Received: 25 October 2022 | Accepted: 27 October 2023

DOI: 10.1111/apps.12515

ORIGINAL ARTICLE

APPLIED PSYCHOLOGY

Equity ownership and identification with the founding team

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Abstract

Founders benefit from identifying with their founding teams because identification facilitates cooperation in the team, aligns founders' actions with the norms and interests of the team, and, ultimately, enhances team performance. High identification with the team is likely to be shaped by structural characteristics of the founding team and, more specifically, founders' equity stakes—that is, founders' legal ownership of the venture. In the present study, we explore the consequences of equity ownership on a founder's subsequent identification with the team. We build on psychological ownership theory to theorize that, on the one hand, equity can trigger feelings of responsibility and care for the venture, but, on the other, it can also drive possessiveness and territoriality. These two opposing sides of psychological ownership suggest a curvilinear relationship between equity ownership and a founder's subsequent identification with the team. As equity is a team reward, we suggest that founders' perceptions of team performance accentuate the relationship. Longitudinal data including 156 data points from 82 founders support our theorizing. We discuss implications for the literatures on team identification, equity ownership, and psychological ownership.

KEYWORDS
founding teams, equity ownership, psychological ownership, team identification, team performance

INTRODUCTION

Individuals with high identification with their team—that is, individuals who feel strong interpersonal connection with and belonging to the team (Sluss & Ashforth, 2007)—tend to better cooperate with their teammates (Dutton et al., 1994; Kerr & Kaufman-Gilliland, 1994) and act in accordance to the team's norms, values, and interests (Dukerich et al., 2002). Higher identification with the team is also associated with increased feelings of belonging to the team (Ashforth & Mael, 1989), feelings of team stability over time and across different situations (Rapp & Mathieu, 2019), and better team learning and future team performance (Van der Vegt & Bunderson, 2005). Indeed, members' identification with the team represents a "unifying force" that triggers feelings of "oneness" (Bezrukova et al., 2009; Rapp & Mathieu, 2019), enabling them to act as a collective and pursue their common goals (Blatt, 2009). Particularly for founding teams—that is, two or more "individuals with an equity stake in the business, and who have a key role in the strategic decision making of the venture at the time of founding" (Ucbasaran et al., 2003, p. 109)—it appears crucial that members show high identification with their team because each founder is involved in both strategic and operational efforts (Blatt, 2009; Klotz et al., 2014; Knight et al., 2020; Patzelt et al., 2021). Hence, higher identification with the founding team can support members under conditions of uncertainty to take the necessary high-stake decisions in the best interest of the team and the venture (Blatt, 2009). Understanding the antecedents of founders' identification with their team is thus an important endeavor in research on founding teams.

A key structural characteristic that may affect a founder's identification with the team is their equity stake—that is, legal ownership of the venture (Bitler et al., 2005; Gorgievski & Stephan, 2016; Hall & Woodward, 2010). While the equity stake is often a founder's primary form of compensation (Wasserman, 2006) and an incentive for them to develop their ventures successfully (Kagan et al., 2020), equity ownership also has psychological implications, as it creates affective bonds between founders and their ventures (Lahti et al., 2019), including their teammates. However, equity ownership may not only foster unity in founding teams through affective bonds but could also constitute a dividing force that counteracts the development of high levels of identification with the team. Specifically, as the venture and the founders' contribution to it evolve, they may reflect on the actual fairness of the size of their equity stake as compared to the stakes of their teammates (Breugst et al., 2015). In case founders perceive the equity distribution to be unfair, negative team interaction spirals may emerge (Breugst et al., 2015) that potentially diminish a founder's identification with the team. Given these contradictory considerations, the question arises: How is a founder's equity ownership related to their identification with the founding team?

To answer this question, we develop and test a theoretical model based on psychological ownership theory—a theory originally established to take into account the psychological consequences of ownership (Pierce et al., 2001, 2003). Building on this theory, we argue that psychological ownership can shape a founder's subsequent identification with the team in either positive or negative ways, such that the multiplicative interaction of the two lines of argumentation leads to a curvilinear (inverted U-shaped) relationship between a founder's equity ownership and their subsequent identification with their team. Importantly, equity ownership is a team reward—that is, the value of a founder's equity stake depends on the value of the venture (Bitler et al., 2005) and, thus, on the performance of the founding team (Ensley & Hmieleski, 2005; Klotz et al., 2014). Hence, we suggest that the nature of the curvilinear relationship between equity ownership and a founder's subsequent identification with their team is contingent on the founder's perception of team performance. We test this model based on 156 data points with a sample of 82 founders nested within 50 founding teams using a time-lagged longitudinal research design and multiple data sources.

Our study provides key contributions to both psychological theories and entrepreneurship research. First, literature on team identification in the context of founding teams theorizes that team identification is fostered by the existence of contracts that shape team members' feelings of boundaries around the team (Blatt, 2009). Our paper complements this idea by focusing on the *terms* of the contract—namely, the team members' equity stakes—rather than its mere existence. It appears that it is not only the boundaries separating the team from its environment that shape identification but also those within the team, as specified by equity ownership.

Moreover, we extend prior studies' view of equity ownership as a primary form of compensation for founders (Bitler et al., 2005; Hall & Woodward, 2010) with a psychological ownership perspective. This perspective allows us to theorize on the potential psychological consequences of equity ownership to founders beyond its role as an incentive and, thus, the notion of "the more, the better." By finding that medium levels of equity ownership seem to be (socially) beneficial to founders' identification with the founding team, we illustrate that an increase in ownership beyond this medium level comes with a social cost.

Third and more generally, our paper informs psychological ownership theory, and in particular the discussion of whether there is an optimal level of psychological ownership, as well as its boundary conditions (Dawkins et al., 2017). By theorizing on a curvilinear relationship between equity ownership, the connected feelings of psychological ownership, and a founder's identification with the team, we show that there does indeed seem to be an optimum level of ownership—at least for some important attitudes of founders toward their team. Our work also suggests that the role of ownership is moderated by the anticipated value of the possession, which represents an important boundary condition for psychological ownership theory.

