



Research Article

Interpreting expectations: Normative and predictive expectations as seen by citizens

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Abstract: Citizens' expectations are a primary source of information for politicians and public managers when developing public policies in democracies. Moreover, expectations are thought to have extensive influence on how citizens evaluate the resulting policy. If politicians want citizens who are satisfied with public services, they need to address these expectations. Theories of expectation formation tell us that two general forms of expectations exist: predictive and normative. Predictive expectations are about how a future service *will* be, whereas normative expectations concern how it *should* be. But do citizens make this distinction? If they perceive and express their expectations differently than the theory predicts, it might affect the knowledge that we have on citizen expectations and their effects. This study investigates whether citizens have different interpretations of expectations and whether making them aware of the distinctions between predictive and normative expectations causes them to change their expectations. Results show that citizens interpret expectations very differently and that experimentally posing different questions about expectations at the same time merely increases the effect. The implications for the assessment of citizen expectations are discussed.

Keywords: Citizen expectations, Satisfaction, Experiment, Policy

Supplements: [Open data](#)

Introduction

Citizens' expectations regarding public services play an important role in modern democratic societies. When politicians and public managers reform or design programs and services, they often must take citizen expectations into account. And if politicians consistently fail to live up to what would seem to be ever-increasing expectations from the public, they may sacrifice support, alienate voters, and ultimately risk losing their office (Van Ryzin, 2004; Boyne, James, John, & Zeithaml, 2009; James 2011). Moreover, expectations play a key role in citizens' performance and satisfaction evaluations of the public sector (Stipak, 1979; Brown & Coulter, 1983).

The most well-known satisfaction model, the Expectation-Disconfirmation Model (EDM), states that satisfaction depends, to a large extent, on the confirmation or disconfirmation of citizens' expectations (Van Ryzin, 2004, 2006; James, 2009).

Two fundamentally different types of expectations have been theorized in the public administration literature: predictive expectations and normative expectations. *Predictive expectations* reflect predictions about what the quality of public services *will* be, whereas *normative expectations* concern beliefs about what the quality of public services *should* be (James, 2011). However, few studies investigate how citizens interpret their own stated expectations for public services and the questions about them in satisfaction surveys. Do citizens make the predictive-normative distinction? Citizens interpreting expectations, and the questions used to measure them in different ways, may confound both the expectations measures and the proposed theoretical relationships they enter into, for example, in the EDM.

This study begins by investigating how citizens interpret expectations and the typical questions about

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expectations that are asked in citizen satisfaction surveys. It then examines if priming citizens to think about different concepts of expectations can remedy the possible effects from citizens' mixed interpretations of expectations and the questions that they are asked about them.

Theory

There are many theories about how expectations develop and what they express. For example, Santos & Boote (2003) have found 56 different definitions of expectations in the service-quality and consumer-satisfaction literature. Within public administration, expectations have often been defined as “judgments of what individuals or groups think either will or should happen under particular circumstances” (James, 2009, p. 109). This definition of expectations points to one of the most persistent debates in the literatures dealing with expectations. Are expectations best understood as a prediction made about what the quality of a product or service *will be* (*predictive expectations*, also called *positive expectations*)? Or are expectations a normative construct, implying that people apply norms and values when thinking about what the quality of a product or service *should be* (*normative expectations*)?

Predictive expectations have their roots in the rational expectations' paradigm, which has often been used by economists to predict future prices and decision-making (Muth, 1961; Lovell, 1986), and in expectancy theory (Ise & Wilton, 1988). According to this theory, the citizen attempts to predict future service levels when expressing predictive expectations; that is, how good the performance “will” be irrespective of his or her wants and desires. As Miller (1977) has written, “It is to be thought of as having no affective dimension but as being the result of a sterile, indifferent calculation of probability” (p. 76). In this way, predictive expectations are seen merely as a conscious prediction of the likelihood of the occurrence of some service level or performance.

The term *normative expectations* originate from one of Prakash's (1984) expectations categories and is thought of as what the consumer should receive in order to be completely satisfied (see also Zeithaml, Berry, & Parasuraman, 1993). However, normative expectations can also refer to a broader set of expectation theories. For example, Miller's (1977) idea about expectations as the “ideal” or “wished for” level of performance has also been attributed to normative expectations. Normative expectations can therefore be said to refer to an ideal point based on

values and norms about how things “should” be. The idea behind normative expectations is generally that citizens evaluate whether the performance fulfills their needs, wants, and desires (Zeithaml, Berry, & Parasuraman, 1993, p. 2).

