

COGNITIVE STYLE, SELF-HANDICAPPING AND ENTREPRENEURIAL ORIENTATION OF THE EMPLOYEES OF AN AGROINDUSTRY OF SANTA CATARINA

ESTILO COGNITIVO, SELF-HANDICAPPING E A ORIENTAÇÃO EMPREENDEDORA DOS COLABORADORES DE UMA AGROINDÚSTRIA CATARINENSE

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ABSTRACT

Purpose – The study aimed to relate cognitive styles (CS), self-handicapping (SH) behaviors and entrepreneurial orientation (EO) present in an agroindustry of Santa Catarina. These aspects, within the same perspective, presents alternatives in the human capital management and as something new, in order to create and expand knowledge.

Design/methodology/approach – The research was descriptive, quantitative, survey, and had statistical procedures. The respondents were 46 administrative employees of this agroindustry.

Findings – The results indicate the predominance of employees with quasi-analytical (31%) and adaptive (28%) cognitive styles. Low SH indexes in the surveyed agroindustry were examined, demonstrating the engagement in the search for the results expected. The EO was moderate, evidencing a conservative stance of the company. No significant differences were observed in the relationship between the constructs of CS, SH and EO. However, the relationship between SH, EO and gender confirmed significant differences. Higher SH indices were observed among males, and a higher EO index in females. This difference disappears, statistically, in the other relationships. The conclusion is that reason prevails in the decision-making process, with a commitment focused on achieving the results, with a more conservative than entrepreneurial attitude.

Practical implications – The study of the relationship of Cognitive Style, Self-Handicapping, and Entrepreneurial Orientation, within the understanding of Human Capital Management, constitutes a new perspective, making it possible to broaden the understanding of the theme in terms of administrative practice.

Originality/value – Studying Cognitive Style, Self-Handicapping, and Entrepreneurial Orientation, in the context of Human Capital Management, in an agroindustry, presents itself as original and valuable research, contributing to the Administration Theory.

Keywords – Cognitive style, self-handicapping, entrepreneurial orientation, agroindustry, human capital

RESUMO

Objetivo – O estudo objetivou relacionar os estilos cognitivos (EC), os comportamentos de self-handicapping (SH) e a orientação empreendedora (OE) presentes em uma agroindústria catarinense. Esses aspectos se apresentam como alternativas na gestão do capital humano.

Design / metodologia / abordagem – A pesquisa foi descritiva, quantitativa, de levantamento e com procedimentos estatísticos. Os respondentes foram 46 colaboradores administrativos da agroindústria catarinense.

Resultados – Os resultados apontam a predominância de colaboradores com estilo cognitivo quase analítico (31%) e adaptativo (28%). Observaram-se baixos índices de SH na agroindústria pesquisada, demonstrando o engajamento dos respondentes na busca dos resultados esperados pela empresa. A OE foi moderada, evidenciando uma postura conservadora da empresa. Não foram observadas diferenças significativas na relação entre os constructos de EC, SH e OE. Entretanto, a relação do SH, OE e gênero confirmou diferenças significantes. Observaram-se maiores índices de SH entre o gênero masculino e maior índice de OE no gênero feminino. Essa diferença desaparece, estatisticamente, nos demais relacionamentos. A conclusão é de que a razão predomina no processo de tomada de decisão, com comprometimento voltado para o alcance dos resultados, com uma atitude mais conservadora do que empreendedora.

Implicações práticas – O estudo do relacionamento de Estilo Cognitivo, de Self-Handicapping, e de Orientação Empreendedora, dentro do entendimento da Gestão do Capital Humano, se constitui em nova perspectiva, possibilitando ampliar o entendimento do tema em termos de prática administrativa.

Originalidade / valor – Estudar o Estilo Cognitivo, o Self-Handicapping, e a Orientação Empreendedora, no contexto da Gestão do Capital Humano, em uma agroindústria, se apresenta como pesquisa original e de valor, contribuindo para a Teoria da Administração.

Palavras-chave – Estilo cognitivo, self-handicapping, orientação empreendedora, agroindústria, capital humano.

1 INTRODUCTION

The employees who manage command, execute, and control the processes within the organization represent human capital in companies. Human capital management, in turn, is seen as an alternative for organizations to better manage competitive differentials against their competitors. To this end, human capital management in companies seeks alternatives to understand the cognitive and psychological aspects of their employees.

Among the aspects that appear as alternatives in human capital management are the cognitive style and the self-handicapping. The Cognitive Style (CS) of an individual is considered important for selection, placement, training, guidance, and professional development, in addition to acting in the composition of teams and management of internal conflicts of the company (Allinson & Hayes, 2012). Macedo, Nobre, Del Corso and Souza (2014) reinforce that the cognitive approach “refers to the thought processes and standards employed by managers to process information in decision-making” (p. 97). Maciel, La Falce and Santos (2018) state that when organizations know the cognitive style of individuals, they are able to adapt their teams according to the task executed, which leads to improvements in the decision-making process. Self-Handicapping (SH), in turn, corresponds to the individual behavior or the lack of behavior that occurs before or at the same time of the performance of the employees’ activities (Urdan & Midgley, 2001). Del Mar Ferradás, Rodríguez and Piñeiro (2018) also support this statement.

