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Research paper

Examining school boards' chaotic leadership style in relation to teachers' job satisfaction and emotional exhaustion

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HIGHLIGHTS

- The bright and dark side of school leaders' style is examined.
- A chaotic style relates to emotional-exhaustion via need frustration.
- Teachers who perceived high levels of autonomy-support and low levels of chaos displayed the most optimal outcomes.
- When being autonomy-supportive, school boards endeavor the challenge not to become too passive or permissive.

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ABSTRACT

School leaders adopt a chaotic style when they abdicate their responsibilities by being unavailable, passive, unpredictable and permissive. Surprisingly, this dark side of leaders' style has been largely ignored in contemporary research. In a sample of 205 teachers, this cross-sectional study revealed that, an autonomy-supportive style positively related to job satisfaction via need satisfaction, while a chaotic style positively related to emotional exhaustion via need frustration. Latent profile analyses revealed four profiles: highly autonomy-supportive (35%), moderate on both styles (41%), moderately chaotic (18%), and highly chaotic (6%). A group that was low on both styles was not found.

1. Introduction

Teachers' job satisfaction and burnout constitute two of the most widely studied indicators of teachers' mental health (e.g., Abós, Sevil-Serrano et al., 2019a). Evidence suggests worrying tendencies in the prevalence rates of both job satisfaction (e.g., Anaya & López, 2014) and burnout (e.g., García-Carmona et al., 2018). Considering that both job satisfaction and burnout have significant consequences not only for teachers themselves, but also for schools (e.g., teacher turnover; Ingersoll, 2001; Skaalvik & Skaalvik, 2011) and students (e.g., quality of teaching; Braun et al., 2019), it seems crucial to understand how job satisfaction can be augmented and burnout can be prevented.

Seminal educational researchers have emphasized that the support teachers receive from the school leaders constitutes a key antecedent of teachers' job satisfaction and burnout (e.g., Borman & Dowling, 2008; Darling-Hammond, 2003; Ryan & Deci, 2020). In the current study, we not only examine school leaders' supportive style, but also their demotivating styles, from the perspective of Self-Determination Theory (SDT; Deci & Ryan, 2000). SDT suggests that positive indicators of mental health such as job satisfaction will be more strongly predicted by leaders motivating styles (i.e. autonomy support, structuring, relatedness-support), while negative

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indicators of mental health, such as burnout, will be more strongly predicted by leaders demotivating styles (i.e., chaotic, controlling, cold styles) (Van den Broeck et al., 2016). Surprisingly, the demotivating styles have been largely ignored in contemporary educational leadership research, with most researchers examining the motivating side (i.e., autonomy support) only, hereby providing convincing evidence for its benefits (see Van den Broeck et al., 2016 for a meta-analysis). When the motivating and demotivating sides were examined simultaneously, researchers generally focused on the combination of an autonomy-supportive and controlling style (e.g., Collie, 2021a). Moreover, often composite scores of motivating and demotivating styles were relied on (e.g., Fernet et al., 2012), which precludes drawing conclusions regarding the specific role of a demotivating style.

The current study adds to this existing body of literature in three different ways. First, we focus on the unique combination of an autonomy-supportive and chaotic leadership style. Hereby we argue that it is highly relevant to study these styles in conjunction because they share the characteristic of being low in directiveness and may therefore easily co-occur (Aelterman et al., 2019; Delrue et al., 2019). An autonomy-supportive style is characterized by an empathic and teacher-centered approach that allows for shared decision-making and teachers' participation and input. Autonomy support thus implies that leaders re-invent their leading role and leave more initiative and responsibilities up to teachers. Yet, such an approach may turn into a chaotic style when leaders become too awaiting, passive or permissive, hereby abdicating their responsibilities (Aelterman et al., 2019). To illustrate, when teachers are involved in decision making, it is crucial that teachers are not fully left to their own devices, feeling insecure about their role and how to deal with the provided responsibilities. An important challenge many school boards thus endeavor when adopting an autonomy-supportive style is to avoid becoming too awaiting, passive or permissive, as this would be indicative of a chaotic style (Aelterman et al., 2019; Delrue et al., 2019).

Secondly, in studying teachers' perceptions of their leaders' autonomy-supportive and chaotic style, rather than relying on composite scores, we rely on separate measures of these styles, which allows examining their specific role.

Thirdly, we use two complementary statistical approaches: a variable-centered approach (structural equation modeling, SEM) and a person-centered approach (latent profile analysis; LPA). The benefit of a variable-centered approach is that it enables exploring theory-driven hypotheses, such as whether on average teachers' perceptions of their leaders' styles (i.e., an autonomy-supportive vs. chaotic style) predicts teacher outcomes (i.e. job satisfaction and burnout). On the other hand, person-centered approaches allow examining whether we can identify subpopulations of leaders depending on how they combine different styles to various degrees, and how such combinations affect to teachers' outcomes. Based on prior research (Aelterman et al., 2019), it is expected that some school leaders can be autonomy-supportive and chaotic at the same time, and such a leadership style may predict worse outcomes than a style involving high autonomy support and low chaos.

As such, we contribute to a better understanding of the complexity of school leadership and how it relates to teachers' job satisfaction and burnout. Such knowledge is essential to guide future school-based interventions that aim at promoting positive experiences among teachers.

1.1. An autonomy-supportive leadership style

Studies on school leadership start from a wealth of theories or frameworks such as shared instructional leadership (Printy & Marks, 2006; Wahlstrom & Louis, 2008), transformational theory (Bass & Riggio, 2005), distributed leadership (Camburn et al., 2003; Hulpia & Devos, 2010; Timperley, 2005) and the job demands-resources model (JDR; Demerouti et al., 2001; Schaufeli & Bakker, 2004). Although conceptualizations of school boards' leadership styles differ across these theories and models, the literature consistently proves the benefits of a leadership style that involves the promotion of dialogue and teacher input and participation. Accordign to Self-Determination Theory (SDT; Deci & Ryan, 2000; Ryan & Deci, 2020), the theoretical framework that drives the current study, these strategies typify an autonomy-supportive leadership style. Autonomy support refers to the interpersonal climate created by the supervisor at the workplace, in which employees' perspectives are understood and acknowledged, opportunities for choice are present, and self-initiation is promoted and encouraged (Deci et al., 2001; Ryan & Deci, 2020). In schools, autonomy support is manifested when school boards respect the teachers' authority in the classroom, when they conscientiously listen to teachers, when they are empathetic and try to understand the teachers' point of view, and encourage them to ask questions (Collie, 2021a; Klassen et al., 2012; Nie et al., 2015).

The body of literature on autonomy-supportive leadership in schools is rapidly growing (Ryan & Deci, 2020). Available studies have proven that teachers thrive in schools that are driven by an autonomy-supportive leadership, with proven benefits for teachers' motivation (Slemp et al., 2020), their adaptability to new situations (Collie & Martin, 2017), their work engagement (Klassen et al., 2012), organizational commitment (Collie et al., 2018; Lee & Nie, 2014), and stress levels (Collie, 2021a; Nie et al., 2015). In relation to the current study, positive associations with job satisfaction (Lee & Nie, 2014; Nie et al., 2015) and negative relationships with emotional exhaustion have been reported (Collie, 2021a; Collie et al., 2018; Fernet et al., 2012).

