Self and shared leadership in decision quality: a tale of two sides

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Received 30 May 2022
Revised 7 November 2022
12 March 2023
20 May 2023
1 July 2023
Accepted 3 July 2023

Abstract

Purpose – This study aims to investigate the relationship between shared leadership (SL) and decision quality, utilizing shared leadership theory (SLT) and behavioral decision theory (BDT). The authors will explore the mediating role of "decision comprehensiveness" in the SL–decision quality linkage. Additionally, the authors will examine how individual "self-leadership" and "debate" among team members moderate the relationship between SL and decision comprehensiveness.

Design/methodology/approach – The authors tested the hypothesized moderated mediation model using a sample of 506 professionals employed in 112 research and development (R&D) teams, along with their direct managers from large Italian firms. To examine the relationships, the authors employed confirmatory factor analyses and path analyses. In order to address endogeneity concerns, the authors incorporated an instrumental variable, namely delegation, into the analysis.

Findings – SL positively influences decision quality, mediated by decision comprehensiveness, where teams include comprehensive information in decision-making. The level of debate among team members positively moderates the SL–decision comprehensiveness relationship. High levels of self-leadership can harm SL by reducing decision comprehensiveness, indicating a downside. However, low or moderate levels of self-leadership do not harm decision comprehensiveness and can even benefit SL.

Originality/value – This is the first work to investigate the relationship between SL and decision quality, shedding light on the mechanisms underlying this association. By integrating SLT and BDT, the authors provide insights into how managers can make higher-quality decisions within self-leading teams. Moreover, this research makes a distinct contribution to the field of self-leadership by delineating its boundaries and identifying a potentially negative aspect within the self-influence process.

Keywords Shared leadership, Self-leadership, Behavior decision theory, Shared leadership theory, Decision comprehensiveness, Decision quality, Biases

Paper type Original article

1. Introduction

As organizations increasingly adopt team-based decision-making models, recent trends in organizational culture, such as empowerment and agility, have led to the proliferation of self-leading teams (Sweeney *et al.*, 2019). These teams have demonstrated more effective performance compared to traditional dyadic leadership models, primarily due to their

Management Decision
Vol. 61 No. 9, 2023
pp. 2541-2563
Emerald Publishing Limited
0025-1747
DOI 10.1108/MD-05-2022-0735

perceived facilitation of team functioning, including decision-making (Gu *et al.*, 2022). However, existing research suggests that not all self-leading teams are effective, often due to leadership failures within the team itself (Avolio *et al.*, 1996). Despite the shift towards self-leading teams, many teams still rely on the guidance of a single influential member, raising concerns for organizations seeking to facilitate group decision-making (Bergman *et al.*, 2012).

Shared leadership theory (SLT), which integrates the traditional perspective of leadership as an individual process with the contemporary notion of leadership as a social phenomenon, offers a potential solution to this problem (Pearce and Conger, 2003). More organizations are incorporating SLT principles into their decision-making architecture. Shared leadership (SL), defined as the distribution of leadership influence across multiple team members (Carson *et al.*, 2007), allows group members to better handle decision stressors, such as information overload, time pressure, complexity and uncertainty, resulting in superior choices without relying solely on a single influential member (Houghton *et al.*, 2003; Neck *et al.*, 2019). Research supports the idea that sharing leadership significantly enhances the performance of work teams, surpassing the predictive power of traditional vertical leadership (Pearce and Sims, 2002; Song and Gu, 2020; Yao *et al.*, 2021). SL has also been found to improve team and firm performance, team trust and intervention (Siangchokyoo and Klinger, 2022; Avolio *et al.*, 1996). By utilizing SL, self-leading teams can unlock the functional benefits of horizontal leadership (Bergman *et al.*, 2012).

However, there is still a significant knowledge gap regarding the critical mechanism through which SL promotes the performance of self-leading teams. While past research has established that SL enhances decision quality and contributes to the positive team and organizational effects (Gu *et al.*, 2022), limited understanding exists regarding how and why SL fosters decision quality within self-leading teams (Bergman *et al.*, 2012; Döös and Wilhelmson, 2021). To address this gap, the present study aims to answer the following research questions:

RQ1. Does SL influence decision quality?

RQ2. What mechanisms enhance or undermine the ability of SL to promote superior choices in self-leading teams?

By addressing these questions, we provide insights to scholars and practitioners that simply implementing SL is insufficient to significantly contribute to team and organizational performance. Specific actions and policies that foster members' participation in decision-making are necessary for organizations to harness the benefits of horizontal collaboration.

To explore these research questions, we primarily draw upon behavioral decision theory (BDT) and its connection to SLT, examining how members of self-leading teams systematically gather information and address common biases and errors to make comprehensive decisions. We argue that SL in self-leading teams enhances decision quality and team performance by promoting decision comprehensiveness, which refers to the extent to which organizations or teams strive to make exhaustive and inclusive strategic decisions (Fredrickson and Mitchell, 1984). This study is the first in the business and management literature to investigate the link between SL and decision quality and to identify the underlying mechanism of this relationship. These findings shed light on how SL allows teams to operate effectively within an organization (Bergman *et al.*, 2012; Gu *et al.*, 2022).

We tested a moderated mediation model of the SL-decision quality relationship in 112 research and development (R&D) teams, along with their direct managers responsible for developing innovative products/services. To examine these relationships, we utilized confirmatory factor analyses and path analysis. In doing so, we explored two opposing moderation effects within the SL-decision comprehensiveness relationship.

First, we proposed and found that high levels of team member self-leadership, which refers to the process through which individuals exert control over their behavior (Manz, 1986; Neck and Houghton, 2006; Neck *et al.*, 2019; Harari *et al.*, 2021), negatively moderate the effect

of SL on decision comprehensiveness. This is due to an increase in individual cognitive biases (Cristofaro and Giardino, 2020). This study represents the first work to shed light on a potential dark side of self-leadership, positioning the self-influence process as a variable that, when present to a high degree, can lead to negative consequences, such as reducing individuals' propensity to engage in key decision-making processes.

Second, we suggested and found that within-group debate positively moderates the SL-decision comprehensiveness relationship by promoting an evaluative process that diminishes individual biases (Kocoglu *et al.*, 2020). This finding advances our understanding of how self-leading teams, adopting SL, can effectively address biases and constraints in their decision-making processes, particularly when faced with imperfect information (Kahneman, 2011).

By addressing these research questions and uncovering the role of moderation, mediation and the underlying mechanisms, this study contributes to the literature by providing valuable insights into how SL influences decision quality within self-leading teams. Additionally, it highlights the importance of considering specific factors, such as self-leadership and debate, in order to maximize the benefits of SL in promoting effective decision-making processes.

In conclusion, this study fills a significant gap in the understanding of the relationship between SL and decision quality within self-leading teams. The findings emphasize the need for organizations to go beyond mere implementation of SL and focus on fostering member participation, managing self-leadership dynamics and promoting constructive debate to leverage the benefits of SL and enhance decision-making outcomes.

2. A theoretical premise of behavioral decision theory

BDT encompasses a broad range of literature that aims to explain how individuals make decisions in real-life contexts (Kahneman, 2011). It recognizes that individuals often deviate from rational norms in their decision-making processes, and two key factors contribute to these departures: bounded rationality and cognitive biases (Cristofaro, 2017a).