THEORY AND HYPOTHESES

Founders' identification with the founding team

For more than 30 years, researchers have recognized the importance of team members' identification with the team as a central concept to understand their behaviors, attitudes, and performance in a team setting (Ashforth & Mael, 1989). For example, higher levels of identification increase members' satisfaction with the team (Rapp & Mathieu, 2019) and trigger their engagement in citizenship behaviors toward teammates (Janssen & Xu, 2008). Members who identify more strongly with their team also perceive greater social support by their teammates and are better able to cope with stress (McKimmie et al., 2020). At the team level, having members with higher levels of identification in the team helps to reduce potential barriers that might arise due to members' functional or demographic diversity (Bezrukova et al., 2009). It has also been shown to increase team learning and team performance (Van der Vegt & Bunderson, 2005), and it gives teams a sense of continuity and feelings of stability (Rapp & Mathieu, 2019). Consistently, entrepreneurship research has associated higher identification in teams with better development of both the founding team (Blatt, 2009) and the venture (Kollmann et al., 2020).

Multiple factors can facilitate the development of an individual's identification with the team. For example, time and experience in an organization seem to be a crucial antecedent of an individual's identification with the team (Dutton et al., 2010). Further, individuals' higher identification with the team can be triggered by perceptions of psychological safety within the team (Johnson & Avolio, 2019), or their reflection and sense-making of how being a member of the team benefits themselves (Ashforth et al., 2008). Identification with the team may also arise from communal relational schemas or the experience of positive emotions within the team setting (Blatt, 2009). Moreover, structural characteristics, such as team diversity, seem to be important for members developing high identification with the team (Kearney et al., 2009; Kearney & Gebert, 2009).

Indeed, structural characteristics of the initial founding team may play a key role in developing a member's identification with the team. Structural characteristics of the initial team are known to have long-lasting effects on how founding teams and their ventures develop over time (Beckman & Burton, 2008; Burton & Beckman, 2007). One particularly salient structural characteristic for members of founding teams is the equity split (Bitler et al., 2005; Hall & Woodward, 2010) that results from a founding team's "first deal" (Wasserman, 2012). With this first deal, an equity stake is allocated to each member of the founding team, which then becomes their key incentive to develop the venture successfully with their teammates (Kagan et al., 2020). However, in founding teams, beyond the legal possession of the venture, this structural characteristic also has psychological implications that can affect how the team functions over time (Breugst et al., 2015), and thus, we suggest, a member's identification with their team.

Founders' psychological ownership of their venture

Generally, ownership triggers psychological ties between individuals and their possession (Pierce et al., 2001). This psychological consequence of ownership has been developed in psychological ownership theory—a theory that addresses the notion of an (im)material entity being perceived as "mine" (Pierce et al., 2001, 2003). In the context of entrepreneurship, Lahti et al. (2019) build on psychological ownership theory and show that founders develop affective bonds with their ventures, similar to those between parents and their children. Breugst et al. (2015) study the psychological implications that equity ownership has on founding teams and Kagan et al. (2020) find how a team's equity split is closely connected to the effort each founder invests into the venture. Hence, psychological ownership theory helps explain why, with the possession of equity ownership, founders do not only become legal owners of the venture but also develop feelings of ownership towards it.

Thereby, psychological ownership theory highlights that psychological ownership involves two different sides: On the one hand, psychological ownership involves "a sense of responsibility and concern for [the possession]," which results in "a need to care for and nurture [it]" (Baer & Brown, 2012, p. 61). On the other hand, psychological ownership is connected to possessiveness and territoriality (Baer & Brown, 2012), which is characterized by the individual's attachment to the possession, as well as the occupation and defense of it (Brown et al., 2005). Both sides of psychological ownership trigger individuals' willingness to put great effort into promoting their possession (Baer & Brown, 2012), hold themselves accountable for its development (Avey et al., 2009; Dawkins et al., 2017), and persist throughout adversity (Zhu et al., 2018). Thus, a founder who experiences high levels of psychological ownership of their venture is likely to show a high level of care for the venture, which allows them to feel and act as an integral part of it.

These two sides of psychological ownership can have different implications for a founder's identification with their team. Hence, we argue that equity ownership can shape the founder's subsequent identification with the team in opposing ways. In the following, we first develop arguments for a potential positive as well as a potential negative relationship between equity ownership and identification. We then follow the suggestions by Haans et al. (2016) on theorizing curvilinear relationships to argue how these opposing theoretical patterns interact to form an inverted U-shaped relationship.

Founders' psychological ownership and identification with the founding team

Psychological ownership and feelings of responsibility and care for the venture

Psychological ownership inherently involves feelings of responsibility toward the possession (Avey et al., 2009; Dawkins et al., 2017). The stronger an individual's sense of responsibility, the more time and thought they invest into their psychological possession (Pierce et al., 2001, 2003). Thus, founders who experience higher levels of psychological ownership of their venture because they possess a greater equity stake are also more likely to care for the venture and actively nurture it (Pierce et al., 2001). Given that venture success depends on the effort of the entire founding team (Hmieleski & Ensley, 2007; Klotz et al., 2014), these founders are also likely to be aware of the importance of leveraging the knowledge and interdependencies within the entire founding team to move the venture forward (de Jong et al., 2013). In particular, such interdependencies require all members to provide input to team tasks to complete them successfully (Barrick et al., 2007). For example, founders who feel more psychological ownership of the venture are more likely to be aware of the knowledge and effort that all team members need to provide to jointly engage in managing the venture (Lazar et al., 2020) and strategic decision-making (Klotz et al., 2014). Thus, with higher levels of psychological ownership and more focus on the team, as well as the interdependencies between the team members, founders are likely to develop a stronger impression of being "in the same boat" with their teammates (Feeser & Willard, 1990, p. 89) and feel closer to them (Courtright et al., 2015), resulting in a feeling of "oneness." In turn, the founder's subsequent identification with the team will be higher (Bollen & Hoyle, 1990; Kerr & Kaufman-Gilliland, 1994). Thus, based on higher levels of psychological ownership and connected feelings of responsibility and care, we expect founders with a greater equity stake to subsequently identify more strongly with their founding team than those with a smaller equity stake.

