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Can prosocial motivation harm entrepreneurs' subjective well-being?

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ABSTRACT

Entrepreneurship research on prosocial motivation has outlined its positive impact on well-being, but still little is known about its power, which may have deleterious personal consequences under certain conditions. In this study, we ask whether prosocial motivation can harm entrepreneurs' subjective well-being when they run a commercial venture. Embedded within a contingency perspective informed by self-determination theory, we build on longitudinal survey data to explain the effect of prosocial motivation on entrepreneurs' overall life satisfaction. Our analysis demonstrates that prosocial motivation has a negative effect on entrepreneurs' life satisfaction due to increased levels of stress. However, our findings show that the negative effect of prosocial motivation dissipates when perceived autonomy at work is high compared to when it is low. Overall, our research raises questions on the role of prosocial motivation for entrepreneurs' subjective well-being and, in particular, discusses its potential "dark side" in the context of commercial entrepreneurship.

Executive summary: Can there be a "dark side" in helping others? If so, how can we better understand under what conditions it emerges? Entrepreneurship research conventionally presents prosocial motivation as a positive driver for social venture creation and entrepreneurs' well-being. However, we have little knowledge about the consequences of prosocial motivation when we move outside the social entrepreneurship context. When prosocially motivated entrepreneurs lead a commercial venture, they face the difficult task of balancing the desire to help others with the financial requirements of the business. The challenge of simultaneously accomplishing commercial and prosocial goals can result in a stressful experience that is detrimental to the entrepreneur's well-being. In this study, we ask whether and under what circumstances prosocial motivation can harm entrepreneurs' well-being.

Embedded in a contingency perspective informed by self-determination theory, this article expands our knowledge on the effects of prosocial motivation in the context of commercial entrepreneurship. We draw from original longitudinal survey data on 186 entrepreneurs in the United Kingdom to demonstrate that prosocial motivation causes entrepreneurs stress and through that stress has a negative effect on their life satisfaction. We also show that the negative

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effect of prosocial motivation diminishes when the degree of autonomy entrepreneurs perceive in the pursuit of daily work tasks is high. To explore the uniqueness of the entrepreneurial context, we run a comparative analysis with a sample of 544 employees. This analysis confirms that stress fully mediates the negative relationship between prosocial motivation and subjective well-being, but for employees, this negative effect disappears when their level of intrinsic motivation—the desire to expend effort based on enjoyment of the work itself—is high.

Building on our findings, we generate several important contributions. First, we help develop an understanding of the "dark side" of prosocial motivation by demonstrating that under certain circumstances, the desire to help others can be detrimental to entrepreneurs' subjective well-being. Second, we expand knowledge about the link between prosocial motivation and well-being by considering the boundary conditions (perceived autonomy and intrinsic motivation) that influence the dynamics of their relationship. Third, we set the stage for further investigations that aim to clarify the relationship between motivation and perceived autonomy and its effect on personal outcomes across different work domains.

The key insight of the study is that prosocial motivation creates a dilemma for entrepreneurs when operating a commercial business such that the desire to help others outside the context of immediate work tasks can harm their personal well-being. We also find that the perception of autonomy is key for commercial entrepreneurs to be able to realize their prosocial motivation without creating stressful situations. Extending our understanding of the conditions that shape the relationship between prosocial motivation and well-being among entrepreneurs would help in developing a more holistic notion of prosocial business venturing, one that includes the role of both commercial and social enterprising activities in contributing to personal and societal well-being.

1. Introduction

Recent entrepreneurship research has emphasized the importance of entrepreneurs' prosocial motivation as a factor that not only benefits society but also improves entrepreneurs' own well-being (Miller et al., 2012; Shepherd, 2015). Prosocially motivated entrepreneurs create value in their communities (Moroz et al., 2018) by establishing new venturing activities that help others and alleviate the suffering of people who face challenging circumstances (Williams and Shepherd, 2016a, b). By doing so, these entrepreneurs can feel good about themselves and thus improve their own well-being (Grimes et al., 2013; Shepherd, 2015). The main body of entrepreneurship research on prosocial motivation refers to *social entrepreneurs* whose venture's core mission is to help others (e.g., Dacin et al., 2011; Farny et al., 2018; Markman et al., 2016; Zahra et al., 2009); however, *commercial entrepreneurs* also have varying degrees of prosocial motivation even when their social goals are not part of their venture's core mission (Shepherd, 2015). To our surprise, there is a dearth of insight into the effects of prosocial motivation in the context of commercial business venturing.

To date, there is some evidence to suggest that entrepreneurs with strong prosocial motivation are less likely to be successful in the development of a viable firm than entrepreneurs whose main work motivation is based on financial goals (e.g., Renko, 2013). The main argument put forward by scholars is that commercial entrepreneurs' goals to generate profit or value for the shareholders can be misaligned with, and thus make it challenging to pursue, their simultaneous desire to devote resources to helping others (Shepherd et al., 2015). Recent studies raise the potential for negative consequences of being prosocially motivated as an important avenue of future inquiry that can improve our understanding of the role of prosocial motivation in entrepreneurship (Bolino and Grant, 2016; Shepherd, 2015). Our study responds to this call by examining whether and under which conditions prosocial motivation has an impact on entrepreneurs' subjective well-being in the context of commercial venturing.

Our theoretical work is informed by Grant's (2008a) contingency perspective, which has been developed and increasingly applied to conceptualize the role of prosocial motivation within self-determination theory (SDT) (e.g., Gagné, 2014; Rigby and Ryan, 2018). Grant's SDT contingency perspective suggests that "prosocial motivation is a telic [as opposed to a paratelic] state in which the work is instrumental to [the] purpose or goal" of benefiting others (Grant, 2008a: 49) and that it contributes to employees' work performance and productivity. At the same time, Grant and his colleagues have increasingly emphasized that prosocial motivation can also negatively affect workers' performance as well as their psychological well-being because "when the desire to help others becomes a burden or outweighs one's motivation to fulfill more important job responsibilities," they "may take on too much, which could contribute to overload [and] stress (Bolino and Grant, 2016: 618; Grant, 2008a; Grant and Sumanth, 2009).

In this article, we examine the possibility that prosocial motivation adversely affects the well-being of entrepreneurs. Our central argument is that an entrepreneur's prosocial motivation—the desire to help others outside of the context of immediate work tasks—can be difficult to sustain in a self-directed manner (Bolino and Turnley, 2005; Ryan and Deci, 2000; Weinstein and Ryan, 2010). When driven by the desire to help others, commercial entrepreneurs might pursue too many activities, which can deplete the personal resources (Baumeister et al., 2007) that are important in achieving both firm goals and personal prosocial goals (Grant and Sumanth, 2009). Considering that prosocial motivation pushes individuals toward wanting to achieve their targets (Grant, 2008a; Weinstein and Ryan, 2010), entrepreneurs' inability to simultaneously realize their prosocial goals as well as those of their firm can create a stressful experience and impact their well-being (Shepherd, 2015).

Following Deci et al.'s (2001) differentiation between eudemonic well-being—relating to the holistic engagement of activities that

afford personal development—and hedonic well-being—relating to drive fulfillment in terms of the level of motivation to pursue goals—we focus on the impact of prosocial motivation on subjective well-being, which we define as the general level of life satisfaction (Diener et al., 1985; Van den Broeck et al., 2016). We specifically argue that strong prosocial motivation can cause increased levels of stress for commercial entrepreneurs, which in turn reduces their overall life satisfaction (Baron et al., 2016). Thus, we posit that the frequently found positive effect of prosocial motivation on subjective well-being can transform into a negative effect (Vansteenkiste et al., 2010; Van den Broeck et al., 2016). However, our study further argues that although the pursuit of prosocial tasks may create goal conflict between the desire to help others vis-à-vis focusing on the firm's core activities, the relationship between prosocial motivation and subjective well-being can vary depending on the entrepreneur's level of intrinsic work motivation—a proxy to capture the desire to expend effort based on enjoyment of the work itself (Ryan and Deci, 2000)—and the degree of autonomy perceived in the pursuit of daily work tasks—a proxy to capture entrepreneurs' perceived control of the external work environment (Deci and Ryan, 2000; Ryan and Connell, 1989). Accordingly, while we hypothesize that entrepreneurs' prosocial motivation adversely affects their life satisfaction by increasing stress, we also maintain that this relationship is weaker if entrepreneurs are intrinsically motivated by their work (Shir, 2015) or if they perceive themselves to have a high degree of autonomy in their work (Kautonen et al., 2010; Lumpkin et al., 2009).

