INTRODUCTION

Individuals motivate themselves and give direction to their lives by setting and pursuing personal goals (Heckhausen, Wrosch & Schultz, 2010). While making progress at these goals typically results in heightened well-being, failing to make goal progress is associated with disappointment and lower well-being (Diener & Fujita, 1995). The present investigation aimed to understand variations in goal progress by exploring the extent to which individuals pursue personal goals that match their underlying personality traits. The central theoretical premise of Sheldon’s (2014) self-concordance model is that the types of goals that people choose to pursue matter because goals that better reflect one’s underlying traits, interests, values, and motives are more likely to be achieved and have a more positive impact on well-being (Ryan, Sheldon, Kasser, & Deci, 1996; Sheldon, 2014). By contrast, choosing the “wrong” goals to pursue, meaning those which are not self-concordant, can result in much wasted time and energy (Sheldon, 2014).
According to Sheldon’s (2014) self-concordance model, one way to assess self-concordance is to analyze a person’s goals in relation to other aspects of their personality, such as traits, values, motives, or self-narratives. The present investigation focused on investigating the concordance between the content of the personal goals that individuals pursue and their personality traits, which refer to consistencies in social-emotional functioning, are thought to be best captured by the Big Five trait taxonomy (John & Srivastava, 1999). Moreover, we proposed testing Sheldon’s content-matching hypothesis between traits and goals with personal goals that were coded based on whether they were agentic or communal in nature. The distinction between agentic and communal motivational themes has a long history in personality psychology and has previously been applied to the content of the personal goals that individuals select and pursue (Bakan, 1966; Emmons & McAdams, 1991; McAdams, Hoffman, Mansfield, & Day, 1996; Sheldon & Cooper, 2008). Agentic goals are those related to self-expansion, achievement, and mastery of the environment. Examples of agentic goals include succeed in my studies and improve my fitness. Communal goals are those related to creating, maintaining, and/or improving interpersonal relationships. Examples of communal goals include get along with my roommates and make new friends. Sheldon and Cooper (2008) found evidence that making progress on agentic and communal goals is associated with enhanced well-being; therefore, understanding factors that are conducive to making progress on these types of goals is an important endeavor. The present study investigated which specific Big Five traits are relevant and helpful in the pursuit of agentic and communal personal goals.

Although Sheldon’s (2014) self-concordance model has focused predominantly on motives and goals, there is already evidence that matching the content of personal goals to one’s dominant personality traits can be beneficial for one’s well-being. For example, Sheldon and Tan (2007) asked participants to rate the alignment of their goals with their traits and reported evidence that personality-goal matching was significantly positively associated with subjective well-being. But which specific Big Five traits are important in making progress in the pursuit of agentic and communal goals? Past research has found Conscientiousness, defined as being efficient, organized, reliable, and responsible, to be the trait most consistently associated with successful goal pursuit (McCrae & John, 1992; Roberts, Lejuez, Krueger, Richards, & Hill, 2014). Research has also suggested that Conscientiousness may be especially important for the pursuit of agentic goals, such as school or work performance over time, since these tasks likely require many of the qualities associated with Conscientiousness (Judge & Ilies, 2002).

Although the nature of Conscientiousness and the outcomes it is associated with might suggest it would be beneficial in the pursuit of all types of goals, McGregor, McAdams, and Little (2006) hypothesized that high trait Conscientiousness may actually be detrimental to the pursuit of social goals. Indeed, McGregor and colleagues (2006) noted that, for university students, academic and social goals are in constant tension with one another and that being high on trait Conscientiousness would actually hinder an individual’s social goal pursuits because such individuals may be less able to set aside their academic pursuits in order to pursue their social goals. The results supported McGregor et al.’s (2006) hypothesis that extraverted students would perceive their social goals as more manageable and were generally happier when pursuing such goals. However, McGregor et al. (2006) did not investigate whether personality-goal matching also translates into enhanced goal progress. In addition, this study did not investigate the specific role personality traits may have on other types of goal pursuit, such as pursuing agentic goals.