Some applications of normative expectations have been examined in the citizen satisfaction literature (James, 2009; Poister & Thomas, 2011), but most public administration investigations of the EDM have used predictive expectations (James, 2011). Conversely, the service quality literature has primarily used normative expectations, as in the Gap Model of service quality (Boulding, Kalra, Staelin, & Zeithaml, 1993, p. 8).

Interpretations of expectations

These differences in the definitions of expectations and related standards can be problematic if citizens interpret and express expectations differently than researchers. Citizens interpreting expectations as either normative or predictive may result in an unobservable moderation of the correlations and effects of expectations on the outcomes that researchers are studying. For example, since interpretations are rarely observable and may affect expectations, disconfirmation, and satisfaction, the typical inferences drawn from studies on the Expectation-Disconfirmation Model may be moderated by the specific interpretations made by the citizens. Evidence from the marketing literature has pointed to differential effects of predictive and normative expectations on the Expectation-Disconfirmation Model (Ise & Wilton, 1988; Boulding, Kalra, Staelin, & Zeithaml, 1993; Spreng & Mackoy, 1996; Spreng, MacKenzie, & Olshavsky, 1996; Wirtz & Mattila, 2001). If we ask citizens about their predictive expectations and some of them interpret this as asking for their normative expectations, this could lead to similar effects.

Few studies from the marketing and business literatures have addressed the many different conceptualizations of expectations from the consumers' point of view. Spreng, Mackoy, & Dröge (1998) have directly addressed the question with two studies of students at a large Midwestern university. Asking the students directly about their interpretation of the word “expectations,” they have found that the interpretations differ widely. There is an almost perfect split between four predefined predictive and normative categories of interpretation presented to the students.

They have also found that presenting both a predictive and normative expectations question to

the students in a survey experiment results in lower predictive expectations than when the question is presented alone. According to the authors, the underlying theory is that the students are made aware of the duality in their interpretation of the question and that they will therefore express their (higher) normative expectations through the normative questions and only express their probability-based predictive expectations through the predictive question – not a (higher) weighted average of the two.

There is reason for concern that citizens might also interpret expectations in different ways than as intended by researchers. One reason is that political attitudes and the norms and values associated with them should be much more salient in the public administration context, which might influence how citizens interpret and express the otherwise “sterile, indifferent calculation of probability” (Miller 1977, p.76) associated with predictive expectations. However, it is not necessarily only the predictive question that can be confounded by citizens’ interpretations. Teas (1993) has found that a large portion of the variance in the typical normative expectations question in the SERVQUAL measurement model (Parasuraman, Zeithaml, & Berry, 1985) can be explained by differences in interpretations. The hypothesis in this study is, therefore, that citizens will also interpret expectations differently.

Data and Method

The data material for this study was collected using Amazon’s Mechanical Turk (Mturk). Mturk is an online labor market that offers unique research possibilities (Paolacci & Chandler, 2014; Stritch, Pedersen, & Taggart, 2017). While the samples are not necessarily representative (Shapiro, Chandler, & Mueller, 2013; Paolacci & Chandler, 2014), the respondents may be more attentive (Hauser & Schwarz, 2016). Recent research has also shown that estimates obtained from Mturk samples are reliable and valid when compared to more traditional data collection methods (Berinsky, Huber, & Lenz, 2012; Casler, Bickel, & Hackett, 2013; Goodman, Bickel, & Hackett, 2013; Mullinix, Leeper, Druckman, & Freese, 2015).

For the purpose of this study, 1,665 Mturk workers were recruited between December 9–15, 2015. Each completed survey was awarded \$0.75 based on the estimated time it would take to complete the full survey (approximately 10 minutes); the survey contained more questions than used in this

study. Prior to the full survey release, a pilot study with 80 participants was conducted to check the question and information formulations and the survey’s technical setup. Very few minor corrections were made between the pilot and the full survey. The survey used for this paper was completed by 1,591 Mturk workers. Descriptive statistics for the expectations and control variables are presented in Table A.1 (online supplement).

Two studies were carried out. The first addressed whether citizens have different interpretations of expectations and the typical questions about expectations asked in citizen surveys. This study assessed whether there is a possible confound lurking in citizens’ interpretations of expectations. The second study utilized a survey experiment to assess whether these possible differences in interpretations can be remedied by asking both predictive and normative expectations questions instead of just one of the two.

