COMMUNICATED VALUE STATEMENTS, PERSONAL NORMS AND THE INTENTION TO FOLLOW PRO-ENVIRONMENTAL BEHAVIOR

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RESUMO
This paper examines the effects of a value statement on the intention to follow pro-environmental behavior and if these effects depend on employees’ personal norms. I predict that, in situations where employees hold ambiguous personal norms, a value statement is of greater importance for them because it communicates organizational prioritized goals and clarifies expectations, providing the necessary meaning to guide employees’ decisions. Results show that the intention to follow pro-environmental behavior is higher (lower) when an environmental (economic) value statement is communicated from the main executive, but only for employees with ambiguous personal norms. Additional analysis shows that the effect of a value statement on the intention to follow pro-environmental behavior is mediated by the development of a pro-environmental attitude for employees with unambiguous personal norms. In addition, employees with ambiguous personal norms who do not receive a value statement have no guidance as to appropriate behaviors and tend to ‘sit on the fence’. The main implication of these results is that the communication of an environmental value statement for employees with ambiguous personal norms can be an effective informal control mechanism to provide guidance that fosters the intention to follow pro-environmental behavior.

Palavras-Chave: Informal controls; Value statement; Personal norms; Pro-environmental behavior.

1. INTRODUCTION
This paper examines the effects of a value statement on the intention to follow pro-environmental behavior (PEB) and if these effects depend on employees’ personal norms. Clear organizational values can result in higher levels of employees’ commitment and then organizations adopt value statements to guide employees’ decisions (Caldwell, Chatman, & O’Reilly, 1990; Urbany, 2005). However, value statements are not always effective in guiding employees’ decisions. Empty and meaningless value statements can harm managerial credibility and create cynical employees (Lencioni, 2002). In addition, because value statements are not always effectively communicated (Fiske, 2011), employees may lack information on which to determine if their personal norms are aligned to organizational values and thereby to decide if they will comply with the prioritized goals. I then argue in this paper that to understand the behavioral effects of a value statement, it is important not only to examine if a value statement has clear, meaningful prioritized goals that are effectively communicated to employees, but also how the communicated value statement interacts with employees’ personal norms to stimulate appropriate behaviors.

Prior research in management control has showed that a communicated value statement can affect employees’ behavior in the presence of performance incentives, regardless of the fact whether the goals prioritized in the value statement has a narrow focus on quality improvement (Kachelmeier, Thornock, & Williamson, 2016) or a broad focus on organizational belongingness (Akinyele, Arnold, & Sutton, 2020). In these studies, a communicated value statement is viewed as a subjective norm that can exert social pressure to perform a desirable behavior (O’Reilly, Chatman, & Caldwell, 1991). However, it has been shown that subjective norms such as those conveyed by a value statement may not be enough to determine employees’
intention to perform the desirable behavior (Ajzen & Madden, 1986; Ajzen, 1991). In fact, when it comes to antecedents of PEB, prior studies show that personal norms are the most significant determinant and that the inclusion of personal norms as a predictor of intentions and behaviors mutes the once significant independent effect of a subjective norm (e.g., Harland, Staats, & Wilke, 1999; Rezaei, Safa, Damalas, & Ganjkhanloo, 2019).

As a consequence, one would expect that a value statement prioritizing financial returns (economic value statement) will reduce employees’ intention to follow PEB, but only when employees’ personal norms are aligned with the communicated values, that is, when employees’ personal norms can be classified as belonging to the domain of economic behaviors (business personal norm). Similarly, a value statement promoting environmental protection (environmental value statement) will increase employees’ intention to follow PEB, but only when employees’ personal norms can be classified as belonging to the domain of moral, environmentally relevant behaviors (environmental personal norm). These expectations that an alignment between personal values and organizational values is required to affect behavior in desirable ways is consistent with the literature on person-organization (P-O) fit (e.g., Chatman, 1989; O’Reilly et al., 1991).

An assumption behind these expectations is that employees have clear, consistent, and unambiguous interpretations of a situation and thereby activate unambiguous personal norms favoring either economic or environmental behavior. By activating unambiguous personal norms, employees are able to evaluate how aligned the communicated organizational values are with their personal values and hence behave accordingly. However, employees do not always hold unambiguous personal norms; they can instead develop simultaneous, inconsistent, ambiguous personal norms (March, 1994). In ambiguous situations, there is no clear and unique course of action to be followed (Forgas, 1982) and because of that employees may not be highly confident whether financial returns or environmental protection is more important. In the presence of ambiguous personal norms, the prediction on how individuals will behave is more challenging (Church, Jiang, Kuang, & Vitalis, 2019). Based on a logic of appropriateness for decision making (March, 1994; Messick, 1999), I predict that in situations where employees hold ambiguous personal norms a value statement is of greater importance for them and have a large impact on their behavior because it communicates organizational prioritized goals and clarifies expectations (Urbany, 2005), providing the necessary meaning to guide employees’ decisions (March, 1994).

I argue that the value prioritized in a value statement conveys a subjective norm about what the organization believes is appropriate that leads employees to develop attitudes toward those values and, as a result, to follow appropriate behaviors, but only when employees hold ambiguous personal norms. More specifically, consistent with norm-activation theory (Schwartz & Howard, 1984; Schwartz, 1997), when employees have unambiguous personal norms, a value statement will be less effective in guiding employees’ behavior and the intention to follow PEB will be primarily driven by personal norms (Harland et al., 1999; Rezaei et al., 2019). However, employees with ambiguous personal norms do not know with certainty whether is more important to generate financial returns or to foster environmental protection. They need guidance from the organization as to the appropriateness of following PEB. Consistent with a logic of appropriateness for decision making (March, 1994; Messick, 1999), when an organization communicates an environmental value statement, the subjective norm conveyed by the value statement favoring environmental protection will guide those employees to have higher intention to follow PEB even though doing so reduces financial returns. Similarly, when an economic value statement is communicated, the subjective norm conveyed by the value statement promoting financial returns will guide employees with ambiguous personal norms to conduct a cost-benefit analysis and favor financial returns over environmental protection. In sum, I hypothesize that an environmental (economic) value
statement increases (decreases) employees’ intention to follow PEB, but only when employees have ambiguous personal norms.