Our empirical work builds on original longitudinal survey data, which comprises three waves collected at two-month intervals from 186 entrepreneurs in the United Kingdom. We follow Hayes (2013) in using path modeling with moderated mediation effects to examine how prosocial motivation affects life satisfaction via stress under the moderating effects of intrinsic motivation and perceived autonomy at work. In order to explore whether the effects we find are unique to entrepreneurs, we run a comparative analysis with a sample of 544 employees based on data collected at the same time. We find that prosocial motivation exerts a negative effect on life satisfaction that is fully mediated by stress. While this main effect is the same for entrepreneurs and employees, the groups differ in the moderated effects. For entrepreneurs, the significant negative effect of prosocial motivation disappears when autonomy at work is high compared to when it is low, whereas employees experience a similar effect when their intrinsic motivation is high rather than low.

Based on these findings, we generate several contributions. First, we add to the body of entrepreneurship research on prosocial motivation (Miller et al., 2012; Shepherd, 2015) by complementing the dominant focus on the “bright side” with the “dark side” of its potential effect at the individual level. Building on time-lagged multi-sample data, our results particularly extend the theoretical work of Bolino and Grant (2016) and Shepherd et al. (2015), which asks whether and under which circumstances entrepreneurs' motivation to do good for others creates negative consequences for themselves. Second, we expand recent research on entrepreneurship and well-being (Baron et al., 2016; Kautonen et al., 2017; Shir et al., 2018; Stephan, 2018) by elaborating on the role of entrepreneurs' prosocial motivation in their subjective well-being and by developing our understanding of the boundary conditions under which prosocial motivation influences their general life satisfaction. Hence, in line with Stephan (2018: 35), we also raise the importance of going beyond the general acknowledgement that entrepreneurs consistently report high(er) levels of life satisfaction, emphasizing that “before we celebrate this finding, it seems worth unpacking the micro-foundational processes behind it.” Third, we discuss new avenues for the application of SDT in further developing the understanding of the relationship between (prosocial) motivation and perceived autonomy as well as its effect on personal outcomes across different work domains (Van den Broeck et al., 2016; Vansteenkiste et al., 2010; Weinstein and Ryan, 2010).

2. Theory and hypothesis development

2.1. Prosocial motivation, stress, and life satisfaction

Our study draws on Grant's (2008a) contingency perspective, which has been used to develop an understanding of the role of motivation within self-determination theory (SDT) (e.g., Gagné, 2014; Rigby and Ryan, 2018; Strauss and Parker, 2014). In essence, Grant's perspective suggests that prosocial motivation has a positive impact on workers' job-related outcomes, such work performance, productivity, and persistence. At the same time, Grant builds on Bolino and Turnley's (2005) insights to theorize on the less explored psychological costs of prosocial motivation, suggesting that when individuals expend additional effort at work to fulfill their motivation to help others, they can experience work overload and increased levels of stress (Grant, 2008a). Our study focuses on this less explored “dark side” of prosocial motivation (Bolino and Grant, 2016) by examining the possibility that prosocial motivation adversely affects the well-being of entrepreneurs in the commercial business context. For our research purpose, the SDT contingency perspective provides a useful theoretical explanation for the potential conflict between entrepreneurs' prosocial motivation and their firm's need to generate income and shareholder value. The perspective also explains how the simultaneous pursuit of personal prosocial goals and the commercial objectives of the firm can cause stress and reduce the entrepreneur's well-being. In particular, we build on the hedonic (as compared to eudemonic) well-being view in SDT (Deci et al., 2001) to differentiate between the *target* and the *source* of prosocial motivation at work (Weinstein and Ryan, 2010) and their link to an individual's general level of satisfaction (as opposed to frustration) (Van den Broeck et al., 2016).

The *target* of motivation refers to the extent to which an individual's expectation of the outcome of a motivation is *self-directed*, or targeted at personal work tasks, as opposed to *other-directed*, or targeted at goals outside of the context of immediate work tasks (Brief and Aldag, 1977; Ryan and Deci, 2000). Following the SDT contingency perspective, prosocial motivation is other-directed (Grant, 2008a) and therefore tends to decrease individuals' ability to regulate the resources they require to act on their prosocial motivation, whereas motivation directed at oneself tends to increase this ability (Vansteenkiste et al., 2010). The *source* argument indicates whether prosocial motivation is developed internally by the individual or imposed on them externally by other people. This is

important for understanding that externally imposed prosocial motivation is more likely to create pressure (Grant, 2008a) and impair an individual's subjective well-being (Van den Broeck et al., 2016). In the following, we elaborate on the target-of-motivation argument, which leads to Hypotheses 1 and 2, followed by a specification of the source-of-motivation argument, which results in Hypotheses 3 and 4.

Based on the target-of-motivation argument, we propose that prosocial motivation can negatively affect entrepreneurs' life satisfaction by increasing their level of stress. In particular, we argue that when entrepreneurs are prosocially motivated they are generally outcome-focused, meaning that they have a strong desire to achieve both their firm's goals and their personal social goals (Gagné and Deci, 2005). Accordingly, prosocially motivated entrepreneurs are likely to expend effort to help others despite the fact that prosocial goals are not part of their venture's mission. However, the desire to simultaneously achieve personal prosocial goals and those of their firm can drive the entrepreneur to engage in too many activities (Grant, 2008a), thereby making it difficult to regulate personal resources, such as the attention necessary to focus on goals, which weakens the individual's task performance (Baumeister et al., 2007; Tice et al., 2007). For entrepreneurs, this implies that prosocial motivation—which by definition is directed at others—can cause resource depletion. This can not only impair the entrepreneur's achievement of her or his immediate work goals but can also overstretch the personal resources needed to reach personal prosocial goals. Given that prosocial motivation pushes individuals to complete goals (Grant, 2008a; Batson, 1987), an entrepreneur's potential inability to expend resources to pursue both firm targets and prosocial targets can create a stressful experience (Bolino and Grant, 2016; Shepherd et al., 2015).

This proposition finds indirect support in previous empirical studies. Research has shown that prosocial motivation can increase the number of hours of overtime and, under certain circumstances, lead to work overload and stress (Bolino and Turnley, 2005; Grant, 2008a). Similarly, prosocial motivation has been found to become a burden at work in that it prevents individuals from performing their principal work tasks (Grant, 2008b; Grant and Sumanth, 2009), such as those necessary for entrepreneurs to ensure their firm's commercial viability (Bolino and Grant, 2016; Renko, 2013). Entrepreneurs who feel compelled to help others and who take on too much work both related and unrelated to their firm's principal business goals are likely to face internal distress (Ryan and Deci, 2000; Vansteenkiste et al., 2006) and increased feelings of stress in life (Bolino and Grant, 2016; Vansteenkiste et al., 2006, 2010). In addition, paying attention to a wide range of external stimuli, which is common with prosocial motivation, is not without cost, especially if the entrepreneur's venture goals and personal prosocial goals would be better served by adopting a narrower focus. Prior studies suggest that people with narrowly defined tasks or challenging activities will have lower levels of perceived stress than their counterparts who spread their efforts across a wide variety of activities (Kahn, 1990; Rich et al., 2010).

In summary, we propose that entrepreneurs' motivation to help others makes it difficult for them to simultaneously achieve their prosocial and commercial goals, which in turn causes stress (Bolino and Grant, 2016; Bergeron et al., 2013). Therefore, we hypothesize the following:

Hypothesis 1. Entrepreneurs' prosocial motivation is positively associated with stress.

We next propose that prosocial motivation can impair individuals' general life satisfaction by causing increased levels of stress. Prior research suggests a negative relationship between stress and life satisfaction (Diener, 1984; Diener et al., 2012; Stephan, 2018). Following the *target* argumentation (Vansteenkiste et al., 2010), we previously suggested that entrepreneurs could experience stress when pursuing prosocial motivations directed to benefit others. Because it is an individual's decision to act upon such motivations, she or he is likely to accept the concomitant high stress levels even for long periods of time (Hiel and Vansteenkiste, 2009), which in turn can impair her or his overall life satisfaction (Ryan et al., 2008; Van den Broeck et al., 2016). This argument finds support in prior entrepreneurship research. Baron et al. (2016) demonstrate that entrepreneurs' general level of life satisfaction depends on their perceived stress levels, while Shir (2015) suggests that motivations targeted at others can be negatively associated with entrepreneurs' life satisfaction. Against this backdrop, we propose that entrepreneurs' prosocial motivation is negatively associated with their subjective well-being, with prosocial motivation decreasing levels of life satisfaction through increasing levels of stress. Therefore, we offer the following hypothesis:

Hypothesis 2. Stress mediates the negative effect of prosocial motivation on life satisfaction.