Study 1

The first part of Study 1 was inspired by the strategy of Spreng, Mackoy, & Dröge (1998), which asked respondents to state their interpretation of a number of questions about expectations. But unlike Spreng, Mackoy, & Dröge (1998), the respondents in this study were not asked to state their interpretation in a particular evaluation but rather toward the word “expectations” in general. The question wording was as follows: “Since multiple definitions for the words ‘expect’ and ‘expectations’ exist and people often interpret it in different ways, we would like to know a little more about how you see it. Please check the single interpretation of the word ‘**expectations**’ which is the closest to your interpretation” (emphasis as in questionnaire). The possible answers were as follows:

- a) “The characteristics that I feel that I must receive.”
- b) “The characteristics I want to receive.”
- c) “The characteristics I feel would be minimally adequate.”
- d) “The characteristics I believe I will actually receive.”
- e) “Other: The characteristics I... (use your own words to explain your interpretation)”

These answers were chosen to reflect desirous expectations (“must” and “want”) and minimally adequate expectations (“minimally adequate”), all of which can

be said to belong under the normative heading, as well as predictive expectations (“will”) (Miller, 1977; Tse & Wilton, 1988; Boulding, Kalra, Staelin, & Zeithaml, 1993; Zeithaml, Berry, & Parasuraman, 1993). It is worth noting that the respondents were forced to choose just one of the possibilities, meaning that a combination of interpretations was not an option unless respondents chose the “Other” category and stated it there.

Second, the investigation addressed how citizens interpret the traditional questions often used in citizen satisfaction research. This was done in the context of the handling of garbage and recycling by local government, a subject that has been previously used in satisfaction studies using national US and local European samples (Van Ryzin, 2006; Van Ryzin & Immerwahr, 2007; James & Moseley, 2014). The question read as follows: “But first, since some questions can be interpreted in multiple ways, we would like to know how you interpret the next question in the survey [predictive or normative question]: How would you answer such a question?” The possible answers were as follows: “I would try to predict how the future service *will* be,” “I would state how I think the service *should* be,” and “Other, please describe.”

The question used to measure predictive expectations was the following: “Thinking back a few years, how would you rate your *expectations* back then of the overall quality of your local government’s *garbage and recycling* services? (possible answers ranging from “My expectations were very low” to “My expectations were very high”). The question was inspired by Van Ryzin’s overall predictive expectations question (2006, p. 605), which stems from the Survey of Satisfaction with New York City Services (Van Ryzin, 2004, pp. 437–438). The normative expectations question read as follows: “Considering the number of local taxes and other resources available for local government services, do you think that *garbage and recycling* services provided by your local authority *should* be of excellent quality... (possible answers ranging from “all of the time” to “never”). The question was inspired by the overall normative expectations question in James (2009).

The questions used for measuring predictive and normative expectations were formulated to resemble other operationalizations of expectations typically used in the literature as closely as possible. The predictive question has been used extensively in the literature with minor changes since Van Ryzin’s first

study (Van Ryzin, 2004, p. 438, 2006, p. 605, 2013, p. 604; Van Ryzin, Muzzio, Immerwahr, Gulick, & Martinez, 2004, p. 334; Morgeson & Petrescu, 2011, p. 462; Morgeson, 2013, p. 297; Filtenborg, Gaardboe, & Sigsgaard-Rasmussen, 2017, p. 1241; Grimme-likhuijsen & Porumbescu, 2017, p. 1279). One characteristic of the predictive question is that the word “will” is neither part of the question nor the response options, like other question wordings sometimes used in the literature (James, 2011, p. 1424). It is, however, considered predictive (Van Ryzin, 2013, p. 610). Conversely, the normative question does include the word “should,” like other formulations in the literature (James, 2009, p. 121, 2011, p. 1424; Poister & Thomas, 2011, p. 607). The results in this study may reflect these differences in question wording in the literature, to which I will return in the discussion.

Results

The frequency distribution of the question about interpreting the word “expectations” is presented in Figure 1.

The answers from the 1,591 respondents are quite diverse. Most (39.4%) interpreted the word “expectations” as something they “will” actually receive, a probability of receiving some characteristics as a part of the service in question, that is, in a predictive way. However, a substantial share of the respondents interpreted expectations differently: 17.5 percent interpreted the word as something they must receive in accordance with normative expectations; 26.7 percent interpreted expectations in accordance with the desires interpretation, where they state what they want or desire the service to be like; and 15.2 percent stated that they interpret the word “expectations” as something that is minimally adequate (Zeithaml, Berry, & Parasuraman, 1993). Another way of looking at the results is that these three answers could all be conceptualized as belonging under the normative heading, meaning that 59.4 percent therefore interpret the word “expectations” as normative. Only 1.2 percent ($n = 19$) state that they interpret the word as something other than the predefined interpretations.