Both themes are presented as theoretical frameworks, usually independently. The study of the two aspects (CS and SH), collectively, may evidence the relationship between them. In this context, in turn, the Entrepreneurial Orientation (OE) is also seen as a beneficial direction for human capital management. It is associated with growth, financial performance and discovery of new opportunities, which facilitate the differentiation and the creation of competitive advantage for the

organization (Martens & Freitas, 2008). Covin and Miles (1999) treat EO as a way to explore opportunities, renew, and rejuvenate organizations. Fernandes and Santos (2008) highlight that the benefits of EO directly affect the organization's performance. They also point out the entrepreneurial stance as an indispensable factor for the acquisition of skills and competitive advantage. Coura, Reis, Verwall and Oliveira (2018) reinforce this understanding when they mention that companies that have an entrepreneurial stance "present a unique pattern of behavior that permeates all levels of the organization and reflects the strategy in effective management practices" (p. 18).

The theme of the EO is also presented independently in the literature of the theme. But it can be related to CS and SH. This understanding supports the assumption that there may be a relationship between the three approaches: CS, SH and EO. Until now, it is unknown if there is a relationship between CS, SH and EO in the organizational context. Understanding to what extent they can present a relationship may be constituted in a new study perspective, in order to create new results that can broaden the knowledge about human capital management. This aspect has originality and value for the research.

The studies that consider the subject by itself regarding the cognitive style (CS) aspect were performed by Gimenez (1998), Barbosa (2007), Andriotti, Freitas and Martens (2011), Vidigal and Nassif (2013), Macedo et al. (2014), Pardo (2014), Nascimento (2015), Nascimento, Verdinelli and Lizote (2015), Verdinelli, Nascimento, Lizote and Pereira (2016), Pereira, Borini and Fischmann (2017), Verdinelli, Lizote, Terres and Camozzato (2017), Lizote, Verdinelli, Pacheco and Ayres (2017), Camozzato, Serafim, Cavalheiro, Lizote and Verdinelli (2018), and Maciel et al. (2018). Regarding the self-handicapping (SH) there are the researchers conducted by Ribeiro, Avelino, Colauto and Casa Nova (2014), Ganda and Boruchovitch (2015, 2016), and Del Mar Ferradás et al. (2018). Regarding the entrepreneurial orientation (OE), it is important to cite the empirical studies of Martens and Freitas (2008), Fernandes and Santos (2008), Cassol, Marietto, Ribeiro and Baldi (2018), Coura et al. (2018), Sbissa, Rossetto, Carvalho and Zonatto (2018), Penz, Amorim, Beuren, Nascimento and Rossetto (2019), and Silva and Lizote (2019).

So far, however, it seems that no study has been carried out with this aspect in mind. Likewise, until now, the studies developed with the relationship of these two aspects, cognitive styles and self-handicapping behavior have been carried out in the academic context (Yavuzer, 2015; Verdinelli, Lizote, Kraemer, Terres, & Vieira, 2016).

In turn, the environment of study has been an agroindustry. This type of organization has not been contemplated constantly in human capital management investigations. It is also composed of a new, original and valuable perspective in this research. This choice is justified in view of the absence of studies in this sector, which is considered important for the economy of the western region of Santa Catarina, since it is the sector that invested the most between 2015 and 2017 (Debona, 2015). The city of Chapecó, located in the west of Santa Catarina, is entitled as the Brazilian Capital of the Agroindustry, since that is where the modern system of integrated production between poultry and pork farmers and the meat processing industries emerged, becoming the largest and most advanced agroindustrial park of the meat segment in the country (Lanznaster, 2017).

With this understanding, the following research question now guides the study: To what extent do cognitive styles, self-handicapping behaviors and entrepreneurial orientation relate to an agroindustry of Santa Catarina in human capital management? In order to answer the question, the objective of the research is to relate cognitive styles, self-handicapping behaviors and entrepreneurial orientation present in an agroindustry of Santa Catarina. The specific objectives are presented as follows: a) to measure the cognitive style (CS); b) to examine the self-handicapping (SH); c) to assess the entrepreneurial orientation (EO) present in the organization; and d) to relate the constructs CS, SH and EO.

The article is structured in five parts. The first one is this introduction. Next, we present the theoretical framework that addresses the concepts of cognitive style (CS), self-handicapping (SH) and entrepreneurial orientation (EO). In the following session, the methodological procedures used in the study are presented. The following section describes analyses and discusses the findings of the empirical study. The last part of the study comprises the conclusion, summarizing the main findings, limitations, and suggestions for future studies. Finally, the bibliographical references of the authors used as citations presented throughout the research are listed.

2 LITERATURE REVIEW

This section presents the theories that underpin and conceptualize this research, which begins with the cognitive style (CS). Allinson and Hayes (2012) state that understanding the cognitive style of individuals becomes relevant in the processes of selection, placement, training, orientation and personal development, since the composition of the teams can reduce internal conflicts within the organization. Regarding self-handicapping (SH), Urdan and Midgley (2001) understand this concept from the actions that a person voluntarily and involuntarily creates to justify their inefficiency in meeting pre-established goals. And the entrepreneurial orientation (EO), seeks to analyze the perspective of the organization to adopt an entrepreneurial stance, exploring opportunities and renewing its strategies in order to increase its longevity and differential in the market in which it operates.

2.1 COGNITIVE STYLE

Allinson and Hayes (2012) understand cognitive style as the way each person has a predisposition to collect, process and analyze information in a particular and unique way. This preference directly affects the way we learn, solve problems and make decisions. Kickul, Gundry, Barbosa, and Whitcanack (2009) state that an individual's cognitive style can influence their preference for different types of learning, knowledge accumulation, information processing and decision making.