I design an experiment where participants work for a middle-sized agroindustry. Participants face an environmental dilemma and have to indicate their intention to change the current production process and hence reduce the negative environmental harm on society. Choosing a cleaner production process would have a positive environmental effect, but making this choice reduces organizational profits. I manipulate between-participants the value statement communicated by the main executive. In one condition, participants receive a value statement valuing environmental protection and in the other condition receive a value statement valuing financial returns. In a post-experimental question, I measure participants’ personal norm and classify them as holding either ambiguous or unambiguous personal norms.

Supporting the main prediction of this paper, I find a statistically significant interactive effect between value statement and participants’ personal norms on their intention to follow PEB. Participants holding ambiguous personal norms are significantly more likely to follow PEB when they receive an environmental value statement than an economic value statement. Conversely, there is no difference in the intention to follow PEB for participants with unambiguous personal norms whether they receive an environmental or an economic value statement. A path analysis shows that pro-environmental attitudes mediate the effect of value statement on the intention to follow PEB, but only for participants with unambiguous personal norms, while for those with ambiguous personal norms the value statement is of greater importance to clarify expectations and guide their intention to follow PEB. Additional analyses show that participants with ambiguous personal norms who do not receive a value statement have no guidance as to appropriate courses of action and, as a result, tend to ‘sit on the fence’. Finally, results indicate that those with unambiguous personal norms have higher intention to follow PEB when the decision situation is framed in terms of a cost-benefit analysis.

The results of this paper provide contributions to both theory and practice. Prior studies show that a value statement is an effective control mechanism by acting as a subjective norm and exerting social pressure to perform desirable behaviors (O’Reilly et al., 1991; Akinyele et al., 2020). In addition, it has been highlighted the importance of examining the role of social norms and values in experimental research in management accounting since these factors can impact employees’ behavior (Sprinkle & Williamson, 2007; Taylor & Bloomfield, 2011). This paper contributes to this literature by showing that a communicated value statement interacts with employees’ personal norms to affect appropriate behavior in an environmental dilemma setting so that the effectiveness of a value statement as a control mechanism depends on the extent to which employees’ personal norms are ambiguous. In particular, results suggest that an environmental (economic) value statement is more likely to be effective and exert social pressure to (not) stimulate employees’ intention to follow PEB when employees hold ambiguous personal norms.

Results are also important for organizations willing to use value statements as a control mechanism to stimulate PEB. The business press offers examples of environmental disasters caused by organizations that place higher emphasis on the use of formal controls than on providing guidance and communicating social norms prioritizing pro-environmental initiatives (e.g., Godoy, Desidério, Flach, & Vieira, 2019). Rather than focusing on formal controls (e.g., performance incentives) that not always stimulate appropriate behavior (Sprinkle & Williamson, 2007), organizations willing to stimulate PEB could be better off focusing on communicating an environmental value statement to set priorities and guide courses of action that are aligned with PEB. Results of this paper suggest that organizations can benefit from a value communication prioritizing environmental protection mainly for employees who do not know with certainty whether is more important to generate financial returns or to foster environmental protection.
In the next section, I discuss the relevant literature and develop the research hypothesis. Then, I describe the experimental setting and the main variables. In the sequence, I analyze the results, discuss the main implications of this paper and provide avenues for future research.

2. THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

2.1 Value Statements as a Control Mechanism

Value statements are part of cultural controls that include “The values, beliefs and social norms which are established to influence employees behavior” (Malmi & Brown, 2008, p. 292). They can also be described as part of belief systems that organizations use to communicate prioritized goals and provide direction to employees (Simons, 1995). Organizations adopt value statements because they guide employees by setting appropriate behaviors (Urbany, 2005; Marginson, 2009; Berry et al., 2009). Value statements can affect employees’ behavior when communicated by top management because they act as a subjective norm that can exert social pressure on employees to perform desirable behavior and comply with the communicated values (O’Reilly et al., 1991).

Prior studies provide evidence that clear and salient communicated value statements can result in positive outcomes to the organization such as increased trust and fairness perception, clarification of appropriate actions to be taken by employees, and a higher level of employees’ commitment to organizational goals based on internalization and identification (Caldwell et al., 1990; Urbany, 2005). In the management control literature, prior studies provide experimental evidence consistent with the expectation that a communicated value statement can exert social pressure on employees to comply with the communicated values, even when doing so reduces employees’ compensation. For instance, Kachelmeier et al. (2016) indicate that the presence of a value statement prioritizing on quality improvement leads employees to move from a more efficient course of action to one that is less optimal, though more aligned with the prioritized goal. Akinyele et al. (2020) extend this result by showing that the behavioral effects of a value statement occurs not only when the communicated values have a narrow focus on quality improvement, but also when it has a broad focus on organizational belongingness.

Value statements, however, can also result in negative outcomes to the organization and are not always effective in guiding employees’ decisions. Employees can see them as hypocritical statements when not practiced by top management (Urbany, 2005). In addition, value statements that are empty and meaningless can harm managerial credibility and create cynical employees (Lencioni, 2002). Further, value statements are not always effectively communicated, resulting in a lack of understanding and different interpretations of the meanings of the communicated values (Urbany, 2005). A poorly communicated value statement can also make more difficult to employees to determine if their personal norms are aligned to organizational values and thereby to decide if they will comply with the communicated values (Fiske, 2011). In fact, even when value statements are communicated properly, their normative guidance to behavior can differ from employees’ personal norms or can conflict with economic self-interest (Urbany 2005). Thus, in order to understand the behavioral effects of a communicated value statement, we argue in this paper that it is important to examine not only if a value statement has clear, meaningful prioritized goals that are effectively communicated to employees, but also how the communicated value statement interacts with employees’ personal norms to stimulate appropriate behaviors.