1.2. The drawbacks of a chaotic leadership style

While an autonomy-supportive leadership style clearly yields many benefits, a chaotic style does not. When being chaotic, school boards abdicate responsibilities, or fail in successfully adjusting their management to the requirements, demands, and work pace of teachers. A school boards' chaotic style also involves providing no, unclear, incoherent, or contradictory directions, expressing unrealistic expectations, reacting inconsistently, lacking initiative and action, not intervening when needed, providing insufficient recognition, and giving up on teachers. With a chaotic leader, teachers can feel as if they are fully left to their own devices when they need help or assistance (Aelterman et al., 2019; Stroet et al., 2015). To the best of our knowledge, no studies are available that start from SDT to examine the maladaptive effects of a chaotic leadership style in schools. Evidence on the downsides of a chaotic style is though available from the literature on transformational theory (Bass et al., 2003). A chaotic style closely aligns with a laissez-faire leadership style as distinguished within transformational theory. A laissez-faire leadership style is described as a passive or avoidant style (Aasland et al., 2009; Skogstad et al., 2007) which involves abdicating or avoiding responsibility, not intervening when needed, failing to make decisions, being absent when needed, and failing to follow up on requests. It is considered as the most ineffective and most prevalent destructive leadership style (Bass & Riggio, 2005; Skogstad et al., 2007). In teachers, a laissez-faire leadership style connects to lower commitment and intention to stay in the job (Nguni et al., 2006), less trust in the organization (Mehmet & Inandi, 2018), and in relation to the outcomes of the current study, lower job satisfaction (Hariri et al., 2016) and more burnout (López-Vílchez et al., 2019).

1.3. Basic psychological need satisfaction and frustration as the underlying mechanism

Fundamental to SDT is that positive work-related outcomes such as job satisfaction are expected when leaders are autonomy-supportive because teachers' basic psychological needs for autonomy, competence, and relatedness will get satisfied (Deci & Ryan, 2000, p. 229; Ryan & Deci, 2017; Vansteenkiste et al., 2020). The need for autonomy refers to teachers' desire to feel they are the origin of their own actions, to act according to their own volition, and to experience freedom of action. The need for competence refers to the individual's desire to interact successfully with their context in order to reach desired aims. The need for relatedness refers to the aspiration to maintain close and positive interpersonal relationships to their context and to feel part of it (Deci & Ryan, 2000; Ryan & Deci, 2017). SDT also suggests that negative work-related outcomes such as burnout are expected when leaders adopt a chaotic style because, albeit teachers can uptake responsibilities, they experience need frustration when doing so (e.g., Deci et al., 2017; Van den Broeck et al., 2016; Vansteenkiste & Ryan, 2013). When school leaders are perceived as chaotic, teachers can feel pressured and coerced (i.e., autonomy frustration) because they are left with too many responsibilities and experience doubts as to how to handle these responsibilities (i.e., competence frustration). The need for relatedness is hypothesized to get frustrated when teachers feel relational exclusion and loneliness (Vansteenkiste et al., 2020), which may be the case when leaders are absent or unavailable and teachers are left to their own devices.

Abundant research has confirmed SDT's theoretical premises revealing that, when (school) leaders rely more strongly on an autonomy-supportive style, teachers report more need satisfaction (e.g., Collie et al., 2016; Van den Broeck et al., 2016). Numerous studies further revealed that teachers who report higher levels of need satisfaction tend to report higher levels of adaptive work-related outcomes such as more work engagement (Abós et al., 2018; Klassen et al., 2012), autonomous motivation to teach (Abós et al., 2018; Slemp et al., 2020), job satisfaction (Abós, Haerens, et al., 2019; Collie et al., 2016; Lee & Nie, 2014), more positive affect and life satisfaction in general (Ebersold et al., 2019) and lower levels of emotional exhaustion (Kaplan & Madjar, 2017; Van den Berghe et al., 2014). Studies further confirmed that experiences of need satisfaction explain why teachers benefit from an autonomy-supportive leadership style (Collie et al., 2016; Ebersold et al., 2019; Klassen et al., 2012).

The dark side though has received much less empirical attention. To our knowledge, no studies examined relationships between a chaotic leadership style and need frustration. Outside the teaching context, we found two studies, the first among nurses (Trépanier et al., 2019), the second considering volunteers in sports clubs (De Clerck et al., 2019) that confirmed that a chaotic leadership style is positively related to need frustration. Studies with teachers showed that need frustration relates to less optimal outcomes such as reduced life satisfaction (Ebersold et al., 2019) and more burnout (Bartholomew et al., 2014; Cuevas et al., 2015; Ebersold et al., 2019). In addition, no studies have examined whether experiences of need frustration mediated the relationship between a chaotic leadership style and work-related outcomes. In one study, it was shown that need frustration plays an intervening role in the relationship between an autonomy-supportive leadership style on the one hand and life satisfaction and negative affect on the other hand (Ebersold et al., 2019).

1.4. The benefits of person-centered approaches to study autonomy supportive and chaotic leadership styles

Leadership styles are usually explored through variable-centered approaches. By using such approaches, specifically regression analysis, it is possible to explore a-priori theory-driven research questions, such as how teachers' perceptions of their leaders' autonomy-supportive and chaotic styles distinctively affect teachers' outcomes. However, autonomy-supportive and chaotic styles are not mutually exclusive. Some leaders might endorse both styles simultaneously, at least to some degree (Aelterman et al., 2019; Delrue et al., 2019). Thus, there are likely different profiles, or subpopulations of leaders, differing in the degree to which they are placed on the continuums of autonomy support and chaos. At the poles of this continuum, can be the leaders who are high on autonomy support and low on chaos or vice versa. Yet, there can also be leaders who are high or low on both dimensions. The profile characterized by high levels of autonomy support and low levels of chaos is considered most adaptive, promoting teachers' experiences of both self-endorsement and competence. For the profile with high levels of both autonomy support and chaos, however, the benefits of an autonomy-supportive style are likely mitigated by the presence of a chaotic style. These leaders can, for instance, provide teachers with options and meaningful rationale, but at the same time leave them to solve their dilemmas on their own, leaving teachers perplexed and unsure of their responsibilities. Furthermore, there are likely to be subtle combinations of autonomy-supportive and chaotic leadership styles beyond these clearly distinct profiles. As an example, some leaders may score moderately on both styles.

Therefore, there are three important questions regarding the specific role of autonomy-supportive and chaotic leadership styles that latent profile analysis (LPA) can answer. The first question is how many configurations of autonomy-supportive and chaotic leadership styles there are, based on the relative levels of autonomy support and chaos as perceived by the teachers. The second question is the prevalence of the identified profiles - that is, to what extent does each profile represent a large enough number of people to be considered significant. Thirdly, based on the previous questions, it becomes interesting to examine how the profiles differ in terms of teachers' outcomes, as this allows to further unravel the specific role of the presence or absence of a chaotic style.

1.5. The present study

In the current study, we suggest that examining a full model, which includes a chaotic style in addition to an autonomy-supportive style, and need frustration in addition to need satisfaction, will be crucial to fully appreciate how school leaders' style impacts teachers' psychological need-based experiences, and work-related outcomes as has been suggested by key scholars in the field (Deci et al., 2017; Van den Broeck et al., 2016). As SDT suggests that an autonomy-supportive leadership style is highly beneficial because it fulfills teachers' basic psychological needs for autonomy, competence, and relatedness, while the opposite is true for a chaotic style which results in need frustration (Deci & Ryan, 2000; Gagné & Deci, 2005; Lee & Nie, 2013; Reeve, 2009; Ryan & Deci, 2017; Van den Broeck et al., 2016), we first examine a theory-driven variable-centered process model in which teachers' need-based experiences mediate the relations between perceived leaders' autonomy-supportive and chaotic styles and teachers' job satisfaction and emotional exhaustion (Aim 1). It is hypothesized

that teachers' perceived autonomy support primarily predicts job satisfaction via basic psychological need satisfaction and that a perceived chaotic style primarily impacts emotional exhaustion via basic psychological need frustration. We also consider the possibility that autonomy support would be a buffer against need frustration and emotional exhaustion (Bartholomew et al., 2014), and that a chaotic leadership style hinders optimal functioning as expressed through lower need satisfaction and job satisfaction. Nevertheless, we expect that the potential cross-paths would be weaker when compared to the theoretical relations within the bright (e.g., perceived autonomy support → need satisfaction → job satisfaction) or the dark side of SDT (e.g., perceived chaos → need frustration → emotional exhaustion).