The takeaway here is that citizens tend to have very different interpretations of the word “expectations” that potentially confound investigations of expectations. Thus, some of the observed effects of expectations may simply be driven by how people in-

Figure 1
Interpretation of the Word “Expectations”

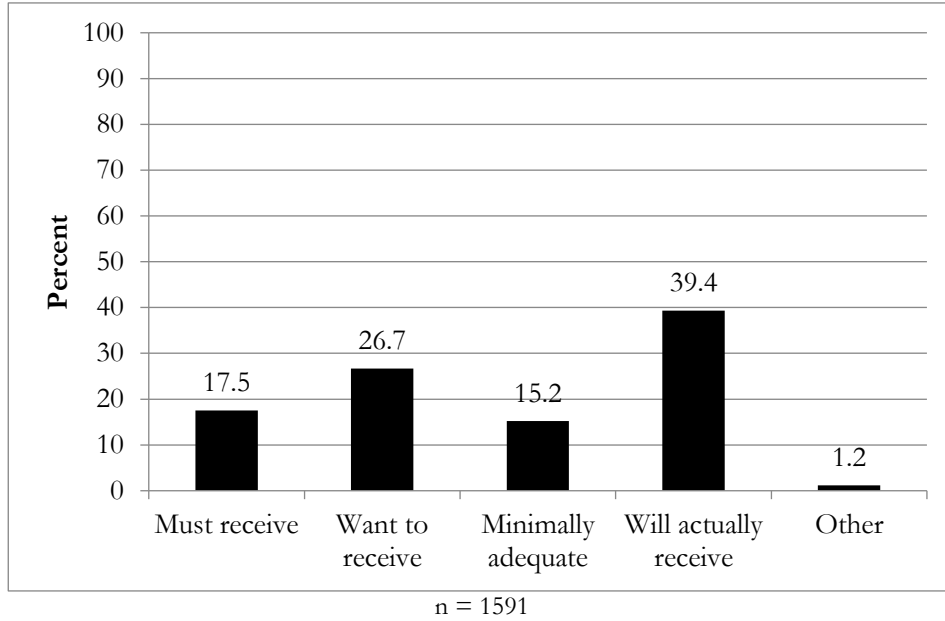
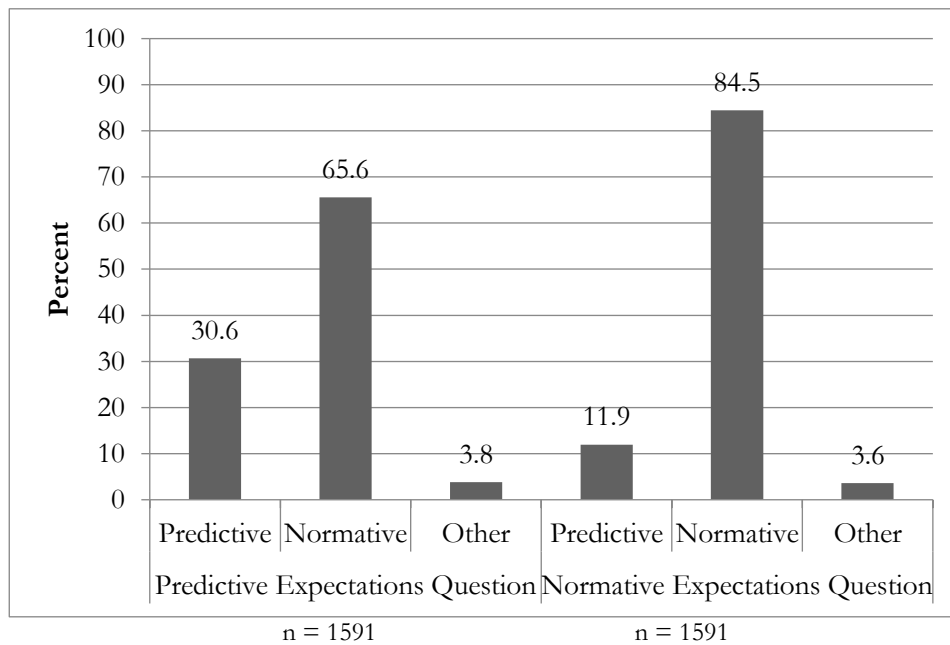


Figure 2
Citizens’ Interpretation of Two Common Questions about Expectations



interpret the questions differently.

Figure 2 shows the results of presenting either the predictive or normative expectations question to citizens and asking for their interpretation of it. Obviously, the two questions about expectations were not interpreted in one single, unambiguous way: 65.6

percent of the citizens interpreted the predictive question as normative, while only 30.6 percent interpreted it as predictive, as was the purpose of the question. In other words, there is a large discrepancy between what researchers think they are asking for and what citizens are answering.