Psychological ownership and feelings of possessiveness and territoriality

Another line of reasoning suggests that psychological ownership can diminish identification with the team because it involves feelings of possessiveness and territoriality (Baer & Brown, 2012). Indeed, territoriality is not merely the sense of "what is 'mine,'" but also includes the notion of “what is ‘not yours’” (Brown, Crossley, & Robinson, 2014, p. 468). Individuals displaying territorial behavior tend to shield their possessions from others, and prevent those others from encroaching on their territory (Brown et al., 2005; Brown, Pierce, & Crossley, 2014). Founders with higher levels of psychological ownership are thus likely to perceive themselves as central for decision-making in the venture and hang on to control (Brown et al., 2005; Pierce et al., 2001; Pierce & Jussila, 2010). These territorial behaviors are likely to be associated with neglecting or marginalizing the team and reducing one's collaboration with teammates (Avey et al., 2009; Brown et al., 2005). In turn, these behaviors will also distance founders with strong psychological ownership from their teams. Indeed, prior research has found that team leaders who assume high levels of responsibility for their teams often feel distant from their team and lack companionship (Gabriel et al., 2021). This distance is likely to decrease the affiliation with, and attachment to, the team (Lawler et al., 2008; Ozcelik & Barsade, 2018), and reduce founders' subsequent identification with the team. Thus, psychological ownership theory suggests that based on potential feelings of possessiveness and territoriality, owning a greater equity stake might be connected to lower levels of founders' subsequent identification with their founding team.

The two sides of psychological ownership and identification with the founding team

In sum, psychological ownership theory provides arguments that a founder's greater equity stake can be connected to both higher and lower levels of subsequent identification with the founding team. On the one hand, psychological ownership of the venture is likely to increase responsibility and care for the venture and thus the awareness of the interdependencies within the team enhancing founders' subsequent identification with their team. On the other hand, psychological ownership can result in possessiveness and territoriality that can increase the distance between the founder and their team reducing subsequent identification with the team. The integration of these two lines of argumentation leads to a multiplicative interaction of two latent linear functions (Haans et al., 2016). As a consequence, an intermediate level of equity ownership, which combines the potential positive psychological effects of founders owning a greater equity stake as well as the potential positive psychological effects of founders owning a lower stake, will maximize their subsequent identification with the team. We thus hypothesize:

> **Hypothesis 1.** *The size of a founder's equity stake has an inverted U-shaped relationship with their subsequent level of identification with the founding team (controlling for their prior level of identification with the founding team).*

The moderating role of perceived founding team performance

While the actual monetization of an equity stake is a distant outcome (Kagan et al., 2020), the expected future value of a founder's equity stake is a key motivation for them to engage in the venture (Davidsson, 2016; Hall & Woodward, 2010). However, the future value of that stake depends heavily on the success of the venture—which is largely shaped by the founding team (Reese et al., 2021; Wood & Michalisin, 2010). Thus, an individual's equity stake is essentially a team reward; that is, "the rewards of group members are correlated positively" (Barnes et al., 2011, p. 1613). Indeed, equity ownership can be considered as a form of collective profit-sharing, in which the generated profits (i.e., the future financial value of the venture) are distributed among its members (Nyberg et al., 2018), and founding team members decide on its distribution (Hellmann & Wasserman, 2017). Because the founder's equity stake represents a team reward, team performance is highly salient to founders. For example, prior studies have shown that founders engage in monitoring behaviors to assess their teammates' performance in relation to the equity stake each founder owns (Breugst et al., 2015). Hence, we suggest that perceived team performance represents a key contingency for the relationship between a founder's equity stake and their subsequent identification with the team. Specifically, we propose that the perceptions of higher levels of team performance accentuate the curvilinear relationship by strengthening both opposing latent relationships (Haans et al., 2016).

On the one hand, we expect perceptions of higher team performance to amplify the positive relationship between the size of a founder's equity stake and their subsequent identification with their team. If founders with a greater equity stake perceive the performance of their team to be better, they can expect a higher future value of the venture, which will intensify their feelings of psychological ownership. These founders who perceive more psychological ownership are likely to perceive even more responsibility, care, and concern for their venture. They might strive to fulfill their responsibilities more diligently, given the venture's strong prospects. Thus, they tend to be more aware of the interdependent contribution of all team members for positive future venture outcomes. In particular, these founders are more likely to see and appreciate the interdependencies within the team than founders who perceive their teams as performing more poorly and who have less at risk regarding the future value of the venture's equity as a result. Based on this line of reasoning, we expect equity ownership to have a more positive relationship with a founder's subsequent identification with their team when they perceive team performance to be higher rather than lower.

On the other hand, perceptions of higher team performance may also amplify the potential negative relationship between a founder's equity ownership and their subsequent identification with the team. Feelings of possessiveness and territoriality stemming from higher levels of psychological ownership are likely to increase with a founder's perceptions of high team performance because their equity stake is more valuable to them. Indeed, Brown et al. (2005) suggest that "the more psychologically valued the territory, the more effort an individual will make to mark it" (p. 580). These founders are more likely to feel that the venture is their personal possession and attempt to monopolize decision-making. Because they take on such a central and essential role in the venture, they are likely to exert a high level of control without considering their teammates' input. Thus, founders high in psychological ownership are more likely to isolate themselves from their team when they perceive team performance to be high, to protect their possession from others' influence. This distance from the team is likely to reduce their identification with it (Ozcelik & Barsade, 2018). In contrast, when founders perceive team performance to be lower, they consider their possession as less valuable, which will reduce their attempts to control and protect it. Thus, they are less likely to distance themselves from the team and their subsequent identification will not diminish to the same extent.

Together, these arguments suggest that higher levels of perceived founding team performance strengthen both the potential positive relationship between equity ownership and a founder's subsequent identification with their team and also the potential negative relationship between equity ownership and their subsequent identification with the team. Haans et al.

(2016) describe this pattern as a way in which moderators can accentuate curvilinear relationships. We thus hypothesize:

> **Hypothesis 2.** *The founder's perception of team performance moderates the inverted U-shaped relationship between the size of their equity stake and their subsequent level of identification with the founding team (controlling for their prior level of identification with the founding team), such that at higher levels of perceived team performance, the inverted U-shape is more accentuated than at lower levels of perceived team performance.*

RESEARCH METHODS

Research design and sample

Testing our hypotheses requires that we capture ventures that are young and still largely owned by their founders. Therefore, we aimed to recruit founding teams from business incubators in a major European metropolitan area, as incubator ventures are typically young and characterized by high levels of founder ownership (Cohen, 2013). In a first step, we compiled a list of all ventures located in the 289 incubators of the region. We gathered data on the founders and their ventures (i.e., names, team size, venture age, type of organization) from incubators' and ventures' websites, as well as via telephone calls and onsite visits. We identified 195 new ventures that matched our two sampling criteria: (1) They were run by founding teams (Ucbasaran et al., 2003), and (2) they were less than 6 years old (Amason et al., 2006). In phone calls and during on-site visits, we asked the founders to participate in our study. Sixty-four teams agreed to participate, while 65 declined, and another 66 were inaccessible because they had not yet started their activities, or had already terminated them.

