study 5**

**Method**

**Participants and design**

Sixty-one students (69% female; mean age = 19.36,  $SD = 1.05$ ; 6.6% African American; 27.9% Asian; 49.2% Caucasian; 11.5% Latino; 4.9% other) at New York University participated in this study in exchange for partial course credit. Participants were randomly assigned to either a high or low outcome dependence condition.

**Procedure**

We used an experimental paradigm that was similar to that of the previous study with a few notable changes.<sup>10</sup> First, we omitted the procedural fairness manipulation, so that all participants received the same messages (i.e., 2 of the 4 high procedural fairness messages used in Study 4). Second, we replaced the perceived legitimacy scale with a behavioral measure of voluntary deference. After participants finished the assessment task and obtained a positive evaluation, they completed two items measuring perceived outcome favorability and then were asked to write a short answer to the question: "What was your role and which task did you perform in this experiment?" While responding to this question, participants received a text message from their evaluator, requesting their help with an additional computer task. They were told that the additional task would involve evaluating others' responses to the same mental health intake samples that they had just finished assessing. Participants could indicate a willingness to

<sup>10</sup> For the perceived fairness scale, Cronbach's alpha was .90; for the outcome favorability scale Pearson's  $r(59) = .78, p < .001$ .

**Table 5**  
Intercorrelations and Summary Statistics (Study 5).

Variable	M	SD	1	2	3	4	5	6
1. Outcome dependence condition	.06	1.01	–					
2. Dependence scale	3.48	2.77	.35**	–				
3. Procedural fairness scale	6.24	1.37	–.10	–.07	–			
4. Voluntary deference	1.61	0.49	.45***	.48***	–.13	–		
5. Outcome favorability	6.80	1.62	.34**	.23^	.46**	.21	–	
6. Age	19.39	1.06	.13	.13	–.24^	–.05	–.05	–
7. Sex	1.69	0.47	.22^	.17	–.05	–.03	.07	.31*

Note: Entries are Pearson correlations. Sex was coded “1” for males and “2” for females. ^ $p < .10$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

stay for the additional task by clicking a button on the screen marked “Additional Task” and a desire to leave by clicking a button marked “Exit Study.” Regardless of which option they selected, however, all participants were redirected to a demographics questionnaire. Upon completion of these items, participants were fully debriefed and dismissed.

### Results

Means, standard deviations, and correlations are summarized in Table 5.

#### Manipulation check

To determine whether the outcome dependence manipulation influenced participants’ sense of dependence on the evaluator, we performed a one-way ANOVA. The results indicate that the manipulation worked as intended, with participants assigned to the high (vs. low) dependence condition perceiving higher levels of felt dependence on the evaluator ( $M = 4.39$ ,  $SE = .46$  vs.  $M = 2.45$ ,  $SE = .49$ ),  $F(1,60) = 8.57$ ,  $p < .01$ ,  $MSE = 6.82$ .

#### Outcome favorability

Again, we tested whether outcome dependence influenced outcome favorability, which was measured after the outcome was obtained. A one-way ANOVA with outcome favorability as the dependent variable yielded a significant main effect for dependence condition,  $F(1,60) = 7.82$ ,  $p < .01$ ,  $MSE = 2.37$ . Participants assigned to the high outcome dependence condition rated the outcome of their evaluation as more favorable ( $M = 7.30$ ,  $SE = .27$ ) than did participants in the low dependence condition ( $M = 6.21$ ,  $SE = .29$ ), replicating a result of Study 4.

#### Voluntary deference

To investigate the effect of outcome dependence on voluntary deference, we performed a logistic regression analysis. As hypothesized, participants assigned to the high dependence condition were more likely to volunteer for additional tasks than were participants assigned to the low dependence condition,  $b = 2.00$ ,  $SE = .59$ ,  $Exp(b) = 7.36$ , Wald  $\chi^2(1, N = 62) = 11.38$ ,  $p < .01$ . The probability of agreeing to perform additional tasks was .82 in the high outcome dependence condition and .38 in the low outcome dependence condition. The model correctly predicts 72.6% of cases and explained a significant proportion of variance in voluntary deference,  $R^2 = .19$ ,  $\chi^2(1) = 12.97$ ,  $p < .001$ .<sup>11</sup>

This finding suggests that outcome dependence affects a behavioral measure of legitimation. However, it is at least conceivable that participants simply wanted to reciprocate the authority figure’s

<sup>11</sup> In logistic regression, there is no true  $R^2$  value, as there is in OLS regression. We report the Cox and Snell  $R^2$ . Because this value cannot reach 1.0, it tends to be an underestimate.

positive evaluation of their performance on the clinical assessment task. Therefore, we conducted a mediation analysis to assess this alternative explanation. As noted above, outcome dependence affected perceived outcome favorability,  $F(1,60) = 7.82$ ,  $p < .01$ . However, outcome favorability was not associated with voluntary deference,  $b = .27$ ,  $SE = .17$ ,  $Exp(b) = 1.31$ , Wald  $\chi^2(1, N = 62) = 2.50$ ,  $ns$ , and thus did not mediate the relationship between outcome dependence and the behavioral measure.