Table 1
The Hometown Treatment

Introductory statement (both conditions)	
<p>In this next section, you will be asked to read a description of and answer questions about a hypothetical city named ‘Hometown’.</p> <p>Hometown is a medium-size US city with a growing population. Recently, Hometown’s city administrator made the following public statement about the current economic situation and the city’s budget difficulties:</p> <p>(AUGUST 2015): ‘My fellow citizens, Hometown is facing challenges as a result of the ongoing recession and a continuing decline in local tax revenues. The city has been forced all this year to make cuts across the board in order to balance our budget’.</p>	
High Expectations Condition	Low Expectations Condition
<p>‘But I want to assure you of one thing: The necessary cuts we have made will not reduce the quality of public services. Indeed, the city will find a way to make sure that the streets stay as clean as you expect them to be, that potholes continue to be fixed as fast as they should be and that all city services will be maintained at our usual high standards. I promise you that we will continue to deliver the high-quality public services that you expect of city government and that we will find a way, together, to do more with less during these difficult times.’</p>	<p>‘So, I need to be honest with you: These cuts will result in noticeable declines in the quality of many public services. The streets may not be as clean as you expect, potholes may not be fixed as fast as they should be, and many other city services will no longer meet our usual high standards. I regret that we cannot maintain the quality of services that you expect of city government, but we all must make sacrifices during these difficult times and hope, together, for better days ahead’.</p>

Table 2
Design of Study 2

	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
	High expectations	High expectations	High expectations	Low expectations	Low expectations	Low expectations
	Predictive expectations	Normative expectations	Normative expectations	Predictive expectations	Normative expectations	Normative expectations
	-	-	Predictive expectations	-	-	Predictive expectations
n	271	268	276	227	268	281

Comparatively, the typical normative question fared much better: 84.5 percent of the citizens interpreted this question as normative, 11.9 percent as predictive. This was most likely partly because the normative question contained the word “should,” and the question (see above) asked for a “will” or “should” interpretation; nevertheless, 11.9 percent interpreted it as something other than intended.

Study 2

Study 2 examined whether it is possible to make citizens aware of their implicit interpretations of the questions about expectations by asking both predictive and normative questions simultaneously. In theory, if citizens are aware that more than one interpretation (and way of asking about expectations) exists, they will, to a higher degree, interpret the predictive expectations question as a “will” question and the normative expectations question as a “should” question, making the answers to the two questions more distinct than when presented separately. When a question about predictive expectations clearly excludes a normative element, survey respondents should react more to the expectation manipulation and have, on average, a lower level of expectations than when presented with a value-driven normative expectations question (Spreng, Mackoy, & Dröge, 1998).

Study 2 exploits a fictitious case, “Hometown,” developed by Van Ryzin (2013) to experimentally manipulate citizens’ expectations to be either high or low. In the Hometown case, citizens are presented with a fictitious city and a statement from a city administrator about its services. In both cases, the city administrator addresses economic challenges as a consequence of the economic crises. The two texts are presented in Table 1.

The Hometown treatment was meant to manipulate the citizens’ expectations for public services and was successful in doing so in the study by Van Ryzin (2013, p. 604). It gives the opportunity to study what happens when the two different questions about expectations are first asked independently of one another and then asked together (juxtaposed) in both a high and a low expectations condition. Table 2 lays out the experimental design of Study 2.

The questions about expectations concern the general public services in Hometown. The predictive question reads as follows: “Based on what you have read about Hometown, how would you rate your ex-

pectations regarding the performance of the city government?” (1 = Very low expectations, 7 = Very high expectations). The normative question reads as follows: “Generally, considering the amount of local taxes and other resources available for local services, how often do you think overall services provided by local authorities *should* be of excellent quality?” (1 = Never, 7 = All the time). The success of the randomization was checked by regressing the treatment groups on all of the control variables listed in Table A.1 (online supplement). This was done in a multinomial logit model, and the results indicate balance (LR $\chi^2 = 180.06$ ($p < 0.77$). (see Table A.2 (online supplement)).

Results

The results of Study 2 are presented in Table 3. The table presents averages of the predictive and normative questions by experimental group on a 1–7 scale.

The normative expectations seem to be unaffected by the Hometown manipulation – they remain stable throughout – which is expected from the theory behind the normative expectations. However, this is not the case with predictive expectations. First, they are clearly lower in the low expectations condition than in the high expectations condition (2.63 vs. 4.41), which means that the manipulation worked. Second, the predictive expectations seem to be primed in an upward direction by the addition of the normative question, at least in the low expectation condition. While the predictive expectations question has an average of 2.63 when only this question is asked, the same question has an average of 3.04 if the normative expectations question is asked just before. Table 4 tests if the differences between the groups are significant.