The links of personality traits to goal pursuit have recently been explored in Whole Trait Theory (Fleeson & Jayawickreme, 2015), which offers a functional view of traits as tools for goal pursuit. In a series of studies, McCabe and Fleeson (2016) showed that momentary manifestations of Conscientiousness and Extraversion were explained by differences in goal pursuits. Thus, when participants were pursuing a time-efficiency goal, they enacted conscientious behaviors, whereas when they pursued a social dominance goal, they tended to behave in extraverted ways. This suggests that the traits of Conscientiousness and Extraversion are discriminatively associated with different types of goals (e.g., efficiency vs. social goals). This implies that, in regards to personal goals that are typically framed over long periods of time and entail effortful persistence in the face of obstacles and action crises (Holding, Hope, Harvey, Marion Jetten, & Koestner, 2016), it is likely that highly conscientious individuals will more efficiently enact the specific behaviors required to accomplish agentic goals (e.g., exercising self-control, persisting in the face of obstacles). In contrast, highly extraverted individuals will more easily enact the specific behaviors required to accomplish communal goals (e.g., pursuing social interactions, expressing one’s feelings to others). The Big Five traits of Openness to experience, Agreeableness, and Neuroticism might also relate to goal pursuits; however, the research reviewed above suggests that Conscientiousness and Extraversion are more likely to play a role.

Moreover, it has recently been suggested that the motivational processes that explain why people vary in their trait manifestations (and in their goal successes) can be explained by integrating Self-Determination Theory (SDT) with Whole Trait Theory (Prentice, Jayawickreme, & Fleeson, 2019; Ryan & Deci, 2017). SDT is a macro-theory of motivation, personality, and development which highlights the importance of exploring the volitional dynamics of behavior. More specifically,
SDT introduced the concept of the relative autonomy continuum (RAC) to explain the dynamics of motivational autonomy (Ryan & Connell, 1989). Sheldon and Prentice (2019) note that “according to this model, any and every motivated behavior, whatever its other attributes, can be located on a continuum ranging from controlled to autonomous.” Furthermore, the authors noted that knowledge of the location on the continuum allows one to predict much about the way the person is likely to function, as well as the outcomes he or she can achieve. Relative autonomy is assessed by asking individuals to rate a variety of reasons for engaging in a behavior, ranging from reasons reflecting an internal locus of causality (e.g., personal interest or meaning) to those reflecting an external locus of causality (e.g., external or introjected pressures). The relative autonomy continuum captures whether a goal is selected and pursued half-heartedly or whole-heartedly, with a sense of personal endorsement or with a sense of alienation.

Content matching between personality traits and personal goals is likely to be associated with the relative autonomy of an individual's personal goals (Sheldon, 2014). Individuals whose goals match their traits are likely to have an internal perceived locus of causality for their goals, reflecting that they feel autonomous rather than controlled in their goal pursuits. Importantly, research has consistently shown that having more autonomous motivation for goal pursuits is associated with generation of goal-directed effort (Sheldon & Elliot, 1998; Werner, Milyavskaya, Foxen-Craft, & Koestner, 2016), decreased goal ambivalence (Koletzko, Herrmann, & Brandstatter, 2015), decreased action crises (Holding et al., 2016), and increased goal progress (Koestner et al., 2006; Koestner, Lekes, Powers, & Chicoine, 2002).

A special issue of the Journal of Personality considered whether SDT can serve as a foundation for personality researchers. In support of this, Sheldon and Prentice (2019) argued that SDT provides important conceptual tools for personality theory to understand positive change and development, including change that results from pursuing personal goals. The Big Five traits can predict broad trends in goal pursuit—conscientious individuals will generally pursue their goals more successfully—but SDT can help us understand the motivational processes by which traits have an impact on goal selection and goal pursuit. We sought to examine trait-goal matching and whether it conduces toward a motivational advantage that allows individuals to make progress on their goals over time.

2 THE PRESENT STUDY

The present study examined the role of the Big Five personality traits in the pursuit of agentic and communal goals. In addition, goal motivation was investigated as a potential mechanism underlying this relation. We hypothesized that when individuals pursue goals that match their personality traits, they feel more autonomous in their goal pursuits, and they achieve greater goal progress. For example, extraverted individuals pursuing a communal goal are expected to find pursuing this type of goal as more interesting and personally meaningful, leading them to engage in behaviors that are more conducive to communal goal progress, such as attending social events and interacting with others. A parallel set of processes would explain why conscientious individuals would make greater progress at agentic goals.