Bounded rationality, proposed by Simon (1947), acknowledges that individuals do not always behave rationally due to inherent informational and capacity limitations. According to Simon (1947), three primary constraints information incompleteness, vagueness in anticipating consequences and imperfect knowledge of available actions – restrict individuals' rationality. Consequently, individuals are boundedly rational, making decisions based on the best available information, even if it is not optimal. Imperfect information leads individuals to fall prey to cognitive biases, which represent unconscious deviations from economic rationality in decision-making (Simon, 1947). Biases cause individuals to choose options based on subjective cognitive preferences rather than objective evidence, hindering fully rational decision-making (Abatecola *et al.*, 2018). Consequently, researchers have focused on understanding how decision-making processes can be protected against biases.

Previous studies have argued that cognitive biases are deeply ingrained in human cognition due to the functioning of our brains. Kahneman (2011) introduced the concept of System 1 and System 2 thinking. System 1 operates intuitively and unconsciously, providing continuous sense-making of the environment. In contrast, System 2 involves deliberate, conscious thought that allows us to redirect behavior and take purposeful action. However, because System 1 shapes our interpretation of the world and provides meaning, we are often unaware of the cognitive errors and biases that influence our decision-making.

The literature suggests that while individuals may struggle to protect against their own biases, they can mitigate biases by shifting decision-making to a higher-level unit, such as a group or organization (Kahneman *et al.*, 2011). By involving others in the decision-making

process, individuals can leverage their System 2 thinking to detect errors and biases in others' decision-making. In essence, individuals may not detect their own biases, but they can identify biases and faulty intuitions in others' decision-making.

In summary, BDT recognizes that individuals are boundedly rational and prone to cognitive biases. Understanding these limitations and biases can help researchers and practitioners develop strategies to mitigate biases and improve decision-making outcomes by involving multiple perspectives and leveraging collective reasoning processes.

3. Hypothesis development

The following sub-sections are devoted to developing the hypotheses and their intertwined relationships – as graphically reported in Figure 1 – proposed by this contribution.

It is important to note here that BDT and its connections with SLT are the foundation for all our hypotheses, as thus the relationships depicted in Figure 1. Specifically, the model hypothesizes a positive effect of SL on decision quality by the mediation of decision comprehensiveness (H1). However, the SL-decision comprehensiveness relationship is assumed to be, on the one hand, negatively moderated by individuals' high levels of self-leadership (H2) while, on the other hand, positively moderated by debate among team members (H3).

3.1 Shared leadership and decision quality

Over the past forty years, scholars have dedicated significant efforts to examining various forms of leadership, both established and emerging. Among these streams of leadership research, considerable attention has been given to SL. Carson *et al.* (2007) proposed that SL enhances team performance by fostering well-structured interactions among team members, allowing for the sharing of opinions and mutual influence, which in turn can improve decision quality. This proposition finds support in both SLT, which emphasizes the benefits of combining knowledge and expertise for superior decision-making (Pearce *et al.*, 2008) and BDT, which suggests that decision-makers can mitigate errors and biases by involving others at a higher organizational level (e.g. group or organization; Kahneman *et al.*, 2011).

Empirical findings indicate that teams that adopt SL tend to exhibit more effective and efficient internal processes, thereby positively influencing decision quality (Avolio *et al.*, 1996) and subsequent team/firm performance (Meissner and Wulf, 2014). For instance, Gu *et al.* (2022) discovered that SL significantly contributes to the creation of highly inspiring environments, fostering team members' ability to generate excellent decisions. SL encourages

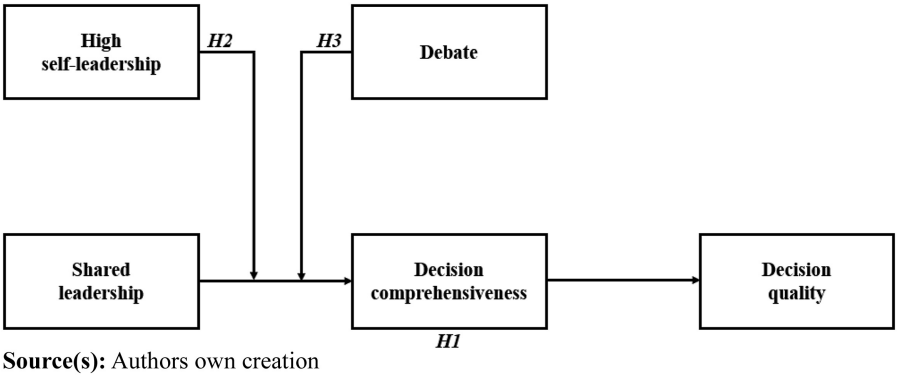

Figure 1.
Shared leadership and decision quality: the proposed moderated mediation conceptual model

Source(s): Authors own creation

the exploration of novel and creative decision-making solutions, including alternatives that may not be immediately apparent or conventional.

These studies provide empirical support for the positive impact of SL on decision quality, highlighting its role in promoting effective team functioning and the generation of innovative decision-making approaches. The integration of SLT and BDT offers valuable insights into the mechanisms through which SL influences decision-making processes and ultimately enhances overall team performance.

3.2 Decision comprehensiveness: what's between shared leadership and decision quality?

While SL has been shown to enhance team and firm performance, its effective implementation relies on the exchange of information among team members that need to be sorted and analyzed. Organizations must therefore grasp the significance and magnitude of this information exchange. According to BDT, this entails avoiding information bias, a cognitive error where decision-makers (at the individual or collective level) assign more value to their own specific information, disregarding its truthfulness or completeness, rather than considering input from third parties. As a result, decision-makers develop an incomplete and biased understanding of the decision context (Stasser and Titus, 1985).

In line with BDT and the notion of bounded rationality (Simon, 1947), which suggests that individuals tend to make decisions based on identifiable yet potentially suboptimal choices, increased interaction among decision-makers can counteract the individual information bias (Cristofaro, 2017b). Comprehensive and data-driven approaches are known to mitigate the negative effects of cognitive biases, particularly information bias, that can hinder decision processes (Nickerson, 1998). SL implicitly encourages greater interaction among team members, facilitating the exchange of information from diverse backgrounds. This, in turn, promotes decision comprehensiveness and potentially leads to superior decisions (Seyr and Vollmer, 2014).

While limited, existing literature partially supports these claims. For instance, Hoch (2014) demonstrated a positive association between SL and information sharing, mitigating the negative impact of information bias on decision-makers. When decision comprehensiveness policies and routines are well-developed and implemented, they positively mediate decision quality (Simons *et al.*, 1999). Moreover, Meissner and Wulf (2014) found that decision comprehensiveness serves as an antecedent of decision quality, which subsequently positively influences organizational performance (Carr *et al.*, 2021). Based on these findings, we argue that.

H1. Decision comprehensiveness positively mediates the influence of SL on decision quality.

3.3 The moderating effect of self-leadership on decision comprehensiveness

SL necessitates decision-makers to establish deeper and closer interactions among themselves, with the aim of mitigating cognitive biases highlighted by BDT as mentioned by Kahneman *et al.* (2011). This process fosters the generation of better decisions. Consequently, effectively managing diverse and often conflicting perspectives becomes crucial in making critical decisions. In this context, self-leadership plays a pivotal role in influencing various psychological processes that can positively or negatively impact individuals' attitudes and performances in the workplace.