### Discussion

In addition to strengthening our confidence in the validity of causal inferences drawn on the basis of Study 4, Study 5 extended the findings from our previous studies by showing that, in addition to influencing perceived legitimacy, outcome dependence also affects voluntary deference, a behavioral measure. That is, people who are more (vs. less) dependent on an authority figure for desired resources are more motivated to acquiesce in the face of his or her directives.

### General discussion

Past research has demonstrated that legitimacy appraisals are affected by the degree of procedural fairness by which leaders exercise their authority and also by the fairness and favorability of the outcomes they deliver (e.g., Tyler, 2006b). Drawing on system justification theory (Jost et al., 2004), we hypothesized that depending upon another person who possesses control over one’s resources would inflate judgments of legitimacy. Taken in conjunction, the results of the five studies described in this article support the system justification hypothesis and extend the boundaries of existing research by suggesting that individuals’ judgments of the legitimacy of an authority are shaped by distinct motivations for justice and justification. Furthermore, there are good reasons (namely, self-interest motivation) to think that possessing power leads one to be more system-justifying in general (e.g., Keltner, Van Kleef, Chen, & Kraus, 2008). Our research suggests that because outcome dependence breeds legitimacy the powerless also contribute to the maintenance of an unequal status quo that may not be in their own interest. This work also expands system justification research by suggesting that legitimation processes are elicited in hierarchical dyadic relations, such as those involving a supervisor and an employee. While dependence on the system has been shown to encourage justification of inequality at the level of the social system as a whole (cf. Jost et al., 2003; Kay et al., 2009), the current research demonstrates that parallel effects occur for smaller social systems, such as power differentials between two individuals (see also Wakslak et al., in press).

The five studies we have presented are similar in some respects but differ in terms of operationalizations, sample characteristics, and the assumptions they make about causality. Despite these methodological variations, the finding that outcome dependence is positively associated with the legitimation of authority is robust across all five research contexts and is not due simply to the quality of treatment or the favorability of outcomes.<sup>12</sup> The strength of our conclusions is enhanced by the specific features of the five studies. First, we have demonstrated parallel effects in educational, political, and legal domains. Second, we have replicated the “real-world” findings in the laboratory, demonstrating that outcome dependence is indeed causally related to perceived legitimacy. Third, we were able to provide support for our hypotheses with regard to several different

<sup>12</sup> Whether processes linked to justice or justification receive more relative weight under different circumstances remains an additional open question for future research (but see Walster, Berscheid, & Walster, 1970). It might very well be the case that system justification processes (like other biases) are especially likely to kick in when procedural fairness cues are highly ambiguous.

types of outcome dependence. In Study 1, students were dependent on academic authorities for conflict resolution; in Study 2, California residents were dependent on the government for the distribution of water; in Study 3, New York City residents were dependent on the police for the prevention and mitigation of crime in their neighborhood; and in Studies 4 and 5, experimental subjects were dependent on an evaluator who determined how long they were to remain in the laboratory. A fourth advantage of this package of studies is that legitimacy appraisals were operationalized in three different ways identified in the research literature, namely as (a) trust and confidence in authority, (b) empowerment of authority, and (c) deference to authority. Fifth, we have provided evidence that outcome dependence not only affects perceived legitimacy but also influences voluntary deference (i.e., a behavioral consequence of legitimacy). Finally, in support of a motivational account of legitimation (i.e., system justification), we found that increased perceived legitimacy significantly mediated the effect of outcome dependence on individuals' satisfaction with the outcomes they received. Legitimation of authority figures thus leads to increased contentment with one's situation (i.e., the status quo).

#### *Limitations and directions for future research*

The studies presented in this article indicate that legitimacy is not only a basis of power, as suggested by Fiske and Berdahl (2007), among others, but that power can itself lead to enhanced legitimacy through system justification processes. We propose that outcome dependence elicits the motivation to justify existing authority relations, thereby increasing the extent to which people perceive the authority in question as legitimate. Although we were able to rule out individual differences in authoritarianism and other personality traits (as well as demographic characteristics) as a confounding explanation for some of our findings, the present data do not directly address the question of how accurate perceptions of the legitimacy of authority figures are. Insofar as people engage in system justification to alleviate concerns about feeling dependent, we suspect that legitimacy appraisals are psychologically inflated (relative to the actual degree of legitimacy deserved by the authorities); this is why we adjusted for perceptions of procedural fairness when estimating perceived legitimacy.