2.2 Personal Norms and Pro-Environmental Behavior

Personal norms refer to internalized values that generate feelings of moral obligation toward those values and engage individuals in following specific behaviors (Schwartz & Howard, 1984; Schwartz, 1997). In order to influence behavior, personal norms need to be
activated (Harland et al., 1999). Two factors are responsible for activating personal norms (Schwartz, 1997). The first, awareness of consequences, refers to individuals’ awareness of consequences of their behavior for the welfare of others (De Groot & Steg, 2009). The second, ascription of responsibility, refers to individuals’ feelings of responsibility for the consequences of their actions (De Groot & Steg, 2009). Personal norms are then momentary and situation-specific and once activated will affect one’s intention “to perform or refrain from specific actions” (Schwartz & Howard, 1984, p. 234). In particular, a stronger personal norm in favor of a particular behavior is associated with a greater likelihood that an individual will follow that behavior (Thøgersen & Ölander, 2006).

Personal norms are a key component of the Norm Activation Model (NAM) to predict prosocial intentions and behavior (Schwartz & Howard, 1984). Based on the NAM, prosocial behavior is a function of personal norms (Rezaei et al, 2019). Prior studies testing NAM have given support to the expectation that personal norms play a significant role in explaining a variety of prosocial intentions and behaviors, including volunteering and helping in emergency situations (De Groot & Steg, 2009). Personal norms have also been found to be an influential predictor of prosocial intentions and behaviors in contexts where the awareness of consequences are less evident, such as in the case of PEB (Harland et al., 1999; Thøgersen & Ölander, 2006; Biel & Thøgersen, 2007). The explanatory power of personal norms is expected to be particularly high in situations characterized by low-cost environmental behavior and good intentions, such as policy acceptability and environmental citizenship (Steg & Vleg, 2009).

As a particular instance of prosocial behavior, PEB is a behavior aiming at promoting environmental sustainability (Ones, Wiernik, Diichert, & Klein, 2015). Individuals with the intention to follow PEB are those willing to promote benefits to the environment or at least avoid to cause harm to it (Steg & Vleg, 2009). The intention to follow PEB involves individuals’ evaluation of what is right and wrong in the moral domain, rather than a balance between personal costs and benefits in the economic domain (Thøgersen, 1996; Harland et al., 1999). For organizations, PEB is a theme of great concern (Bansal & Roth, 2000) and employees play a crucial role in developing and implementing pro-environmental initiatives (Ones et al., 2015).

The challenge with stimulating PEB is that this type of prosocial behavior exhibits a conflict between individual and collective preferences as is the case in social dilemmas (Karp, 1996). From a standard economic perspective, individuals in a social dilemma setting tend to follow self-interested behavior (Dawes, 1980; Biel & Thøgersen, 2007) and hence they will not care about environmental protection. Yet, individuals often care about collective preferences rather than favoring only individual preferences (Dawes & Messick, 2000). One reason individuals are stimulated to pay attention to the environmental impacts of their actions is that they hold personal norms favoring environmental protection (e.g., Steg & Vlek, 2009; Ates, 2020). Thus, consistent with NAM, examining the role of employees’ personal norms can increase the understanding of employees’ intention to follow PEB at work (Harland et al., 1999).

2.3 Unambiguous versus Ambiguous Personal Norms

Individuals can activate personal norms that are either unambiguous or ambiguous. When individuals hold clear, consistent, and unambiguous interpretations of a situation and thereby they activate unambiguous personal norms, individuals will with more certainty identify and follow the courses of action that are more appropriate in the particular situation (March, 1994). For instance, if employees activate a business personal norm when faced with a situation in which they have to decide whether or not to comply with an environmental agreement, they will less likely to follow PEB (Tenbrunsel & Messick, 1999); conversely, if employees activate a personal norm in the domain of moral behavior when faced with the same situation, they will more likely to follow PEB (Tenbrunsel & Messick, 1999). The problem is
that individuals do not always hold unambiguous personal norms, but they can rather activate simultaneous, inconsistent, ambiguous personal norms (March, 1994).

Ambiguous situations are characterized as eliciting a wide range of possible courses of action (Forgas, 1982). In particular, the activation of ambiguous personal norms may imply the presence of contradictory preferences (March, 1987). As a result, individuals may not be able to identify which personal norm is more relevant and central in the decision context and not be highly confident as to the most appropriate course of action when faced with ambiguous situation (March, 1994). It has been acknowledged that the activation of ambiguous personal norms imposes more challenge when one is predicting how individuals will behave (Church et al., 2019). As elaborated below, consistent with a logic of appropriateness for decision making (March, 1994; Messick, 1999), I expect that the communication of a value statement is of greater importance to employees who activate ambiguous personal norms and have a large impact on their behavior because the value statement communicates organizational prioritized goals and clarifies employees’ expectations (Urbany, 2005), providing the necessary meaning to guide employees’ decisions (March, 1994).

2.4 Value Statements and Personal Norms: Interactive Effect

I argue in this paper that the value prioritized in a value statement conveys a subjective norm about what the organization believes is appropriate that leads employees to develop attitudes toward those values and, as a result, to follow appropriate behaviors, but only when employees hold ambiguous personal norms. As a subjective norm, a value statement exerts social pressure to foster appropriate behavior (O’Reilly et al., 1991).