Houghton *et al.* (2003, pp. 7–8) support this notion, stating, "We believe that self-leadership is a prime ingredient in the facilitation of SL. Our belief is based on the concept that team members must first learn to lead themselves before they can effectively influence and lead their fellow team members. In addition, we suggest that self-leadership, operating through self-efficacy beliefs and attitudes toward SL, can serve as a principal mechanism for

developing team members who have the motivation, confidence and desire necessary to share leadership roles. In short, we view self-leadership as lying at the very heart of SL" 1.

However, despite numerous studies conducted to enhance our understanding of self-leadership dynamics, scholars have not reached a consensus regarding its effects on both individual and organizational performance (e.g. D'Intino *et al.*, 2007; Houghton and Neck, 2002). A significant body of research has robustly demonstrated that self-leadership is associated with positive changes in work attitudes, firm performance and even entrepreneurial success. In a recent meta-analysis of 57 effect sizes and 16,493 observations, the overall findings suggest a strong and positive relationship between self-leadership and individual outcomes, particularly in the context of creativity/innovation tasks (Knotts *et al.*, 2022). The meta-analysis also revealed the incremental value of cognitive self-leadership strategies, such as opportunity thinking and self-talk, beyond the basic behavior-focused aspects of self-leadership. This aligns with the conceptual model proposed by Godwin and Hershelman (2021), which links self-leadership to superior workplace performance through the activation of positive emotional states (e.g. gratitude). Additionally, Harari *et al.* (2021) found that self-leadership is facilitated among individuals with specific personality traits, namely conscientiousness, openness and extraversion. These findings further underscore the cognitive foundation of the self-leadership concept.

On the other hand, a recent line of scholarship suggests that excessively high levels of self-leadership may not always be beneficial for managerial decision-making processes and subsequent performance, although empirical evidence in this regard is limited. Cristofaro and Giardino (2020) argue that individuals characterized by high levels of self-leadership may be more susceptible to cognitive biases that can undermine decision quality (e.g. Kahneman, 2011). They found that high levels of self-leadership are associated with the emergence of the overconfidence bias, which leads individuals to disregard pertinent information and focus only on data that supports their preconceived notions (Abatecola *et al.*, 2018). This tendency arises because high levels of self-leadership are often linked with high levels of core self-evaluation (CSE) – a trait through which individuals evaluate themselves in relation to the external environment – which promotes reliance on intuitive thinking (Hiller and Hambrick, 2005). However, intuitive decision-making is often associated with a limited capacity for systematic information search, as intuitive decision-makers tend to prioritize quick decisions and overlook potential negative consequences (Kahneman, 2011; Cristofaro *et al.*, 2020). Consequently, based on BDT, individuals with high levels of self-leadership may be more susceptible to information bias, as they assign greater value to their own information while devaluing external information (Schwenk, 1988).

These findings align with the self-leadership literature, which suggests that self-leadership monitors activities and cognition to encourage desired behavior (Stewart *et al.*, 2011). However, a high level of self-leadership can undermine the monitoring process by significantly increasing intrinsic motivation toward desired behavior, allowing System 1 of the human mind to operate freely and biases to proliferate. In summary, the cognitive ability underlying self-leadership fails to ensure internal control (Goldsby *et al.*, 2021; Houghton and Neck, 2002). As a result, overconfidence in one's abilities and individual perspective negatively impact the completeness of available information and the quality of decision-making. Therefore.

H2. High levels of self-leadership negatively moderate the influence of SL on decision comprehensiveness.

3.4 The moderation effect of debate on decision comprehensiveness

Ensuring the comprehensiveness and harmonization of information flow is a crucial priority for organizations seeking to improve decision quality (Kahneman *et al.*, 2011; Lovallo *et al.*, 2023).

Previous studies grounded in BDT have emphasized the role of debate among organizational members in achieving this objective. Debate, when drawing on diverse experiences and perspectives, is more likely to yield fruitful outcomes and positively impact overall performance (Simons *et al.*, 1999). Seyr and Vollmer (2014) theorized that organizations can foster a collaborative environment characterized by contamination, openness, appreciation and commitment, which in turn encourages stakeholders to adopt more comprehensive decision-making lenses that reduce information bias. It is important to note that debate is closely connected to SL, as the heterogeneity of individuals within teams is positively associated with the emergence of SL, thereby facilitating the occurrence of meaningful debates (Wu *et al.*, 2020). Kanadli *et al.* (2018) found that debate stemming from the diversity of organizational agents acts as a catalyst for the dissemination of timely and relevant information and perspectives, leading to improved decision-maker comprehension and reduced information bias.

In terms of the effect of debate on decision comprehensiveness, Yi *et al.* (2022) examined the impact of divergences among organizational agents and discovered that divergent opinions and perceptions create a fertile context for proactive and positive debates, which enhance the sharing of information and increase decision comprehensiveness. This finding aligns with the theoretical underpinnings of information bias, as constructive debate involving equal and enthusiastic discussion of different viewpoints reduces its effects (Stasser and Titus, 1985). Schulz-Hardt *et al.* (2002) further support this claim, demonstrating that high-quality, genuine dissent effectively counteracts biased information-seeking behaviors. Similarly, DeBode *et al.* (2023) found that when opposing viewpoints emerge within teams and are strongly held (e.g. due to political or ideological differences), decision-makers have access to more information, a broader range of options to consider and increased discussion about how to evaluate those options. Consequently, decision-making becomes more comprehensive and accurate. Thus, it can be concluded that.

H3. Debate positively moderates the influence of SL on decision comprehensiveness.

4. Methodology

4.1 Research design and sample

To test the proposed conceptual model, data have been collected from teams and their managers working in R&D departments of large companies and involved with/responsible for product and service innovation decisions. Large companies were selected via the AIDA (Analisi Informatizzata delle Aziende Italiane) Bureau Van Dijk database by searching for those employing more than 250 and, alternatively, having (1) a turnover value greater than 50 million euro, or (2) a balance sheet total greater than 43 million euro. These parameters come from the definition of "large" companies of the European Union (recommendation 2003/361).

The choice of selecting large companies by AIDA has been mainly driven by the greater availability of their contacts on web pages. The authors then randomly sought e-mail addresses for the firms' human resources or administrative departments and sent a request for participation in the research, which would administer a series of surveys to participants and their managers of product and/or service innovation to understand the influence of leadership practices on decision quality. This brought to a sample of 1854 firms. Data collection was carried out through two online questionnaires (see Figure 2): (1) one administered to team members and (2) one administered to R&D managers.