Our hypotheses were examined in the context of a multi-wave prospective study of university students that spanned an entire academic year (September–May). The time frame of an academic year represents a naturally occurring, developmentally significant, goal action sequence in which young adults are expected to generate and select their important goals for the year. The extent to which students select and commit to personal goals that match their traits should affect how efficiently they later navigate the challenges of sustaining goal pursuit over time (e.g., generating goal-related effort, shielding goals from conflicts and obstacles, weathering action crises). The motivational model of life span development (Heckhausen, Wrosch, & Schulz, 2010, 2019) highlights the importance of the transition from the deliberative goal selection phase to the implemental goal pursuit phase of a goal action sequence. The authors of this model caution that it is not possible to strive for all goals at once (even sequentially) and that individuals must be selective about which goals they invest in. Therefore, matching the content of one's goals to one's predominant Big Five traits reflects a form of goal selectivity that may serve to optimize goal pursuit.

Although we expected that trait-goal matching would be associated with relatively more autonomous goal motivation at baseline, we were not sure whether dynamic effects would emerge over the school year; this would be reflected by matching individuals becoming increasingly more autonomous, rather than controlled, in their motivation over course of the study. It is possible that the critical motivational advantage of matching traits with goals can only be seen directly during the selection phase of goal pursuit and its effects during the active goal pursuit phase would take the form of different motivational processes, such as by facilitating one's subjective ease of effort during goal pursuit.

Although our central hypotheses focused on the match between Conscientiousness and agentic goals, and between Extraversion and communal goals, we also explored possible goal matching effects for the other Big Five traits. Openness to experiences refers to the tendency to be receptive to new ideas, approaches, and experiences (McAdams, 2015). Because scoring high on Openness to experience is related to self-awareness and the desire to explore new things, we expected it to fit better with agentic, rather than communal, goals. Agreeableness refers to the tendency to have concern for others and to have warm and trusting sentiments.
(McAdams, 2015). Because of established links with higher quality friendships and parenting, we expected it to fit better with communal, rather than agentic, goals (Jensen-Campbell, Knack, & Gomez, 2010). Neuroticism is defined as the tendency to experience negative emotions and we did not expect it to relate differentially to agentic or communal goals.

3  |  METHOD

3.1  |  Participants and procedure

933 university students were recruited to participate in a year-long 6-wave prospective goal study. 425 university students were recruited in the 2015–2016 academic year, with ages ranging from 17 to 37 (Mean = 20.2, SD = 2.32). 508 students were recruited (82.2% female) in the 2016–2017 academic year, with ages ranging from 17 to 54 (Mean = 21.16, SD = 4.00). The samples were predominantly Caucasian (58%) and Asian (32%) in ethnicity. The retention rate over the school year was approximately 88% in the first year and 83% in the second. Missing data was handled by pair-wise deletion. The design of the study was identical across the two years.

Over the course of the study, participants completed a total of six online questionnaires via Qualtrics experimental software (Qualtrics, Inc. Salt Lake City, UT). Participants completed the first survey (T1) at the start of the academic year and were asked to identify three personal goals that they were currently pursuing. In addition, they completed measures of their personalities and goal-specific motivation. Over the course of the academic year, five follow up surveys were sent to assess goal progress, as well as other personality and motivational factors. For the purpose of this paper, we focused on the baseline assessment, the mid-year assessment, and the end of the school year assessment, due to these being the time points at which the variables of interest were assessed. We will refer to these assessments as baseline (T1), mid-year (T2), and end-of-year (T3), though in reality they represented the first, third, and sixth waves of data collection.

The present study was conducted in compliance with the McGill University Research and Ethics boards. In addition, participants were financially compensated for their time. A previous article was published using some of this data (Holding et al., 2016) but that article, which focused on action crises and goal progress, did not examine the relation of Big Five traits to the nature of the goals that were set.

3.2  |  Measures

3.2.1  |  Personal goals

Following the instructions outlined in Koestner et al. (2002), at T1, participants were prompted to report three personal goals that they would be pursuing over the course of an academic year. A dozen examples of personal goals were provided to aid in goal generation and participants were told that the list was not exhaustive and that they should list their own personal goals. Most of the examples provided were more agentic in nature, such as I want to run my first half marathon this year, I want to get a 3.5 GPA this semester, and Act in a McGill drama production. Three examples that were more communal in nature included: Meet my boyfriend/girlfriend, Improve communication and increase intimacy with my romantic partner, and Skype with my parents once a week.