2.2. The moderating effects of intrinsic motivation and autonomy

Next, we build on the *source* argumentation in the SDT contingency perspective (Grant, 2008a) to develop boundary conditions for the hypothesized link between prosocial motivation and subjective well-being. Deci and Ryan (2001: 156) suggest that from a hedonic point of view, SDT assumes that well-being is associated with people's goal pursuits but that those “goal pursuits should be autonomous and integrated to the self in order to yield greater wellness.” In the entrepreneurship context, Shir (2015) proposes that motivations prompted by sources that are self-directed (e.g., learning and personal growth) are positively associated with well-being, whereas entrepreneurial motivations prompted by sources that are not self-directed (e.g., from external non-firm-related stakeholders) are negatively associated with well-being. Following this logic, we theorize on two boundary conditions: intrinsic work motivation and perceived autonomy at work[1] (Deci and Ryan, 2000; Vansteenkiste et al., 2010; Weinstein and Ryan, 2010).

[1] In this study, we emphasize an SDT contingency perspective of hedonic well-being to focus on intrinsic motivation and autonomy as boundary conditions of the relationship between prosocial motivation and life satisfaction. Thus, we do not capture satisfaction of the *needs* for autonomy, competence, and relatedness as outcomes that would be emphasized by an SDT perspective of eudemonic well-being.

Consistent with the argument in SDT on the source of motivation, we understand intrinsic motivation as the desire to expend effort based on personal interest and positive emotions related to the work tasks at hand (Gagné and Deci, 2005). Prior research that builds on SDT has found that intrinsic motivation contributes to well-being, whereas extrinsic motivation is unrelated to wellbeing (Vansteenkiste et al., 2010). Following this line of argument, SDT suggests that when intrinsic motivation is high, prosocial motivation is likely to be associated with positive outcomes, such as persistence, performance, and well-being (Grant, 2008a; Weinstein and Ryan, 2010). In contrast, when motivation relies on external sources, prosocial motivation is likely to relate to the adoption of behaviors that are incongruent with well-being (Kasser and Ryan, 1996; Ryan et al., 2006).

Applied to the context of entrepreneurship, our main rationale is that when entrepreneurs have high levels of intrinsic motivation, their prosocial motivation can be characterized by enjoyment, meaning that they feel that their behavior is beneficial to their own goals because they enjoy the process of working and appreciate the outcome of helping others (Gagné and Deci, 2005; Ryan and Connell, 1989). In the presence of low intrinsic motivation, prosocially motivated entrepreneurs do not enjoy the process of working (Grant and Berry, 2011), but because of their prosocial motivation, they can feel pressured to work to benefit others despite prosocial goals not being part of their firm's core mission (Ryan and Connell, 1989). Therefore, when entrepreneurs feel they must contribute at a level beyond that which they find interesting and enjoyable, they will be more likely to experience stress, which in turn can negatively influence their overall life satisfaction (Bolino and Turnley, 1999). Instead, high levels of intrinsic motivation can make entrepreneurs' activities aimed at helping others feel less self-sacrificing, which has been suggested to improve subjective well-being (Vansteenkiste et al., 2010). Because these entrepreneurs enjoy their work, prosocial motivation manifests more as a desire to help than as a sense of pressure to help (Grant, 2008a). As such, helping others is mainly experienced as an enjoyable process and less as a means to achieve a meaningful goal (Batson, 1987).

In conclusion, we propose that intrinsic motivation is an important boundary condition for the effect of prosocial motivation on life satisfaction via stress:

Hypothesis 3. Intrinsic motivation moderates the relationship between prosocial motivation and life satisfaction via stress such that the negative effect of prosocial motivation on life satisfaction is weaker when intrinsic motivation is high and stronger when intrinsic motivation is low.

We utilize the logic of the *source* of motivation to develop another moderating hypothesis, which pertains to the degree to which entrepreneurs perceive autonomy at work. Here, the core premise of SDT is that individuals want to have free choice over how and when they complete their daily work tasks rather than let themselves be driven by external forces (Ryan and Connell, 1989; Ryan and Deci, 2000). Hence, while intrinsic motivation can explain whether prosocial motivation is influenced by one's general level of enjoyment at work, perceptions of autonomy at work help indicate whether prosocial motivation is shaped by one's general perception of being in control of daily work tasks (Weinstein and Ryan, 2010). Supported by a number of studies in various domains of life, SDT suggests that perceived autonomy at work is associated with a higher level of well-being (see Deci and Ryan, 2000). When an individual perceives autonomy at work, her or his prosocial motivation is likely to involve “the regulation of behavior with the experiences of volition, psychological freedom, and reflective self-endorsement” (Vansteenkiste et al., 2010: 118). In contrast, when an individual perceives limited autonomy at work, prosocial motivation is likely to involve “the regulation of behavior with the experiences of pressure and coercion to think, feel, or behave in particular ways” (Vansteenkiste et al., 2010: 118).

Following this logic, we propose that when entrepreneurs perceive high levels of autonomy at work, their prosocial motivation has a weaker negative—or even a positive—effect on life satisfaction via lower levels of stress. Our rationale for this proposition is that when entrepreneurs perceive more opportunities to choose how and when to complete their daily tasks, the goal to help others outside their immediate work tasks is less in conflict with achieving their work tasks than when they perceive that achieving daily work goals is not fully under their own direct control. In particular, when prosocial motivation is coupled with perceptions of

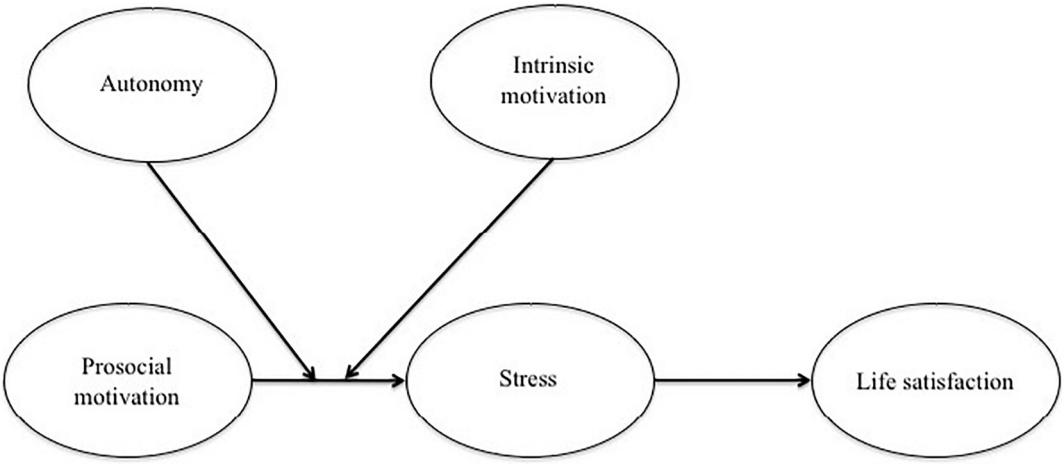

Fig. 1. Research model.

autonomy, entrepreneurs are likely to feel a sense of ownership over how, where, and when they want to help others, which in turn provides more flexibility to manage potential work overload (Koestner et al., 1984). Hence, perceived autonomy at work can mean that an entrepreneur's prosocial motivation is less stressful because she or he does not need to help others in order to obtain rewards or avoid punishment in their work environment (Elliot and Sheldon, 1998). As such, autonomy can also be critical for entrepreneurs to self-initiate and maintain socially important relationships, thus enabling them to better appreciate the personal benefits of prosocial behavior—which in turn has been suggested to improve subjective well-being (Vansteenkiste et al., 2010).

We conclude that perceived autonomy at work enables entrepreneurs to have more ownership over how their prosocial motivation unfolds, thus helping them to gain leverage over the personal value of prosocial motivation. As such, we expect this to weaken the potential stress-enhancing effect of prosocial motivation. Phrased more formally, we propose the following:

Hypothesis 4. Autonomy moderates the relationship between prosocial motivation and life satisfaction via stress such that the negative effect of prosocial motivation on life satisfaction is weaker when autonomy is high and stronger when autonomy is low.

Figure 1 illustrates the hypothesized model.

3. Data and methods

3.1. Data

We collected the data for this study in the United Kingdom using the proprietary Bilendi Panel, which is representative of the entire UK adult population. The data-collection strategy included three survey waves. Following Grant's (2008a) research on the effect of prosocial motivation, we collected our data at two-month intervals. The survey targeted all 525 individuals that the service provider could identify ex ante as being entrepreneurs as well as a random sample of 3,000 individuals (aged 25 to 65). We checked the current work status of all participants in the survey to ensure that we correctly identified those who were active entrepreneurs at the time of the survey. Consistent with our approach, the UK Standard Classification of Economic Activities (Industry Sections A–U) (SIC, 2007) was applied to limit the target sample to commercial entrepreneurs. Thus, we excluded respondents from the survey who—at the beginning of the questionnaire (in Wave 1)—classified their business activities as being part of Section Q, Human Health and Social Work Activities, which explicitly refers to prosocial activities, including *residential care activities*, *human health activities*, and *social work activities without accommodation* (see SIC, 2007: 225–229). In addition, we collected a sample of employees working at for-profit organizations as a robustness test to investigate the extent to which the relationships between prosocial motivation and subjective well-being are unique to the entrepreneurial context.