Gimenez (1998) points out that around 1950 Allinson and Hayes began to take an interest in differences in information processing as opposed to studies on cognitive abilities. Researchers realized in their studies that, while different levels of cognitive abilities may lead to different levels of performance, styles have no relation with effectiveness or efficiency and may be judged more or less adequate to certain situations.

Armstrong, Cools and Sadler-Smith (2012) mention that the interest in the cognitive approach has been recurring in the last 40 years, with the application of cognitive styles in management and business. These authors have several instruments aimed at measuring cognitive styles in the business field: Witkin, Oltman, Raskin, and Karp's Group Embedded Figures Test (GEFT) (1971); Kirton Adaptation-Innovation Inventory (KAI) (1976); Sternberg and Wagner's Thinking Styles Inventory (TSI) (1991); Allinson and Hayes' Cognitive Style Index (CSI) (1996); Epstein, Pacini, Denes-Raj, and Heier's Rational-Experimental Inventory (REI) (1996); Myers-Briggs Type Indicator (MBTI) from Myers, McCaulley, Quenk, and Hammer (2003); Vance, Groves, Paik, and Kindler's Linear/nonlinear Thinking Style Profile (2007); and Cools and Van de Broeck's Cognitive Style Indicator (CoSI) (2007). However, the authors point out that the most widely used models in the field of management and business are MBTI, KAI and CSI. For the purpose of a research the CSI was chosen, considering that the theoretical model was updated and revised in 2012.

When conducting researches aimed at understanding the degrees of cognitive styles, Allinson and Hayes (1996) proposed the Cognitive Style Index (CSI) to measure these degrees of cogni-

tive style through five dimensions: (I) intuitive, (AI) quasi-intuitive, (AD) adaptive, (AA) quasi-analytical, and (A) analytical. Table 1 shows the dimensions of the model, its score and the description of each dimension corresponding to the degrees of cognitive style.

Table 1 demonstrates the model proposed by Allinson and Hayes (1996, 2012) with the degrees (dimensions) of cognitive styles and their scores. In order to measure these scores, individuals receive an inventory of 38 questions in which each question presents three answer options (True, Uncertain and False). The model creates a psychometric scale, since these answer options have scores ranging from 2 (True), 1 (Uncertain) and 0 (False), which, in turn, are assigned for each of the 38 questions. The maximum score on the psychometric scale is 76 points, which indicates an analytical cognitive style, while a score close to zero indicates an intuitive cognitive style (Allinson & Hayes, 1996, 2012).

Table 1. Dimensions of Cognitive Style Index (CSI) and their scores

Dimension	Score	Description
Intuitive	0 to 28 points	Individuals experience an immediate sensation of knowing, but they cannot explain this knowledge. And they feel comfortable acting on hunches and intuitions. They rarely present the need to spend all their time analyzing a certain aspect before making a judgment.
Quasi-intuitive	29 to 38 points	They behave in a similar way to intuitive individuals, but they tend to be less confident and more cautious when it comes to using this intuition as a basis for decision making.
Adaptive	39 to 45 points	Individuals who have a strong preference for intuitive or analytical modes of information processing, since they feel comfortable at both poles of the brain, right and left.
Quasi-adaptive	46 to 52 points	The individuals have similar characteristics to pure analysts because they consciously seek information and, in the aftermath, apply systematic rules-based procedures to identify logical connections for decision making.
Analytical	53 to 76 points	They are the individuals who break the problems into fragments and study them in detail before making decisions in order to collect as much information as possible.

Note. Adapted from “The cognitive style index: A measure of intuition-analysis for organizational research,” by C. W. Allinson, and J. Hayes, 1996, *Journal of Management Studies*, 33(1), and *The cognitive style index: Technical manual and user guide*, by C. W. Allinson, and J. Hayes, 2012, United Kingdom: Pearson.

In line with the growing interest in the last 40 years of international researches on the cognitive approach focused on the management and business area, the empirical studies that turn their gaze to the cognitive style must be highlighted. In the national context, it can be seen that the interest in the organizational field has been growing in the last decade, as indicated by the research conducted by Andriotti et al. (2011), who reflected on the decision-making process. The authors sought to understand how intuition and decision interact considering the gaps that exist in the literature today, particularly with regard to the Brazilian reality.

Vidigal and Nassif (2013) also conducted researches to analyze the presence of cognitive styles in Brazil, as they sought to identify the influence of the cognitive and affective dimensions of entrepreneurs of micro and small businesses in their actions in the initial and establishment phases of a business. The results point out that, among the cognitive aspects studied, the knowing, planning and creating styles stand out. In the actions of entrepreneurs, the affective aspects have less strength than the cognitive aspects in the initial phase. It is highlighted that the cognitive aspects gain relevance as they move to the establishment phase of the business.

Another Brazilian survey conducted by Nascimento (2015) investigated the existence of the moderating effect of the cognitive style of managers of incubated companies in Santa Catarina (SC) on entrepreneurial self-efficacy, entrepreneurial intention, innovation capacity, and organizational performance. The results show that the moderation of the managers’ cognitive style allows the

identification of predispositions of intuitive and analytical individuals in the incubation process of technology-based companies and startups.

Finally, the study by Verdinelli, Nascimento, et al. (2016) analyzed the existing relationships between the cognitive styles of the final year students of the Accounting Sciences Course who attended the discipline of Entrepreneurship, with their self-handicapping behaviors and academic self-efficacy. In addition, how they are linked to school performance, measured by a group work and an individual test. The results show that the cognitive styles are not significantly associated with self-handicapping strategies, but are linked to the performance of the university students surveyed.