At the same time, other research suggests that outcome dependence can increase accuracy in social attribution. Neubeerg and Fiske (1987), for example, found that outcome dependence led participants to rely more on individuating processes in forming impressions of a given target, even under conditions that typically lead people to use category-based processes. Outcome dependence can also focus attention on information that is inconsistent with previously established impressions or stereotypes (Bogart et al., 1999; Erber & Fiske, 1984; Rodriguez-Bailon et al., 2000). Importantly, research by Stevens and Fiske (2000) suggests an important moderating role for type of outcome dependence. They demonstrated that participants are more accuracy-driven in forming impressions when they are dependent on a powerholder for completing a task, but they are more driven by motivational biases when they depend upon a powerholder for positive evaluation. In any case, more research is needed to disentangle the extent of accuracy and bias in legitimation processes.

It is possible to criticize our motivational account of the legitimation of authority figures on the grounds that, for the most part, we do live in a just world and that highly legitimate actors are likely to ascend to positions of authority in society. In response, we note that in Studies 2, 4, and 5 all participants were evaluating the same authority figures, and yet variability in outcome dependence predicted variability in legitimacy appraisals of these (identical) authority figures. It is, therefore, unlikely that objective characteristics of the authority figures (e.g., indicators of their actual legitimacy) are driving the outcome dependence effects observed.

Another useful direction for future research is to investigate the interplay between motivation and cognition in the legitimation of authority figures. In this article, we have proposed that the process of evaluating authority figures is a motivated one but how exactly the desire to perceive the authority figure as legitimate affects cognition remains an open question. It may be that outcome dependence leads people to emphasize legitimate acts on the part of the authority figure and to de-emphasize illegitimate acts; this would result in a net evaluation of the authority as more legitimate than he or she actually is (see also Haines & Jost, 2000). Such differential emphasis could occur through selective attentional or evaluative processing (e.g., Ditto & Lopez, 1992; Gollwitzer & Moskowitz, 1996; Kruglanski, 1996; Kunda, 1990). Another possibility is that an authority figure's (accurately perceived) legitimate behaviors are disproportionately attributed to his or her disposition (rather than the context), whereas illegitimate behaviors are disproportionately attributed to the context (rather than his or her dispositions). Thus, virtuous acts may be seen as indicative of the powerholder's intentions and character, whereas acts of selfishness or corruption may be seen as unintentional or due to situational constraints.

Another limitation concerns the proposed mechanism underlying legitimation of authority. Although the experimental evidence from Studies 4 and 5 indicated that outcome dependence is causally related to the perceived legitimacy of authority and voluntary deference, we cannot be certain that this effect was due to system justification motivation per se. However, evidence from a related program of research reveals that outcome dependence increases system justification tendencies and that system justification is indeed associated with perceived legitimacy. Specifically, van der Toorn et al. (2010) found that powerlessness leads to system justification and the legitimation of (even blatant) social inequality.

#### *Concluding remarks*

Fiske and Berdahl (2007) noted that power is an inherently comparative construct. In other words, it is not an "attribute" of an individual but rather a structural property of social relations that derives from the powerholder's relative degree of control over outcomes. Our findings suggest that in the minds of individuals the structural notion of the authority's power is translated into the personal attribute of legitimacy. Outcome dependence on an authority figure not only leads people to have more trust and confidence in the authority and to give him or her greater discretion in making the decisions, it also leads to a stronger feeling of personal responsibility to defer to the decisions made by the authority as well as to actual deference to requests made by the authority figure. In addition, outcome dependence enhances the perceived favorability of outcomes that people actually receive, apparently because they are more satisfied with outcomes decided by legitimate authorities.

The results of the current research shed light on how and why people can be aware of injustice on some level—at least in the sense of recognizing that authority figures are not necessarily adhering to the highest standards of procedural fairness or dispensing (deserved) favorable outcomes—and yet not protest against authority. One's outcome dependence on authority figures might account for the fact that perceptions of legitimacy frequently prevail, even when one is treated unfairly. We have suggested that the process of system justification is not necessarily conscious (see also Jost et al., 2004, 2002) and our findings indicate that it is not necessarily strategic either, insofar as the effect of outcome dependence on legitimation was not contingent on expectations or judgments of outcome favorability. Altogether, these studies appear to signify "distortion from the bottom-up," that is, system-serving biases exhibited by those who are relatively powerless within the confines of the system (see also Haines & Jost, 2000; Henry & Saul, 2006; Jost et al., 2003). In this way, they suggest yet another reason why social change is rare and

hierarchical relationships tend to be more stable and resilient than one would otherwise assume on the basis of justice concerns and self-interest motivation alone.

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