Prior research in management control provides support to the expectation that a value statement can exert social pressure on employees to comply with the communicated values in the presence of performance incentives. For instance, Kachelmeier et al. (2016) show that a value statement communicating that “We value the number of correct responses you can give” leads employees to follow a course of action that is aligned with the communicated values. Similarly, Akinyele et al. (2020) show that even a value statement with a broad focus emphasizing “The work you do is an important part of the success of our company. Together we build systems that work!” is able to stimulate employees to engage in a course of action that is aligned with the communicated values. Value statements can also promote appropriate behaviors when no other controls—formal or informal—are present whether the value communication is consciously or unconsciously primed (Andrejkow, Berger, & Guo, 2019).

One would then expect that a value statement prioritizing financial returns (economic value statement) will have a negative effect on employees’ intention to follow PEB, while a value statement valuing environmental protection (environmental value statement) will positively affect employees’ intention to follow PEB. Yet, prior studies have shown that subjective norms such as those conveyed by a value statement are not a sufficient determinant of employees’ intention to perform the appropriate behavior in a particular situation (Ajzen, 1991; Ajzen & Madden, 1986). These studies indicate that not only personal norms are more important than subjective norms to predict one’s intention to follow PEB, but also the inclusion of personal norms as a predictor of intention to follow PEB mutes the once significant independent effect of the subjective norm (e.g., Harland et al., 1999; Rezaei et al., 2019).

Accordingly, one would predict that an economic value statement will reduce employees’ intention to follow PEB, but only when their personal norms can be classified as belonging to the domain of economic behaviors (business personal norm). Similarly, an environmental value statement would be expected to increase employees’ intention to follow PEB, but only when employees’ personal norms can be classified as belonging to the domain of environmentally relevant behaviors (environmental personal norm). These expectations are consistent with the P-O fit literature that provides support to the expectation that the alignment
between organizational values and personal values is required to stimulate employees’ behavior in appropriate ways (e.g., Chatman 1989; O’Reilly et al., 1991; Verquer, Beehr, & Wagner, 2003).

In order for individuals to be able to evaluate the degree of consistency between their personal values and the organizational values, organizations not only have to communicate clear value statements, but also individuals have to hold unambiguous personal norms. Consistent with NAM (Schwartz & Howard, 1984; Schwartz, 1997), the subjective norm conveyed by a value statement will be less effective in guiding employees’ behavior for those holding unambiguous personal norms and their intention to follow PEB will be primarily driven by the activated personal norms (Harland et al., 1999; Thøgersen & Ölander, 2006; Rezaei et al., 2019). Yet, as discussed earlier, employees can develop simultaneous, inconsistent, ambiguous personal norms that will make more difficult the identification of appropriate courses of action (March, 1994).

Employees with ambiguous personal norms do not know with certainty whether is more important for the organization to generate financial returns or to foster environmental protection. For those employees, the organization needs to provide guidance as to the appropriateness of following PEB. Consistent with a logic of appropriateness for decision making (March, 1994; Messick, 1999), when the organization communicates an environmental value statement, the subjective norm conveyed by the value statement favoring environmental protection guides employees with ambiguous personal norms to have higher intention to follow PEB even though doing so reduces financial returns. Similarly, when communicating an economic value statement, the subjective norm conveyed by the value statement promoting financial returns guides those employees to conduct a cost-benefit analysis and hence to have lower intention to follow PEB. Thus, for employees with ambiguous personal norms, the communicated value statement is more likely to be effective in guiding their intention to follow PEB.

In sum, communicated value statements affect employees’ intention to follow PEB, but the effect will differ depending on whether employees hold unambiguous or ambiguous personal norms. For those with unambiguous personal norms, the communicated value statement is less influential and personal norms are the main driver of employees’ intention to follow PEB. By contrast, the communicated value statement is the most influential factor guiding employees’ intention to follow PEB for those with ambiguous personal norms. Specifically, I hypothesize that the communication of an environmental (economic) value statement increases (decreases) employees’ intention to follow PEB, but only when employees have ambiguous personal norms. Formally, I state the research hypothesis as follows:

Hypothesis: The communication of an environmental (economic) value statement increases (decreases) employees’ intention to follow PEB, but only for employees with ambiguous personal norms.

3. EXPERIMENTAL DESIGN

I test the research hypothesis using a social dilemma setting where participants indicate their intention to follow PEB that results in positive environmental effects but reduces organizational profits. The experiment is a 2 x 2 between-participants design, including a manipulated variable and a measured variable. I manipulate the communicated value statement (environmental versus economic) and measure participants’ personal norm in a post-experimental question (ambiguous versus unambiguous).

3.1 Participants and Procedure
Participants are 113 undergraduate students recruited from a business school at a Brazilian university. The average age is 22.8 years, and 72.6 percent are male. Participants’ major includes economics (29.2 percent), business (30.1 percent), accounting (33.6 percent), and actuarial sciences (7.1 percent). About half of the participants (47.8 percent) are first-year students. 51.3 percent of them are not currently working and their average professional experience is 1.8 years. As the goal of this study is to examine how individuals make trade-offs between environmental protection and financial returns in a social dilemma setting, I do not require participants with sophisticated prior knowledge (Libby, Bloomfield, & Nelson, 2002).

The experimental procedures are the same in all conditions. Participants obtain access to the experimental task through a link sent to their institutional electronic address. The link leads to the Qualtrics® software where the task is built. The software randomly assigns participants to experimental conditions. Before entering the task, participants read a consent form and indicate their agreement to participate in the research. Then, they read general instructions including their experimental role and the sequence. First, participants receive specific instructions relative to the experimental setting. I insert the manipulation as part of the specific instructions just after the information about participants’ role in the task. Then, participants indicate their intention to change the current production process and reduce environmental harm. Finally, participants respond to post-experimental questions, including two items capturing their personal norms, comprehension and manipulation checks, two items capturing participants’ attitude toward the environment, and demographic questions.