As our dependent variable is a founder's subsequent identification with their founding team, we used a time-lagged research design allowing us to model temporal precedence. Moreover, we relied on different data sources, which should additionally limit common method variance (Podsakoff et al., 2012). We conducted interviews with all founders of the 64 participating teams (t_0), asking them about their equity distributions,[1] information that was not publicly available. Founders of 59 teams disclosed this information. In a next step, we conducted four rounds of online questionnaires, spanning half a year. We captured the moderating variable of our model in two rounds of online questionnaires (t_2 and t_3) as well as the dependent variable in two rounds of lagged surveys (t_3 and t_4). We also included the measure of the dependent variable in prior rounds of the survey (t_1 and t_2) to control for prior identification with the founding team in our models. Given this temporal order, we had to exclude additional founders; for example, when they did not provide information on their identification with the team at t_2, we lacked the corresponding score of a founder's prior identification with the team to predict identification with the team at t_4. All further control variables were captured at t_1 and t_2. Our final dataset included 156 observations from 82 founders nested in 50 founding teams.

The founders in our final sample were 32.66 years old on average (SD = 8.80); 10.00% of them were female; and 73.68% of them had a master's degree or higher. The founding teams had an average of 2.56 founders (SD = 0.67). Moreover, on average, the teams had worked for

[1]Over the course of the study, the equity distribution within the teams remained stable.

2.63 years in the current composition (SD = 2.36), the venture age was 2.14 years (SD = 1.62), and the ventures operated in the following industries: services (41.67%), computer hardware and software (27.08%), e-commerce (6.25%), material and natural sciences (4.17%), consumer goods (4.17%), and other industries (16.67%).

Measures

Subsequent identification with the team

We measure our dependent variable, a founder's subsequent identification with the founding team, based on an identification scale by Mael and Ashforth (1992), which was adapted to measure team identification (Dietz et al., 2015; Millward et al., 2007). The scale includes six items asking participants to indicate their perceived unity with the founding team during the last few weeks on a 7-point Likert-type scale (1 = *not at all*, 7 = *completely*). For example, participants responded to the item "When someone criticizes this team, it feels like a personal insult." The average reliability (Cronbach's alpha) of the scale across the questionnaires is 0.74.

Equity

We focus on the size of a founder's equity stake, which is consistent with prior studies. For instance, Bitler et al. (2005) draw on the founder's equity stake, Kotha and George (2012) use the focal entrepreneur's equity stake, and Kroll et al. (2007) build on the aggregate equity stake of all members of a top management team. To corroborate our results in a robustness check, we additionally calculate the relative equity stake as suggested by Hellmann et al. (2019), that is, by dividing a founder's absolute equity stake by the total amount of equity owned by the founding team.

Perceived founding team performance

To measure perceived founding team performance, we use a four-item measure by Shaw et al. (2011). The items capture a founder's perceptions of the team regarding "quality of work," "getting work done efficiently," and "flexibility in dealing with unexpected changes," as well as "overall performance." We asked respondents to reflect on their last few weeks at work and indicate their rating of the team's performance on a Likert-type scale ranging from 1 (*very poor*) to 7 (*outstanding*). The average Cronbach's alpha of the scale in the final sample is 0.75.

Control variables

Based on theoretical arguments, we consider several control variables at the individual, team, and venture levels that might bias the tested relationships. First, consistent with recommendations for causal modeling (Gollob & Reichardt, 1987), we control for potential autoregressive effects. Thus, we control for *prior identification with the team*, which we measured at t_1 and t_2, using the same scale as for the dependent variable (see above). Second, at the level of the individual, we use a dummy variable to control for the *dominant shareholder* (1 = *dominant shareholder*; 0 = *not dominant shareholder*). Depending on the equity distribution within the team and among external stakeholders, different levels of equity ownership can result in a founder being the dominant shareholder, which is likely to shape a founder's perceptions of the team. This shareholder information was coded from the information on equity distributions within each team. Third, we control for a founder's *entrepreneurial experience*, as it might be related to a founder's preferences with respect to the team's equity distribution (Kotha & George, 2012), as well as to a founder's identification with the venture (Lee et al., 2020). We measured entrepreneurial experience at t_1 by asking the individual team members how many firms they had previously founded (e.g., Uy et al., 2013). Fourth, drawing on the study by Hellmann and Wasserman (2017), we include a founder's total years of *work experience* as a control variable. A founder with more work experience might have a greater equity stake, which can potentially confound the relationship.[2] We asked participants at t_1 how many years of work experience they had gained before starting the venture. In addition, we consider the founder's *gender* as an important control variable at the individual level (1 = *female*; 0 = *male*), which was surveyed at t_1.

At the team level, we control for *team age* and *team size*. A higher team age reflects the extent to which team members have interacted with and got used to one another, which might influence a member's identification with the team (e.g., Johnson et al., 2006). We asked respondents at t_1 to indicate when the members of the founding team had started working together in the current composition (even before founding the venture, if applicable).[3] Further, as team size changes the meaning of a founder's equity stake (e.g., owning 50% in a two-founder team has different implications than in a three-founder team), we include it as a control variable. We had researched the team sizes (i.e., the number of founders in the current team compositions) online before our data collection and validated these numbers during our interviews.

Finally, we asked the participants to assess the probability that their venture would survive the following 5 years. This *perceived probability of survival* represents an important indicator for whether a founder believes in the venture and thus might hint at how much they value their equity stake. The probability of survival in 5 years was measured in percent at t_1.

Statistical analyses

We use hierarchical linear modeling (HLM) as the estimation method because of the nested structure of our data. To appropriately accommodate the four waves of surveys, in which our variables were measured repeatedly at several points in time, we draw on Schonfeld and Rindskopf (2007). Particularly, at Level 1, we analyze 156 observations (repeated measures) nested in 82 individuals (Level 2), which again are nested in 50 founding teams (Level 3). Consistent with recommendations for HLM (Hofmann & Gavin, 1998), we group mean center all

[2]Total work experience in our sample of young founders is highly correlated with a team member's age ($r = 0.91$, $p = 0.00$). Thus, we cannot control for the founder's age in the same model, due to multicollinearity issues. As a robustness check, we included the founder's age instead of their years of work experience, which did not change our original results. Details are available from the first author.