Secondly, we examine "leadership profiles" as determined through LPA (e.g., Houle et al., 2020; Maertz & Campion, 2004). This way we can examine to what degree an autonomy-supportive and chaotic leadership style get combined and whether teachers' need satisfaction, need frustration, job satisfaction, and burnout (i.e., emotional exhaustion) differ according to their perceptions about their school boards' leadership profile (Aim 2). Considering theoretical differences and similarities of both dimensions (Aelterman et al., 2019; Delrue et al., 2019), we hypothesized to find up to four distinct groups. Two of them would be characterized respectively, by high levels of autonomy support and low chaos, and vice-versa. The other two groups of teachers would be characterized by displaying simultaneously high or low levels of perceived autonomy support and chaos. Based on theoretical grounds (Vansteenkiste et al., 2020) and prior studies (Aelterman et al., 2019; Delrue et al., 2019), we expect groups characterized by the higher levels of perceived autonomy support and lower levels of perceived chaos to yield the most optimal pattern of outcomes, while groups characterized by relatively lower levels of autonomy support and higher levels of chaos are expected to yield the most maladaptive pattern of outcomes. Further, it also seems interesting to examine whether the hypothesized positive outcomes of an autonomy-supportive style are diminished when the school board is simultaneously perceived as chaotic. It is hypothesized that the combination of an autonomy-supportive and chaotic style, is less beneficial when compared to a purely autonomy-supportive style.

As teachers' perceptions of their leaders' style as well as their job satisfaction and burnout (i.e. emotional exhaustion) may be influenced by teachers' individual characteristics (e.g. years of experience, e.g., Abós, Haerens, et al., 2019; Collie, 2021b; Lee & Nie, 2014), their position in the school (i.e. whether they are involved in management or not; Lee & Nie, 2014), the type of the school (private or public; e.g., Collie et al., 2018; Lee & Nie, 2014) or educational level they are teaching in (i.e., preschool, elementary, high school; Wang et al., 2015; Fernet et al., 2012), we consider these characteristics when examining our research questions. Teaching experience already received substantial empirical attention in prior research, with studies displaying mixed results in relation to job satisfaction and burnout (Abós, Haerens, et al., 2019; Collie, 2021b; Lee & Nie, 2014). In comparison, the position of the teacher (Lee & Nie, 2014), the type of school (i.e., private or public; Collie, 2021b; Ferreira & Martinez, 2012) or the educational level (Fernet et al., 2012; Wang et al., 2015) received far less empirical attention, with results therefore being fragmented and mixed across studies. Yet, including these variables is important to better comprehend how teachers' perceptions of their leaders' style are influenced by individual and school characteristics, to understand how much variance in the outcomes is explained by leaders' style beyond the variance explained by these characteristics, and to design effective interventions to improve teachers' psychological functioning.

2. Methods

2.1. Participants and procedures

Five hundred teachers from four schools from the city of Lima in Peru were contacted through e-mail to answer a web-based survey. The invitation to participate and weblink to the survey was also posted on Facebook. A total of 214 Peruvian teachers decided to fill out the online questionnaire. After inspecting the teachers' answers, nine teachers were not considered because they did not complete the questionnaires correctly (i.e., more than 10% of answers were missing). As in many other countries, in Peru, preschool teachers teach students up to 6 years old, elementary teachers teach students up to 11–12 years old, and high school teachers teach students up to 16–17 years old. The final sample was composed of 205 teachers; 94 (46%) were preschool teachers, 78 (38%) were elementary school teachers, and the remaining 33 (25%) were high school teachers. Most participating teachers (i.e., 94%) were employed in non-government schools and most of them taught at mixed schools. Participants had been working as teachers for an average of 13.69 ($SD = 9.05$) years, ranging from 1 to 45 years' teaching experience. The school board in teachers' schools generally consisted of a principal, who was supported by one or more coordinators. Ethical approval for this study was obtained from the Research Ethics Committee of the institution (details removed for peer review). Participation was voluntary and anonymous.

2.2. Instruments

Teachers completed a questionnaire on their perceptions of their school boards' autonomy-supportive and chaotic leadership style, basic psychological need satisfaction and frustration, job satisfaction, and emotional exhaustion.

2.2.1. Perceived autonomy-supportive style

Teachers' perception of school boards' autonomy support was measured by using a Spanish translation of the short-version of the Work Climate Questionnaire (WCQ; Baard et al., 2004; Matos et al., 2018). The short-version of the WCQ comprised 6 items, which were translated from English to Spanish (i.e., the participants' mother tongue) using the procedures of the International Test Commission (Bartram et al., 2018). We also adapted the original items by replacing the words "my manager" with "my school board" so that the responses could reflect teachers' perceptions about their school boards' autonomy support. An example of such an item is: "I feel that my school board provides me with choices and options on how to conduct my work". Responses were provided on a 7-point Likert scale ranging from 1 ("strongly disagree") to 7 ("strongly agree"). In the present study, the Confirmatory Factor Analysis (CFA) showed a good fit to the data ($\chi^2 = 14.79$, $p < .01$; $\chi^2/df = 1.64$; RMSEA = 0.06; 90% CI = 0.00–0.11; CFI = 0.98; TLI = 0.98, SRMR = 0.02). The Cronbach's alpha of perceived autonomy support was $\alpha = 0.95$.

2.2.2. Perceived chaotic style

Teachers' perception of school boards' chaotic style was measured by means of a scale created for this study. This scale was composed based on theory and a dataset of (semi) open interviews. In the interviews, teachers answered about the type of stressors that they usually experienced at work. Many of the answers of teachers related back to a chaotic style from the school boards (e.g., Teacher 1: "There is information that is not clear … sometimes I do not know what they ask for because what they ask for is not aligned with what the children need …"). More specifically, eight items measuring the school boards' chaotic style were created (see

Appendix 1). A sample item is "There is little coherence between what the school board of my school asks me and what I need to do in the classroom". Responses were provided on a 7-point Likert scale ranging from 1 ("strongly disagree") to 7 ("strongly agree").

The fit of the items in a one-factor structure first was explored by means of Exploratory Factor Analysis (EFA) ($\chi^2 = 59.57$, $p < .001$; $\chi^2/df = 2.98$), which displayed high factor loadings ($\lambda = 0.49–0.84$; $M = 0.71$). Subsequently, this one-factor structure was tested via CFA showing a good fit to the data ($\chi^2 = 33.99$, $p < .05$; $\chi^2/df = 1.70$; RMSEA = 0.06; 90% CI = 0.03–0.10; CFI = 0.98; TLI = 0.96, SRMR = 0.03). The Cronbach's alpha of perceived chaos was $\alpha = 0.89$.

To test the goodness-of-fit of a two-factor model of a perceived autonomy-supportive and chaotic style, a CFA was run. The model revealed excellent fit to the data ($\chi^2 = 114.42$, $p < .001$; $\chi^2/df = 1.51$; RMSEA = 0.05; 90% CI = 0.04–0.07; CFI = 0.97; TLI = 0.97). Loadings ranged from 0.85 to 0.91 for the autonomy-supportive items, and from 0.49 to 0.85 for the perceived chaotic style items. A significant and negative latent correlation between both constructs was found ($r = -0.53$, $p < .01$).

2.2.3. Need satisfaction and need frustration

Teachers' perception of need satisfaction and frustration was measured by using the Spanish version of the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS; Chen et al., 2015). This scale includes 24 items (eight per need, four for need satisfaction and four for need frustration) assessing teachers' autonomy satisfaction (e.g., "I feel my choices express who I really am"), competence satisfaction (e.g., "I feel confident that I can do things well"), and relatedness satisfaction (e.g., "I feel that the people I care about also care about me"), as well as teachers' autonomy frustration (e.g., "My daily activities feel like a chain of obligations"), competence frustration (e.g., "I feel like a failure because of the mistakes I make"), and relatedness frustration (e.g., "I feel excluded from the group I want to belong to"). Participants' responses were provided on a 7-point scale ranging from 1 ("strongly disagree"), to 7 ("strongly agree").