The first wave of the survey was conducted in late June and early July 2016 with 1388 eligible participants (response rate: 39% of the 3525 individuals contacted for the study). Entrepreneurs constituted 25% (353 individuals) and employees constituted 75% (1035 individuals) of the sample. The second wave targeted all 1388 participants from the first wave and was collected in early September 2016. We received responses from 228 entrepreneurs and 710 employees (response rate: 68% for both groups). Of those individuals, 186 entrepreneurs (response rate: 81%) and 544 employees (response rate: 77%) participated in the third wave in November 2016. In each wave, we ensured that the entrepreneurs were still operating the same business and that the employees were in the same jobs as in Wave 1.

Although the research agency that collected the data used weighting procedures in the sampling to ensure representativeness in Wave 1, we nevertheless assessed potential non-response bias post hoc using archival analysis (Rogelberg and Stanton, 2007). This process involved comparing respondents' basic demographic characteristics (i.e., age and gender) and characteristics of their firms (i.e., region, industry, and number of employees) with those of the UK small-business population (Office for National Statistics, 2016a and 2016b; Rhodes, 2016). This examination suggested that non-response bias was not an issue with this sample. Next, we examined potential attrition bias (Lynn, 2009; Taris et al., 2014) in terms of the baseline (Wave 1) values of the main variables in the analysis: life satisfaction, stress, prosocial motivation, and perceived autonomy. We compared the means of respondents who participated in all three waves of the survey to those who participated in two waves and to those who only participated in the first wave. The differences in the means of the four main variables between these groups are minor and not statistically significant (independent sample *t*-test scores range from 0.39 to 1.08 with associated *p*-values in the range of 0.28–0.70).

3.2. Measures

Our choice of measures for testing the research model (Figure 1) was primarily inspired by two studies. First, we followed Baron et al.'s (2016) research strategy to focus on the general level of life satisfaction as the outcome variable and the general level of stress as the mediator. Second, inspired by Grant's (2008a) research design, we focused on prosocial motivation as the independent variable and intrinsic motivation and autonomy as the moderator variables. Below, we provide a more detailed description of our measures.

3.2.1. Life satisfaction

We followed recommendations in the literature and measured participants' general level of life satisfaction by asking them to rate the following question on a scale from 0% to 100%: “Overall, how satisfied are you with your life?” (Binder and Coad, 2016; Lucas and Donnellan, 2012). A single-item measure of life satisfaction is consistent with the concept of life satisfaction as the component of subjective well-being that refers to the individual's own global assessment rather than criteria the researcher deems to be important (Diener, 1984; Shin and Johnson, 1978). Because individuals may place different values on different aspects of their life, it is

appropriate to use a general approach and ask them to provide an evaluation of their life as a whole without referring to specific possible elements of the construct that contribute to their judgment (Tatarkiewicz, 1976). Recent empirical research supports the reliability and validity of single-item life-satisfaction measures. For example, Lucas and Donnellan (2012) used the Stable Trait–Autoregressive Trait State (STARTS) technique, analyzed four major longitudinal datasets (the German Socio-Economic Panel Study, the British Household Panel Study, the Household Income and Labour Dynamics in Australia Study, and the Swiss Household Panel Study), and found support for the reliability of single-item life-satisfaction measures across these studies. Moreover, Cheung and Lucas (2014) compared single-item life-satisfaction measures with the more psychometrically established satisfaction-with-life scale. The authors found the two measures to be highly correlated and to yield similar correlations with theoretically relevant variables.

3.2.2. Stress

Following Baron et al. (2016), stress was measured using the 10-item perceived stress scale (PSS) adapted from the work by Cohen and his colleagues (Cohen et al., 1983; Cohen and Williamson, 1988). Sample items include ("In the last two weeks, how often have you …") "been upset because of something that happened unexpectedly," "felt nervous and stressed," and "been able to control irritation in your life?" Following Cohen et al.'s (1983) suggestion to include shorter time periods (e.g., one to four weeks) in PSS, we measured each item with a time reference of two weeks. The main argument for the shorter time period is that several weeks "should reflect any objective events that are still affecting respondents' stress levels" (Cohen et al., 1983: 393). In turn, consistent with our research model and our data collection at two-month intervals, Cohen and colleagues have demonstrated high predictive validity of PSS after eight weeks (Cohen et al., 1983; Cohen and Williamson, 1988). Each item of PSS was measured on a five-point rating scale anchored at *never* (1) and *very often* (5). The Cronbach's alpha coefficient for the scale is 0.86 (for both entrepreneurs and employees).

3.2.3. Prosocial motivation

We adopted Grant's (2008a) established four-item scale for prosocial motivation. Sample items include "I care about benefiting others through my work" and "It is important to me to do good for others through my work." The items were measured on a five-point rating scale anchored at *disagree strongly* (1) and *agree strongly* (5). The scale has a Cronbach's alpha of 0.92 (entrepreneurs) and 0.93 (employees).

3.2.4. Intrinsic motivation

Following Rich et al. (2010), we measured intrinsic motivation based on the Situational Motivation Scale (SIMS) (Guay et al., 2000), using *disagree strongly* (1) and *agree strongly* (5) as anchors. The SIMS comprises four factors reflecting the conceptualized constructs of self-determination theory (Deci and Ryan, 1985) based on which intrinsic motivation reflects one subscale. Sample items from the subscale intrinsic motivation includes "I think that this work is interesting" and "I feel good when doing this work." The Cronbach's alpha for the scale is 0.88 (entrepreneurs) and 0.92 (employees).

3.2.5. Autonomy at work

Consistent with recent psychology studies (e.g., Prem et al., 2017), we measured perceived autonomy in pursuing daily work tasks with a four-item scale adapted from Semmer et al. (1999). Sample items include "How often do you have opportunities to make your own decisions," which was measured on a five-point scale anchored at *never* (1) and *always* (5), and "To what extent are your work results under your direct control," which was measured on a five-point scale anchored at *not at all* (1) and *completely* (5). The scale has a Cronbach's alpha of 0.81 (entrepreneurs) and 0.78 (employees).

3.2.6. Control variables

In addition to respondents' demographic characteristics (i.e., gender, age, and education), we controlled for the size of the firm operated by the entrepreneurs and whether they had start-up experience prior to running their current firm (Uy et al., 2013). For the employee subsample, the specific control variables used include the number of years the individual has worked in the firm; whether the respondent occupies a managerial position; the size of the organization measured as the number of employees; and whether the respondent was engaged in corporate entrepreneurial activities, such as launching a new product, service, or process and/or setting up a new business unit (De Clercq et al., 2016; Monsen et al., 2010). Moreover, because previous research suggests that the length of vacation is negatively correlated with perceived level of stress (De Bloom et al., 2009), we controlled for the number of vacation days respondents had taken in the preceding two months (a logarithmic transformation was used in the analysis to correct for skewedness).

3.3. Analysis strategy

We opted for path analysis with maximum-likelihood estimation to test our hypotheses. This technique enabled us to test all our hypotheses in a single model (Williams et al., 2009). Moreover, the number of estimated parameters in a path model is smaller than in a full-fledged structural equation model, which is an advantage in the context of our sample of 186 entrepreneurs. We used lagged versions of the time-variant variables in the structural path equations such that the independent variables (prosocial motivation, autonomy at work, and intrinsic motivation) were taken from wave $t - 2$, the mediator (stress) from wave $t - 1$, and the dependent variable (life satisfaction) from wave t. Because we excluded individuals who had given up the business they ran in Wave 1 or changed to another job over the course of the survey, all the control variables except for the number of vacation days in the last two months are time invariant. Because a recent vacation—rather than a vacation more than two months earlier—is likely to have a

greater influence on stress and life satisfaction (De Bloom et al., 2009), we used the number of vacation days from $t-1$ in the equation pertaining to stress and the value from wave t in the equation pertaining to life satisfaction. The software package Stata 15 was used for the entire analysis.

3.4. Discriminant validity and common method bias

We performed a series of confirmatory factor analyses (CFAs) to ensure satisfactory discriminant validity for the four multi-item scales (i.e., stress, prosocial motivation, autonomy at work, and intrinsic motivation) before computing the index scores for the path models. The model specification where all items load on their intended factors shows satisfactory fit with the data (Hu and Bentler, 1999): the comparative fit index (CFI) scores are 0.97 (entrepreneurs) and 0.98 (employees), the standardized root mean squared residual (SRMR) index values are 0.08 (entrepreneurs) and 0.07 (employees), and the root mean square error of approximation (RMSEA) is 0.04 for both the entrepreneur and employee subsamples. Furthermore, the model shows good discriminant validity because its fit is superior to any alternative specification tested, such as allowing all items to load on a single factor or having the items of any two scales load on a single factor while the remaining items load on their intended factors. The differences in the chi-squared fit statistic are consistently highly significant ($p < 0.001$), thus in favor of the four-factor model where all items load on their intended factors.