We collected data from 506 team members working in 112 teams and their direct R&D managers. No more than one team and R&D manager came from the same company. Due to the limited availability of participants to join further rounds of data collection, which could compromise the generalizability of the findings, we have retrieved information from the same

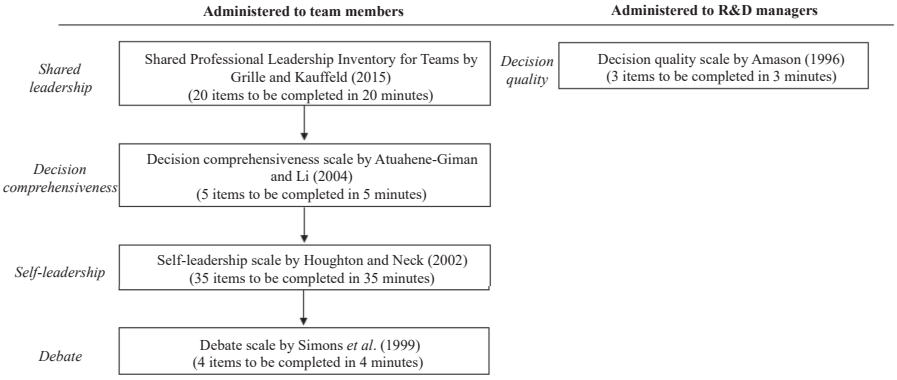

Figure 2.
Questionnaires structure

Source(s): Authors own creation

source simultaneously; this methodological choice is consistent with a long series of past research (e.g. Susanne Lehner *et al.*, 2013; Meissner and Wulf, 2014; Ng and Kee, 2018; Hao and Han, 2022), hence representing a valid procedure in management studies.

Noteworthy is to reporting that teams did not have an appointed internal leader but shared the same hierarchical position. The average age of team members was 44 years (SD = 5.46), 59% were male, their average work experience was 19.12 years (SD = 8.47), and their average tenure under the same manager was 4.12 years (SD = 1.04). The distribution of respondents among sectors is the following: (1) manufacturing activities (29%), (2) construction (26%), (3) logistics (23%) and (4) food and hospitality (22%).

4.2 Measures

Shared leadership: In line with Grille *et al.* (2015), we used the Shared Professional Leadership Inventory for Teams (SPLIT) questionnaire – a 20-item Likert-type scale on 5-points (α = 0.87) –which assesses four elements (task leadership orientation, relation leadership orientation, change leadership orientation and micropolitical leadership orientation) able to detect, from team members, SL perception.

Decision comprehensiveness: To measure decision comprehensiveness, the 5-item scale from Atuahene-Giman and Li, (2004; α = 0.93) was implemented on a 5-point Likert-type scale ranging from 1 (very low) to 5 (very high) (see also Carmeli *et al.*, 2013). In line with Meissner and Wulf (2014), team members were asked to consider the same non-routine decision evaluated in the question on decision quality.

Self-leadership: To measure self-leadership and following Carmeli *et al.* (2006), the 35-item scale developed by Houghton and Neck (2002) was administered to team members by considering a 5-point Likert-type scale ranging from 1 (not at all accurate) to 5 (completely accurate). This scale comprises three dimensions of self-leadership (behavior-focused strategies, natural reward-focused strategies and constructive thought-focused strategies); Cronbach's α were 0.85, 0.52 and 0.83, respectively, for the three dimensions of self-leadership. The minimum and maximum values that can be reached by completing the self-leadership questionnaire are 43 and 153.

Debate: To measure the level of debate, each team member was requested to assess the level of debate occurring in the recalled choice using the 4-item Likert-type scale on 5 points (α = 0.75) developed by Simons *et al.* (1999).

Decision quality: To measure the quality of decisions, three items – developed and validated by Amason (1996; α = 0.85) were assessed by R&D managers on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree).

4.3 Control variables

We controlled for a series of variables. The first group of control variables – i.e. "team size", "functional background", "team turnover", "goal uncertainty", "task interdependence", "gender diversity" and the "educational background" (by using the scales developed by Mooney *et al.* (2007), averaged $\alpha = 0.70$) – was identified as crucial in influencing decision-making processes (Kanadli *et al.*, 2018; Simons *et al.*, 1999) and self-leadership (Carmeli *et al.*, 2006; Carson *et al.*, 2007; Houghton and Neck, 2002).

In addition to the above, we included more specific variables related to every construct in the model. For instance, concerning the quality of decision, "managerial performances" (Li *et al.*, 2010; $\alpha = 0.90$) has been the specific control variable adopted because many scholars – such as Carmeli *et al.* (2006)– observed that high performances are often the result of high-quality strategic decisions. Regarding decision comprehensiveness, "institutional environmental volatility" (using a three-item scale developed by Mitchell *et al.*, 2016; $\alpha = 0.89$) has been included. This inclusion was appropriate as Mitchell *et al.* (2016) found that this latter variable may have significant repercussions on the degree of decision comprehensiveness. In line with Mitchell *et al.* (2009), concerning the debate variable, we included four specific control factors: (1) "affective conflict", (2) "cognitive conflict" (by using a 4-item scale from Pelled *et al.*, 1999; $\alpha = 0.79$), (3) "environmental munificence" (by using a 3-item scale developed by Goll and Rasheed, 2004; $\alpha = 0.74$) and (4) "behavioral integration" (by using a 5-item scale developed by Mooney, 2000; $\alpha = 0.87$).

5. Results

5.1 Preliminary analysis

Table 1 shows means, standard deviations (SDs), correlations and reliabilities of the variables investigated in the present contribution; from that, it is essential to notice that SL was not strongly correlated with decision quality or decision comprehensiveness.

We applied a confirmatory factor analysis with a robust maximum likelihood estimation (MLE) in Mplus 7 to evaluate the measurement structure of the studied variables. We compared the five-factor model (with SL, decision comprehensiveness, decision quality, self-leadership and debate) with other competing models.

The results shown in Table 2 indicate that the five-factor structure – $\chi^2(504) = 1543.31$, $p = 0.000$, root mean square error of approximation (RMSEA) = 0.05, standardized root mean square residual (SRMR) = 0.05, comparative fit index (CFI) = 0.90 and incremental fit index (IFI) = 0.90 – fit the data better than the following alternative models: (1) when SL and debate were set to load on a single factor, $\chi^2(508) = 2155.42$, $p = 0.010$, RMSEA = 0.11, SRMR = 0.103 CFI = 0.75 and IFI = 0.75; (2) when SL and decision comprehensiveness were set to load on a single factor, $\chi^2(508) = 2832.46$, $p = 0.040$, RMSEA = 0.14, SRMR = 0.14, CFI = 0.64 and IFI = 0.64; (3) when decision comprehensiveness and decision quality were set to load on a single factor, $\chi^2(508) = 3123.15$, $p = 0.040$, RMSEA = 0.16, SRMR = 0.18, CFI = 0.55 and IFI = 0.55; (4) when SL, decision comprehensiveness and debate were set to load on a single factor, $\chi^2(512) = 3456.22$, $p = 0.045$, RMSEA = 0.18, SRMR = 0.20, CFI = 0.40 and IFI = 0.40; and (5) when all the variables were set to load on a single factor, $\chi^2(514) = 4567.28$, $p = 0.045$, RMSEA = 0.21, SRMR = 0.22, CFI = 0.40 and IFI = 0.40.