[3]We draw on team age as a control variable, as the duration of working together is more likely to influence a founder's identification with the team than the age of the venture. Because of the high correlation between team age and venture age ($r = 0.58$, $p = 0.00$), we cannot control for both variables at the same time. However, our results did not change when we included venture age instead of team age. Details are available from the first author.

variables at Level 1 and grand mean center all variables at Levels 2 and 3. We follow the suggested procedure to test inverted U-shaped relationships (Haans et al., 2016; Lind & Mehlum, 2010), which we describe in more depth in Section 4.

RESULTS

Hypothesis testing

We present the descriptive statistics and correlations in Table 1. The highest variance inflation factor (VIF) is 1.43, which is well below the widely recognized cutoff value of 10 (Hair et al., 2009) and indicates that multicollinearity is unlikely to bias our estimations.

We present the results of our analysis in Table 2. We sequentially enter the control variables (Model 1), the main effect and its squared term (Model 2), and the moderator as well as the corresponding interaction effects (Model 3). For each model, we report an indicator of explained variance (pseudo R^2), as suggested by Snijders and Bosker (2011) for models with variance at different levels. The pseudo R^2 value increases from step to step, indicating a proportional reduction in residual variance.

While the results are consistent across models, we test our hypotheses based on the full model, Model 3, which includes a founder's perception of team performance and its interactions with the founder's equity stake (Aiken & West, 1991). Hypothesis 1 states that the size of a founder's equity stake has an inverted U-shaped relationship with their subsequent level of identification with the founding team. To test this hypothesis, we follow recommendations for investigating curvilinear relationships and tested the three necessary conditions for the presence of an inverted U-shaped relationship between the equity stake and a founder's subsequent identification with their team (Haans et al., 2016; Lind & Mehlum, 2010): First, the relationship between equity squared and identification with the team is significant and negative ($\beta = -5.53$, $p = 0.02$). Second, the slope at the lower bound of the relationship is positive and significant ($\beta = 4.66$, $p = 0.01$), and the slope at the upper bound of the relationship is negative and significant ($\beta = -6.39$, $p = 0.02$). Third, the location of the turning point, including its 95% confidence interval lies at $X = 0.04$ $[-0.11; 0.19]$ (the corresponding non-centered value is 0.43 or 43%). This confidence interval is located well within the range of X-values—that is, between the minimum ($X = -0.39$) and maximum value of the centered founder's absolute equity stake ($X = 0.51$). Figure 1 provides a plot of this relationship. Thus, our data support an inverted U-shaped relationship between the founder's equity stake and subsequent identification with their team consistent with Hypothesis 1.

In Hypothesis 2, we postulate that the founder's perception of team performance moderates the inverted U-shaped relationship between the size of their equity stake and their subsequent level of identification with the founding team, such that at higher levels of perceived team performance, the inverted U-shape is more accentuated than at lower levels of performance. Thus, we consider the interaction between the squared term of the founder's equity-stake size and their perceptions of team performance (Model 3 of Table 2). The interaction term of perceived team performance and the squared term of the equity distribution is negative and significant ($\beta = -9.49$, $p = 0.03$). We plot this interaction in Figure 2 for two levels of perceived team performance—namely, at one standard deviation below the group mean (−0.40, dashed) and at one standard deviation above the group

TABLE 1 Correlations and descriptive statistics.

	Variables	M	SD	1	2	3	4	5	6	7	8	9	10
1	Identification w/the team, t + 1	5.49	1.09	1.00									
2	Identification w/the team, t − 1	5.31	0.98	0.73***	1.00								
3	Equity[a]	0.40	0.16	0.06	0.08	1.00							
4	Team performance	5.62	0.77	0.19*	0.07	−0.13	1.00						
5	Dominant shareholder[a,b]	0.16	0.37	0.13†	0.08	0.43***	−0.10	1.00					
6	Gender[a,c]	0.10	0.30	−0.05	−0.03	−0.02	0.18*	−0.03	1.00				
7	Entrepreneurial experience[a]	0.61	0.87	−0.19*	−0.14†	0.05	−0.03	−0.13	−0.09	1.00			
8	Work experience	7.28	7.27	−0.10	0.05	0.32***	0.11	0.09	0.09	0.16†	1.00		
9	Team age[a]	2.63	2.36	0.05	0.09	0.19*	−0.06	−0.04	−0.10	0.09	0.19*	1.00	
10	Team size[a]	2.56	0.67	0.02	−0.06	−0.39***	0.09	0.03	−0.22**	−0.04	−0.31***	−0.30***	1.00
11	Survival probability[a]	72.23	22.89	0.07	0.12	0.18*	0.37***	0.00	0.24**	−0.03	0.25**	0.15†	−0.37***

Note: $N = 156$ observations.

[a]Individual- and team-level measures were assigned down to the level of the observation for calculating the correlations.

[b]1 = *yes*, 0 = *no*.

[c]1 = *female*, 0 = *male*.

†$p < 0.1$.

*$p < 0.05$, **$p < 0.01$, and ***$p < 0.001$.

TABLE 2 Hierarchical linear model for the prediction of identification with the team (t + 1).

	Model 1			Model 2			Model 3			Model 4 with relative equity			Model 5 incl. Equity selection correction		
Variables	**β**	**SE**	***p***	**β**	**SE**	***p***	**β**	**SE**	***p***	**β**	**SE**	***p***	**β**	**SE**	***p***
Intercept	5.44	0.12	0.00	5.53	0.13	0.00	5.56	0.13	0.00	5.53	0.13	0.00	5.59	0.17	0.00
Control variables															
Lagged identification with the team (t – 1)	−0.15	0.11	0.15	−0.15	0.11	0.16	−0.11	0.10	0.29	−0.12	0.10	0.26	−0.12	0.10	0.27
Dominant shareholder[a]	0.38	0.30	0.20	0.53	0.35	0.13	0.57	0.35	0.11	0.72	0.38	0.06	0.57	0.35	0.10
Gender[b]	−0.21	0.38	0.58	−0.23	0.38	0.55	−0.21	0.38	0.57	−0.20	0.37	0.59	−0.26	0.38	0.49
Entrepreneurial experience	−0.19	0.13	0.14	−0.20	0.13	0.12	−0.19	0.13	0.14	−0.15	0.13	0.23	−0.21	0.13	0.10
Work experience	−0.02	0.02	0.35	−0.02	0.02	0.31	−0.02	0.02	0.31	−0.02	0.02	0.27	−0.02	0.02	0.31
Team age	0.03	0.05	0.50	0.03	0.05	0.49	0.04	0.05	0.41	0.04	0.05	0.40	0.03	0.05	0.59
Team size	0.05	0.18	0.78	0.10	0.19	0.59	0.08	0.19	0.68	0.05	0.20	0.81	0.00	0.19	0.99
Survival probability	0.00	0.01	0.34	0.01	0.01	0.20	0.01	0.01	0.26	0.01	0.01	0.26	0.00	0.01	0.40
Inverse Mills ratio (equity)													−0.14	1.19	0.90
Main effect															
Equity				0.42	0.85	0.62	0.43	0.85	0.61				0.19	0.86	0.83