### 3.2 Experimental Task

Participants assume the role of a manager responsible for a middle-sized agroindustry named AGRO S.A. whose main product is soybean. They read that the organization currently uses only Pesticide A in its production process that causes environmental harm, such as increased bacterial resistance to antibiotics, decreased bee population, and increased soil and water contamination. Participants are told that environmentalists are putting pressure on the organization to combine the use of Pesticide A with Biopesticides, which are produced from fungi and bacteria and affect only the pests to be removed from the production process. Biopesticides have the same purchase cost as Pesticide A, but need more frequent reapplication in the plants and require special storage. Combined, these two features cause the total production cost to increase by 3 percent with each 10 percent increase in the proportional use of Biopesticide. Then, a mixture of 90 percent of Pesticide A and 10 percent of Biopesticides increases by 3 percent the total production cost; a mixture of 80 percent of Pesticide A and 20 percent of Biopesticides increases by 6 percent the total production cost; and so on.

I inform participants that the sole use of Biopesticides (100 percent of Biopesticides) can eliminate the total negative environmental impacts of the current production process. To make their decision not observable to outsiders, participants are told that environmentalists cannot monitor the amount of Biopesticide they decide to use in the production process. In this scenario, participants indicate the percentage of Biopesticides they would use in the final combination of pesticides to be applied in the soybean production process, capturing the trade-offs between environmental protection and financial returns.

### 3.3 Variable Manipulation and Measurement

I manipulate the communicated value statement in two levels: environmental or economic. In the environmental condition, participants receive a message sent by the main executive stating that: “We care about the protection and preservation of the environment; we encourage and promote actions for sustainable environmental development.” In the economic condition, the message sent by the main executive is: “We care about generating substantial financial returns; we encourage and promote actions for the organization’s profitable growth.”
I also include a no value statement condition where participants do not receive any message communicating organizational values. I use the no value statement condition for additional analysis.

I measure participants’ activated personal norms by asking them to indicate their level of agreement to two items in a seven-point Likert scale: (1) totally disagree to (7) totally agree. The first item is “I clearly understand the importance of managing the company profitably” and refers to the centrality of a business personal norm to the participant, while the second item is “I clearly understand the importance of protecting the environment” and refers to the centrality of an environmental personal norm to the participant. I create a single score of personal norm based on the difference between the level of agreement with the environmental personal norm and the level of agreement with the business personal norm so that I can capture which personal norm is more central to the participant and have the most influence in her intention to follow PEB. Positive (negative) values indicate that an environmental (a business) personal norm is more central. In either case, participants are assumed to exhibit unambiguous personal norms. Situations where the difference is zero indicate that participants do not have a more relevant and central personal norm and are then classified as exhibiting an ambiguous personal norm.

4. RESULTS

4.1 Comprehension and Manipulation Checks

Participants answer two comprehension questions. First, participants indicate the environmental consequences of using more Biopesticide. Four participants fail to answer that the use of more Biopesticide reduces the negative impacts on the environment. Second, they indicate the financial impact of combining Pesticide A with Biopesticide. Eight participants fail to answer that the combined use of Pesticide A and Biopesticide increases the production cost of soybean. Together, 9.6 percent of participants fail to answer the two comprehension questions. I exclude them from the main analysis. As a result, the final sample consists of 113 participants.

To test the effectiveness of the value statement manipulation, participants indicate the level of agreement to two questions in a seven-point Likert scale: (1) totally disagree to (7) totally agree. The questions are: ‘How much you feel AGRO S.A. values environmental protection and preservation’ and ‘How much you feel AGRO S.A. values substantial financial returns.’ If the manipulation is effective, those who receive an environmental value statement agree with the first assertion at a greater extent than to the second one, while participants who receive an economic value statement agree with the second assertion at a greater extent than to the first one. I then calculate the difference between participants’ level of agreement to the first assertion and the second assertion. Positive values mean that participants feel that the organization puts more value to environmental protection than to financial returns, while negative values indicate the opposite. Results show that participants who receive an environmental value statement feel the organization values more environmental protection than financial returns at a greater extent than participants who receive an economic value statement ($t = 1.449$, one-tailed $p = 0.076$).

4.2 Hypotheses Tests

Table 1 and Figure 1 present descriptive statistics. The dependent variable is intention to follow PEB measured as the percentage of Biopesticide participants would combine with Pesticide A in the production process. In the value statement conditions, intention to follow PEB is higher for participants who receive an environmental value statement and hold ambiguous personal norms (56.65), while intention to follow PEB is lower for participants who receive an economic value statement and hold ambiguous personal norms (31.67).
The research hypothesis predicts that the communication of an environmental (economic) value statement increases (decreases) employees’ intention to follow PEB, but only for those with ambiguous personal norms. I then expect that the intention to follow PEB will be higher for participants with ambiguous personal norms in the environmental value statement condition than otherwise; likewise, the intention to follow PEB will be lower for those with ambiguous personal norms in the economic value statement condition than otherwise. The value statement will have no main effect on the intention to follow PEB for participants with unambiguous personal norms. To test this hypothesis, I conduct an Analysis of Variance (ANOVA) test with the intention to follow PEB as the dependent variable and value statement condition, personal norm, and their interaction as independent variables. Panel A of Table 2 shows that the interaction term between value statement condition and personal norm is significant ($F=4.03$; one-tailed $p=0.024$).