5.2 Hypothesis test

We adopted a path analysis to test the moderated mediation model with Mplus 7. We group-mean centered all predictors to remove the between-individual confounds and ensure a more veridical assessment of the within-individual effects (Hofmann *et al.*, 2000). We also grand-mean-centered moderators, self-leadership and debate. We examined the mediation and

Table 1.
Means, standard deviations, internal consistency reliabilities and correlations for study variables

Variable(s)	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Shared leadership	60.54	4.12	(0.84)																
2. Decision comprehensiveness	20.13	2.34	0.22*	(0.81)															
3. Decision quality	15.01	1.56	0.29	0.26**	(0.79)														
4. Self-leadership	110.30	15.12	−0.28	0.15*	−0.10	(0.80)													
5. Debate	12.13	1.89	0.13	0.06	0.07	0.05	(0.75)												
6. Team size	4.46	0.64	0.15*	0.21*	0.17*	−0.21	0.19*	(0.71)											
7. Functional background[a]	5.20	1.08	0.12	0.15	0.08	0.07	0.13	0.11	(0.74)										
8. Team turnover	2.25	0.97	0.08	−0.13	−0.17	0.23	−0.15	0.23*	0.11	(0.73)									
9. Goal uncertainty	1.54	0.76	0.07	0.06	−0.10	−0.05	0.04	0.07	0.08	0.07	(0.86)								
10. Task interdependence	1.76	0.99	0.21*	0.17*	0.24	0.14	−0.15	0.21	0.11	0.03	0.06	(0.91)							
11. Gender diversity[b]	0.98	0.23	0.15*	0.21*	0.17*	0.07	0.22*	0.08	0.08	0.06	0.03	0.04	(0.90)						
12. Educational background[a]	3.43	0.78	0.12*	0.18	0.09	−0.18	0.21*	0.05	0.04	0.01	0.09	0.11	0.12	(0.77)					
13. Managerial performances	4.22	1.07	0.10	0.23*	0.39**	0.17*	0.23*	0.18	0.17	0.19	0.08	0.07	0.05	0.24*	(0.83)				
14. Environmental volatility	5.12	1.23	0.07	0.02	0.34	0.09	0.10	0.14	0.03	0.12	0.15*	0.12	0.06	0.04	0.08	(0.81)			
15. Affective conflict	8.76	1.97	0.21	0.12	0.07	0.12	0.22*	0.15*	0.13*	0.12	0.11	0.24	0.23	0.06	0.34	0.21	(0.90)		
16. Cognitive conflict	8.11	1.86	0.15	0.11	0.26	0.29	0.20*	0.17*	0.12*	0.08	0.24	0.35	0.16	0.05	0.17	0.15	0.38*	(0.77)	
17. Environmental munificence	7.54	1.54	0.14	0.15	0.21	0.15	−0.27*	0.14	0.07	0.07	0.21	0.20	0.13	0.15	0.31	0.21	0.08	0.07	(0.79)

Note(s): Team members = 506; R&D Managers $N = 112$. Reliability estimates (coefficient alpha) are on the diagonal

a Functional and educational background were coded by using a 7-item scale (1 = "Finance"; 2 = "Corporate strategy"; 3 = "Accounting"; 4 = "Marketing"; 5 = "Operations"; 6 = "Business Administration"; 7 = "Other"). This categorization is an adaptation, for our context, of the one used in studies investigating the educational and functional background of executives in organizations (e.g. Ricciotti *et al.*, 2022; Abatecola and Cristofaro, 2020)

b Gender coded as 1 = "Men"; 0 = "Women"

*$p < 0.05$

**$p < 0.01$ (two-tailed)

Source(s): Authors own creation

Model(s)	χ^2	*df*	χ^2/df	*p*	CFI	IFI	RMSEA	SRMR
a. Five-factor model	1543.31	504	3.06	0.000	0.90	0.90	0.05	0.06
b. *Four-factor model*: Shared leadership and debate were combined into one factor	2155.42	508	4.24	0.010	0.75	0.75	0.11	0.13
c. *Four-factor model*: Shared leadership and decision comprehensiveness were combined into one factor	2832.46	508	5.57	0.040	0.64	0.64	0.14	0.14
d. *Four-factor model*: Decision comprehensiveness and decision quality were combined into one factor	3123.15	508	6.14	0.040	0.55	0.55	0.16	0.18
e. *Three-factor model*: Shared leadership, decision comprehensiveness, and debate were combined into one factor	3456.22	512	6.75	0.045	0.49	0.49	0.18	0.20
f. *One factor*: All the variables were combined to one factor	4567.28	514	8.88	0.045	0.40	0.40	0.21	0.22

Note(s): CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; IFI = incremental fit index
Source(s): Authors own creation

Table 2.
Comparison of model fit of alternative models

moderated mediation effects with 95% confidence intervals (CIs), which have been proven to improve statistical power to detect indirect effects in multilevel modeling (Preacher *et al.*, 2010).

Hypothesis 1 suggested a mediating role of decision comprehensiveness between SL and decision quality. Results reveal a significant indirect impact between SL and decision quality via decision comprehensiveness (indirect effect = 0.086, 95% CI = [0.24, 0.08]). Therefore, Hypothesis 1 was supported. Hypothesis 2 suggested that high levels of self-leadership negatively moderated the relationship between SL and decision comprehensiveness. The results supported Hypothesis 2 by showing that the interaction between self-leadership and SL was negatively related to decision comprehensiveness ($\beta = -0.12$, $p < 0.05$).

Figure 2 and the slope tests further show that when self-leadership was low (1 SD lower than the mean), SL was more positively related to decision comprehensiveness (simple slope = 1.12, $p < 0.01$); meanwhile, when self-leadership was high (1 SD higher than the mean), SL was more negatively related to decision comprehensiveness (simple slope = −1.17, $p < 0.01$). Therefore, Hypothesis 2 was supported. Hypothesis 3 predicted the moderating role of debate in the relationship between SL and decision comprehensiveness. The results demonstrate that the interaction between debate and SL was positively related to decision comprehensiveness ($\beta = 0.12$, $p < 0.05$).

Figure 3 and the slope test suggest that the relationship between SL and decision comprehensiveness was stronger (simple slope = 1.56, $p < 0.01$) when the debate was high (1 SD higher than the mean). In contrast, the t relationship was weaker (simple slope = 1.34, $p < 0.01$) when the debate was low (1 SD lower than the mean) (see Figure 4).

The recommendations of Preacher *et al.* (2010) were followed to test the moderated mediation. Path analysis conventions were used to describe the indirect effects of SL on decision quality via decision comprehensiveness at different levels of self-leadership and debate. Table 3 shows the results of the path analysis. About mediation, the path model results show that SL is not significantly related to decision quality ($\gamma = 0.108$, $p > 0.05$), while SL is positively and significantly related to decision comprehensiveness ($\gamma = 0.256$, $p < 0.01$) and that decision comprehensiveness is positively and significantly related to decision quality ($\gamma = 0.312$, $p < 0.001$). Concerning indirect effects of SL, results reveal that when team