(Continues)

TABLE 2 (Continued)

Variables	Model 1			Model 2			Model 3			Model 4 with relative equity			Model 5 incl. Equity selection correction		
	β	SE	p	β	SE	p	β	SE	p	β	SE	p	β	SE	p
Equity squared				−4.49	2.38	0.06	−5.53	2.45	0.02				−5.26	2.43	0.03
Rel. equity										−0.31	0.89	0.73			
Rel. equity squared										−4.69	2.13	0.03			
Moderation effect															
Team performance							0.27	0.12	0.03	0.26	0.12	0.03	0.26	0.13	0.04
Equity × team performance							1.81	1.07	0.09				2.29	1.96	0.05
Equity squared × team performance							−9.49	4.42	0.03				−10.11	4.53	0.03
Rel. equity × team performance										1.37	1.00	0.17			
Rel. equity squared × team performance										−8.02	3.42	0.02			
Pseudo R^2	0.10			0.13			0.14			0.15			0.16		

Note: Number of observations = 156; number of individuals = 82; number of teams = 50.

[a]1 = *yes*, 0 = *no*.

[b]1 = *female*, 0 = *male*.

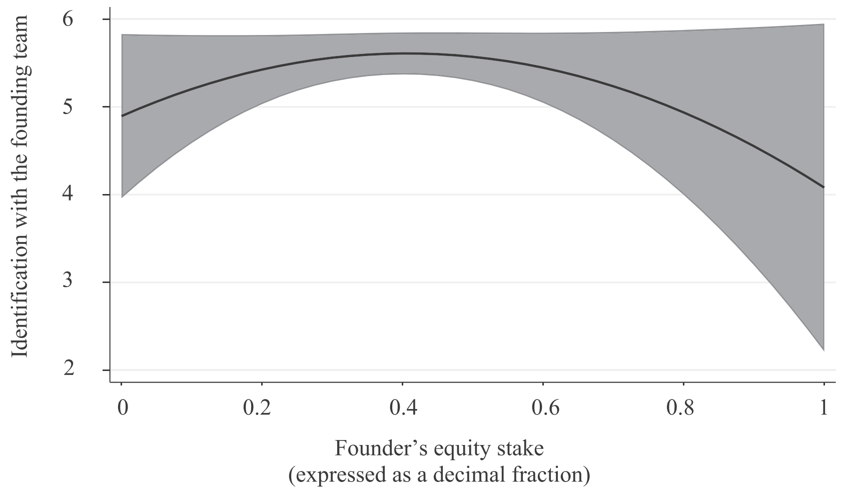

FIGURE 1 Effect of the size of a founder's equity stake on their subsequent identification with the founding team (incl. 95% confidence interval). Notes: As the founder's equity stake is a meaningful value and can be interpreted intuitively, we refrained from using the centered value in the figure above. The untransformed turning point in our data is located at X = 0.43, which indicates that a maximum level of identification with the team is reached with an equity stake of 43%. However, all statistics were computed with the grand mean centered values. Regarding the distribution of our sample, 56.1% of the individuals (46 founders) lie below the turning point (<0.43) and 43.9% of the individuals (36 founders) lie above the turning point (>0.43). 84.16% of the cases lie within one standard deviation of the mean.

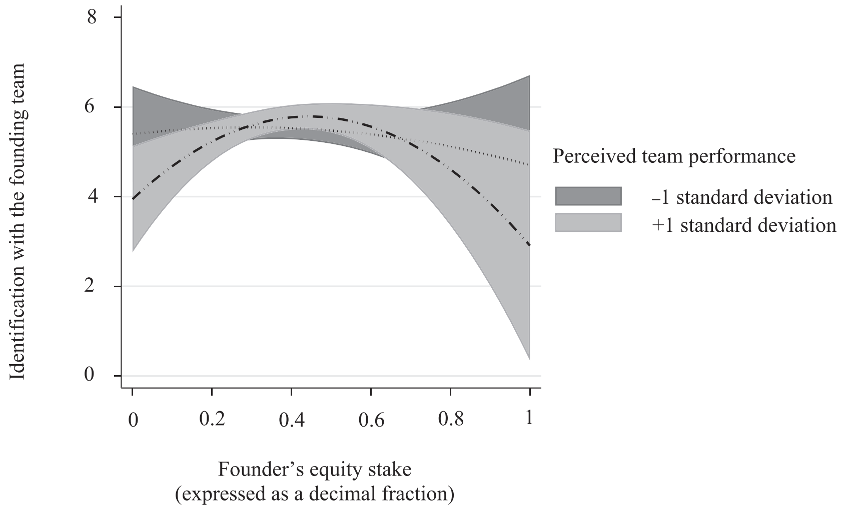

FIGURE 2 Effects of a founder's equity stake on their subsequent identification with the found in team in contexts of high and low perceived team performance (incl. 95% confidence intervals). Notes: As the founder's equity stake is a meaningful value and can be interpreted intuitively, we refrained from using the centered value in the figure above. However, all statistics were computed with the grand mean centered values.

mean (0.40, solid). The plot shows that the inverted U-shaped relationship is flatter for lower levels and more accentuated for higher levels of perceived team performance. This pattern supports Hypothesis 2.

Robustness checks and additional analyses

To check the robustness of our results, we test the full model using an alternative operationalization of the size of a founder's equity stake. Drawing on Hellmann et al. (2019), we calculate the relative equity stake of each founder in a founding team by dividing the absolute value of the founder's equity stake by the total amount of equity held within the founding team. The results, displayed in Model 4 of Table 2, are fully consistent with our original findings relying on the founder's absolute equity stake.