2.2 SELF-HANDICAPPING

When individuals are challenged to perform a certain activity, they need to leave their comfort zone and make every effort to succeed. The way that the situation is faced is decisive for the success in accomplishing the task (Verdinelli, Lizote, et al., 2016).

Self-handicapping, also known as self-boycott, relates to self-sabotage, excuses and barriers that are unconsciously imposed by individuals to justify not reaching a goal. Alternatively, the non-completion of a certain task within predetermined standards (Verdinelli, Lizote, et al., 2016). In this context, self-handicapping was defined by Covington (2000) as a strategy involving the creation of impediments to the successful performance of tasks considered important by the individual, impediments that may be the result of behaviors or their absence when they are required for the success of the task. Verdinelli, Lizote, et al. (2016, p. 15) mention that the creation of conscious personal barriers or deficiencies that may affect one's ability to perform or may establish an excuse for poor performance is treated as self-handicapping.

Berglas and Jones (1978) pioneered the study of self-handicapping and defined it as a strategy of choices and possible actions to explain failures and justify success. The authors understand that people accept any credit when the result presented is what is expected and make excuses for everything when they do not achieve the expected goals.

Urda and Midgley (2001) understand that self-handicapping is the actions voluntarily and involuntarily created by someone to justify their inefficiency in achieving goals. In accordance with the thinking of Berglas and Jones (1978), researchers Urda and Midgley created a scale to measure self-handicapping in the academic environment; this scale, in this study, will be adapted to the organizational context, according to Table 2.

Table 2. Self-handicapping scale

Item	Description
1	Some employees delay doing their activities until the last minute. So, if they don't do well, they can say that was the reason.
2	Some employees allow their friends not to let them pay attention to the instructions received by their superiors. So, if they don't do well, they can say that it was their co-workers who handicapped them.
3	Some employees deliberately don't make any real effort in their work. So, if they don't do well, they can say it was because they didn't try.
4	Some employees deliberately get involved in many activities. So, if they don't do well in their work, they can say it was because they were involved with other things and were overwhelmed.
5	Some collaborators get "foolish" in the night before doing a test in the work environment. So, if they don't do well, they can say that was the reason.
6	Some employees look for reasons to stay away from work (they don't feel well, they have to go to a doctor's appointment, take care of a child, brother, etc.). So, if they don't do their job well, they can say that was the reason.

Note. Adapted from "Academic self-handicapping: What we know, what more there is to learn?," by T. Urda and C. Midgley, 2001, *Educational Psychology Review*, 13(2).

Table 2 shows the self-handicapping scale proposed by Urdan and Midgley (2001) based on some revisions over time. Urdan and Midgley's scale evaluates the self-handicapping protection components. The authors sought to channel their efforts to incorporate several elements to identify the behavior (procrastinator that comprises effort reduction) represented in Figure 2 by items 1 and 2. The reason (to use procrastination as an excuse for effort reduction) corresponds to items 3 and 4, and the strategy (effort reduction before bad academic performance instead of an excuse invented after bad performance), to items 5 and 6. It should be noted that Figure 2 demonstrates the scale used in the research in which the adaptation of the academic to the organizational context was performed.

2.3 ENTREPRENEURIAL ORIENTATION

Entrepreneurial orientation has gained attention in recent decades as it addresses entrepreneurship at the organizational level (Coura et al., 2018). Some researchers have focused on analyzing entrepreneurship from an individual perspective. Moreover, the studies began to analyze the organizational culture and the factors that contribute to encourage organizations to explore new markets and products (Castanhar, Dias, & Esperança, 2006).

Lumpkin and Dess (1996) address the concept of entrepreneurial orientation as an entrepreneurial process, going through the way entrepreneurship occurs and the way it evolves. To this end, Martens and Freitas (2008) assert that entrepreneurial orientation corresponds to entrepreneurship at the organizational level in which and its actions can influence the performance of companies. Penz (2015) points out that organizations need a continuous renovation process of their processes so that they can perpetuate their survival in a market where the competition is increasingly present.

In line with this organizational aspect, Miller (1983) emphasizes that companies that have an entrepreneurial attitude are those that engage in an innovative product or market. They are companies that, by committing themselves to the risk inherent to the new business, tend to be the pioneers in the presentation of innovations, as well as demonstrate a proactive attitude when fiercely competing with their competitors.

The operationalization of the EO proposed by Miller (1983) occurs through the processes used by the organizations to renew themselves in accordance with the markets in which they operate. Thus, as the renewal occurs, the organization's EO emerges as a one-dimensional set that contemplates the dimensions of innovation, risk taking and proactivity. Table 3 shows the dimensions that compose Miller's model (1983) for the operationalization of the EO.

Table 3. Dimensions of Miller's Unidimensional Constructs for Entrepreneurial Orientation

Dimension	Description
Innovation	Lumpkin and Dess (1996) define it as the organization's tendency to engage in and support new ideas, experimentations, and creative processes that can result in new products, services or technological processes.
Risk taking	To the extent of risk taking, there are the company's propensity to engage in risky projects and the preferences of its managers for risky decisions to achieve the company's strategic objectives. Lumpkin and Dess (1996) emphasize that risk taking corresponds to the organization's involvement in projects that present significant risks, as well as the preference for actions that are more daring than cautious in achieving their objectives. Miller (1983) mentions that risks are associated with the unexpected or negative variation in the company's results, since these risks may be associated with the organization's external or internal factors, and are inherent to the market in which the organization is inserted.
Proactivity	The proactivity dimension, according to Lumpkin and Dess (1996), are the processes that aim to act in anticipation of future needs, mainly through the search for new opportunities. They may or may not be related to the current business, as well as they may involve the introduction of new products or brands ahead of the competition, or the elimination of operations that have reached the stage of maturity or decline.