3.2.2  |  Big Five personality traits

At T1, participants completed the 44-item Big Five Inventory to assess their standing on the Big Five Traits: Conscientiousness, Extraversion, Neuroticism Agreeableness, and Openness to experience (John & Srivastava, 1999). Participants rated each item based on how much they agreed that the items reflected their own personality on a scale from 1 (meaning strongly disagree) to 5 (meaning strongly agree). An example of an item used to assess Conscientiousness is does things efficiently and an example of an item to assess Extraversion is outgoing, sociable. The reliability for all Big Five traits was adequate, alphas > .80.

3.2.3  |  Goal coding

Participants’ personal goals were coded as being either agentic or communal. Agentic goals were considered to be those related to self-expansion, self-improvement and reaching a certain standard in various domains, such as academic and career pursuits, improving mental and physical health and financial planning. Examples of goals coded as agentic are: I would like to increase my fitness level and I want to get a 3.7 GPA this semester. Communal goals were those related to creating, improving or maintaining interpersonal relationships. Examples of goals coded as communal are: Improve the quality of my relationship with my romantic partner and I want to make more friends.

Raters tried to categorize all goals as either agentic or communal. However, eight goals could not be coded because the definitions did not seem relevant. Examples of goals that were not coded are: I want to read books for fun, cry less, and I'd like to do all of the “touristy” Montreal things I was supposed to do before I graduate. The interrater agreement between two raters was adequate, Cohen’s Kappa = .83.

3.2.4  |  Goal motivation

Goal motivation was assessed at baseline, mid-year and at the end-of-year. Participants were asked to rate their motivation for pursuing each goal using five items that assessed external
(because somebody else wants you to and because you’ll get something from somebody if you do), introjected (Because you would feel ashamed, guilty, or anxious if you didn’t—you feel that you ought to work on this), identified (Because it represents who you are and reflects what you value most in life), integrated (because you really believe that it is an important goal to have—you endorse it freely and value it wholeheartedly), and intrinsic (Because of the fun and enjoyment which the goal provided you—the primary reason is simply your interest in the experience itself) reasons for goal pursuit (Sheldon & Kasser, 1998). All responses were made on a 7-point scale of 1 (not at all for this reason) to 7 (completely for this reason). The motivation scales were reliable: autonomous motivation, alpha = .81; controlled motivation alpha = .77.

As in previous research, autonomous motivation was calculated as the mean of intrinsic, integrated, and identified ratings, whereas controlled motivation was calculated as the mean of external and introjected regulation (Koestner, Otis, Powers, Pelletier, & Gagnon, 2008). Following Sheldon (2014), an index of goal relative autonomy was created by subtracting the mean of the controlled items from that of the autonomous items. This index is frequently used by SDT researchers (Ryan & Deci, 2017). Sheldon, Osin, Gordeeva, Suchkov, and Sychev (2017) recently provided new psychometric support for the relative autonomy index, confirming via a diverse set of statistical procedures that motivated behaviors can always be located on this continuum.

Moreover, we calculated separate goal motivation scores for participants’ agentic goals and communal goals. If participants had only agentic goals, we calculated the mean motivation score across the three goals. If participants had two agentic goals and one communal, we calculated the mean across the two agentic goals. If participants had two communal goals, we calculated the mean across the two communal goals.

3.2.5 | Goal progress

Goal progress was assessed at mid-year and at the end-of-year. Following Koestner, Powers, Carbonneau, Milyavskaya, and Chua (2012), participants rated how much they agree with the following three statements: I have made a lot of progress toward this goal, I feel like I am on track with my goal plan and I feel like I am achieving this goal. The reliability of goal progress ratings was excellent, alphas > .90. Participants’ responses were made on a 7-point scale with 1 corresponding to strongly disagree and 7 corresponding to strongly agree. Total goal progress was calculated as the mean of the mid-year and end-of-year assessments. We calculated progress separately across each participant’s agentic goals and across their communal goals.1

3.2.6 | Aggregation across two types of goals

It is important to highlight that measures of motivation and progress were aggregated separately across agentic and communal goals so that we could compare the effects of Extraversion and Conscientiousness on thematically related types of goals. Recent research on motivation and goal progress typically have calculated these measures across a number of goals (e.g., Koestner et al., 2012; Sheldon & Kasser, 1998).