Similar to previous studies (Haerens et al., 2015), a higher-order two-factor model was conducted by modeling the 24 items as indicators of six first-order factors: autonomy, competence, and relatedness satisfaction, as well as autonomy, competence and relatedness frustration. In turn, these six-first order factors were used as indicators for the two higher order-factors: need satisfaction and need frustration. The model displayed excellent fit to the data ($\chi^2 = 481.23$, $p < .001$; $\chi^2/df = 1.97$; RMSEA = 0.07; 90% CI = 0.06–0.08; CFI = 0.96; TLI = 0.96, SRMR = 0.02). The Cronbach's alphas were good both for the composite factors of satisfaction ($\alpha = 0.89$) and frustration ($\alpha = 0.79$), as well as for each of the six first-order factors ($0.68 < \alpha < 0.88$).

2.2.4. Job satisfaction

Teachers' job satisfaction was measured using a Spanish version of the Satisfaction with Life (SWLS; Diener et al., 1985; Vázquez et al., 2013). For the present study, this general life satisfaction scale was slightly modified by replacing the words "my life" with "my job" so that the responses could reflect teachers' perceptions about their job satisfaction. An example of such an item is: "The conditions of my job are excellent". Teachers' responses were provided on a 7-point Likert scale from 1 ("strongly disagree") to 7 ("strongly agree"). The CFA revealed an excellent fit to the data ($\chi^2 = 2.66$, $p < .001$; $\chi^2/df = 0.53$; RMSEA = 0.00; 90% CI = 0.00–0.07; CFI = 0.99; TLI = 0.99, SRMR = 0.01). The Cronbach's alpha of job satisfaction was $\alpha = 0.86$.

2.2.5. Emotional exhaustion

Teachers' emotional exhaustion was measured using the Spanish version of Maslach Burnout Inventory – Educators Survey (MBI; Maslach et al., 1996). This 22-item scale assesses the three classical burnout dimensions of emotional exhaustion, depersonalization, and reduced personal accomplishment. Yet, because emotional exhaustion has been commonly used as the pivotal component of teachers' burnout (e.g., Skaalvik & Skaalvik, 2011, 2017), only the 9 items assessing this dimension were considered for the present study. An example of such an item is: "I feel I am working too hard on my job". Teachers' responses were provided on a 7-point Likert scale from 0 ("strongly disagree") to 6 ("strongly agree"). The CFA showed a good fit to the data ($\chi^2 = 42.89$, $p < .05$; $\chi^2/df = 1.59$; RMSEA = 0.05; 90% CI = 0.02–0.08; CFI = 0.99; TLI = 0.98, SRMR = 0.01). The Cronbach's alpha for emotional exhaustion was $\alpha = 0.87$.

2.3. Plan of analysis

2.3.1. Preliminary analyses

Prior to conducting the main analyses, the descriptive statistics (means and standard deviations), Pearson's correlation analyses, and Cronbach's alpha reliability for all study variables were calculated. Pearson's correlations were also used to inspect how teachers' experience correlated to each of the study variables. Multivariate analysis of variance (MANOVA) was relied on to examine whether the study variables differed according to school type (i.e., private, public), educational level (i.e., preschool, elementary, high school), and whether teachers did or did not uptake a management role. In a set of supplementary analyses, repeated measures analysis of variance (MANOVAR; within-level: leader style, need satisfaction, need frustration) were conducted to describe average differences in (a) teachers' perceptions of their leaders' autonomy-supportive versus chaotic style, (b) teachers' experiences of autonomy, competence and relatedness satisfaction, and (c) teachers' experiences of autonomy, competence and relatedness frustration. Next, prior to proceeding with the main analyses, the normality of the data was tested. Results of the Kolmogorov-Smirnov test revealed that the study variables, overall, were non-normally distributed ($p < .05$). These preliminary analyses were calculated using the IBM SPSS 25.0 software.

2.3.2. A multiple-mediation model: variable-centered approach

To address the first aim, a structural equation modeling (SEM) using Mplus 8.0 (Muthén & Muthén, 1988–2017) based on the robust maximum likelihood (MLR) estimation was performed, which provides standard errors and tests of model fit that are robust to the non- normality distribution of the data. The model assessment was based on the following goodness-of-fit indices: the root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR), comparative fit index (CFI), and Tucker-Lewis Index (TLI). Values of 0.08 and 0.06 or less for RMSEA and SRMR are considered as adequate and excellent, respectively (Marsh et al., 2004). Higher values of 0.90 and 0.95 for CFI and TLI indicate good and excellent fit, respectively (Marsh et al., 2004). In this analysis, we also controlled for relevant covariates (i.e. experience, management role).

2.3.3. Identification of school boards' leadership style combinations and differences in teachers' need-based experiences and work-related outcomes: a person-centered approach

For the person-centered approach, as a first step, the standardized scores for the teachers' perceptions of autonomy support and chaotic style generated by school boards were computed. Then, we performed the LPA analysis using Mplus 8.0 (Muthén & Muthén,

1998–2017), whereby the best fitting subgroups of teachers with similar perceptions of the two leadership styles were estimated. Starting with a two-profile model, we iteratively added up to K = 5. To determine the best fitting solution, we considered multiple fit criteria outlined by Nylund et al. (2007). The Akaike information criterion (AIC), Bayesian information criterion (BIC), and sample-sized adjusted Bayesian information criterion (SABIC) were used to compare the relative fit of multiple models to the data while considering the complexity and the sample size of each model. Lower AIC, BIC, and SABIC values indicate a better fit (Raftery, 1995). For statistical model comparison, the bootstrap likelihood ratio difference test (BLRT) was performed. A significant p-value indicates that the k-profile solution fits the data better than the k-1 model. Additionally, the value of entropy was determined, indicating the classification accuracy of the profile solution. Entropy values of 0.80 and indicate good classification accuracy, but values between 0.60 and 0.80 are also seen as appropriate (Spurk et al., 2020). Interpretability of the class solutions, differentiability of the individual profiles, and class sizes were also considered (Lubke & Muthén, 2005). To utilize all available data, we used full information maximum likelihood estimation (FIML) with the Mplus robust maximum likelihood estimator.

Next, we analyzed the extent to which the latent classes (profiles) are similar (vs. different) regarding the set of four investigated factors (teachers' need satisfaction, need frustration, job satisfaction, and emotional exhaustion). To undertake this step, we employed the AUXILIARY option of the VARIABLE command in Mplus 8.0 (see Asparouhov & Muthen, 2021 for more details). Specifically, we used the 3-steps BCH approach as recommended by Bakk and Vermunt (2016) to compare the means across latent profiles. In this analysis, we also controlled for relevant covariates.

3. Results

3.1. Preliminary descriptive and correlational results

Means, standard deviation, and Pearson's correlations for the study variables are reported in Table 1. We found a negative moderate to high correlation between the perceived autonomy-supportive and perceived chaotic style generated by school boards. Regarding study outcomes, perceived autonomy support was positively related to teachers' need satisfaction, and job satisfaction, and negatively related to teachers' need frustration and emotional exhaustion. The opposite was true for the perceived chaotic style. As for the covariates, significant correlations were found between teaching experience and need frustration, job satisfaction, and emotional exhaustion, relations with perceived autonomy support, perceived chaos and need satisfaction were insignificant (See Table 1). In addition, a multivariate effect of management role (Wilks' Lambda = 0.90, $F(6,198) = 3.75$, $p < .001$, $\eta_p^2 = 0.10$) was found, but not of the type of school (Wilks' Lambda = 0.95, $F(6,198) = 1.701$, $p < .121$, $\eta_p^2 = 0.05$) and educational level (Wilks' Lambda = 0.92, $F(12,394) = 1.33$, $p < .200$, $\eta_p^2 = 0.04$). Follow-up univariate analyses revealed that teachers who fulfilled a management position perceived their school leaders as more autonomy-supportive ($F(1,203) = 8.19$, $p < .01$, $\eta_p^2 = 0.04$) and less chaotic ($F(1,203) = 17.90$, $p < .001$, $\eta_p^2 = 0.08$). They also experienced less need frustration ($F(1,203) = 12.41$, $p < .001$, $\eta_p^2 = 0.06$) and emotional exhaustion ($F(1,203) = 7.31$, $p < .01$, $\eta_p^2 = 0.04$) and greater job satisfaction ($F(1,203) = 10.19$, $p < .01$, $\eta_p^2 = 0.05$). No differences were found for need satisfaction ($F(1,203) = 3.01$, $p < .08$, $\eta_p^2 = 0.02$).