Note. Adapted from A relação do índice de facilidade tecnológica e a orientação empreendedora: Um estudo com empreendedores brasileiros nos EUA, by D. Penz, 2015, Master's Thesis, Universidade do Vale do Itajaí, Biguaçu, SC, Brazil.

Table 3 shows the dimensions of the construct proposed by Miller (1983) for the operationalization of the EO at the organizational level. However, this construct was improved by Covin and Slevin (1989), and again revisited, after 30 years, by Covin and Miller (2013). It should be noted that for the purpose of this research, the survey instrument revised by Covin and Miller was adopted, which maintained the three dimensions of proactivity, innovation and risk taking.

3 RESEARCH METHODOLOGY

In order to meet the general and specific objectives, the survey followed the quantitative design, with descriptive survey, where the key issue and the general and specific objectives focus on the analysis of the relationship between three variables.

The population and sample were defined in order to survey the data of the research with respondents who had desirable characteristics and knowledge for the research. For this purpose, the 54 employees from the administrative sector of the agroindustry of Santa Catarina, object of the study, were initially considered. They are those who work directly in poultry hatcheries located in the cities of Chapecó and Xaxim (SC) and Aratiba (RS). As it was a finite population, that is, composed by 54 elements, they were all considered. In addition, the sample was by census. Not probabilistic. The respondents' collaboration was spontaneous. However, at the time of data collection, for different reasons, eight employees were unable to be present. The sample was considered as of 46 employees (total of those who were present), and all of them responded correctly to the self-administered survey instrument. This data collection was carried out in the agroindustry, in its three places of establishment, on dates previously defined by the company. Thus, the survey was transversal, considering a certain period at the end of 2016. The respondents were informed about the objective of the survey and instructed about the procedure for filling out the data collection instrument. The structured questionnaire was divided into four blocks of questions and consists in the data collection instrument.

In the first block, the questions focused on the identification and characterization of the employees. The second block had 38 statements related to the cognitive style, according to the CSI of Allinson and Hayes (1996), which used a three-point scale (true, false and uncertain), with

the conversion of these points into values of 0, 1 or 2. In the third block, the self-handicapping was approached, according to the model adapted from Urdan and Midgley (2001), and measured by six statements on a five- point Likert scale. This scale varied from not true (1) to totally true (5). And in the fourth block were the statements on entrepreneurial orientation according to Covin and Miller's (2013) scale, which contemplated nine items, measured by a seven-point Likert scale, ranging from "I totally disagree" (1) to "I totally agree" (7). It should be stressed that in order to ensure the respondents' understanding of the data collection instrument, it was previously validated in a pre-test on employees of another agroindustry in the same field, with similar characteristics.

For data analysis and interpretation, the information collected was organized in electronic spreadsheets. Descriptive statistics were used to analyze the information collected with the support of average ranking techniques, combined frequency, averages and percentages, among others, as well as the calculation of Cronbach's Alpha (Hotelling's T-squared test) to evaluate the reliability of the research instruments. In addition, the calculation of multiple linear regressions was performed. For Hair, Black, Babin, Anderson and Tatham (2009), "multiple regression analysis, a general linear modelling form, is a multivariate statistical technique used to examine the relationship between a single dependent variable and a set of independent variables" (p. 163).

4 ANALYSIS OF THE RESULTS

The results were presented considering the characterization of the respondents, the cognitive style, the self-handicapping, the entrepreneurial orientation, as well as the relationship between the three constructs presented.

4.1 CHARACTERIZATION OF THE RESPONDENTS

The 46 employees who responded to the survey instrument have worked in the administrative department of the poultry hatchery units of an agroindustry of the Western Santa Catarina. Their profile was based on socio-demographic characteristics such as gender, level of education and the time they have been working in the company.

As for gender, there was a predominance of women (58.7%) among the employees analyzed. Regarding the respondents' educational level, it was found a predominance of respondents who hold a higher education degree (44%), followed by ongoing higher education (28%); the recurrent undergraduate courses were: Administration, Human Resources, Nursing, Veterinary, Occupational Health and Safety, among other degrees.

It should be highlighted that 22% of the respondents said they have completed high school, 2% have completed high school with specialization in Agricultural Technician, and only 4% have primary education.

In general terms, it can be seen that the respondents are at the organization's disposal for a significant period of time, since 39% have worked in the company for 13 to 48 months, 19% have worked in the company for more than 120 months, 18%, for 0 to 12 months, 15% have worked in the company for 49 to 84 months, and 9% have worked there for 85 to 120 months.

4.2 COGNITIVE STYLE

According to Armstrong et al. (2012), the three most widely used scales in management and business literature for measuring cognitive styles were Kirton's Adaption-innovation Inventory (KAI) (1996), the Myers-Briggs Type Indicator (ITMB) proposed by Myers et al. (2003), and the Cognitive Style Index (CSI) proposed by Allinson and Hayes (1996, 2012). The author's state that the recurrence of these three scales used to measure the style may indicate some convergence for the measurement of this ability.