4 | RESULTS

4.1 | Preliminary analyses

Table 1 presents the means and standard deviations for all variables. Participants reported more than five times as many agentic goals as communal goals (2,364 vs. 432). Indeed, only 397 of the 934 participants (43%) reported at least one goal that was coded as communal, whereas every participant reported at least one agentic goal. More specifically, cross-tabulations indicated that 536 participants reported only agentic goals, 358 participants reported two agentic goals and one communal goal, whereas 36 participants reported one agentic goal and two communal goals. Eight participants reported a goal that was deemed not codable as agentic or communal.

Table 2 presents the correlations among all the main variables included in the present study. Paired t-tests showed that participants reported somewhat greater goal progress (t (353) = −1.78, p = .083) for communal (Mean = 4.46; SD = 1.54), rather than agentic (Mean = 4.30; SD = 4.49), goals. Participants also reported relatively

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Key variable characteristics</th>
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</thead>
<tbody>
<tr>
<td>Conscientiousness (n = 932)</td>
<td>3.52 (.68)</td>
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<tr>
<td>Extraversion (n = 932)</td>
<td>3.24 (.87)</td>
</tr>
<tr>
<td>Neuroticism (n = 932)</td>
<td>3.17 (.84)</td>
</tr>
<tr>
<td>Openness to experience (n = 932)</td>
<td>3.68 (.62)</td>
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<tr>
<td>Agreeableness (n = 932)</td>
<td>3.75 (.65)</td>
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<tr>
<td>Agency goal progress mid-year (n = 839)</td>
<td>4.08 (1.17)</td>
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<tr>
<td>Communal goal progress mid-year (n = 354)</td>
<td>4.34 (1.60)</td>
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<tr>
<td>Agency goal progress end-of-year (n = 861)</td>
<td>4.63 (1.45)</td>
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<tr>
<td>Communal goal progress end-of-year (n = 347)</td>
<td>4.76 (1.77)</td>
</tr>
<tr>
<td>Aut. motivation for agentic goals baseline (n = 932)</td>
<td>1.98 (1.63)</td>
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<tr>
<td>Aut. motivation for communal goals baseline (n = 396)</td>
<td>2.88 (1.95)</td>
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<tr>
<td>Aut. motivation for agentic goals mid-year (n = 832)</td>
<td>1.65 (1.76)</td>
</tr>
<tr>
<td>Aut. motivation for communal goals mid-year (n = 339)</td>
<td>2.50 (1.87)</td>
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</table>

Abbreviations: Aut., Autonomous; SD, standard deviation.
more autonomous motivation for their communal goals as compared to their agentic goals, both at T1 (\(t(353) = -9.05, p < .001\)) and T2 (\(t(338) = -8.46, p < .001\)). In addition, the goal progress measures for agency and communion were significantly positively related, \(r(353) = .17, p = .001\). Moreover, Conscientiousness and Extraversion were significantly related to each other as well, \(r(354) = .15, p < .001\).

Multiple regression analyses were conducted to examine the relations of the Big Five traits to the number of agentic and communal goals that participants set. Specifically, the number of agentic and communal goals (ranging from 0 to 3) was regressed on the Big Five traits. Both analyses were not significant: for agentic goals, \(F(5, 926) = 1.33, p = .25\) and for communal goals, \(F(5, 926) = 1.28, p = .27\). From these analyses, we concluded that none of the Big Five traits were related to the actual number of agentic or communal goals that participants set.

An important note is that preliminary analyses indicated that gender was unrelated to the goal-related measures and, therefore, was not included in the main results reported below.