Although we cannot exclude the possibility that common method bias (CMB) influenced our results, we reduced the likelihood of this occurring through a number of ex ante measures: we kept the questionnaire short (pilot-test participants timed the questionnaire at about 10 minutes); ensured respondent and firm anonymity; counterbalanced the question order; used different scale endpoints for the predictors and dependent variables; and collected the data for the independent variable, the mediator, and the dependent variables at different points in time (Chang et al., 2010; Podsakoff et al., 2003). In addition, we used the ex post statistical technique of an unmeasured common method factor to estimate the extent to which common method bias might be an issue in our model (Podsakoff et al., 2003). This is done by adding an unmeasured latent factor to the measurement model that loads on all observed variables in the model. Following Lowry et al. (2013), we constrained the indicator loadings in the common latent factor so as to make them equal to each other to ensure that the unstandardized loadings in the model results would be equal. Squaring the unstandardized loading on the method factor gives the percentage of common variance across all indicators, which should be less than 50% for common method variance not to be a concern in the analysis (Lowry et al., 2013). Our estimates indicate that the percentage of common method bias in the entrepreneur sample is 25%, while it is 35% in the employee sample. Our conclusion from the ex ante and ex post measures undertaken is that common method bias does not unduly influence the results of our study. Further details of the CFA and CMB analyses are available from the authors upon request.

Table 1
Descriptive statistics.

			Entrepreneurs		Employees	
	Min	Max	Mean	SD	Mean	SD
Life satisfaction (t)	0	100	62.88	24.92	66.96	23.42
Stress ($t-1$)	1	5	2.82	0.60	2.78	0.51
Prosocial motivation ($t-2$)	1	5	3.90	.79	3.87	0.71
Autonomy at work ($t-2$)	1	5	4.31	0.68	3.45	0.82
Intrinsic motivation ($t-2$)	1	5	3.83	0.80	3.42	0.88
Vacation in the last 2 months (days) (t)	0	56	3.67	6.16	3.32	4.22
Female (t)	0	1	0.42		0.34	
Age (t)	25	65	47.61	10.90	46.46	9.78
Higher education degree (t)	0	1	0.44		0.38	
Entrepreneurs only						
Prior start-up experience (t)	0	1	0.28			
Firm size (t)						
No. employees	0	1	0.61			
1–4 employees	0	1	0.18			
More than 5 employees	0	1	0.21			
Employees only						
Organizational tenure (years) (t)						
2 years or less	0	1			0.16	
3–9 years	0	1			0.38	
10 years or more	0	1			0.46	
Managerial position (t)	0	1			0.41	
Corporate entrepreneurial activity (t)	0	1			0.22	
Size of organization (t)						
Fewer than 50 employees	0	1			0.21	
50–249 employees	0	1			0.19	
More than 250 employees	0	1			0.60	
Respondents			186		544	

Table 2
Correlations.

	1.		2.		3.		4.		5.		6.		7.		8.	
	ENT	EMP	ENT	EMP	ENT	EMP	ENT	EMP	ENT	EMP	ENT	EMP	ENT	EMP	ENT	EMP
1. Life satisfaction (t)	1	1														
2. Stress ($t-1$)	−0.31*	−0.15*	1	1												
3. Prosocial motivation ($t-2$)	0.21*	0.23*	0.10	0.04	1	1										
4. Autonomy at work ($t-2$)	0.31*	0.30*	−0.11	−0.07	0.26*	0.38*	1	1								
5. Intrinsic motivation ($t-2$)	0.21*	0.32*	0.06	−0.14*	0.57*	0.48*	0.37*	0.45*	1	1						
6. Vacation in the last 2 months (days)[1] (t)	0.07	0.06	0.10	0.05	0.08	0.04	−0.07	0.04	0.10	−0.01	1	1				
7. Female (t)	−0.07	0.00	0.23*	0.06	−0.04	0.04	−0.19*	−0.00	0.08	0.08	0.09	0.01	1	1		
8. Age (t)	0.17*	0.10*	−0.29*	−0.01	0.07	−0.02	0.23*	0.06	−0.08	0.06	0.04	0.04	−0.37*	−0.20*	1	1
9. Higher education degree (t)	−0.02	−0.03	0.05	0.03	0.14	0.15*	−0.06	0.04	0.06	0.02	0.19*	−0.02	0.15*	0.01	−0.09	−0.29*

Notes: ENT = entrepreneurs (186 respondents); EMP = employees (544 respondents). Subsample-specific control variables omitted for parsimony. Pearson product-moment correlation coefficients. *$p < .05$ (two-tailed).[1] Logarithmic transformation used in the correlation analysis.

Table 3
Path model estimates.

	(1) Entrepreneurs		(2) Entrepreneurs		(3) Employees		(4) Employees	
	Life satisfaction (t)	Stress ($t-1$)	Life satisfaction (t)	Stress ($t-1$)	Life satisfaction (t)	Stress ($t-1$)	Life satisfaction (t)	Stress ($t-1$)
Main effects								
Stress ($t-1$)	−0.30***		−0.30***		−0.12**		−0.12*	
	(0.07)		(0.07)		(0.04)		(0.04)	
Prosocial motivation ($t-2$)	0.14	0.18*	0.14	0.25**	0.08	0.14**	0.08	0.09
	(0.08)	(0.08)	(0.08)	(0.08)	(0.05)	(0.05)	(0.05)	(0.05)
Intrinsic motivation ($t-2$)	0.05	−0.04	0.05	−0.04	0.19***	−0.21***	0.19***	−0.19***
	(0.09)	(0.08)	(0.09)	(0.08)	(0.05)	(0.05)	(0.05)	(0.05)
Autonomy at work ($t-2$)	0.23***	−0.07	0.23**	−0.10	0.17***	−0.07	0.17***	−0.09
	(0.07)	(0.07)	(0.07)	(0.08)	(0.05)	(0.05)	(0.05)	(0.05)
Interactions								
Prosocial ($t-2$) * Intrinsic ($t-2$)				0.10				−0.15**
				(0.06)				(0.05)
Prosocial ($t-2$) * Autonomy ($t-2$)				−0.17*				−0.04
				(0.08)				(0.06)
Control variables for both samples								
Vacation in the last 2 months (t)	0.11		0.11		0.05		0.05	
	(0.07)		(0.07)		(0.04)		(0.04)	
Vacation in the last 2 months ($t-1$)		0.01		0.01		−0.04		−0.04
		(0.07)		(0.07)		(0.04)		(0.04)
Female (t)	0.09	0.14	0.09	0.14	−0.00	0.08	−0.00	0.09*
	(0.07)	(0.08)	(0.07)	(0.07)	(0.04)	(0.04)	(0.04)	(0.04)
Age (t)	0.06	−0.24**	0.06	−0.25**	0.07	0.06	0.07	0.04
	(0.07)	(0.08)	(0.07)	(0.08)	(0.04)	(0.05)	(0.04)	(0.05)
Higher education degree (t)	−0.04	−0.02	−0.04	−0.02	−0.02	0.00	−0.02	0.00
	(0.07)	(0.07)	(0.07)	(0.07)	(0.04)	(0.04)	(0.04)	(0.04)
Control variables for entrepreneurs								
Prior start-up experience (t)	0.06	0.00	0.06	0.01				
	(0.06)	(0.08)	(0.06)	(0.08)				
Firm size (base: no employees) (t)								
1–4 employees	−0.03	0.08	−0.03	0.07				
	(0.07)	(0.06)	(0.07)	(0.06)				
More than 5 employees	0.10	−0.05	0.10*	−0.05				
	(0.06)	(0.10)	(0.06)	(0.10)				
Control variables for employees								
Organizational tenure (base: 3–9 years) (t)								
2 years or less					−0.04	0.04	−0.04	0.04
					(0.04)	(0.05)	(0.04)	(0.05)
10 years or more					−0.04	−0.06	−0.04	−0.06
					(0.05)	(0.05)	(0.05)	(0.05)
Managerial position (t)					0.01	0.12**	0.01	0.12**
					(0.04)	(0.05	(0.04)	(0.05)
Corporate entrepreneurial activity (t)					−0.03	0.06	−0.03	0.06
					(0.04)	(0.04)	(0.04)	(0.04)
Size of organization (base: more than 250 employees) (t)								
Fewer than 50 employees					0.02	0.04	0.02	0.05
					(0.04)	(0.04)	(0.04)	(0.04)
50–249 employees					−0.04	−0.06	−0.04	0.01
					(0.04)	(0.05)	(0.04)	(0.04)
Constant	3.14***	5.65***	3.14***	5.68***	3.23***	4.80***	3.23***	4.92***
	(0.61)	(0.55)	(0.61)	(0.54)	(0.32)	(0.31)	(0.32)	(0.30)
R-squared	0.27		0.28		0.20		0.23	

Notes: 186 entrepreneurs and 544 employees. Maximum-likelihood estimates. Standardized coefficients with robust standard errors in parentheses. The values of all variables denoted with (lag) are from wave $t-1$, whereas all other variable values are from wave t. Prosocial motivation, intrinsic motivation, and autonomy at work are z-standardized (mean 0, SD 1). *, **, and *** denote statistical significance at the 5%, 1%, and 0.1% levels (two-tailed), respectively.