To measure the cognitive style of the analyzed employees who work in the administrative department of the poultry hatchery sector of the organization under study, Allinson and Hayes's (1996) model was adopted. This theoretical choice of Allinson and Hayes' (1996, 2012) model is justified by its ability to measure the cognitive abilities of employees and managers in different cultural contexts. Figure 1 demonstrates the distribution of cognitive styles among the respondents.

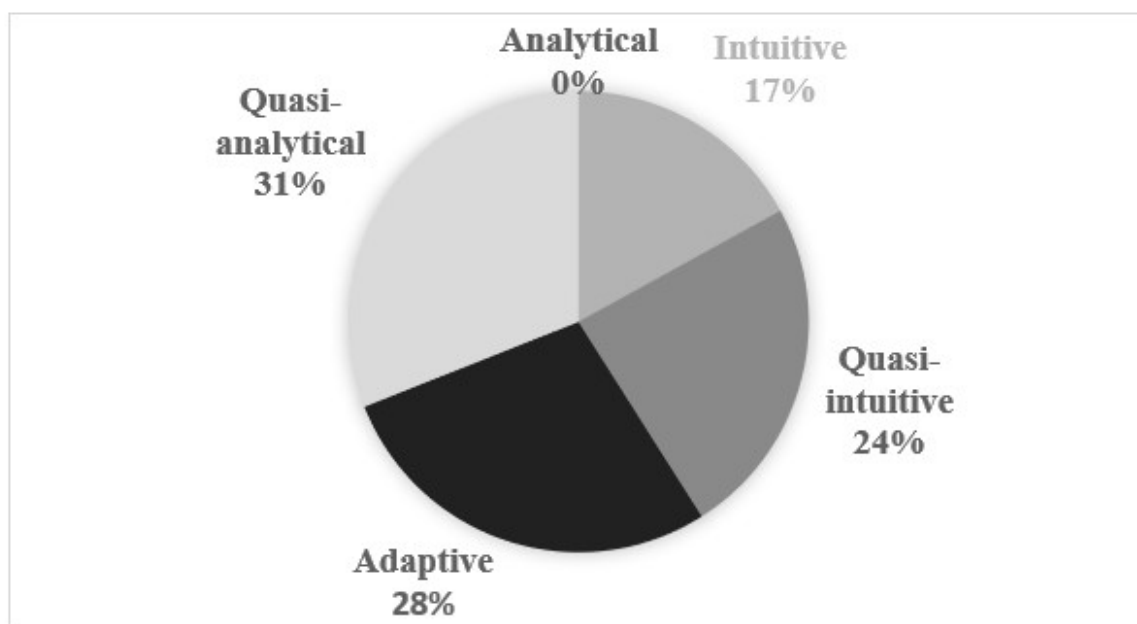


Figure 1. Cognitive style of the employees of the agroindustry analyzed

Figure 1 shows the predominance of the Quasi-analytic (31%), Adaptive (28%), Quasi-intuitive (24%) and Intuitive (17%) cognitive styles. The predominance of the quasi-analytic style among the respondents who work in the agroindustry of Santa Catarina is noticeable. For Allinson and Hayes (2012), the respondents who presented Quasi-analytical style seek information and use procedures based on systematic rules to identify logical connections to perform a detailed rational analysis. However, they also pay attention to insights and other senses of knowledge.

In general, it is perceived the use of reason for decision making among the employees analyzed, not only within the company's environment, but also in their personal lives. The findings of the study are similar to the results of Verdinelli, Lizote, et al. (2016). In other words, respondents to both surveys have a quasi-analytical cognitive style, in general.

4.3 SELF-HANDICAPPING

For Covington (2000), self-handicapping comprises a strategy that involves creating impediments to the successful performance of tasks considered relevant by the individual. These impedi-

ments can be the result of behaviors or their absence when they are required for the success of the task.

Table 4 demonstrates the self-handicapping behaviors adopted by the employees who responded to the research instrument proposed by Urdan and Midgley (2001). The participants' perception was collected from the presentation of the six questions shown in Table 4, using a five-point Likert scale, which varied from absolutely untrue (1) to totally true (5). The answers were handled in a Microsoft Excel spreadsheet, where the mean score (MS) and the standard deviation (SD) were calculated. The purpose of the MS is to demonstrate the degree of the respondents' agreement from the score assigned to the responses and to relate the frequency of the participants' responses. In turn, the standard deviation (SD) is intended to represent how much a data set deviates from the mean, statistically. The SD comprises the square root of variance.

Table 4. Employees' perception of the self-handicapping in the agroindustry analyzed

Item	Description	MS	SD
1	Some employees delay doing their activities until the last minute. So, if they don't do well, they can say that was the reason.	1,91	1,07
2	Some employees allow their friends not to let them pay attention to the instructions received by their superiors. So, if they don't do well, they can say that it was their co-workers who handicapped them.	1,82	1,12
3	Some employees deliberately don't make any real effort in their work. So, if they don't do well, they can say it was because they didn't try.	2,39	1,35
4	Some employees deliberately get involved in many activities. So, if they don't do well in their work, they can say it was because they were involved with other things and were overwhelmed.	2,47	1,37
5	Some employees spend time idly the night before taking a test in the workplace. So, if they don't do well, they can say that was the reason.	2,52	1,45
6	Some employees look for reasons to stay away from work (they don't feel well, they have to go to a doctor's appointment, take care of a child, brother, etc.). So, if they don't do their job well, they can say that was the reason.	2,23	1,40

In Figure 4, it can be seen that the respondents agree with question 5, "Some employees spend time idly the night before taking a test in the workplace. So, if they don't do well, they can say that was the reason", with an average score of 2.52 points and standard deviation of 1.45. Soon after, question 4 appears, "Some employees deliberately get involved in many activities. So, if they don't do well in their work, they can say it was because they were involved with other things and were overwhelmed", with an average ranking of 2.47 points and standard deviation of 1.37. Then there is question 3, "Some employees deliberately don't make any real effort in their work. So, if they don't do well, they can say it was because they didn't try", with an average ranking of 2.39 points and standard deviation of 1.35.