Repeated measures MANOVAR revealed that teachers reported higher scores for perceived autonomy support when compared to for perceived chaos (see Table 1). Regarding need satisfaction, the repeated measures MANOVAR revealed that autonomy satisfaction was significantly lower ($p < .001$) than teachers' competence satisfaction and relatedness satisfaction. Regarding need frustration, the need for autonomy was significantly more frustrated ($p < .001$) than the need for competence or relatedness (see Table 1).

3.2. How does the school boards style relate to teachers' need-based experiences and job satisfaction, and emotional exhaustion: a variable-centered approach (aim 1)

The theory-based model, which included direct paths from a perceived autonomy-supportive and chaotic style to job satisfaction and emotional exhaustion via teachers' need-based experiences, displayed good fit to the data ($\chi^2 = 989.083$, $p < .001$; χ^2/df = 1.55; RMSEA = 0.052; 90% CI = 0.046–0.058; CFI = 0.917; TLI = 0.909; SRMR = 0.073). All indicators were generally well defined by high and significant factor loadings ($\lambda = 0.50$ to 0.91, $M = 0.75$). The shared variance between teachers' perceived autonomy-supportive and chaotic style ($r = -0.51$, $p < .001$), and between need satisfaction and need frustration ($r = -0.43$, $p < .001$) was controlled for.

As observed in Table 2 and in Fig. 1, teachers' perceived autonomy-supportive style positively related to need satisfaction ($\beta = 0.39$, $p < .001$) and job satisfaction ($\beta = 0.35$, $p < .001$), whereas a perceived chaotic style positively related to need frustration ($\beta = 0.58$, $p < .001$). In addition, need satisfaction positively explained job satisfaction ($\beta = 0.33$, $p < .001$) and need frustration positively explained emotional exhaustion ($\beta = 0.70$, $p < .001$). The

Table 1
Descriptive statistics and Pearson's correlations for the study variables.

Study variables	*M* (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Perceived autonomy-supportive	5.29 (1.53)	–												
2. Perceived chaotic style	3.87 (1.49)	−.48**	–											
3. Teachers' need satisfaction	6.19 (0.69)	.37**	−.01	–										
4. Autonomy satisfaction	5.84 (0.86)	.45**	−.10	.87**	–									
5. Competence satisfaction	6.38 (0.75)	.24**	.03	.88**	.63**	–								
6. Relatedness satisfaction	6.36 (0.76)	.26**	.05	.88**	.63**	.70**	–							
7. Teachers' need frustration	2.07 (0.74)	−.33**	.49**	−.33**	−.35**	−.23**	−.27**	–						
8. Autonomy frustration	3.00 (1.33)	−.43**	.59**	−.16*	−.27**	−.06	−.08	.84**	–					
9. Competence frustration	1.72 (0.86)	−.15*	.21**	−.36**	−.35**	−.36**	−.22**	.73**	.37**	–				
10. Relatedness frustration	1.49 (0.73)	−.03	.19**	−.28**	−.16*	−.17*	−.43**	.67**	.32**	.40**	–			
11. Teachers' job satisfaction	5.01 (1.23)	.61**	−.43**	.48**	.53**	.38**	.34**	−.49**	−.53**	−.31**	−.17*	–		
12. Teachers' emotional exhaustion	1.97 (1.10)	−.28**	.46**	−.17*	−.25**	−.08	−.10	.62**	.60**	.41**	.32**	−.44**	–	
13. Teaching experience	13.88 (9.43)	.05	−.09	.13	.18**	.12	.04	−.20**	−.09	−.32**	−.08	.18*	−.16*	–

Note: * = $p < .05$; ** = $p < .01$.

Table 2
Indirect effects from teachers' perceived autonomy-supportive and chaotic style to work-related outcomes through their need-based experiences.

	Standardized estimates "β"	Standard error	*p-values*
Direct relations with need satisfaction			
Perceived autonomy-supportive	.39***	.08	<.001
Perceived chaotic style	.01	.06	.939
Direct relations with need frustration			
Perceived autonomy-supportive	−.05	.09	.585
Perceived chaotic style	.58***	.07	<.001
Direct relations with job satisfaction			
Need satisfaction	.33***	.08	<.001
Need frustration	−.26*	.11	.015
Perceived autonomy-supportive	.35***	.08	<.001
Perceived chaotic style	−.11	.08	.161
Direct relations with emotional exhaustion			
Need satisfaction	.08	.08	.335
Need frustration	.70***	.10	<.001
Perceived autonomy-supportive	−.07	.11	.524
Perceived chaotic style	−.10	.11	.337
Indirect effects from perceived autonomy-supportive to job satisfaction			
Total indirect	.14**	.05	.010
Specific indirect via need satisfaction	.13*	.05	.013
Specific indirect via need frustration	.01	.02	.567
Indirect effects from perceived chaotic style to job satisfaction			
Total indirect	−.14*	.06	.023
Specific indirect via need satisfaction	.01	.03	.690
Specific indirect via need frustration	−.15*	.06	.019
Indirect effects from perceived autonomy-supportive to emotional exhaustion			
Total indirect	−.01	.07	.958
Specific indirect via need satisfaction	.03	.03	.374
Specific indirect via need frustration	−.04	.06	.585
Indirect effects from perceived chaotic style to emotional exhaustion			
Total indirect	.42***	.08	<.001
Specific indirect via need satisfaction	.01	.04	.657
Specific indirect via need frustration	.41***	.07	<.001

Note: * = $p < .05$; ** = $p < .01$; *** = $p < .001$. Analyses controlled for teaching experience and teachers' management position.

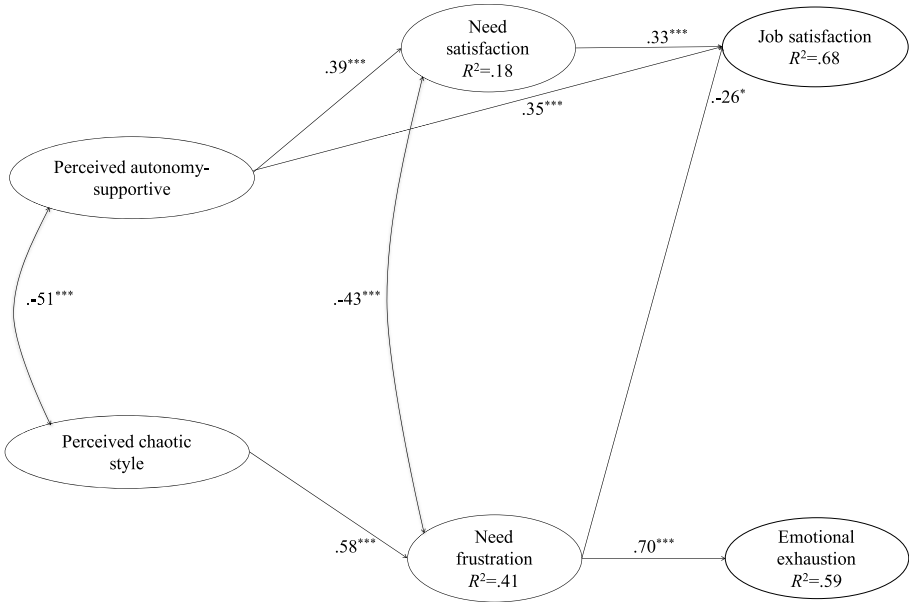

Fig. 1. Graphical representation of the multiple-mediation model. For a further information about rest of direct and indirect relationships estimated, which were not significant, please see Table 2. *** = $p < .001$; ** = $p < .01$; * = $p < .05$.

indirect effect from teachers' perceived autonomy support to job satisfaction via need satisfaction was significant ($\beta = 0.13$, $p < .05$). Also, the indirect effects from a chaotic style via need frustration to job satisfaction ($\beta = -0.15$, $p < .05$) and emotional exhaustion ($\beta = 0.41$, $p < .001$) were found to be significant.