Model 1 in Table 4 tests the difference between asking just the predictive expectations question in the high expectations condition and the low expectations condition (groups 1 and 4). The difference (1.784) is statistically significant at the .01 level. Model 2 tests the difference between asking just the normative expectations question in the high and low expectations conditions (groups 2 and 5). This difference is not significant (predictive and normative) asked in the “both” condition (groups 3 and 6). The difference between the two predictive questions analyzed in model 3 is clearly significant, and the coefficient equals 1.504 (avg. 4.55 and 3.04), while the coefficient in the normative case is not significant (Model 4, avg. 5.14 and 5.07). It is clear from Models 1–4 that

the high/low treatment affected the predicted expectations but not the normative expectations. This is also the case when both questions are presented together.

Looking at the important difference between the predictive question being asked by itself and being asked together with the normative question in the

low expectations condition (groups 4 and 6), we see a positive significant effect of the magnitude 0.416. This is the difference between the averages 2.63 and 3.04 in Table 3. The effect corresponds to 0.30 standard deviations. The same difference in the high expectations condition is evaluated in model 6 (groups 1 and 3, avg. 4.41 and 4.55) and is not significant.

Table 3
Average Expectations across Experimental Groups

	Predictive	Normative	Both	
			Predictive	Normative
High	4.41 (1)	5.22 (2)	4.55 (3)	5.14 (3)
Low	2.63 (4)	5.11 (5)	3.04 (6)	5.07 (6)

Notes: Average of the predictive expectations question (1 = Very low expectations, 7 = Very high expectations) and the normative expectations question (1 = All the time, 7 = Never). Experimental group number in parentheses.

Table 4
Test of Differences between Experimental Groups

	(1) Predictive Expectations High (1) vs. Low (4)	(2) Normative Expectations High (2) vs. Low (5)	(3) Both – Predictive Expectations High (3) vs. Low (6)	(4) Both – Normative Expectations High (3) vs. Low (6)	(5) Low – Predictive Expectations Both (6) vs. Single (4)	(6) High – Predictive Expectations Both (3) vs. Single (1)
Expectation level (1 = high)	1.784** (0.125)	0.109 (0.133)	1.504** (0.126)	0.074 (0.131)		
Juxtaposed Condition					0.416** (0.123)	0.136 (0.128)
Constant	2.627** (0.085)	5.114** (0.095)	3.043** (0.089)	5.068** (0.091)	2.627** (0.085)	4.411** (0.092)
Observations	503	539	557	557	509	551
R ²	0.281	0.001	0.204	0.001	0.021	0.002

Notes: * $p < .1$, ** $p < .05$, *** $p < .01$. OLS regression. Robust standard errors in parentheses. No control variables included. Results controlled for a set of demographic variables is presented in the online supplement, table A.3. Experimental group numbers in parentheses in the titles.

Discussion

The results in this study show that citizens interpret the word “expectations” very differently. Many interpret it as a prediction, as in the predictive expectations case, but even more citizens interpret it as something normative. Moreover, if citizens are asked a commonly used predictive expectations question, many interpret it as normative, whereas fewer interpret the normative question as a predictive one. Finally, in an effort to remind citizens about these two possible ways of interpreting expectations, they were asked both the predictive and normative questions. The result is not lower predictive expectations, as seen in the case of a low expectation manipulation, but instead higher predictive expectations. The normative expectations question seems to drive the predictive expectations upward instead of reminding the citizens of their interpretations of expectations. Citizens do not seem to neatly parse their normative and predictive expectations into the “correct” questions, instead allowing their normative expectations to flow into their answers to the predictive question.

It should be mentioned that the results from presenting the questions by themselves or together in Study 2 only occur in the groups receiving the low expectation treatment from the Hometown vignette (model 5 in Table 4). This hopefully limits the danger of normative expectations driving the predictive ones in citizen surveys if the questions are presented together in cases where expectations are low. However, it does not seem to be a solution to the interpretation problem that was identified in Study 1.

The predictive expectations question used in this study is special in two ways. First, it makes no reference to “will,” neither in the question nor the possible answers. This possibly makes it more open to interpretation than other questions. Second, the question is, as mentioned, probably the most used predictive question in public administration literature. Therefore, the study cannot claim to be a conservative test of the interpretation hypothesis but nonetheless addresses a challenge in the literature.

Furthermore, there might be at least two explanations for the results. First, the results could be due to question-order effects (Van de Walle & Van Ryzin 2011; Hjortskov 2017). In Study 2, the normative question always preceded the predictive question, which may have contributed to a priming effect. Sec-

ond, the specific normative question referred to tax levels as a way of bounding the normative expectations, but this mention of taxes may itself have primed citizens to have higher predictive expectations.