4. Results

4.1. Descriptive statistics

Table 1 provides descriptive information on all variables included in the analysis for the focal sample of entrepreneurs as well as for the comparison sample of employees. Table 2 displays the correlation matrix for both samples and for all the variables they have in common.

4.2. Hypothesis tests

Table 3 presents four path models. Model 1 reports the unconditional effects to test Hypotheses 1 and 2, whereas Model 2 adds the interaction terms to test Hypotheses 3 and 4. We test Hypotheses 3 and 4 following the logic of moderated mediation (Hayes, 2013): prosocial motivation is hypothesized to influence life satisfaction indirectly via stress, and this mediated indirect effect is hypothesized to be moderated by autonomy at work and intrinsic motivation. Therefore, the interaction terms pertain to stress as the mediator but not life satisfaction as the dependent variable. The moderated mediated effect of prosocial motivation on life satisfaction via stress is examined in more detail in Table 4. For comparison purposes, Models 3 and 4 present the unconditional effects and interaction effects, respectively, for the employee sample. We examined the models for multicollinearity and influential observations by computing the variance inflation factor (VIF) and Cook's distance scores, respectively. The highest VIF score is 2.21, and the highest Cook's distance score is 0.23. Neither of these scores exceeds their recommended threshold value (Tabachnick and Fidell, 2013). We also estimated parsimonious versions of the models by excluding all nonsignificant control variables and found that the substantive results remain the same. However, we report the full models to facilitate transparency for readers.

Models 1 and 3 demonstrate that the association between stress and life satisfaction is negative and that the association between prosocial motivation and stress is positive for entrepreneurs and employees alike. Accordingly, having a high level of prosocial motivation increases the experience of stress, which in turn reduces life satisfaction. It is notable that even though the correlation between prosocial motivation and stress is not significant (Table 2), the relationship between these variables is significant in the path model. We examined this in more detail and discovered that the effect is sensitive to personal and work characteristics (gender, age and firm size), which could be expected based on previous research (Dill et al., 2016; Grant and Berry, 2011; Weinstein and Ryan, 2010). This underlines the importance of including appropriate controls to avoid Type II errors. Models 2 and 4 show that the relationship between prosocial motivation and stress is significantly moderated by autonomy in the case of entrepreneurs and by intrinsic motivation in the case of employees. In each case, the product term has a negative sign, suggesting that the stress-inducing effect of prosocial motivation is reduced when autonomy (entrepreneurs) or intrinsic motivation (employees) increases.

In summary, the results in Table 3 support Hypothesis 1 in that prosocial motivation is positively associated with stress. Moreover, the results suggest support for Hypothesis 2 in that the main effects that form the mediating effect are in the expected directions: prosocial motivation is positively associated with stress, and stress is negatively associated with life satisfaction. However, further tests are required to examine the mediating effect before we can determine whether Hypothesis 2 is supported or not. Hypothesis 3 is not supported because the interaction between prosocial motivation and intrinsic motivation in the entrepreneur sample is not significant. Hypothesis 4 receives support because of the significant interaction between prosocial motivation and autonomy in the entrepreneur sample. However, because Hypothesis 4 involves a moderated mediation rather than a simple moderation effect, further tests are required to examine Hypothesis 4.

Testing Hypothesis 2 requires computing the indirect effect (Williams et al., 2009) of prosocial motivation on life satisfaction via stress, whereas Hypothesis 4 necessitates the computation of a moderated mediation effect, defined as the indirect effect of prosocial motivation on life satisfaction when autonomy is high and low (Aiken and West, 1991; Hayes, 2013). Table 4 reports the indirect

Table 4
Indirect effect of prosocial motivation ($t-2$) on life satisfaction (t) via stress ($t-1$).

	Coefficient	Bootstrapped percentile 95% confidence interval	
		Low	High
Entrepreneurs			
Model 1: The indirect effect of prosocial motivation on life satisfaction via stress	−1.41	−3.15	−0.16
Model 2: The indirect effect of prosocial motivation on life satisfaction via stress when…			
…autonomy = −1 SD	−2.18	−4.26	−0.49
…autonomy = mean	−1.11	−2.68	0.11
…autonomy = +1 SD	−0.03	−2.08	1.76
Employees			
Model 3: The indirect effect of prosocial motivation on life satisfaction via stress	−0.46	−1.08	−0.01
Model 4: The indirect effect of prosocial motivation on life satisfaction via stress when…			
…intrinsic motivation = −1 SD	−0.70	−1.69	−0.04
…intrinsic motivation = mean	−0.33	−0.87	0.03
…intrinsic motivation = +1 SD	0.05	−0.46	0.62

Notes: 186 entrepreneurs and 544 employees. Bootstrap with 5000 resamples. Unstandardized coefficients.

effect estimates. Because the interaction between prosocial motivation and intrinsic motivation in the employee sample is significant, for comparison purposes, Table 4 also reports the indirect effect of prosocial motivation on life satisfaction when intrinsic motivation is high and low for this sample. In addition to the coefficient estimates, we report the bootstrapped confidence intervals as an appropriate test of significance that accounts for the potential non-normal distribution of the conditional indirect effects in moderated mediation in particular (Hayes, 2013; Preacher et al., 2007). We estimated both the bias corrected and the percentile bootstrap confidence intervals using the *bootstrap* algorithm in Stata 15, finding that the substantive interpretations are the same. For parsimony, we follow Hayes and Scharkow's (2013) recommendation to report only the percentile confidence intervals because Type I errors are a more pressing concern in our research than power.

The results in Table 4 support Hypothesis 2: the indirect effect of prosocial motivation on life satisfaction via stress is negative and significant. The bootstrapped 95% confidence interval does not contain a 0 in its range, which suggests that the effect is significant at the $p < 0.05$ level. Similarly, the results support Hypothesis 4: the indirect effect of prosocial motivation on life satisfaction via stress is only significant when autonomy is low. Figure 2 illustrates this finding. Furthermore, in the employee sample, the indirect effect of prosocial motivation on life satisfaction mediated by stress is negative and significant. When the significant moderating effect of intrinsic motivation is accounted for, the indirect effect of prosocial motivation is only significant when intrinsic motivation is low. Figure 3 illustrates this result.

5. Discussion

Our study is a first attempt to understand how prosocial motivation influences entrepreneurs' subjective well-being, defined as the general level of life satisfaction. We build on Grant's (2008a) SDT contingency perspective to theorize on entrepreneurs' prosocial motivation as something that is targeted at helping others who are not within the sphere of the entrepreneurs' immediate profit-seeking activities (Gagné and Deci, 2005; Grant, 2011). Drawing upon this contingency perspective, our study emphasized the counter-intuitive "dark side" of prosocial motivation in commercial entrepreneurship (Bolino and Grant, 2016; Shepherd et al., 2015) and argued that under certain boundary conditions, entrepreneurs' prosocial motivation is likely to have a negative impact on their life satisfaction by causing higher stress levels. In particular, we hypothesized that the level of intrinsic motivation and perceived autonomy at work moderate the relationship between entrepreneurs' prosocial motivation and life satisfaction.

Our empirical work used unique longitudinal survey data comprising three waves collected at two-month intervals in 2016, and the final sample included 186 entrepreneurs in the United Kingdom. To examine whether the effects we found are unique to entrepreneurs, we conducted a comparative analysis with a sample of 544 employees in for-profit organizations. Our empirical results provide novel evidence for the assumption that the higher the level of prosocial motivation, the higher an entrepreneur's perceived stress and, thus, the lower her or his overall life satisfaction will be. This result is also similar for employees. However, our study further demonstrates that this stress-inducing effect is reduced when autonomy at work is perceived as high in the context of entrepreneurs and when intrinsic motivation is high in the context of employees. Based on these findings, our work generates several contributions.