It is clear that the employees in the agroindustry analyzed exhibit low self-handicapping behaviors in the administrative department in the poultry hatchery sector, as the overall weighted average was 2.2 points in a five-point Likert scale. These results are similar, in some aspects, to those found in the research of Verdinelli, Nascimento, et al. (2016), when they show that university students with better average performance demonstrate self-handicapping behaviors to a lesser extent. In general, the administrative sector presented low self-handicapping behavior indices, and the employees' engagement to the company is emphasized, working together to reach the expected results.

4.4 ENTREPRENEURIAL ORIENTATION

Entrepreneurial orientation focuses on entrepreneurship at the organizational level, since its actions can influence the performance of the organization (Martens & Freitas, 2008). Table 5

shows the presence of entrepreneurial orientation according to Covin and Miller's (2013) theoretical model in the context of the employees in the agroindustry of Santa Catarina with the support of the average ranking (AR) and the standard deviation (SD).

Table 5. Employees' entrepreneurial orientation in the agroindustry surveyed

Question	According to Covin and Miller's (2013) scale	MR	SD
1	Strong focus on marketing of products and services already recognized and tested.	5,19	1,77
2	It has not launched products or sought new market	6,02	1,49
3	There were few changes in products or market	5,78	1,53
4	It generally responds to the changes that competitors initiate	5,00	1,47
5	It usually seeks to avoid confrontations with competitors, preferring a "work and let others work" posture	3,36	1,69
6	Very rarely is it the first to launch new products or seek new techniques and technologies	5,50	1,73
7	There is a strong tendency towards low risk projects (with normal rates and certain of return)	3,91	1,34
8	By the nature of the environment, it is better to exploit it little by little, with a cautious behaviour	4,67	1,57
9	It usually adopts a careful, "wait and see" attitude in order to reduce as much as possible the likelihood of making decisions that can be expensive	3,58	1,78

Table 5 shows the agreement of the employees of the agroindustry surveyed on the nine issues addressed by the EO. Question 2 "It has not launched products or sought new market" obtained the highest score, with 6.02 points. Then question 3 "There were few changes in products or market" appears with 5.78 points. In the third position is Question 6 "Very rarely is the first to launch new products or seek new techniques and technologies", with 5.50 points.

These data show that the entrepreneurial orientation of the organization analyzed is moderate, as it obtained an overall weighted average of 4.77 on a seven-point Likert scale. This result is revealed in the questions that obtained the highest scores in relation to not launching new products, the few changes in products and also how often the company is the first to launch new products in the market in which it operates.

4.5 RELATIONSHIP OF THE CONSTRUCTS OF CS, SH AND EO

It is worth mentioning that, so far, it seems that there has been no study that contemplated the three constructs (CS, SH and EO) simultaneously in the same scientific research. Thus, only researches that addressed concomitantly the cognitive styles and self-handicapping behavior in the academic context were located, such as the studies by Yavuzer (2015), and Verdinelli, Lizote, et al. (2016).

For measuring the relationship between the three constructs addressed in this research, it was decided to calculate multiple linear regressions. Initially, the calculation of the reliability test of the scales was performed, which showed quite acceptable indices. For the Self-handicapping scale, Cronbach's Alpha was 0.898 (Hotelling's T- squared=23.971, F=4.368, p=0.003). For the Entrepreneurial Orientation scale, Cronbach's Alpha was 0.780 (Square Hotelling's T- squared=156.377, F=16.506, p<0.001). These results show that the instruments used were reliable for measuring the constructs.

In order to identify the relationship between the constructs, the calculation of the cross tabulation between the Cognitive Style and the Self-handicapping and Entrepreneurial Orientation constructs was performed and can be verified in Table 6, not observing the significant difference for the constructs among the cognitive styles (p>0.10).

Table 6. Cognitive style versus self-handicapping and entrepreneurial orientation

Cognitive Style		Self-handicapping (p>0,10)	Entrepreneurial Orientation (p>0,10)
Quasi-intuitive	mean	2.347	4.676
	n	12	12
Adaptive	mean	2.064	4.547
	n	13	13
Quasi-analytical	mean	2.064	4.938
	n	16	16
Analytical	mean	1.867	5.156
	n	5	5
Total	mean	2.250	4.783
	n	46	46

Table 6 shows no significant differences for Cognitive Style, Self-handicapping, and Entrepreneurial Orientation. In the sequence, the same cross view between cognitive styles and gender is shown in Table 7.

Table 7. Gender versus self-handicapping and entrepreneurial orientation

		Self-handicapping (p>0,10)	Entrepreneurial Orientation (p>0,10)
Male	mean	2.640	4.485
	n	19	19
Female	mean	1.975	4.992
	n	27	27
Total	mean	2.250	4.783
	n	46	46

Table 7 illustrates that men showed a higher level of Self-handicapping ($M_{SH\ men} = 2.640$ vs $M_{SH\ women} = 1.975$, $p = 0.039$). On the other hand, no significant difference was observed for the Entrepreneurial Orientation between genders ($M_{EO\ men} = 4.485$ vs $M_{EO\ women} = 4.992$), although the tendency for Entrepreneurial Orientation is higher among women ($M = 4.992$) compared to men ($M = 4.485$).