Next, because endogeneity issues can pose an issue in empirical management research (Hamilton & Nickerson, 2003), we correct for the issue in an additional robustness check. Endogeneity issues may arise when a founder's make decisions based on how they expect that their choice impacts future performance. As a result, unobservable factors or self-selection might impact both the founder's equity stake and their subsequent identification with the team. Similarly to Hellmann and Wasserman (2017) who estimate a two-stage model to address potential endogeneity issues, we built on Heckman (1979) to estimate the two-stage model. In a first step, we predicted the size of a founder's equity stake in a probit regression model using a founder's contributions to business development—a variable that should be linked to the founder's equity stake, yet should not affect the founder's identification with the team—as a function of our predictor and control variables.[4] We dummy-coded a founder's contributions to business development from the interviews at t_0. We chose the variable, because we assume that founders contributing to the business development of their venture carry greater responsibility in finding a suitable business model and, thus, own a greater equity stake (e.g., Hellmann & Wasserman, 2017). We check this theoretical assumption empirically and find that a founder's contributions to business development is indeed significantly related to the size of a founder's equity stake ($r = 0.20$; $p = 0.01$). Further, as is necessary according to Heckman (1979), it is unrelated to our dependent variable, a founder's subsequent identification with the team ($r = -0.10$; $p = 0.21$). As the second step, we use the predicted size of a founder's equity stake stemming from the first-stage model to calculate the inverse Mills ratio (Heckman, 1979). Finally, we implement the resulting inverse Mills ratio as a predictor into our full model, which is displayed in Model 5 of Table 2. The Mills ratio is not significant, and its inclusion does not change our results, which suggests that potential endogeneity issues are unlikely to substantially bias our findings.

Moreover, we corroborate our results by including additional control variables at the individual and venture levels. Since prior studies have shown the impact of being a CEO on both equity ownership (Hellmann & Wasserman, 2017) and identification (Howard et al., 2021), we test our model controlling for whether the founder is the CEO. We dummy-coded the variable from the interviews at t_0. In addition, we rule out that a venture's age (measured in years), stage (Kazanjian, 1988), industry (dummy variable capturing high-tech industry), or performance (dummy variable capturing sales) impacts our results. We survey all three variables at t_1. Despite adding the variables into the full model (Model 3), the results remain consistent with our original findings.[5]

Finally, to also empirically test for the relevance of our participants' identification with the founding team in our sample, we checked if identification was related to founder exits from

[4]We excluded the control variable indicating whether a founder is the dominant shareholder when predicting the size of a founder's equity stake, as being the dominant shareholder perfectly predicts a founder's equity stake.

[5]Results are available from the first author.

the team (DeTienne, 2010; Wennberg et al., 2010) as well as the failure of the venture (Jenkins et al., 2014; Shepherd, 2003) 2 years after the end of our study. We collected the data on team member exits by relying on the profiles of the participants on career platforms, such as LinkedIn. Moreover, we checked the ventures' websites and social media to find if the ventures still existed. In case of doubt, we called the ventures to confirm that participants had exited/were still members of the founding team and that ventures still existed. Consistent with our reasoning that a founder's lower levels of identification with the founding team, that is, our dependent variable, is associated with a sense of continuity and stability in the team (Rapp & Mathieu, 2019) and, thus, likely to be connected to more team member exits, we found that those founders who left the venture 2 years later showed significantly lower levels of identification with the founding team as compared to those who were still with the venture after 2 years, $t(137) = 1.87$, $p < 0.05$. Moreover, consistent with the idea that identification with the founding team is connected to team (Blatt, 2009) and the venture (Kollmann et al., 2020) performance, we also found that founders from ventures that have failed within 2 years after our study showed significantly lower levels of identification with the team as compared to those whose venture has still survived 2 years later, $t(137) = 1.65$, $p < 0.05$. While we acknowledge that team member exit (e.g., DeTienne, 2010; Hellerstedt et al., 2007; Wennberg et al., 2010) and venture failure (e.g., Gimeno et al., 1997; Linder et al., 2020; Yli-Renko et al., 2020) can be driven by multiple causes, this finding is consistent with our argument that identification with the founding team is indeed an important construct to understand team and venture development.

DISCUSSION

In this study, we build on psychological ownership theory (Pierce et al., 2001, 2003) to understand how the size of a founder's equity stake impacts their identification with the founding team. We theorize and find that the size of a founder's equity stake has an inverted U-shaped relationship with their subsequent identification with the founding team. By drawing on the notion of equity as a team-based reward, we also demonstrate that team performance moderates the curvilinear relationship between a founder's equity stake and their subsequent identification with the team. Our study offers novel theoretical insights for the literatures on team identification, particularly in the context of founding teams, and equity and psychological ownership.

Theoretical implications

First, we contribute to the literature on team identification, especially in the context of founding teams (Blatt, 2009; Cardon et al., 2017). Understanding what triggers members' identification with the founding team is important because it represents a unifying force that allows members to act in accordance with their team's norms, values, and interests (Dukerich et al., 2002). Indeed, Blatt (2009) describes founding team identification as one integral part of the development of founding teams. She suggests that contracting can help build up identification in founding teams because it shapes the team members' “sense of a legal, financial, and social boundary around the team, thereby spurring a stronger sense of identification within the team” (Blatt, 2009, p. 543). Thus, boundaries provided by contracts allow the team to develop an understanding of who is part of the team and under which conditions. Extending these ideas, our theorizing and findings suggest that it is not the mere existence of a contract that shapes a founder's identification with their founding team; rather, the *terms* of the contract—that is, how much equity is owned by each founder—shape their identification. Thus, while prior work emphasizes that the boundaries *around* the team allow the founder to distinguish their team from other entities and thus develop high identification with the team, our key contribution is that we demonstrate that the boundaries *within* the team also play an important role in developing members' identification with the founding team.

Further, we more generally contribute to the literature on team identification and its antecedents (Dutton et al., 2010; Johnson & Avolio, 2019). Prior work on team identification has found a team's demographic structural characteristics to play an important role in creating identification with the team (Bezrukova et al., 2009; Kearney et al., 2009; Kearney & Gebert, 2009). In the present study, we show how also negotiated structural characteristics, for example, the incentive structure, can foster a member's identification with team, and thus, help to establish the unifying force. Depending on the size of the incentive and—as a result—its psychological consequences, a member's identification with the team varies. Building on this finding, future research can examine whether negotiated structural characteristics help team members to overcome potential faultlines resulting from demographic structural characteristics.

Our work also highlights that a team member's identification with the team is context-dependent and varies depending on a team's performance. Hence, consistent with the work by Blatt (2009) suggesting that contracting is particularly important under conditions of novelty, future research could also explore whether novelty might be another contingency in the curvilinear relationship between a founder's equity ownership and their subsequent identification with the founding team. For example, novelty might give rise to even more responsibility, care, and concern for the venture because it represents a challenging condition for new ventures (Jennings et al., 2009), and founders might want to compensate for these challenges (Amason et al., 2006). Alternatively, novelty might also intensify possessiveness and territoriality because it reduces the predictability of the venture's development (Shepherd et al., 2000) and founders might strive to gain more control by engaging in territorial behaviors (Brown et al., 2005). Thus, our paper provides an avenue for future research to further understand the important construct of founding team identification and how it emerges in founding teams.