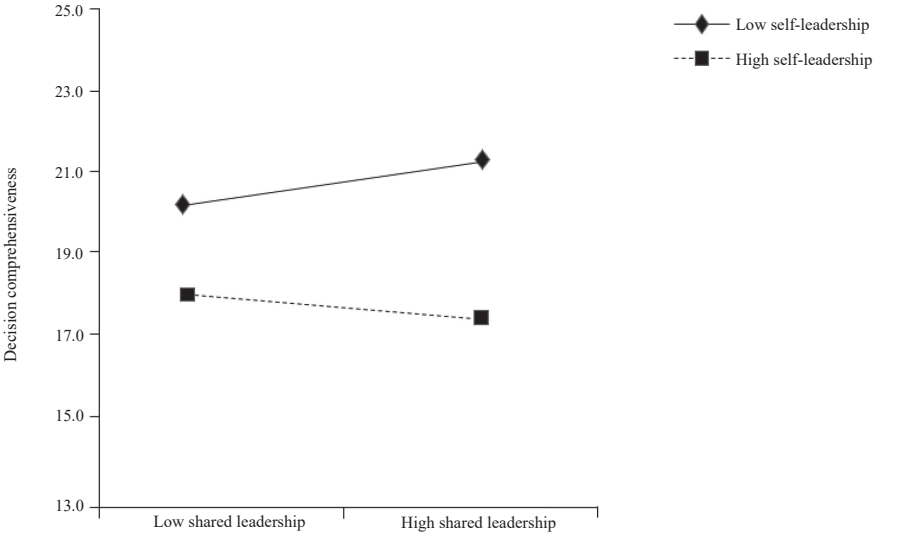

Figure 3.
Interaction of shared leadership and self-leadership

Source(s): Authors own creation

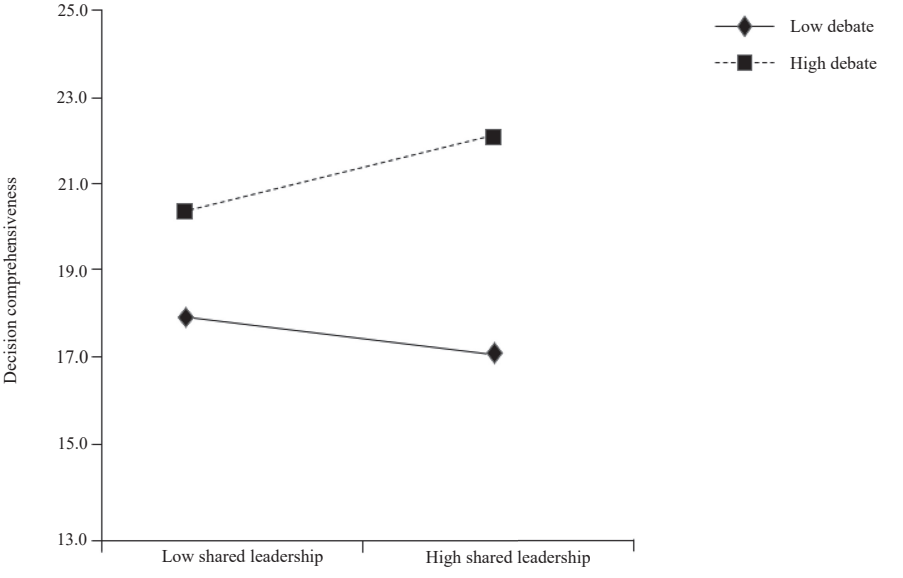

Figure 4.
Interaction of shared leadership and debate

Source(s): Authors own creation

members had high self-leadership, the indirect effect was lower and significant (indirect effect = −0.612, 95% CI = [−0.853, −0.455], $p < 0.001$; not containing 0), while when team members had low self-leadership, the indirect effect was stronger and significant (indirect effect = 0.259, 95% CI = [0.107, 0.954], $p < 0.01$; not containing 0). The results also show that the indirect effect was stronger and significant (indirect effect = 0.392, 95% CI = [0.012,

Direct effects	Estimates	SE	95% confidence intervals
Shared leadership→ decision quality	0.108	0.850	[−0.056, 0.234]
Shared leadership→ decision comprehensiveness	0.256**	0.221	[0.105, 0.456]
Decision comprehensiveness→ decision quality	0.312*	0.196	[0.151, 0.487]

Indirect effects

Self-leadership	Shared leadership (X) → decision comprehensiveness (M) → decision quality (Y)		
Path	Estimates	SE	95% confidence intervals
High (+1 SD)	−0.612***	0.323	[−0.853, −0.455]
Low (−1 SD)	0.259**	0.245	[0.107, 0.954]
Debate			
High (+1 SD)	0.392***	0.386	[0.012, 1.143]
Low (−1 SD)	−0.157*	0.145	[−0.157, −0.113]

Note(s): *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$
Source(s): Authors own creation

Table 3. Results of path analysis

1.143], $p < 0.001$; not containing 0) under high levels of debate, whereas it became weaker and significant under low levels of debate (indirect effect = −0.157, 95% CI = [−0.421, −0.113], $p < 0.05$; not containing 0).

5.3 Endogeneity correction

Although the hypotheses of this study are derived from well-established theories, one could question the direction of the causality between the variables. A simultaneous causality between SL and decision quality may be raised. Further checks assessed the stability of our findings and model consistency, which is the main threat to endogeneity (Antonakis *et al.*, 2010). The omitted variable(s), measurement error and reverse causality (or simultaneity) are the three leading causes of endogeneity. Regarding omitted variable(s), although we controlled for 13 variables from different streams of literature, others could have not been considered simply because they were unknown. This work's last section cites a procedure to avoid it from the beginning of the research design. We implemented some methodological procedures to reduce the impact of measurement error and reverse causality.

We applied an instrumental variable approach using the two-stage least squares technique (2SLS) (Antonakis *et al.*, 2010). In particular, the genuine causal relationship between predictor x and criterion y is determined using exogenous variables to estimate predictor x, similar to the first stage in a two-stage least squares (2SLS) procedure. The "true variance" in predictor x is subsequently used to estimate criterion y, similar to the second stage in a 2SLS procedure. We used "delegation" as an instrument variable. This variable is considered strongly connected with SL, as advanced by recent reviews on SL (D'Innocenzo *et al.*, 2016) and solid empirical articles (e.g. Klein *et al.*, 2006), but it is not always a predictor of decision quality (Ploner and Saredi, 2020). The delegation was assessed following Jha (2004) (Cronbach's alpha = 0.79), and we collected data from R&D managers. Then, we used the *ivreg2* module in the STATA software. We entered the options first to produce first-stage statistics and *endog* for testing endogeneity.

The mean of the delegation variable was 0.95 (SD = 0.02). Yet, the instrument variable was significantly correlated with SL ($r = 0.85$; $p = 0.00$) and was not significantly associated with the error term in the explanatory equation, which satisfies the requirements to be used as an

instrument variable. First, the Hansen-Sargan statistic produced a p-value of zero, underlining that the equation is exact. Then, we find that the Hausman–Wu test statistic is not significant ($\chi^2 = 1.54$, $p > 0.10$), and the over-identification test was nonsignificant ($\chi^2 = 2.13$, $p > 0.10$). In brief, this supplemental analysis seems to indicate the absence of an endogeneity bias.

6. Discussion and implications

The present paper aims to better understand the relationship between SL and decision quality. To do so, three hypotheses have been presented and tested through a path analysis based on data obtained from 506 team members working in 112 R&D teams and their direct R&D managers. In examining the results of this study, a series of theoretical and practical implications emerge from this effort that deserves explicit discussion.