### Table 2 Correlations among main variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
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<tbody>
<tr>
<td>1. Conscientiousness</td>
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<td>2. Extraversion</td>
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<td>3. Neuroticism</td>
<td>-0.22**</td>
<td>-0.25**</td>
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<td>4. Openness</td>
<td>0.03</td>
<td>0.19**</td>
<td>-0.05</td>
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<tr>
<td>5. Agreeableness</td>
<td>0.21**</td>
<td>0.12**</td>
<td>-0.21**</td>
<td>0.10**</td>
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<td>6. T2 agency GP</td>
<td>0.24**</td>
<td>0.08</td>
<td>-0.10</td>
<td>-0.01</td>
<td>0.08*</td>
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<td>7. T2 communal GP</td>
<td>0.14**</td>
<td>0.21**</td>
<td>-0.09</td>
<td>0.14</td>
<td>0.05</td>
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<td>8. T3 agency GP</td>
<td>0.22**</td>
<td>0.04</td>
<td>-0.11**</td>
<td>-0.04</td>
<td>0.08*</td>
<td>0.11**</td>
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<td>9. T3 communal GP</td>
<td>0.07</td>
<td>0.27**</td>
<td>-0.15**</td>
<td>0.02</td>
<td>0.10</td>
<td>0.11</td>
<td>0.49**</td>
<td>0.14**</td>
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<tr>
<td>1. T1 autonomous AG</td>
<td>0.27**</td>
<td>0.14</td>
<td>-0.23**</td>
<td>0.14**</td>
<td>0.10</td>
<td>0.15</td>
<td>0.05</td>
<td>0.10**</td>
<td>0.11</td>
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<tr>
<td>11. T1 autonomous CG</td>
<td>0.16**</td>
<td>0.21**</td>
<td>-0.10</td>
<td>0.13**</td>
<td>0.17**</td>
<td>0.00</td>
<td>0.13**</td>
<td>-0.03</td>
<td>0.19**</td>
<td>0.26**</td>
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<tr>
<td>12. T2 autonomous AG</td>
<td>0.25**</td>
<td>0.11**</td>
<td>-0.25**</td>
<td>0.13**</td>
<td>0.16**</td>
<td>0.21**</td>
<td>0.06</td>
<td>0.09**</td>
<td>0.07</td>
<td>0.67**</td>
<td>0.21**</td>
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</tr>
<tr>
<td>13. T2 autonomous CG</td>
<td>0.22**</td>
<td>0.15</td>
<td>-0.13**</td>
<td>0.14**</td>
<td>0.17**</td>
<td>0.07</td>
<td>0.25**</td>
<td>0.06</td>
<td>0.24**</td>
<td>0.24**</td>
<td>0.59**</td>
<td>0.29**</td>
</tr>
</tbody>
</table>

Abbreviations: AG, agentic goal; CG, communal goal; GP, goal progress; T1, baseline assessment; T2, mid-year assessment; T3, end-of-year assessment.
*\(p < .01\); **\(p < .001\).

### 4.2 Main results

#### 4.2.1 Big Five traits and general goal progress

To highlight the added value of distinguishing between agentic and communal goals, we first explored the relation of the Big Five traits to progress across both types of goals. The mean of goal progress from mid-year and at the end-of-year served as the dependent variable and the Big Five traits were entered as a set. The regression model was highly significant, multiple \(R = .27, F(5, 865) = 15.58, p < .001\). Only two of the traits emerged as significant individual predictors of general goal progress: Conscientiousness, \(\beta = .23, t(865) = 6.61, p < .001\) and Extraversion, \(\beta = .08, t(865) = 2.24, p < .05\). Thus, if one disregards the content of the goals, it would appear that Conscientiousness is by far the strongest predictor of progress and that Extraversion makes a significant secondary contribution. We hypothesized that aggregating across all types of goals masks important specific linkages between Conscientiousness and Extraversion with agentic and communal goals, respectively. Therefore, all subsequent analyses highlighted the distinction between agentic and communal goals thematically aggregated indicators of goal motivation and progress.

#### 4.2.2 Big Five traits and goal progress for agentic and communal goals

Multiple linear regression analyses on agentic and communal goal progress over the year were conducted in which the Big Five traits were entered as a set. The regression of agentic goals revealed a significant multiple \(R = .27, F(5, 863) = 13.70, p < .001\). Table 3 provides the standardized regression coefficients for each of the Big Five traits. Only Conscientiousness was significantly related to the amount of progress made on agentic goals over the year, \(\beta = .24\). The regression of communal goals revealed a significant multiple \(R = .31\) in communal goal progress, \(F(5, 367) = 27.25, p < .001\).
7.80, P < .0001. Only Extraversion was significantly related to the amount of progress made on communal goals over the year, β = .24. Thus, participants made greater progress on agentic goals when they were higher on Conscientiousness, whereas they made greater progress on communal goals when they were high on Extraversion. Openness to experience, Agreeableness, and Neuroticism were unrelated to progress on agentic and communal goals.