3.3. Identification of combinations of the perceived autonomy-supportive with the chaotic style and differences in teachers' BPNs and work-related outcomes according to the identified profiles (aim 2)

The fit statistics AIC, BIC and SABIC and the significant *p*-value in

BLRT statistics indicated a five-profile solution fitted the data best (see Table 3). However, this solution included a profile with only four participants (less than 2% of the sample). We therefore did not consider this solution as appropriate, and we selected a four-profile solution instead. The value of the entropy associated with the four-profile model suggested an appropriate separation of classes.

Table 4 presents descriptive statistics of the different profiles. Fig. 2 shows a graphical representation of the four-profile solution based on standardized scores. The first profile (41% of the sample) included participants reporting similar moderate levels of autonomy support and chaos, which were slightly above average (z-scores of 0.25 and 0.39, respectively). We labeled this profile *moderately autonomy-supportive-moderately chaotic*. The second profile (35% of the sample) included participants reporting above-average levels of autonomy support and below-average levels of chaos (z-scores of 0.77 and −0.88, respectively). We labeled this profile *highly autonomy-supportive-lowly chaotic*. The third profile (18% of the sample) included participants reporting below average levels of autonomy support (z-score of −1.25) and slightly above average levels of chaos (z-score of 0.36). We labeled this profile *lowly autonomy-supportive-moderately chaotic*. The fourth profile (6% of the sample) included participants reporting extremely below-average levels of autonomy support (z-score of −2.33) and above-average levels of chaos (z-score of 1.39). We labeled this profile *very lowly autonomy-supportive-highly chaotic*. Based on the results, it appears that while some teachers report that their leaders' autonomy-supportive and chaotic styles go hand in hand (first profile), others see them as contradictory (three other profiles). In contrast to our expectations, a profile that was low on both styles was not found.

Next, we compared similarities and differences among the profiles based on four criteria (teachers' need satisfaction, need frustration, job satisfaction, and emotional exhaustion), hereby controlling for teachers' experience and management role. Fig. 3 presents the descriptive statistics for the different criteria according to profile membership. Table 5 presents the results of covariate analysis comparing the profiles according to four criteria. As can be seen in the figure and table, participants in the highly autonomy-supportive-lowly chaotic profile (second profile) had the highest scores for need satisfaction and job satisfaction, as well as the lowest scores for need frustration and emotional exhaustion. These differences were significant, except for the difference in job satisfaction between this profile and the moderately autonomy support − moderately chaotic profile (i.e., first profile). There were no significant differences between participants in the moderately autonomy-supportive-moderately chaotic and lowly autonomy-supportive - moderately chaotic profile (i.e., first and third profile). Lastly, participants in the very lowly autonomy-supportive - highly chaotic profile (i.e., fourth profile) had the highest levels of need frustration and emotional exhaustion and the lowest levels of job satisfaction. Yet, their levels of need satisfaction were similar to those of the first and third profile.

Table 3
Fit statistics for the different profile solutions.

k	AIC	BIC	SABIC	BLRT (*p*)	Entropy	N for each profile
2	1415.76	1439.03	1416.85	.000	.91	47, 58
3	1399.26	1432.49	1400.81	.000	.67	85, 75, 45
4	**1378.83**	**1422.03**	**1380.84**	**.000**	**.77**	**85, 71, 37, 12**
5	1365.99	1419.15	1368.46	.000	.82	83, 70, 36, 12, 4

Note. The selected model is highlighted in bold. k = number of latent profiles in the model; *AIC* = Akaike Information Criterion; *BIC* = Bayesian information criterion; SABIC = Sample-size adjusted bayesian information criterion; *BLRT* = Bootstrapped likelihood ratio test.

Table 4
Descriptive statistics for each profile.

Latent profile			Autonomy Support		Chaos	
	%	n	M (SE)	Z	M (SE)	Z
1. Moderate AS - Moderate CH	41	85	5.67 (.13)	.25	4.46 (.22)	.39
2. High AS - Low CH	35	71	6.47 (.10)	.77	2.56 (.24)	−.88
3. Low AS - Moderate CH	18	37	3.36 (.21)	−1.25	4.42 (.23)	.36
4. Very low AS − High CH	6	12	1.72 (.21)	−2.33	5.95 (.37)	1.39

Note. AS = Autonomy support; CH = Chaos.

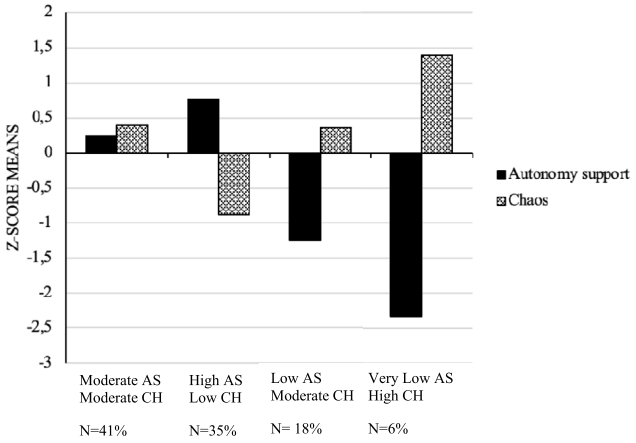

Fig. 2. Standardized (Z-Score) means for autonomy support (AS) and chaos (CH) in the four profiles.

In summary, the profile with high autonomy support and low chaos is consistently more adaptive than all the other profiles. All profiles with above-average levels of chaos had inferior results to this one. Finally, as expected, teachers who perceive their leaders as very low on autonomy support and high on chaos report the worst experience.

4. Discussion

Within the literature, the school boards' or principals' leadership style has been put forward as a crucially important component affecting teachers' work experiences. Starting from a wealth of theoretical frameworks and models, the available literature generally points to the benefits of promoting dialogue, creating structures for participation, fostering teacher involvement in decision making and problem solving, and of delegating authority and tasks (e.g. Bass & Riggio, 2005; Dou et al., 2017; Marks & Printy, 2003). Along similar lines, using SDT as a guiding framework (Deci et al., 2017; Ryan & Deci, 2020), many authors have concluded that leaders' autonomy support plays a key role in fostering job satisfaction (Lee & Nie, 2014; Nie et al., 2015) and preventing burnout (Collie, 2021a; Collie et al., 2018; Fernet et al., 2012). At the same time, it has been argued that leaders' demotivating style, may be even more important when it comes to negative outcomes such as burnout (Van den Broeck et al., 2016). By examining leaders' chaotic style and experiences of need frustration, in addition to leaders' autonomy-supportive style and experiences of need satisfaction, this study responds to the call to examine more systematically the dark side of leaders' style, and their association with important work-related outcomes such as teachers' job satisfaction and burnout (i.e. emotional exhaustion). In the current study, we