The main implications of the study concern the measurement of citizen expectations. The most commonly used question to measure predictive expectations seems to be interpreted by many citizens as asking for their normative expectations. This may be due to the absence of the word “will” in the question, which would signal more clearly what is meant by “expectations.” Some operationalizations of predictive expectations both mention “will” in the question and in the possible answers (James 2011, p.1424), and a suggestion based on the present research would be to use such formulations when trying to assess predictive and normative expectations separately.

In general, further research is needed to uncover the specific psychometric properties of the expectation measures when used in connection with studies of citizen satisfaction in public management research. Furthermore, the present study points to differences in how citizens interpret expectations and the questions asked about them, but the confounding effects remain a matter of speculation. One example is whether differences in interpretations drive the effect of expectations on disconfirmation and satisfaction within the Expectation-Disconfirmation Model (Oliver 1980; Van Ryzin 2006). At the very least, these differences in interpretations may lead to considerable noise in some of our expectation measures and perhaps, as a result, lower power in our studies. Another question is whether it is at all possible, and even desirable, in a public service context to obtain predictive expectations cleansed from normative views about how things should be. In some contexts, when the service is fairly non-political and non-salient to citizens, this might be possible. Yet in most public service settings where politics plays a role and importance is high, normative views about how things should be can be expected to influence the formation of citizens’ expectations. According to the present study, this would also be easier to measure without the interpretation effect, since citizens seem to interpret the normative question in a more uniform manner. Future research into citizen surveys should bear these points in mind when assessing citizen expectations.

References

- Berinsky, A. J., Huber, G. A. & Lenz, G. S. (2012). Evaluating online labor markets for experimental research: Amazon.com's Mechanical Turk. *Political Analysis*, 20(3): 351-368.
- Boulding, W., Kalra, A., Staelin, R. & Zeithaml, V. A. (1993). A dynamic process model of service quality: From expectations to behavioral intentions. *Journal of Marketing Research*, 30(1): 7-27.
- Boyne, G. A., James, O., John, P. & Petrovsky, N. (2009). Democracy and government performance: Holding incumbents accountable in English local governments. *The Journal of Politics*, 71(04): 1273-1284.
- Brown, K. & Coulter, P. B. (1983). Subjective and objective measures of police service delivery. *Public Administration Review*, 43(1): 50-58.
- Casler, K., Bickel, L. & Hackett, E. (2013). Separate but equal? A comparison of participants and data gathered via Amazon's MTurk, social media, and face-to-face behavioral testing. *Computers in Human Behavior*, 29(6): 2156-2160.
- Cohen, J. (1988) *Statistical power analysis for the behavioral sciences*, 2nd ed, Laurence Erlbaum Associates: Hillsdale, New Jersey.
- Filtenborg, A. F., Gaardboe, F. & Sigsgaard-Rasmussen, J. (2017). Experimental replication: An experimental test of the expectancy disconfirmation theory of citizen satisfaction. *Public Management Review*, Online version, 1-16.
- Goodman, J. K., Cryder, C. E. & Cheema, A. (2013). Data collection in a flat world: The strengths and weaknesses of Mechanical Turk samples. *Journal of Behavioral Decision Making*, 26(3): 213-224.
- Grimmelikhuijsen, S. & Porumbescu, G. A. (2017). Reconsidering the expectancy disconfirmation model: Three experimental replications. *Public Management Review*, 19(9): 1272-1292.
- Hauser, D. J. & Schwarz, N. (2016). Attentive Turkers: MTurk participants perform better on online attention checks than do subject pool participants. *Behavior Research Methods*, 48(1): 400-407.
- Hjortskov, M. (2017). Priming and context effects in citizen satisfaction surveys. *Public Administration*, 95(4): 912-926.
- James, O. (2009). Evaluating the expectations disconfirmation and expectations anchoring approaches to citizen satisfaction with local public services. *Journal of Public Administration Research and Theory*, 19(1): 107-123.
- James, O. (2011). Managing citizens' expectations of public service performance: Evidence from observation and experimentation in local government. *Public Administration*, 89(4): 1419-1435.
- James, O. & Moseley, A. (2014). Does performance information about public services affect citizens' perceptions, satisfaction, and voice behaviour? Field experiments with absolute and relative performance information. *Public Administration*, 92(2): 493-511.
- Lovell, M. C. (1986). Tests of the rational expectations hypothesis. *The American Economic Review*, 76(1): 110-124.
- Miller, J. A. (1977). Studying satisfaction, modifying models, eliciting expectations, posing problems, and making meaningful measurements. In Hunt, H.K., ed., *Conceptualization and Measurement of Consumer Satisfaction and Dissatisfaction*, 72-91.
- Morgeson, F. V. (2013). Expectations, disconfirmation, and citizen satisfaction with the US federal government: Testing and expanding the model. *Journal of Public Administration Research and Theory*, 23(2): 289-305.
- Morgeson, F. V. & Petrescu, C. (2011). Do they all perform alike? An examination of perceived performance, citizen satisfaction and trust with US federal agencies. *International Review of Administrative Sciences*, 77(3): 451-479.
- Mullinix, K. J., Leeper, T. J., Druckman, J. N. & Freese, J. (2015). The generalizability of survey experiments. *Journal of Experimental Political Science*, 2(02): 109-138.
- Muth, J.F. (1961). Rational expectations and the theory of price movements. *Econometrica*, 29(3): 315-335.
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17(4): 460-469.
- Paolacci, G. & Chandler, J. (2014). Inside the turk: Understanding Mechanical Turk as a participant pool. *Current Directions in Psychological Science*, 23(3): 184-188.
- Parasuraman, A., Zeithaml, V. A. & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(4): 41-50.
- Poister, T. H. & Thomas, J. C. (2011). The effect of expectations and expectancy confirmation/disconfirmation on motorists' satisfaction with state highways. *Journal of Public Administration Research and Theory*, 21(4): 601-617.
- Prakash, V. (1984). Validity and reliability of the confirmation of expectations paradigm as a determinant of consumer satisfaction. *Journal of the Academy of Marketing Science*, 12(4): 63-76.
- Santos, J. & Boote, J. (2003). A theoretical exploration and model of consumer expectations, post-purchase affective states and affective behaviour. *Jour-*