### 4.2.3 Goal motivation by Big Five traits

Multiple linear regression analyses on agentic and communal goal motivation at baseline were conducted in which the Big Five traits were entered as a set. The regression of agentic goals revealed a significant multiple R of .34 in goal autonomy, F (5, 926) = 24.75, P < .001. Table 4 provides the standardized regression coefficients for each of the Big Five traits. Both Conscientiousness, β = .22, and Openness to experience, β = .12, were significantly positively related to relative autonomy for agentic goals, whereas Neuroticism was significantly negatively related, β = −.16. The regression of communal goals revealed a significant multiple R of .29 for communal goal autonomy, F (5, 390) = 7.10, P < .0001. Extraversion, β = .16, and Agreeableness, β = .12, were both significantly positively related to having more autonomous motivation for communal goals. Thus, as hypothesized, autonomy for agentic goals tended to be associated with Conscientiousness and Openness to experience, whereas autonomy for communal goals tended to be associated with Extraversion and Agreeableness. The relation of Neuroticism to less agentic goal autonomy was unexpected. The relations of the Big Five traits to mid-year reports of goal motivation will be explored in the following sections of the results.

### 4.2.4 Model-testing: Conscientiousness and Extraversion

Structural equation modeling (SEM) using MPlus (Muthén & Muthén, 2012) was used to test our initial theoretical model (see Figure 1). Specifically, it was hypothesized that Conscientiousness would be positively related to agentic goal motivation at the beginning of the year, which in turn, was hypothesized to be positively associated with agentic goal motivation at mid-year. Subsequently, agentic goal motivation was hypothesized to be positively related to agentic goal progress at mid-year, which would in turn be positively associated with agentic goal progress at the end of the academic year. With regards to Extraversion, it was hypothesized to be related to communal goal motivation at the beginning of the year, which would in turn be associated with communal goal motivation at mid-year. In turn, mid-year communal goal motivation was hypothesized to be positively related to mid-year communal goal progress, which in turn, was hypothesized to be positively associated to communal goal progress at the end of the academic year. No crossover effects were expected from either Conscientiousness or Extraversion on communal and agentic goal motivation and progress, respectively. To test these hypotheses (especially the crossover effects), the SEM analyses were conducted on the subsample of participants that had set both a communal goal and agentic goal at the beginning of the academic year; thus, these analyses were conducted on 355 participants (78% female).

Prior to the SEM analyses, data were checked for missing values and normality. Considering the small amount of missing data (i.e., 3.7%), the default robust full information maximum likelihood (FIML) algorithm available in Mplus 7.3 was used to impute the missing values. FIML has been deemed as a very reliable way of handling missing data when compared to other methods such as listwise deletion or simple imputation (Enders, 2010). Moreover, analyses were conducted to ensure that the participants who set both agentic and communal goals possessed similar characteristics from the rest of the participants in our sample with regards to age, gender, and personality traits. Results confirmed that our subsample of 355 participants did not differ from the rest of the sample in trait Conscientiousness and Extraversion, or in goal motivation at baseline.

The SEM analysis was thus performed using robust maximum likelihood estimation (MLR) procedures with MPLUS 7.3 (Muthén & Muthén, 2012). This method is preferable to
to others (such as ML) because it is robust to any potential deviations from normality. To test indirect effects, the bias-corrected bootstrap method (5,000 samples with 95% bias—corrected confidence intervals [CIs]) using the maximum likelihood procedure (ML) was favored because the MLR estimation does not offer bootstrapping. The following fit indices were thus given priority in model evaluation: the comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardized root mean squared residual (SRMR). According to Kline (2011) and Tabachnick and Fidell (2007), the CFI should be .95 or higher, while the RMSEA and SRMR should be .06 or lower for acceptable model fit.

Our theoretical model (see Figure 1) was first assessed. The model did not fit the data well: MLR $\chi^2$ ($df = 33, N = 355$) = 100.953, $p = .000$, CFI = .892, RMSEA = .076 (.059, .093), SRMR = .084. Inspection of the modification indices (critical value: $\Delta df = 1, \chi^2 = 3.84, p = .05$) suggested the addition of direct links between Conscientiousness and both T2 autonomous motivation for agentic goals and T2 progress on agentic goals, as well as direct links between Extraversion and progress on communal goal at both T2 and T3. Moreover, the covariance links between agentic and communal goal progress at both T2 and T3 were not significant and thus removed from our final model. Overall, our final model (see Figure 2) fits the data adequately: MLR $\chi^2$ ($df = 30, N = 355$) = 50.310, $p = .012$, CFI = .968, RMSEA = .044 (.021, .064), SRMR = .058.2 In the following SEM models presented, the absence of paths indicates that those links were not included in the model.