Table 1
Descriptive statistics: Employees’ intention to follow PEB

<table>
<thead>
<tr>
<th>Value Statement</th>
<th>Unambiguous Personal Norm</th>
<th>Ambiguous Personal Norm</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>47.70</td>
<td>56.65</td>
<td>51.16</td>
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<tr>
<td>Standard Deviation</td>
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<td>(7.96)</td>
<td>(4.80)</td>
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<tr>
<td>Number of Participants</td>
<td>[27]</td>
<td>[17]</td>
<td>[44]</td>
</tr>
<tr>
<td>Economic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>53.36</td>
<td>31.67</td>
<td>46.32</td>
</tr>
<tr>
<td>Standard Deviation</td>
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<td>(8.47)</td>
<td>(5.68)</td>
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<tr>
<td>Number of Participants</td>
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<td>[12]</td>
<td>[37]</td>
</tr>
<tr>
<td>No Value Statement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>56.95</td>
<td>50.00</td>
<td>54.13</td>
</tr>
<tr>
<td>Standard Deviation</td>
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<td>(7.66)</td>
<td>(5.26)</td>
</tr>
<tr>
<td>Number of Participants</td>
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<td>[13]</td>
<td>[32]</td>
</tr>
<tr>
<td>Total</td>
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</tr>
<tr>
<td>Mean</td>
<td>52.17</td>
<td>47.45</td>
<td>50.42</td>
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<tr>
<td>Standard Deviation</td>
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<td>Number of Participants</td>
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<td>[42]</td>
<td>[113]</td>
</tr>
</tbody>
</table>

Source: research data (2020).

Figure 1. Mean intention to follow PEB by employees with unambiguous versus ambiguous personal choices in the environmental and economic value statement conditions.

Source: Elaborated by the author
To better understand the interaction between value statement condition and personal norm, I test the simple effects. I examine the differential effects of value statement on employees’ intention to follow PEB for unambiguous versus ambiguous employees. Panel B of Table 2 shows that participants with ambiguous personal norms have significantly higher intention to follow PEB in the environmental condition than in the economic condition ($F=4.44$; two-tailed $p=0.044$). On the other hand, the intention to follow PEB for employees with unambiguous personal norms does not significantly differ ($F=0.38$; two-tailed $p=0.543$) between the two value statement conditions. These results are consistent with the arguments developed in this paper that a communicated value statement can act as an effective control mechanism to guide employees’ behavior, but only for those with ambiguous personal norms. Overall, results suggest that the behavioral effects of a value statement depend not only on the communication of meaningful prioritized goals, but also on the extent to which employees have ambiguous personal norms.

Table 2
ANOVA (dependent variable = employees’ intention to follow PEB)

<table>
<thead>
<tr>
<th>Panel A</th>
<th>Factor</th>
<th>df</th>
<th>MS</th>
<th>$F$</th>
<th>$p$-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value Statement Condition</td>
<td>1</td>
<td>1,703.61</td>
<td>1.60</td>
<td>0.210</td>
</tr>
<tr>
<td></td>
<td>Personal Norm</td>
<td>1</td>
<td>741.63</td>
<td>0.70</td>
<td>0.406</td>
</tr>
<tr>
<td></td>
<td>Interaction</td>
<td>1</td>
<td>4,282.08</td>
<td>4.03</td>
<td>0.024*</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>7</td>
<td>1,063.84</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel B</th>
<th>Factor</th>
<th>df</th>
<th>MS</th>
<th>$F$</th>
<th>$p$-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value Statement Condition for Ambiguous Personal Norm</td>
<td>1</td>
<td>415.30</td>
<td>0.38</td>
<td>0.543</td>
</tr>
<tr>
<td></td>
<td>Value Statement Condition for Unambiguous Personal Norm</td>
<td>1</td>
<td>4,389.66</td>
<td>4.44</td>
<td>0.044*</td>
</tr>
</tbody>
</table>

Note: An asterisk indicates a one-tailed test for a directional prediction. Source: research data (2020).

4.3 Mediation Analysis
The arguments developed in this paper suggest that a communicated value statement is of greater importance for employees with ambiguous personal norms because they need more clarification and guidance in the decision making process. To the extent that this argument is valid, different from those with unambiguous personal norms, one would expect that employees with ambiguous personal norms will not develop a unique and clear attitude toward the values prioritized in the value statement. In post-experimental questions, participants indicate their level of agreement to two items in a seven-point Likert scale: (1) totally disagree to (7) totally agree. The first item asks the extent to which they agree that “businesses need to spend more resources on environmental protection”, while the second one asks the extent to which participants agree that “resources should not be devoted to environmental protection because a firm’s profitability will be harmed”. The items capture attitudes toward the environment and attitudes toward business, respectively. I create a single score of pro-environmental attitude based on the difference between the level of agreement with the environmental attitude and the business attitude in order to capture the extent to which participants’ attitude tends to be more or less favorable to environmental protection. The higher and more positive the score is, the more participants develop a pro-environmental attitude. I test whether pro-environmental attitude mediates the main findings.

I conduct a structural equations-based path analysis. Figure 2 shows model results. The goodness of fit is confirmed with the Tucker-Lewis index (1.00), a root mean square error of approximation (0.00), and a comparative fit index (1.00). Consistent with expectations, for participants with ambiguous personal norms, the value statement significantly explains the intention to follow PEB, with the percentage of Biopesticide been higher in the environmental
condition than in the economic condition (p = 0.025, one-tailed, Link 3). Comparatively, the relationship between value statement and the intention to follow PEB is not significant for participants with unambiguous personal norms (p = 0.320, one-tailed, Link 3). Therefore, the communicated value statement helps clarify expectations and guide behavior for participants with ambiguous personal norms so that they have higher intention to follow PEB when the value statement communicates organizational normative beliefs that values environmental protection and have less intention to follow PEB when the value statement prioritizes financial returns.

Figure 2 indicates that the other paths are also consistent with model expectations. There is no significant relationship between value statement and pro-environmental attitude (p = 0.176, one-tailed, Link 1) for participants with ambiguous personal norms. Conversely, for those with unambiguous personal norms, the relationship between value statement and pro-environmental attitude is positive and significant, with higher pro-environmental attitude in the environmental condition than in the economic condition (p = 0.055, one-tailed, Link 1). Then, only employees with unambiguous personal norms are able to develop a unique and clear attitude toward the communicated values, while pro-environmental attitudes is not affected by employees’ personal norms when personal norms are ambiguous.