5.1. Prosocial motivation in entrepreneurship

Previous research on prosocial venturing has mainly focused on the positive role of entrepreneurs' motivation in helping alleviate

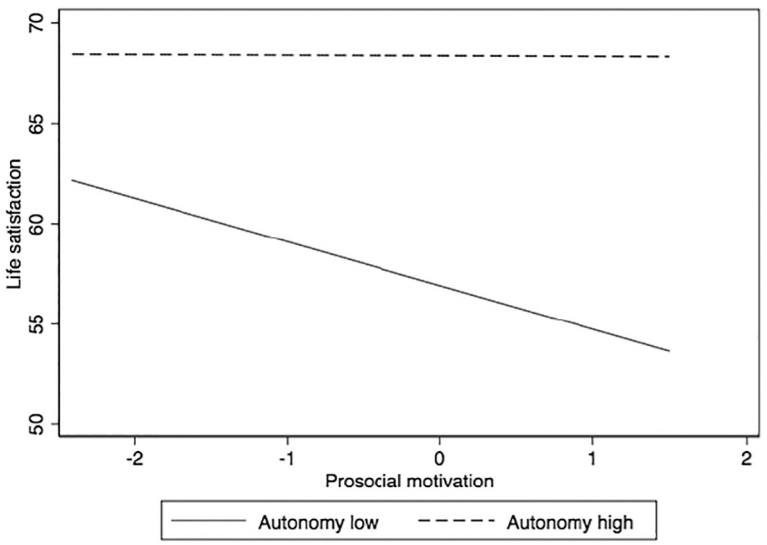

Fig. 2. Entrepreneurs: Indirect effect of prosocial motivation on life satisfaction via stress when autonomy varies.

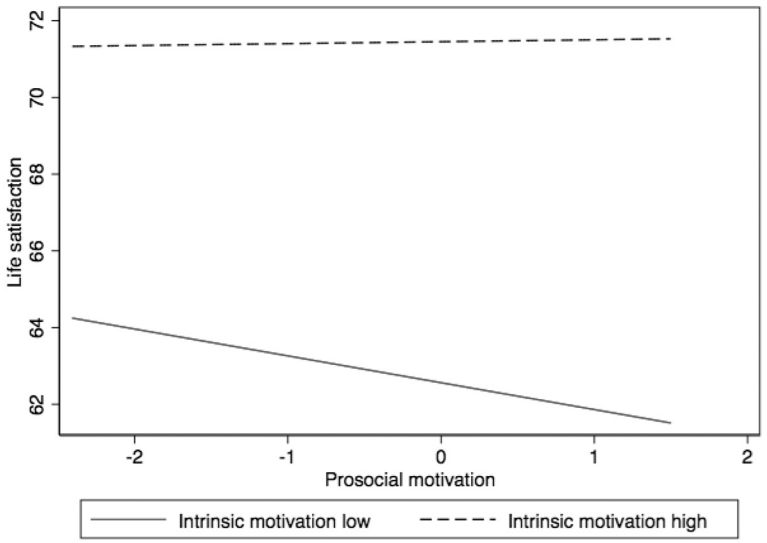

Fig. 3. Employees: Indirect effect of prosocial motivation on life satisfaction via stress when intrinsic motivation varies.

others' suffering (Dacin et al., 2011; Markman et al., 2016; Zahra et al., 2009). At the same time, scholars have emphasized the potential benefits of prosocial motivation for the entrepreneur, assuming that by helping others, entrepreneurs feel good about themselves and thus improve their own well-being (Grimes et al., 2013; Miller et al., 2012; Shepherd, 2015). In this paper, we theorize on the counter-argument, which is that entrepreneurs' desire to benefit others who have no immediate relation to the entrepreneurs' core business activities can have deleterious consequences for those entrepreneurs. Building on multi-sample and time-lagged data, our study offers novel and robust evidence demonstrating the conditions under which prosocial motivation adversely affects subjective well-being in the context of commercial entrepreneurship. By doing so, we shift the focus of prior research (Miller et al., 2012; Shepherd, 2015) from the "bright side" to the "dark side" of its potential effect on the entrepreneur. Specifically, we advance current entrepreneurship research on prosocial motivation in at least two ways.

First, we add to Shepherd et al.'s (2015: 27) theoretical work, which emphasizes that "the relationship between entrepreneurs' decisions pertaining to doing good and the outcomes of these efforts is complex." In particular, Shepherd et al. (2015) have called for studies that help elucidate the personal costs of helping others in the context of commercial entrepreneurship and how any difference in the source of entrepreneurs' prosocial motivation is reflected in personal satisfaction. Our study responds to this call. In particular, we concur with the argument that understanding the relationship between prosocial motivation and life satisfaction is a complex endeavor, and we demonstrate that advancing our knowledge of this relationship requires understanding how prosocial motivation impacts entrepreneurs' perceived level of stress as well as how entrepreneurs perceive their level of autonomy in pursuing their daily work tasks. Specifically, our findings suggest that prosocial motivation harms life satisfaction because it increases stress levels while also showing that perceived autonomy at work helps entrepreneurs reduce the stress-inducing effect of doing good on their personal life satisfaction.

Second, our study emphasizes the importance of merging insights from both traditional and prosocial cost-benefit analyses. We agree on the importance of entrepreneurs' prosocial motivation in the context of commercial entrepreneurship in that entrepreneurs helping others in a context beyond that of their immediate work tasks is vital for developing a more socially sustainable society (Markman et al., 2016; Shepherd, 2015). However, our findings also point toward the importance of building awareness that entrepreneurs with a high level of prosocial motivation risk attaching more value to others' outcomes, which comes at the cost of resources that would help them reduce stress. Miller et al.'s (2012: 623) influential work on entrepreneurs' prosocial motivation criticizes traditional cost-benefit models in entrepreneurship for assuming that "an individual will choose to engage in activities when the personal benefits outweigh the personal costs." Miller et al. (2012: 623) also suggest that the other-orientation in prosocial motivation challenges the traditional analysis of costs and benefits because prosocial motivation "results in a more prosocial cost-benefit analysis where others' outcomes are valued more highly" and, as a consequence, increases "the perceived benefits of acting to alleviate others' suffering." Based on our findings, we uphold this suggestion and show that prosocially motivated entrepreneurs who operate a commercial business face a particular dilemma in that they must find a balance between the value of self-directed and other-directed outcomes if their aim is to generate and sustain benefits for others as well as for themselves and their ventures.

5.2. Entrepreneurship and subjective well-being

Our study also contributes to current debates on entrepreneurship and well-being (Baron et al., 2016; Kautonen et al., 2017; Shepherd et al., 2015; Shir, 2015; Shir et al., 2018; Stephan, 2018; Uy et al., 2013). By introducing prosocial motivation as a decisive motivation that affects entrepreneurs' subjective well-being, we generate at least two contributions that advance the current

entrepreneurship literature on subjective well-being.

First, Baron et al.'s (2016) study on well-being was the first in the field of entrepreneurship research to demonstrate the impact of perceived levels of stress on personal life satisfaction. The authors draw from results based on a single-survey dataset to suggest that entrepreneurs' psychological capital negatively relates to their stress levels, while stress negatively relates to the level of life satisfaction. In general, by providing the first longitudinal evidence on the mediating effect of stress on life satisfaction, our study addresses this earlier study's limitation concerning the absence of lagged data. We particularly complement the prior focus on understanding the role of entrepreneurs' psychological capital in the relationship between stress and life satisfaction with a novel analysis of the role of prosocial motivation. Our findings show that entrepreneurs' prosocial motivation increases their perceived stress levels and, through that stress, exerts a negative impact on their overall life satisfaction. By doing so, we expand Baron et al.'s (2016) model by explaining the factors that cause or reduce stress in the entrepreneurship context and thus enhance or reduce entrepreneurs' life satisfaction as one major indicator of hedonic well-being.

Second, we contribute to the knowledge of whether and under what conditions entrepreneurs' motivations harm (or improve) their subjective well-being (Shepherd, 2015; Shir, 2015) by shedding light on two mechanisms underpinning the effect of prosocial motivation on subjective well-being—the role of the *source* and that of the *target* of prosocial motivation. Our suggested rationale for the target mechanism is that paying broad attention to others' concerns—a characteristic of prosocial motivation—is resource intensive (Baumeister et al., 2007) and thus not without cost for the entrepreneur as it becomes difficult to regulate personal resources in order to focus on both venture and prosocial goals. Given that prosocially motivated individuals have a strong desire to achieve their goals (Grant, 2008a), the potential conflict between pursuing a firm's goals and the desire to care (too much) for others in pressure-filled situations can create a stressful experience for the entrepreneur (Vansteenkiste et al., 2010; Weinstein and Ryan, 2010). Theorizing from our findings, we suggest that entrepreneurs' prosocial motivation leads to the depletion of relevant entrepreneurial resources, which causes higher stress levels and, in turn, adversely affects their overall life satisfaction.