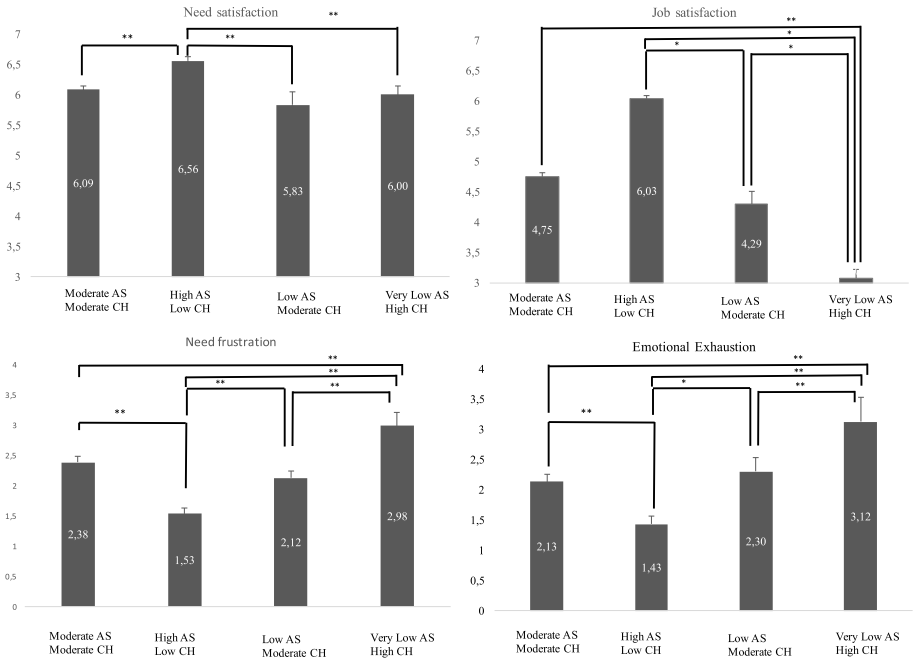

Fig. 3. Differences in the outcomes for each of the profiles. Results presented from BCH approach. AS = Autonomy support; CH = Chaos. **p < .01; *p < .05.

Table 5
Covariate analysis results for the four-profile model.

Criteria	Latent Profile					
	Moderate AS - Moderate CH vs. High AS - Low CH	Moderate AS - Moderate CH vs. Low AS - Moderate CH	Moderate AS - Moderate CH vs. Very low AS - High CH	High AS - Low CH vs. Low AS - Moderate CH	High AS - Low CH vs. Very low AS − High CH	Low AS - Moderate CH vs. Very low AS − High CH
Need satisfaction	−2.79**	0.42	0.23	3.21**	3.02**	−0.19
Need frustration	3.12*	0.69	−1.07**	−2.43*	−4.18**	−1.76**
Job satisfaction	−2.91	0.40	1.29*	3.31*	4.20*	0.89*
Emotional exhaustion	.74*	−0.13	−0.85**	−0.88*	−1.59**	−0.71**

Note. Results presented from BCH approach. Number represents standardized coefficients. Results are controlled for teaching experience and management role (yes/no). *$p < .05$, **$p < .01$

focused on a chaotic style which mainly involves a lack of organization or support, unclear administration, contradictory or unrealistic expectations, and lack of recognition and understanding. Such a chaotic leadership style conceptually relates to a permissive and laissez-faire attitude (Ryan & Deci, 2017) and aligns with a more passive-avoidant laissez-faire style as distinguished within transformational leadership theory (Bass et al., 2003). A laissez-faire style is equally characterized by a lack of initiative, avoidance of interventions and decision making, and a general absence of leadership. Previous research revealed that a laissez-faire style, with leaders being largely absent or abdicating responsibilities, is thé most prevalent (Aasland et al., 2009) and most detrimental (Skogstad et al., 2007) of all destructive styles. In the current study, we argue that when school leaders leave more room for teacher input and participation in decision making (i.e. autonomy support), there might be a risk of leaving teachers too much too their own devices (i.e. chaos). Indeed, the drivers of the recently developed circumplex model on teachers (Aelterman et al., 2019), coaches (Delrue et al., 2019), and health professionals (Duprez et al., 2021) motivating style postulated that some features of autonomy support lean closely to chaos, with both being characterized by lower levels of directiveness. Our study makes several important contributions to the literature. We examined the specific role of a chaotic style in addition to an autonomy-supportive style in a theory driven structural equation modeling as well as whether subpopulations of teachers with similar perceptions of their leaders' style could be identified. When inspecting bivariate correlations, we found that an autonomy-supportive style was positively related to job satisfaction, while displaying a negative relation with emotional exhaustion. At first sight, our results thus confirm prior research regarding the protective role of an autonomy-supportive style for job satisfaction (Lee & Nie, 2014; Nie et al., 2015) and emotional exhaustion (Collie, 2021a; Collie et al., 2018; Fernet et al., 2012). Yet, in contrast to prior work, we found that the relation between an autonomy-supportive style and emotional exhaustion disappeared when we included both autonomy support and chaos in the same model. Such findings support calls by eminent researchers (e.g. Van den Broeck et al., 2016) who have advocated towards examining correlated styles within one study, to demonstrate the true effects of one style when accounting for the other. By only examining autonomy support, while ignoring the demotivating chaotic style, prior research may have overestimated the role of leaders' autonomy support in relation to negative work-related outcomes.

This is the first study that started from SDT to study school leaders' chaotic style. A chaotic style particularly displayed positive relations with emotional exhaustion. Teachers thus suffer more when they rate their school board as highly chaotic. Our research thus corroborates prior educational research on the drawbacks of a

laissez-faire leadership style for teachers' job satisfaction (Hariri et al., 2016) and burnout (López-Vílchez et al., 2019).

4.1. Need-based experiences as the underlying mechanism

As expected, based on SDT (Deci & Ryan, 2000; Ryan & Deci, 2020) and prior research (Collie et al., 2016), an autonomy-supportive style was positively related to need satisfaction. More specifically, the current study empirically confirmed that leaders' autonomy-supportive style (as perceived by the teachers) positively relates to teachers' job satisfaction because teachers experience more psychological freedom (i.e., autonomy satisfaction), feel more effective (i.e., competence satisfaction) and feel more connected and respected (i.e., relatedness satisfaction) when their leaders adopt an autonomy-supportive style. To the best of our knowledge, no studies have examined whether and how an autonomy-supportive leadership style relates to teachers' need frustration. In contrast to research in other job domains (Gillet et al., 2012), we found no negative relation between teachers' perceptions of the school board autonomy-supportive style and their experiences of need frustration in the full model.

A chaotic leadership style was, instead, positively related to need frustration, yet did not display any relation with experiences of need satisfaction. These findings add to the limited evidence that suggests that a chaotic leadership style particularly engenders feelings of need frustration (De Clerck et al., 2019; Trépanier et al., 2019). Said differently, when school leaders are too awaiting, passive, unpredictable or unavailable, teachers are more likely to experience pressure and coercion (i.e., autonomy frustration), as well as feelings of incompetence (i.e. competence frustration) and rejection (i.e. relatedness frustration). The results of the current study also deepen our understanding of the mechanisms underlying job satisfaction and emotional exhaustion. In line with prior research (Kaplan & Madjar, 2017; Van den Berghe et al., 2014), need satisfaction displayed negative relationships with emotional exhaustion. Yet, these relations disappeared when need frustration was accounted for. Clearly, experiences of need frustration were most closely related to emotional exhaustion, and the relationship between a perceived chaotic style and emotional exhaustion was fully mediated through need frustration. The reasons that teachers are at higher risk for emotional exhaustion, when their leader adopts a chaotic style, thus relate to their experiences of pressure and coercion, feelings of incapability and rejection. This aligns with evidence on leadership in other domains such as the sport club (De Clerck et al., 2019).