Next, our study extends prior research on equity ownership in entrepreneurial ventures. Past research has suggested that founders strive for a large equity stake (Hall & Woodward, 2010) and that more equity ownership is beneficial for them (Bitler et al., 2005). Our study challenges this assumption by theorizing on the potential consequences of psychological, as compared to legal, ownership. Building on the two sides of psychological ownership described in psychological ownership theory, we theorize and find a curvilinear relationship between the size of a founder's equity stake and their subsequent identification with the founding team. Therefore, we demonstrate that considering the psychological consequences of ownership in a social context can lead to a more nuanced picture of the role of ownership for individuals than prior work drawing primarily from a rational perspective. Specifically, in terms of building a stronger team, our study suggests that it might be beneficial for founders to own a medium level of equity, whereas an increase in ownership beyond this level comes at a social cost.

Furthermore, prior research has connected a founder's greater equity stake to higher levels of their entrepreneurial motivation and effort (Bitler et al., 2005; Hellmann & Thiele, 2015), which increases firm performance (Bitler et al., 2005). In the context of founding teams, higher levels of identification with the team might also result from increased feelings of belonging to the team, thereby improving firm performance (Ensley et al., 2002). However, in this context, our study indicates that the relationship between equity ownership and firm performance might not always be positive because greater equity ownership can diminish the founder's identification with the team and thus have negative implications for performance (Lin et al., 2017; Van der Vegt & Bunderson, 2005). Therefore, our work emphasizes the need to consider different effects of equity ownership in the context of solo founders versus founding teams to advance our theoretical understanding of how a founder's equity stake leads to entrepreneurial outcomes. Based on these insights, future theorizing should consider the different sides of psychological ownership simultaneously, as there seems to be a sweet spot that allows founders to balance their responsibility, care, and concern for the venture with the possessiveness and territoriality arising from their equity ownership.

More generally, our paper contributes to research on psychological ownership by answering the call from Dawkins et al. (2017) to "explore the optimal range of PO [psychological ownership] that is psychologically healthy and engaging" (p. 175). Given that we identify a curvilinear effect between the founder's psychological ownership of the venture and their identification with the founding team, there appears to be an optimal level of the equity stake and, thus, psychological ownership of the venture. Future research could focus on multiple outcomes, such as a founder's job satisfaction (Schjoedt, 2009), team efficacy (Courtright et al., 2015), and venture survival (de Jong & Marsili, 2015; Linder et al., 2020), to complement our findings.

Further, the review by Dawkins et al. (2017) highlights an important gap in psychological ownership research by pointing out that research has not yet sufficiently considered situational boundary conditions for the effects of psychological ownership. We identify perceived team performance as a potential boundary condition of the consequences of founders' psychological ownership. While a core tenet of psychological ownership theory is that a possession is valuable to its owner (Pierce et al., 1991, 2001), we argue that the effect of psychological ownership varies depending on the expected (rather than actual) economic value of the possession. Future research could build on our findings and include other, future-oriented boundary conditions impacting the value of the possession, such as the growth ambitions of the founding team (Estrin et al., 2022), or situational characteristics that can affect the probability that the desired outcome is achieved, such as environmental hostility reducing the venture's chances of survival (Elbanna & Child, 2007).

Limitations and directions for future research

While we carefully designed our study to avoid typical shortcomings, such as common method bias and simultaneity, some limitations still remain. First, although our study is longitudinal, it is restricted to two measurement points each for the independent and dependent variables. Focusing on a rather short time frame allowed us to limit the role of major disruptive developments that many founding teams experience during their early years, such as turnover of team members and changes in equity distributions within founding teams. However, changes in equity distribution (Hellmann et al., 2019) as well as vesting agreements (Kagan et al., 2020) represent an interesting angle to understand a founder's identification with the team in future research. Future research could add more measurement points to examine dynamism in the development of the venture as well as the founders' equity stakes.

Second, even though we did not directly measure psychological ownership, we note that equity ownership is an established antecedent of psychological ownership: Studies have shown the close connection between founder ownership and resulting feelings of ownership (e.g., Ikävalko et al., 2010; Lahti et al., 2019). Future research could directly measure psychological ownership, as well as the two sides that psychological ownership theory ascribes to it.

Third, we drew on founders' perceptions of their team. While the founders' perceptions of their team are crucial to understanding their attitudes and behaviors towards it (e.g., Breugst et al., 2015) and likely shape important team and venture outcomes (El-Awad et al., 2022; Hmieleski & Cole, 2022), an objective measure of team or firm performance might have represented a more objective indicator of the potential future value of a founder's equity stake. In future research, it would be particularly interesting to compare the role of the objective and perceived (future) value of the equity stake to understand what has a stronger influence on the outcomes of ownership. In addition, even though the founder's perception is particularly important to understand how team identification emerges and, thus, affects the development of the team and the venture over time (Burton & Beckman, 2007), future studies can also explore how it is related to relational and collective team identification. Such a multilevel understanding of identification in the context of entrepreneurial ventures can provide more holistic insights into how founders impact their social environment.

CONCLUSION

Our study complements work on equity ownership by theorizing on the role of psychological ownership in the relationship between the size of a founder's equity stake and their identification with the founding team. We theorize and find that a founder's equity stake has an inverted U-shaped relationship with their subsequent identification with the founding team. A medium level of equity ownership appears to be optimal for a founder's identification with the team. Perceived team performance accentuates this relationship, which is consistent with the idea that equity is a team reward. We hope that our study inspires future work on team identification in founding teams and equity ownership including its psychological consequences.

CONFLICT OF INTEREST STATEMENT

The authors have declared no conflict of interest.

ACKNOWLEDGEMENTS

Open access funding provided by Ecole Polytechnique Federale de Lausanne.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

ETHICS STATEMENT

All data in the study involving entrepreneurs and their ventures were collected and analyzed with written informed consent by the participants.

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How to cite this article: Weissenböck, E., Breugst, N., Patzelt, H., & Dibbern, R. (2023). Equity ownership and identification with the founding team. *Applied Psychology*, e12515. https://doi.org/10.1111/apps.12515