Moreover, our suggested rationale for the source mechanism is that the autonomy perceived by an entrepreneur when pursuing daily work tasks reflects an important source of prosocial motivation. Specifically, our findings show that entrepreneurs' prosocial motivation creates less stress when those entrepreneurs perceive a higher level of autonomy at work. Shir (2015) emphasizes that entrepreneurial motivations can positively or negatively relate to well-being, subsequently calling for research that increases our knowledge of the conditions under which such motivations can bolster or harm entrepreneurs' well-being. Hence, we generate new knowledge by suggesting that entrepreneurs' prosocial motivation—that is, motivation targeted at helping others—is likely to be harmful to their own well-being. Concomitantly, the current study offers initial insight into how the perception of a higher degree of autonomy at work alleviates the negative effect of prosocial motivation on life satisfaction due to a reduced stress-inducing effect. Again, it is important to note that our study focuses on hedonic well-being (as opposed to eudemonic well-being) and explains how prosocial motivation has an impact on how entrepreneurs evaluate their experiences of stress in the immediate past and how that in turn influences entrepreneurs' evaluation of how well their life is going. While a focus on hedonic well-being is useful for examining how stress affects well-being, we also encourage future entrepreneurship studies to apply a eudemonic perspective (e.g., see Shir et al., 2018) in order to develop our understanding of how, for instance, subjective vitality helps entrepreneurs cope with stress or reduce stress levels caused by their engagement in prosocial activities.

Finally, our study informs the use of the SDT contingency perspective (Grant, 2008a) in explaining the relationship between motivation and autonomy and its impact on personal well-being across different work domains (Deci and Ryan, 2000; Vansteenkiste et al., 2010). In particular, we provide initial evidence on the as-yet underexplored mediating role of stress in explaining the effect of prosocial motivation on higher or lower levels of subjective well-being. Further, we complement Grant's model, which focuses on the moderating role of intrinsic motivation, with an examination of the moderating effect of perceived autonomy on the relationship between prosocial motivation and subjective well-being. Here, our study confirms Grant's (2008a) finding that a high level of intrinsic motivation is an important source of prosocial motivation that spurs a desire to improve employees' well-being. However, we show that this effect is specific to the context of organizational employment and does not pertain to the context of entrepreneurship. Furthermore, although no significant effect of intrinsic motivation in the context of entrepreneurship was found, we show that the relationship between prosocial motivation and stress is moderated by the degree to which entrepreneurs perceive autonomy at work. Here, we particularly expand on Weinstein and Ryan's (2010: 238) study—based on student samples—which demonstrates that "participants who helped experienced the greatest well-being when they were able to help autonomously." At the same time, the authors call for "future studies [that] would benefit from assessing these processes in more diverse samples" (Weinstein and Ryan, 2010: 240), and our study provides novel evidence on how the role of autonomy in the work context of full-time employment and entrepreneurship shapes the way in which an individual's prosocial motivation affects well-being.

5.3. Limitations and future research directions

Our study is not without limitations. We see four potential restrictions that could pave the way for several further extensions and additional lines of investigation. First, our longitudinal study is the first to develop an understanding of the personal consequences of prosocial motivation in the context of commercial entrepreneurship. Our theoretical rationale suggests that prosocial motivation—the desire to help others outside the context of immediate work tasks—is more likely to create a dilemma for the entrepreneur when operating a commercial business than running a social enterprise. The main argument is that while both are for-profit ventures, they differ in how prosocial motivation aligns with their essential core mission. Prosocial motivation is arguably more in line with the core mission of a social enterprise, whereas commercial entrepreneurs' core mission is profit maximization. Based on our findings, we suggest that combining the entrepreneur's orientation to help others with the enterprise's mission to maximize profits is stressful for

the entrepreneur. However, our sample is limited to commercial entrepreneurs, so we are not able to draw conclusions on how this effect differs in the context of social entrepreneurship. While our study offers a novel comparison between entrepreneurs and employees, further research that compares commercial and social entrepreneurs and generates robust evidence on whether and how prosocial motivation has a differential impact on entrepreneurs' personal well-being would be beneficial.

Second, our study offers evidence suggesting that the perception of autonomy is key for commercial entrepreneurs while intrinsic motivation is key for employees to be able to realize their prosocial motivation without creating stressful situations. One potential explanation for the autonomy effect in the context of entrepreneurship might be that opportunity-seeking and advantage-seeking behavior is more relevant to entrepreneurs than to employees and that autonomy is one of the most important determinants of such behavior (Lumpkin et al., 2009). One assumption for the effect of intrinsic motivation in the organizational employment context would be that employees often rely on opportunities available in the job market, so their intrinsic motivation depends more on proffered organizational structures. Instead, entrepreneurs can influence how their enterprise operates, and hence, their organizational environment is more likely to align with their desired way of working (Rich et al., 2010). However, our study is not able to explain which factors cause perceived levels of autonomy among entrepreneurs or levels of intrinsic motivation among employees. It follows that an important next step in this line of research would be to improve our understanding of the way perceived autonomy and intrinsic motivations are developed and, in turn, relate to how prosocial motivation affects the subjective well-being of entrepreneurs and employees. This would, for instance, require different theoretical lenses to guide future studies on entrepreneurs' and employees' embeddedness in varying organizational designs and cultures as well as on (intra- and inter-) organizational activities and workforce compositions (Battilana and Lee, 2014).

Specifically within the context of entrepreneurship, we suggest that one promising avenue of research would be an analysis of how individual entrepreneurs' perceptions of autonomy influencing the effect of prosocial motivation on well-being are a social product of the motivations, perceptions, and judgments of the core entrepreneurial team that operates the business. Research that follows the suggestions of Cardon et al.'s (2017) theoretical work on entrepreneurial team complexity may offer insight into entrepreneurial in-group consensus or divergence in terms of how prosocial motivation is appreciated by team members and, in turn, how this influences the perception of utilizing autonomy in pursuit of prosocial motives that are not directly related to individual entrepreneurs' venture tasks. More generally, such research stands to make significant contributions to the further development of our knowledge of prosocial motivation, autonomy, and well-being as constructs at both the individual and team levels.

Third, the development of our research model is inspired by recent entrepreneurship research on well-being that emphasizes the importance of understanding the relationship between individuals' general levels of stress in life and their general level of life satisfaction (Baron et al., 2016). However, we also acknowledge that our choice of measures addressing the effect of prosocial motivation on well-being excludes a wider range of potentially important measures capturing stress and life satisfaction among entrepreneurs. Here, we see at least two ways in which future studies could expand our study's findings. First, we focus our analysis on general levels of stress in life, so further research is required to explain potential overlaps and spill-over effects between entrepreneurs' experiences of stress in life and their experiences of stress related to specific work situations. Second, while our research uses the established single-item measure of life satisfaction as an established hedonic well-being measure (Diener et al., 1985), further studies are needed to develop an SDT perspective of entrepreneurial well-being (Kautonen et al., 2017) by capturing entrepreneurs' vitality and level of satisfaction of the three fundamental needs (competence, autonomy, and relatedness) outlined in SDT (Deci and Ryan, 2000). Applying these measures will help generate a more eudemonic SDT understanding of entrepreneurship (Shir et al., 2018) in regard to the personal well-being outcomes that prosocial motivation generates through perceived levels of stress.

Finally, we suggest that establishing a more dynamic and situated understanding of subjective and entrepreneurial well-being (Stephan, 2018) by clarifying the role of prosocial motivation also requires further longitudinal studies (e.g., based on the experience sampling method [ESM]), which can account for effects on both an everyday basis (Weinberger et al., 2018) and over a longer period of time than the four months applied in our study. Moreover, our study focuses on the working-age population, leading to the limitation of the sample to participants between 25 and 65 years old. The current analysis may have overlooked important potentially negative and positive effects of prosocial motivation on well-being among younger and older age cohorts. Generating such knowledge would be important given that both late-career and youth entrepreneurship are increasingly promoted by policymakers as a promising way to develop a more socially inclusive society (Kautonen et al., 2017; Zahra and Wright, 2016).

6. Conclusion

In this article, we argue that while interest in prosocial motivation and well-being has grown in entrepreneurship research, we still know little about whether and under which conditions prosocial motivation influences subjective well-being in the context of commercial entrepreneurship. We contribute to closing this knowledge gap by using unique longitudinal survey data to demonstrate that prosocial motivation has a negative impact on entrepreneurs' overall life satisfaction. Specifically, our findings suggest that the negative effect of prosocial motivation is mediated by perceived stress; however, we also show that this negative effect dissipates when autonomy at work is high compared to when it is low. This effect is unique to the entrepreneurship context when compared to employees. The findings of this study extend our knowledge on entrepreneurship and subjective well-being by introducing the role of prosocial motivation as an individual-level determinant of life satisfaction. This work further contributes to entrepreneurship research on prosocial motivation by shifting the focus away from the “bright side” to the “dark side” of the potential effects of prosocial motivation at the individual level. Interest in the relationship between motivations and entrepreneurial well-being has burgeoned in recent years, and we hope that this work nurtures its further growth and development.

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