4.2. School boards' leadership profiles

Despite the recognition that a leaders' style is typically a matter of combining different styles to various degrees, only a limited number of studies has previously adopted a person-centered approach to study leaders' style (e.g., Houle et al., 2020). Moreover, to our knowledge, no study has focused on the combination of an autonomy-supportive and chaotic style, while these styles are suggested to co-occur (Aelterman et al., 2019). Our study sought to fill this gap in the current literature. Results revealed that school board's style was best predicted via four distinct profiles. In contrast to our hypotheses, we did not find a group of teachers who perceived their school board as low on both autonomy support and chaos. We also did not find a group of teachers who scored relatively high on both autonomy support and chaos. The most remarkable finding though is that, although perceived autonomy support and chaos are on average negatively related (see Table 1), the largest group of teachers (41%) perceived their school leaders as moderate on both autonomy support and chaos. These findings suggest that there may be some dependency between an autonomy-supportive and chaotic style, although it is not as outspoken as was expected in our hypotheses. Practical implications are that a substantial proportion of school leaders (as any leader) may find it challenging not to become chaotic when providing opportunities for input, dialogue, and participation (i.e., autonomy support). Yet, at the same time it appears not impossible to rely on a purely autonomy-supportive style, without becoming chaotic as a substantial percentage of the teachers (N = 35%) rated their school board as high on autonomy support and low on chaos simultaneously. Apparently, these teachers indicate that their school board manages to provide opportunities for input, dialogue, and participation, while avoiding unclear instructions, lack of clarity and inconsistency regarding the expectations. There was also a relatively small group of teachers (N = 18%) who indicated that their school board was predominantly non-autonomy-supportive and somewhat more chaotic, and a fourth, smallest group of teachers (N = 6%) who reported both very low levels of autonomy support and high levels of chaos.

4.3. Job satisfaction and emotional exhaustion according to the school boards leadership profile

The results of the current study confirm that those teachers who perceive their school board as high on autonomy support and relatively low on chaos display the most optimal pattern of outcomes. They experience extremely high levels of need satisfaction and low levels of need frustration. They report the highest levels of job satisfaction and very low levels of emotional exhaustion. These results concur with abundant research on the benefits of autonomy support (Collie, 2021a; Collie et al., 2018; Fernet et al., 2012; Lee & Nie, 2014; Nie et al., 2015; Van den Broeck et al., 2016). But importantly, it adds that it is not the presence of autonomy support on its own, but autonomy support in the absence of chaos that yields these outcomes. In this respect, the group who perceives their school board as moderately high on autonomy support and moderately high on chaos at the same time, did not display such an optimal pattern. The group who reported that their school board was mainly chaotic and low in autonomy-supportive on the other hand reported the least optimal pattern of outcomes with the highest averages for need frustration and emotional exhaustion and lowest averages for job satisfaction.

4.4. Teacher and school characteristics

As teachers' perceptions of their leaders' style may be influenced by their personal characteristics or the type of the school they are working in (e.g., Collie et al., 2018; Lee & Nie, 2014), we also examined how a range of individual (i.e., teaching experience) and school characteristics (i.e. management position, school type, educational level) related to the studied variables. There were no relations between teachers' experience and their perceptions of their leaders' style. More experienced teachers were though more likely to report greater job satisfaction (also see Lee & Nie, 2014) and reduced emotional exhaustion (also see e.g., Collie et al., 2018). In contrast to our findings, some reported that more experienced teachers perceived their leaders as more empowering (e.g., Lee & Nie, 2014), and zero relationships between teaching experience and job satisfaction and burnout (e.g., Abós, Sevil-Serrano, et al., 2019; Collie, 2021b) have been reported as well. We additionally found that teaching experience was positively related to autonomy satisfaction and negatively to need frustration and specifically to competence frustration. Apparently when teachers accumulate more experience they feel as if they have more opportunities to make choices and take initiative and they also feel less incapable.

Perhaps this is indicative of a selection process, where those teachers who take more initiative and feel less frustrated and are more satisfied in their job, also remain longer in the profession.

Teachers who engaged in a management position within the school, which may be indicative of a more sustained position within that school, generally had a more favorable profile. They not only perceived their leaders as more autonomy-supportive and less chaotic, they also reported more job satisfaction, less need frustration and less burnout (i.e., emotional exhaustion). In line with these findings, prior studies also reported that teachers with a fixed position (Topchyan & Woehler, 2021) or teachers who display greater organizational commitment (Lee & Nie, 2014) generally report greater job satisfaction. Perhaps these more positive outcomes for teachers who hold management positions are reflective of their greater share in planning and decision making. In line with prior research (Wang et al., 2015), in the current study, we did not find any differences according to the type of school or educational level in which teachers were active. It thus appears that teachers' years of experience as well as the roles they uptake in the school were more decisive than the type of school or educational level they were teaching in.

4.5. Strengths, limitations and directions for future research

Previous SDT-based studies mainly relied on the Work-Climate Scale to measure an autonomy-supportive style (Van den Broeck et al., 2016). Yet, this scale does not allow to measure a chaotic style, which may be one of the reasons why this style has been generally ignored. A major strength of the current study relates to the use of a newly developed questionnaire that allows measuring school boards' chaotic style in a valid and reliable way. Yet, apart from an autonomy-supportive and chaotic style, SDT also distinguishes a well-structured, controlling, warm and cold style. These styles could be included in future research. Particularly, the consideration of a structuring style would be interesting. This would allow distinguishing those school boards who provide autonomy support in a structuring way from those who provide it in a chaotic way. Another limitation is that we fully relied on teachers' reports increasing the likelihood for inflated relations due to shared method variance. Also, all analyses were conducted at the individual teacher level because we did not have any information on which teacher belonged to which school (due to anonymization issues) and due to the low number of schools involved. Next, our findings revealed that teachers' experience and whether they uptake a management role are of influence on the studied variables. Yet, other teacher characteristics (e.g., gender; personality, Collie, 2021b) may also influence how teachers interpret their leaders' style, and not only teacher but also student characteristics (e.g., age, SES, educational track, misbehavior) may impact job satisfaction and burnout. Unfortunately, we could only include a limited number of teacher characteristics in the current study and relevant covariates such as teacher gender were missing. Because we incorporated only a limited number of adjustment factors, causal interpretation is limited. Next, we also missed information about the characteristics of the school boards. Including such measures could enrich future research. A final limitation is that the data here were collected at one point in time. Currently, we are left unsure whether teachers who are more satisfied in their job rate their leaders as more favorable, while the opposite is true for teachers who report being high on burnout. Collecting data longitudinally would allow to examine how teacher outcomes change across the school years in relation to their leaders' style. Intervention studies in which school leaders are trained to adopt a more motivating style would also allow drawing causal inferences.

5. Conclusions

Using SDT as a guiding framework, this study sets the stage for a more systematic examination of school leaders' chaotic style in relation to important work-related outcomes such as teachers' job satisfaction and emotional exhaustion. This study contributes to the literature by examining school boards' chaotic style and teachers' experiences of need frustration, in addition to school boards' autonomy-supportive style and teachers' experiences of need satisfaction. It became clear that particularly a chaotic style and experiences of need frustration relate to emotional exhaustion, while an autonomy-supportive style and experiences of need satisfaction more closely relate to job satisfaction. Profile analyses revealed that a large percentage of teachers perceive their school board as both moderately autonomy-supportive and chaotic at the same time. Outcomes for this leadership profile and the predominantly chaotic profiles were less optimal, suggesting that a chaotic style is at best avoided. When school boards are trained to adopt a more autonomy-supportive style, it is thus imperative to raise awareness about the pitfalls of a chaotic style. Said differently, it is not because school boards provide opportunities for dialogue, input, and participation, that they should become too awaiting or passive.

Credit statement

Lennia Matos: funding acquisition. **Leen Haerens & Lennia Matos**: Conceptualization of study design and formulation of research goals and aims. **Lennia Matos & Andrea Koc**: Development of methodology and measures, data curation. **Leen Haerens, Angel Abos and Lennia Matos**: Writing Original draft preparation. **Angel Abos and Moti Benita**: Formal analyses, creation of models and reporting of the results. **Leen Haerens, Lennia Matos, Andrea Koc, Moti Benita, Angel Abos**: Reviewing and Editing. **Leen Haerens**: Supervision of writing process and revisions.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.tate.2022.103821.

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