Figure 2. Results of mediation analysis.
Source: Elaborated by the author

Finally, the path from pro-environmental attitude to intention to follow PEB is positive and significant for participants with ambiguous (p = 0.045, one-tailed, Link 2) and unambiguous personal norms (p = 0.000, one-tailed, Link 2). Then, participants with higher pro-environmental attitude have higher intention to follow PEB regardless of the personal norm. However, only for participants with unambiguous personal norms, pro-environmental attitude mediates the effect of value statement on intention to follow PEB. In particular, an environmental value statement leads those participants to develop higher pro-environmental attitude, which results in higher intention to follow PEB. Conversely, an economic value statement leads participants to develop lower pro-environmental attitude, which results in lower intention to follow PEB. Overall, I find evidence consistent with the argument developed in this paper that the effect of a value statement is of greater importance for employees with ambiguous personal norms because the subjective norms communicated through the value statement help clarify expectations and guide PEB for those employees. On the other hand, for employees with unambiguous personal norms, the value statement is less effective in guiding PEB, acting only indirectly through the development of employees’ attitudes toward the values prioritized in the value statement.

4.4 Additional Analysis

First, the rationale developed in this paper states that the communicated value statement is of greater importance in guiding employees’ behavior for employees with ambiguous personal norms. Then, if the organization does not communicate a value statement, one would
expect that employees with ambiguous personal norms will have no guidance as to appropriate behaviors and hence will tend to ‘sit on the fence’ (van Harreveld, van der Pligt, & de Liver, 2009). Precisely, employees with ambiguous personal norms who do not know the prioritized organizational values will have lower intention to follow PEB than employees who receive an environmental value statement; but employees in the no value statement condition will tend to have higher intention to follow PEB than employees who receive an economic value statement. I test this by examining the differential effects of value statement on intention to follow PEB for employees with ambiguous personal norms. I consider three value statement conditions: no value statement, environmental value statement and economic value statement. Panel A of Table 3 reports that intention to follow PEB is marginally significantly different across the three conditions ($F = 2.45$; two-tailed, $p = 0.099$). Table 1 shows that intention to follow PEB is highest when participants with ambiguous personal norms receive an environmental value statement (mean = 56.65), lower when they receive no value communication (mean = 50.00), and lowest when they receive an economic value statement (mean = 31.67). These results support the assertion that employees with ambiguous personal norms who do not receive a value statement have no guidance as to the appropriate behavior and, as a result, those employees tend to ‘sit on the fence’ when they have to decide whether or not to follow PEB.

### Table 3.
**Additional analysis: ANOVA (dependent variable = employees’ intention to follow PEB).**

**Panel A**

<table>
<thead>
<tr>
<th>Factor</th>
<th>df</th>
<th>MS</th>
<th>$F$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Statement Condition</td>
<td>2</td>
<td>2,255.93</td>
<td>2.45</td>
<td>0.099</td>
</tr>
<tr>
<td>Error</td>
<td>39</td>
<td>920.48</td>
<td></td>
<td></td>
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</table>

**Panel B**

<table>
<thead>
<tr>
<th>Factor</th>
<th>df</th>
<th>MS</th>
<th>$F$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Statement Condition</td>
<td>1</td>
<td>71.16</td>
<td>0.09</td>
<td>0.766</td>
</tr>
<tr>
<td>Unambiguous Personal Norm</td>
<td>1</td>
<td>17,245.37</td>
<td>21.79</td>
<td>0.000</td>
</tr>
<tr>
<td>Interaction</td>
<td>1</td>
<td>73.97</td>
<td>0.09</td>
<td>0.761</td>
</tr>
<tr>
<td>Error</td>
<td>48</td>
<td>791.35</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Panel C**

<table>
<thead>
<tr>
<th>Factor</th>
<th>df</th>
<th>MS</th>
<th>$F$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Statement Condition for Unambiguous Environmental Norm</td>
<td>1</td>
<td>0.01</td>
<td>0.00</td>
<td>0.996</td>
</tr>
<tr>
<td>Value Statement Condition for Unambiguous Business Norm</td>
<td>1</td>
<td>165.52</td>
<td>0.16</td>
<td>0.689</td>
</tr>
<tr>
<td>Personal Norm for Environmental VS</td>
<td>1</td>
<td>4,414.73</td>
<td>5.21</td>
<td>0.010</td>
</tr>
<tr>
<td>Personal Norm for Business VS</td>
<td>1</td>
<td>6,533.86</td>
<td>7.42</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Note: The p-values are two-tailed.
Source: research data (2020).

Second, consistent with NAM (Schwartz, 1997), the argument developed in this paper states that employees with unambiguous personal norms tend to choose courses of action that are aligned with their personal norms in detriment of the subjective norms communicated through a value statement. Employees can have unambiguous personal norms that are congruent or not with the subjective norms from the main executive (Church et al., 2019). If congruent, the decision making process tends to be routine and employees will likely make proper choices that are aligned with both the subjective norms and the personal norms (March, 1994; Messick, 1999). In this case, I expect that the intention to follow PEB will be higher for those with unambiguous environmental personal norms than for participants with unambiguous business personal norms, regardless of the value statement condition. If not congruent, the choice tends to be more difficult and employees have to deliberate over how to balance the conflicting norms (Weber, Kopelman, & Messick, 2004; March, 1994). In such a case, individuals tend to choose courses of action that are aligned with their personal norms in detriment of the subjective norms.
(Kim, Cable, & Kim, 2005; Latham & Locke, 2006), particularly when the decision involves prosocial behavior such as in a pro-environmental decision making (Thøgersen, 2006; 2009). Thus, the communicated value statement is less effective to guide appropriate behavior for employees with unambiguous personal norms. I expect that the intention to follow PEB will not differ between value statement conditions whether participants hold an unambiguous environmental personal norm or an unambiguous business personal norm.