- nal of Consumer Behaviour*, 3(2): 142-156.
- Shapiro, D. N., Chandler, J. & Mueller, P. A. (2013). Using Mechanical Turk to study clinical populations. *Clinical Psychological Science*, 2167702612469015.
- Spreng, R. A., MacKenzie, S. B. & Olshavsky, R. W. (1996). A reexamination of the determinants of consumer satisfaction. *The Journal of Marketing*, 15-32.
- Spreng, R. A., Mackoy, R. & Dröge, C. (1998). Confounds in the measurement of predictive expectations. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, (11): 1-7.
- Spreng, R. A. & Mackoy, R. D. (1996). An empirical examination of a model of perceived service quality and satisfaction. *Journal of Retailing*, 72(2): 201-214.
- Stipak, B. (1979). Citizen satisfaction with urban services: Potential misuse as a performance indicator. *Public Administration Review*, 39(1): 46-52.
- Stritch, J. M., Pedersen, M. J. & Taggart, G. (2017). The opportunities and limitations of using Mechanical Turk (MTurk) in public administration and management scholarship. *International Public Management Journal*, (Online version), 1-47.
- Teas, R. K. (1993). Consumer expectations and the measurement of perceived service quality. *Journal of Professional Services Marketing*, 8(2): 33-54.
- Tse, D. K. & Wilton, P. C. (1988). Models of consumer satisfaction formation: An extension. *Journal of Marketing Research*, 25(2): 204-212.
- Van de Walle, S. & Van Ryzin, G. G. (2011). The order of questions in a survey on citizen satisfaction with public services: Lessons from a split-ballot experiment. *Public Administration*, 89(4): 1436-1450.
- Van Ryzin, G. G. (2004). Expectations, performance, and citizen satisfaction with urban services. *Journal of Policy Analysis and Management*, 23(3): 433-448.
- Van Ryzin, G. G. (2006). Testing the expectancy disconfirmation model of citizen satisfaction with local government. *Journal of Public Administration Research and Theory*, 16(4): 599-611.
- Van Ryzin, G. G. (2013). Experimental test of the expectancy-disconfirmation theory of citizen satisfaction. *Journal of Policy Analysis and Management*, 32(3): 597-614.
- Van Ryzin, G. G. & Immerwahr, S. (2007). Importance-performance analysis of citizen satisfaction surveys. *Public Administration*, 85(1): 215-226.
- Van Ryzin, G. G., Muzzio, D., Immerwahr, S., Gulick, L. & Martinez, E. (2004). Drivers and consequences of citizen satisfaction: An application of the American Customer Satisfaction Index model to New York City. *Public Administration Review*, 64(3): 331-341.
- Wirtz, J. & Mattila, A. (2001). Exploring the role of alternative perceived performance measures and needs-congruency in the consumer satisfaction process. *Journal of Consumer Psychology*, 11(3): 181-192.
- Zeithaml, V. A., Berry, L. L. & Parasuraman, A. (1993). The nature and determinants of customer expectations of service. *Journal of the Academy of Marketing Science*, 21(1): 1-12