6.1 Theoretical implications

The hypotheses of this study are grounded in the core tenets of BDT, which seeks to clarify the actual decision-making processes that individuals engage in within real-world contexts (Kahneman, 2011). BDT underscores the myriad ways in which individuals deviate from rational norms during decision-making (Einhorn and Hogarth, 1981). Based on these theoretical foundations, this study aims to illuminate the decision-making behaviors of individuals within specific contexts. The study is driven by BDT, seeking to illustrate how employees make actual decisions in real-life situations. Specifically, our research sought to demonstrate that SL influences decision quality through decision comprehensiveness, while also considering the impact of certain moderating factors (self-leadership and debate). Our findings indeed showed how SL positively affects decision quality and identified the mechanisms that either enhance or hinder SL's capacity to encourage superior choices within a self-leading team.

SL enables teams to bring diverse perspectives to the discussion, reducing cognitive biases such as information bias, thereby leading to a broader information base and, consequently, higher-quality decision-making processes. However, it's important to note that high levels of self-leadership can negatively impact individuals' ability to make the most suitable decisions. This is because individuals with high levels of self-leadership are more likely to overvalue their specific information due to information bias, potentially leading to incomplete and biased views of the decision context. Nevertheless, this negative influence can be mitigated by fostering a proactive environment that encourages productive debate, which can enhance individuals' information exchange (i.e. decision comprehensiveness), resulting in improved decision quality.

The test results for Hypothesis 1 confirm the positive impact of SL on decision quality, further suggesting that this relationship is mediated by decision comprehensiveness. Therefore, SL does not directly influence a group or firm's performance. Instead, it affects performance through its positive impact on decision-making processes – a notion that was previously hypothesized but not confirmed by earlier SL studies (e.g. Bergman *et al.*, 2012). Specifically, the positive impact on decision quality arises because SL, which involves diverse backgrounds, perspectives and information sources, promotes information exchange among group members, thereby expanding the information base upon which a decision is made. This process leads to greater decision comprehensiveness and, consequently, superior decisions (Hoch, 2014). In practical terms, SL counteracts group information bias through decision comprehensiveness. By allowing all team members to contribute to the information base upon which a decision is built, SL enables group members to supplement each other's imperfect information (Kahneman, 2011). This explanation, made possible by adopting

a BDT perspective, further extends the literature on how SL enables self-leading teams to function effectively within an organization and yield positive work outcomes (Bergman *et al.*, 2012; Gu *et al.*, 2022).

Secondly, the study's results support the argument that self-leadership and SL are interconnected yet distinct concepts. Specifically, the results support Hypothesis 2, showing that individuals with high levels of self-leadership exhibit reduced decision comprehensiveness and, as a result, poorer decision quality. This can be explained by the fact that managers who have a strong belief in their abilities and feel in complete control of their behavior and achievements place a high emphasis on their information and individual perspective, undermining a systemic search for information concerning a given decision at hand (Cristofaro and Giardino, 2020).

Individuals with high levels of self-leadership are theorized to fail to consider all the available information in the decision-making process (e.g. information derived from diverse team perspectives) and instead focus only on information that reinforces their prior individual assumptions (Abatecola *et al.*, 2018). This second finding presents a novel theoretical contribution from this paper. While previous scholars have largely hypothesized a positive influence of self-leadership on decision quality (e.g. Manz, 1986; Neck and Houghton, 2006; Neck *et al.*, 2013), we identify a limitation to this effect: Excessive self-leadership can be detrimental to the quality of the decision reached within a self-leading team, while a low or moderate level of self-leadership does not produce such a negative effect and thus leads to better decision outcomes. This boundary condition represents a significant advancement for the self-leadership literature by delineating the limits within which self-leadership may exert a positive or negative influence on decision-making processes, thereby contributing to the maturation of self-leadership theory.

These findings further enhance our understanding of the mechanisms underlying the SL-self-leadership relationship, highlighting a potential downside of self-leadership. Contrary to previous literature that emphasizes the positive aspects of self-leadership, which significantly and positively correlates with higher levels of SL, we propose – based on recent BDT studies (e.g. Cristofaro and Giardino, 2020) – that extreme levels of self-leadership can trigger mechanisms (e.g. overconfidence, self-serving biases) that undermine decision comprehensiveness and the overall positive effects of SL on decision quality within self-leading teams. This explanation challenges previous studies arguing that shared mental models are particularly important for teams high in self-leadership. Having an excessive belief in one's ability to lead both personal and professional life causes the organizational member to seek information in the environment that confirms a fixed preconception (mental model) on how a problem should be solved, resulting in an overemphasis on one's self-interest. However, when present at a low or moderate level, self-leadership does not have such detrimental effects and is beneficial for SL and the decision-making process among self-leading teams.

Thirdly, results supporting Hypothesis 3 highlight that debate positively influences the relationship between SL and decision comprehensiveness. Specifically, this finding aligns with those of previous scholars investigating the debate variable (e.g. Kanadli *et al.*, 2018; Seyr and Vollmer, 2014; Yi *et al.*, 2022) who have suggested that the creation of a collaborative environment promotes better decision quality outcomes. Indeed, well-established debate practices effectively mitigate potential decisional information biases by incorporating diverse perspectives and arguments from group members about the focal decision, thus providing a more comprehensive knowledge base for decisions.

Therefore, the positive effect of SL on decision comprehensiveness is enhanced when debate practices are implemented within a team. Thus, a debate serves to counteract the negative effects of high levels of self-leadership on decision quality. More specifically, through debate, parties who disagree on pertinent issues present arguments to both support

their positions and/or reject opposing views, thus allowing debating group members to challenge both their own and others' beliefs in the debate process and thereby reducing the negative effects of high levels of self-leadership on group decision quality. This argument is theoretically supported by BDT, which suggests that interactions among individuals in a team foster the amount of information shared and, in turn, the overall decision-making quality (Cristofaro, 2017b; Kahneman *et al.*, 2011). These interactions also stimulate the activation of System Two of organizational members because asking to reflect on the focal decision purposefully; this activated thinking can identify and reduce cognitive errors emerging from others' System One, which is unconsciously activated by members (Kahneman, 2011). The decision-making process ultimately results in higher-quality decisions.

In summary, this study provides valuable insights into the complex dynamics of decision-making within the context of SL and self-leadership. It highlights the positive influence of SL on decision quality, mediated by decision comprehensiveness and the potential negative impact of high levels of self-leadership. It also underscores the importance of fostering a culture of debate within teams to counteract potential biases and enhance decision quality. These findings contribute to the existing literature on SL, self-leadership and decision-making, offering a nuanced understanding of these concepts and their interplay in real-world scenarios.

6.2 Managerial implications

The results disclosed from this study offer significant managerial implications, which should be viewed as complementary strategies to enhance overall decision quality in organizations that may choose to implement SL.

First, given the positive influence of SL on decision quality, organizations should foster SL by: (1) cultivating a collaborative work environment that promotes trust and open communication among employees during both challenging and prosperous phases of the firm; (2) allocating time for discussions on consensus-building to determine the approach for collective decision-making, ensuring no one defers to another; (3) ensuring the entire organization understands the new team structure and that each team has a clear mission; and (4) encouraging team members to provide emotional support to each other by recognizing each other's efforts and stimulating input to the team process (Carson *et al.*, 2007). In essence, organizations should encourage active participation in decision-making processes, ensuring that all team members understand that their opinions are valued, irrespective of their hierarchical roles (see also Cristofaro, 2020, 2022).