I test this by conducting an ANOVA test with intention to follow PEB as the dependent variable and value statement condition, unambiguous personal norm, and their interaction as independent variables. I have two value statement conditions—environmental or economic—and two types of unambiguous personal norms—environmental or business. Similar to previous results, Panel B of Table 3 shows that the intention to follow PEB for those with unambiguous personal norms is mainly driven by the personal norm ($F = 21.79$; two-tailed $p = 0.000$), but not by either the subjective norms communicated through the value statement ($F = 0.09$; two-tailed $p = 0.766$) or their interaction with personal norms ($F = 0.09$; two-tailed $p = 0.761$).

I also test the simple effects as reported in Panel C of Table 3. Results show that the intention to follow PEB do not significantly differ between the two value statement conditions whether participants hold an environmental personal norm ($F = 0.00$; two-tailed $p = 0.996$) or a business personal norm ($F = 0.16$; two-tailed $p = 0.689$). Second, the intention to follow PEB is significantly different across the two types of unambiguous personal norms for both those who receive an environmental value statement ($F = 5.21$; two-tailed $p = 0.010$) and those who receive an economic value statement ($F = 7.42$; two-tailed $p = 0.002$). Surprisingly, the intention to follow PEB is consistently higher for participants with a business personal norm than for those with an environmental personal norm regardless of the value prioritized in the value statement. This result suggests that employees with unambiguous personal norms have more intention to follow PEB when the situation is framed in terms of a cost-benefit analysis.

5. CONCLUSION

I examine the behavioral effects of a value statement on the intention to follow PEB. Results show that a value statement prioritizing environmental protection (financial returns) increases (decreases) employees’ intention to follow PEB, but only when employees hold ambiguous personal norms. When their personal norms are unambiguous, the intention to follow PEB does not differ between value statement conditions. In addition, I find that a value statement affects pro-environmental attitudes, which mediate the intention to follow PEB, but only for employees with unambiguous personal norms. Further, employees with ambiguous personal norms who do not receive a value statement have no guidance as to appropriate behaviors and tend to ‘sit on the fence’. Surprisingly, results indicate that employees with unambiguous business personal norms have more intention to follow PEB than those with unambiguous environmental personal norms. Overall, findings are consistent with the argument developed in this paper that the behavioral effects of a value statement depends not only on the communication of meaningful and clear prioritized goals, but also on the extent to which employees’ personal norms are ambiguous.

The findings of this study have implications for both research and practice. Research in management control has paid increased attention to the behavioral effects of informal controls (Kachelmeier et al., 2016; Berry et al., 2009). This paper contributes to this emerging literature by showing when the social pressures exerted by a communicated value statement can affect employees’ intention to follow PEB. In an environmental dilemma setting, results support previous claims that a theoretically innocuous and unenforced value statement can have significant effects on employees’ behavior (Kachelmeier et al., 2016) and add to these claims by indicating that the behavioral effects of a value statement is particularly effective for employees with ambiguous personal norms.
This study also provides insights to organizations by highlighting the relevance of using value statements to communicate to employees the organizational prioritized goals in order to clarify expectations and guide decision making. As value statements act as a subjective norm that can exert social pressure on employees to perform desirable behavior (O’Reilly et al., 1991), organizations that have not yet paid attention to the environmental consequences of corporate initiatives but are willing to foster PEB at work can communicate PEB aspirations through a value statement and hence promote organizational change and adherence to the communicated values (Marginson, 2009; Winkler, Etter, & Castelló, 2020). For employees who do not have central, unambiguous personal norms, the communicated value statement valuing environmental protection is of greater importance to stimulate employees’ intention to follow PEB.

This study has limitations that provide opportunities for future research. This paper examines the behavioral effects of a communicated value statement in a setting where the awareness of consequences of employees’ behavior for others are less evident (Harland et al., 1999). In this setting where PEB falls in the category of avoiding harm (Ones et al., 2015), results show that the communication of an environmental value statement is only effective to increase employees’ intention to follow PEB when they have ambiguous personal norms. It is not obvious, however, if the communication of an environmental value statement could be also effective for employees with unambiguous personal norms if the awareness of consequence of PEB is more evident, such as in situations where PEB falls in the category of conserving (e.g., reducing energy use) (Ones et al., 2015). Future studies could verify the role of a value statement to promote PEB taking into consideration different categories of PEB and test the extent to which the behavioral effects of the value statement will depend on employees’ personal norms in these settings.

I only examine the short-term effects of a communicated value statement on employees’ intention to follow PEB. However, while the communication of a value statement prioritizing environmental protection can attract initial attention from employees to follow PEB, this may lead some employees to uncritically adhere to the prioritized organizational values or to follow PEB with cynical distance which ultimately impede employees to follow PEB as a long-term, enduring behavior (Winkler et al., 2020). Future studies could examine the long-term behavioral effects of a communicated values statement in order to verify if employees are more or less likely to continue to follow the appropriate behavior over time.

This study creates an experimental setting where the only control mechanism in place to foster desirable behaviors is the communicated value statement. In this setting, employees with ambiguous personal norms follow the behaviors that are aligned with the goal prioritized in the value statement. However, organizations typically use formal and informal control mechanisms to stimulate appropriate behaviors (Malmi & Brown, 2008). Future studies could examine how a value statement interact with formal controls (e.g., performance incentives) and other informal controls to affect employees’ intention to follow PEB. Since the net effect of a value statement may depend on the importance of the desirable behavior (Kachelmeier et al., 2016), future studies could, for instance, test if a communicated value statement prioritizing environmental protection would be able to stimulate employees’ intention to follow PEB in the presence of performance incentives that rewards employees based on the achievement of short-term profits.

REFERENCES