Table 8 shows the quantification of the Cognitive Style versus gender of the surveyed employees of the agroindustry of Santa Catarina.

Table 8. Gender versus Cognitive Style

Cognitive Style	Male	Female	Total
Quasi-intuitive	4	8	12
Adaptive	8	5	13
Grand total	19	27	46

Additional tests were conducted to assess the relationship between constructs, cognitive styles and gender through multiple linear regressions. No statistically valid dependency relationships were observed in regression tests.

5 CONCLUSION

The research objective sought to relate the cognitive styles, the self-handicapping behaviors, and the entrepreneurial orientation present in an agroindustry of Santa Catarina, within an approach that allows obtaining something new, coherent, and original. The specific objectives were focused on measuring the cognitive style (CS); examining the self-handicapping (SH); assessing the entrepreneurial orientation (EO) present in the organization; and relating the constructs of CS, SH and EO.

The descriptive survey used a quantitative data approach to analyze 46 employees working in the administrative department of three poultry hatchery units of an agroindustry in Western Santa Catarina. Eight of the employees who composed the 54 initial and finite elements of the population, in a census sample, did not answer the survey questionnaire because they were not present at the time of data collection. All of them spontaneously collaborated with the survey.

The cognitive style (CS) was measured according to Allinson and Hayes's model (1996). It was verified the predominance of employees with quasi-analytical and analytical styles in general. Thus, the participants of the study reveal the use of reason for decision making, not only within the company environment, but also in their personal lives. These results are similar to those of the research by Verdinelli, Lizote, et al. (2016) carried out with university students from the Undergraduate Accounting Sciences Course, although it was carried out in a different context: of an agroindustry of Santa Catarina. In other words, respondents to both surveys have a quasi-analytical cognitive style, in general.

The analyzed employees demonstrated low rates of self-handicapping behaviors, since the overall weighted average was of 2.2 points, in a five-point scalogram. The findings are also consistent with the results of Verdinelli, Nascimento, et al. (2016). Students with average performances demonstrate self-handicapping behaviors to a lesser extent.

As for entrepreneurial orientation, the overall average was of 4.77 on a seven-point Likert scale. It shows that this measure is moderate for the employees analyzed. This finding is revealed in the scores of the questions related to not launching new products, to the few changes in products and also to the fact that the company is very rarely the first to launch new products in the market in which it operates. It can be surmised that the agroindustry has a more conservative than entrepreneurial orientation in general.

Considering the relationship between the constructs analyzed, the results point to a significant difference in self-handicapping between men and women, since there is a greater self-boycott among men ($M_{SH\ men} = 2.640$ vs $M_{SH\ women} = 1.975$, $p = 0.039$). However, when only the quasi-analytical cognitive style is observed, the difference between men and women disappears statistically (female $M_{EO\ women} = 5.077$ versus $M_{EO\ men} = 4.703$, $p = 0.374$), indicating that the higher the analytical profile, the more homogeneous the entrepreneurial orientation between genders, even in favor of women. The difference in self-handicapping between men and women also begins to disappear ($M_{SH\ women} = 2,200$ versus $M_{SH\ men} = 2,861$, $p = 0.325$), but still in favor of women.

These research findings answer the research question, which seeks to answer to what extent cognitive styles, self-handicapping behaviors and entrepreneurial orientation are related in an agroindustry of Santa Catarina. No significant statistical differences were found between the three approaches.

In general terms, it was found that the surveyed employees use the reason for decision making in their activities, such as cognitive style, and have low self-handicapping rates, which demonstrates their commitment to the organization. The agroindustry analyzed, in the respondents' perception, presented a moderate entrepreneurial orientation, with a more conservative view regarding product innovation.

These conclusions, based on the research results, indicate that the theoretical models adopted by Allinson and Hayes (2012), Covin and Miles (1999), and Urdan and Midgley (2001) were adequate to guide the study performed. And what was surveyed in the environment of the agroindustry of Santa Catarina, with more or less similarity, was based on the literature review conducted to reinforce the theme. Human capital management, in turn, may have, in the results obtained here, considering the cognitive style, the self-handicapping, and the entrepreneurial orientation together,

an increased option as an alternative in organizations.

The limitations of the research refer to the object of study (space limit) and time of research (time limit). These factors, however, did not bring harm to what was outlined and surveyed.

As a research continuity, it is recommended that theoretical studies be carried out to expand the findings and discussions in future studies on human capital management. Next, researches with differentiated methodology, in the same context and in different contexts. This type of research undoubtedly complements the understanding stated here. The same research, with replication of the study in other agroindustries in the western region of Santa Catarina, and in the same branch of activity in other Brazilian states, will certainly provide comparison of results and a broader understanding. The subject is instigating. Resuming the study will always be timely.

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Definition of research problem	x	x	x
Development of hypotheses or research questions (empirical studies)	x	x	x
Development of theoretical proposition (theoretical work)	x	x	x
Theoretical foundation / Literature review	x	x	x
Definition of methodological procedures	x	x	x
Data collection	x		x
Statistical analysis	x	x	x
Analysis and interpretation of data	x	x	x
Critical revision of the manuscript	x	x	
Manuscript writing	x	x	
Other (please specify): article submission to REA/UFSC	x		
Other (please specify): review of the article according to suggestions made by REA/UFSC	x	x	