Second, organizations should be cognizant that individuals with high levels of self-leadership may be prone to information bias, leading to reduced decision comprehensiveness and subsequently poorer decision quality. To counteract this, organizations could form teams composed of members with average levels of self-leadership to balance different tendencies toward information bias. During the selection process, self-leadership can be assessed in advance by administering a specific questionnaire to candidates to identify their level of self-leadership. This information could then be used to identify individuals for specific training that can help them avoid the downsides of strong self-leadership. For example, individuals with high self-leadership could be presented with a hypothetical decision-making situation and asked to articulate their perspective, the group's perspective and the manager's perspective. This activity could help broaden the perspectives of individuals with high self-leadership.

Considering the first two implications, a third related to fostering debate can be proposed. To enhance debate and, in turn, decision comprehensiveness, organizations should establish formal practices, such as round tables, to complement other informal initiatives (e.g. training sessions and team-building activities). These practices would promote transparent and

constructive debate within teams and alleviate coworkers' latent fears about speaking up and deviating from the party line. This could be achieved by: (1) introducing cognitive frictions among members to stimulate diverse viewpoints (e.g. incorporating extreme perspectives); (2) ensuring that each voice holds equal weight within the debate session; (3) keeping the debate focused on facts, logic and the topic at hand, rather than attacking others' opinions.

In providing the above theoretical and managerial contributions, this study offers a key overarching implication for both management literature and practice. It has been widely assumed that shared and self-leadership among employee teams yield purely positive effects (Sweeney *et al.*, 2019; Harari *et al.*, 2021). However, our findings suggest that shared and self-leadership are not inherently beneficial to a group's performance. When group members have high individual self-leadership, SL between them may not spur the comprehensive information collection and analysis that allows SL to promote decision quality among self-leading teams. This suggests that individual self-leadership can lead to worse outcomes when it is present at a high enough degree among team members, and the use of SL may limit the quality of a decision in such a scenario. As a result, our results highlight a potential dark side to these nontraditional influence processes that have often been overlooked in the literature (e.g. Neck *et al.*, 2019). Despite this, our results also provide managers with practical tools to ensure that both horizontal and individual leadership do not stifle team performance. Specifically, by fostering conditions that encourage intra-team debate, external leaders can ensure a team's decision comprehensiveness and resulting decision quality will not falter due to potential bias introducing barriers (e.g. high member self-leadership).

In summary, this study provides valuable insights into the complex dynamics of decision-making within the context of SL and self-leadership. It highlights the positive influence of SL on decision quality, mediated by decision comprehensiveness and the potential negative impact of high levels of self-leadership. It also underscores the importance of fostering a culture of debate within teams to counteract potential biases and enhance decision quality. These findings contribute to the existing literature on SL, self-leadership and decision-making, offering a nuanced understanding of these concepts and their interplay in real-world scenarios.

6.3 Limitations and future research

The study does have some limitations: the primary one being the use of self-reports. While self-reports are useful and widely used in assessing perceptions, they may be subject to common method bias (Podsakoff *et al.*, 2012). Furthermore, despite implementing an endogeneity analysis using an instrumental variable, it is not possible to provide unequivocal empirical support for causality. To provide causal implications, future research could conduct a randomized field experiment through organizational intervention, where participants are randomly assigned to different conditions. It would also be beneficial to test the model using a repeated-measures design with data collected at different points in time, or at least collect the mediator (decision comprehensiveness) separately. Therefore, while the measures adopted are widely recognized as valid and reliable, future investigations could benefit from direct observations of individuals' behaviors when making real decisions, as well as team members in actual job contexts. This would undoubtedly provide a more comprehensive view of the relationship between SL and decision quality. From a methodological perspective, replicating this investigation for small- and medium-sized enterprsies and companies from other countries could help generalize our results. This should also include participants working in knowledge or service companies, which were not present in the sample used.

Beyond these considerations, several future developments emerge from the intersection of BDT and SLT and the results of the conducted study. Since the effects of SL depend on the bounded rationality of the individuals composing the team and their personal characteristics,

it would be interesting to explore what other personal factors can impact SL effects via decision-making processes. For instance, research could quantitatively test whether socio-demographic characteristics and/or other psychological variables significantly influence group decisions for teams characterized by SL. This future research should be grounded in Upper Echelons Theory and its progress (Hambrick and Mason, 1984; Abatecola and Cristofaro, 2020), which are firmly anchored in BDT and propose socio-demographic features of organizational agents and managers as antecedents of group and firms' performance. For example, it could be interesting to explore whether the heterogeneity (in terms of socio-demographic characteristics) of groups characterized by SL can foster decision comprehensiveness. It could also be tested whether diversity among individuals, in terms of socio-demographic features, can limit the presence of high self-leadership personalities; this can assume that socio-demographic features are proxies for personality traits and related behavior (Hambrick and Mason, 1984).

Furthermore, for SL groups, their intention to pursue an action could also be studied by examining (1) the group's attitude towards the effect of the action and the belief that the action will lead to a specific effect, (2) the group's perceived pressure to make an expected decision (subjective norm) and (3) the group's beliefs that performance of their behavior is within their control (perceived behavioral control). These three components are the pillars of the Theory of Planned Behavior (Ajzen, 1991), which emanates from BDT and proposes how these elements shape behavioral intentions. In particular, it would be useful to understand how much the group information bias is positively influenced by strong levels of attitude, subjective norm and perceived behavioral control and if the latter can be considered a proxy of high levels of self-leadership. This investigation would help determine if the effects of SL via group decision-making processes are due to collective beliefs rather than the sum of individual characteristics, as identified in the prior call for future research. Lastly, since the positioning of variables within a model depends on adopted theories and competing models can all be theoretically valid (see Andressen *et al.*, 2012), we encourage future research to also consider the relationship between SL and self-leadership from different perspectives. For instance, self-leadership could be considered as an input for decision comprehensiveness and moderated by SL.

7. Conclusions

SL does not inherently lead to team and firm performance. The effects of SL are mediated through the quality of group decision-making processes, primarily depending on the team's ability to avoid group information biases such as self-reporting, measurement error and confirmation bias. To achieve this, teams should strive for comprehensiveness in the information collected about the central problem, legitimize conflict and encourage critical evaluation and minimize the presence of high self-leadership personalities within the team. This article suggests that a comprehensive understanding of how SL performance emerges and how to manage it can only be achieved by examining the connections between SLT and BDT. This involves considering the effects of the bounded rationality of individuals, potential collective biases and beliefs and their personality characteristics (also dark ones; Khan *et al.*, 2023) on self-leading teams.

Note

1. In particular, the self-leadership process starts when an organizational agent compares the current state of a perceived situation to a self-set standard. Assessment is then made regarding the standard and current state gap, and behavior is applied to reduce the gap. Therefore, comparison and assessment require a strong cognitive ability. After examining the behavior's impact, the new state of the situation is perceived, and the cycle begins again (Manz, 1986; Stewart *et al.*, 2019).

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