All hypothesized paths were statistically significant at the $p < .05$ level and are displayed in Figure 2. Conscientiousness was positively related to agentic goal motivation at the beginning of the year, $\beta = .176$, $p = .001$. In addition to this hypothesized link, Conscientiousness was also positively related to mid-year agentic motivation, $\beta = .107$, $p = .007$, and progress, $\beta = .244$, $p < .001$. Agentic goal motivation at the beginning of the year was positively related to agentic goal motivation at mid-year, $\beta = .670$, $p < .001$. In turn, mid-year agentic goal motivation was positively related to mid-year agentic goal progress, $\beta = .407$, $p < .001$. Results of indirect effects provided support for the mediating effect of agentic goal motivation (at T1 and T2) and mid-year goal progress (T2) in the relation between Conscientiousness and end-of-year agentic goal progress (T3), $\beta = .007$, 95% CI [.002, .018].

### Table 4

<table>
<thead>
<tr>
<th>Variable</th>
<th>Agency goal autonomous motivation</th>
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<th>Communal goal autonomous motivation</th>
<th></th>
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<td>$B$</td>
<td>$SE_b$</td>
<td>$\beta$</td>
<td>$B$</td>
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<td>.26</td>
</tr>
<tr>
<td>Extraversion</td>
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<td>.06</td>
<td>.05</td>
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</tr>
<tr>
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<td>-.16**</td>
<td>-.04</td>
</tr>
<tr>
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<td>.08</td>
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<td>.29</td>
</tr>
<tr>
<td>Agreeableness</td>
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<td>.08</td>
<td>.01</td>
<td>.35</td>
</tr>
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</table>

*p < .01; **p < .001.

### Figure 1

Original theoretical model involving Conscientiousness and Extraversion with agentic and communal goal motivation and progress, respectively.
With regards to Extraversion, it was positively associated with communal goal motivation at the beginning of the academic year, $\beta = .174$, $p < .001$. In addition, Extraversion was also positively related to communal goal progress, both at the midpoint, $\beta = .172$, $p < .001$, and the endpoint, $\beta = .177$, $p = .001$, of the academic year. Communal goal motivation at the beginning of the year was positively associated with communal goal motivation at mid-year, $\beta = .590$, $p < .001$. In turn, mid-year communal goal motivation was positively associated with mid-year communal goal progress, $\beta = .226$, $p < .001$, which was then positively related to end-of-year communal goal progress, $\beta = .469$, $p < .001$. Results of indirect effects supported the mediating role of communal goal motivation (at T1 and T2) and mid-year communal goal progress (T2) in the relation between Extraversion and end-of-year communal goal progress, $\beta = .010$, 95% CI = [0.004, 0.020]. Importantly, the indirect effects of Extraversion on end-of-year communal goal progress remained significant after including the other traits in the model, $\beta = .010$, 95% CI = [0.004, 0.020].

As in our initial model, no crossover effects were observed between either Conscientiousness or Openness to experience and Extraversion with agentic and communal goal motivation and progress, respectively.

### 4.2.5 Model-Testing: The Big Five

A second SEM was conducted with Conscientiousness and Extraversion with the addition of the traits of Openness to experience, Agreeableness, and Neuroticism. These additional analyses were conducted to explore the effects of all Big Five traits on agentic and communal goal motivation and progress throughout the academic year. In addition to the specific effects of Conscientiousness on agentic goals and of Extraversion on communal goals, it was hypothesized that Openness to experience would also be positively related to agentic goal motivation, while Agreeableness would be positively associated with communal goal progress. No a priori hypotheses were formed with regards to Neuroticism, as this personality trait was not expected to have a specific role for either agentic or communal goal motivation and progress. The same procedures as described for the first model were employed herein.

All hypothesized paths were statistically significant at the $p < .05$ level and are displayed in Figure 3. Results of this new model replicated those of our initial model with regards to the relations of goal-specificity of Conscientiousness and Extraversion on agentic and communal goal motivation and progress, respectively.

In addition to Conscientiousness, Openness was also positively related to agentic goal motivation at the beginning of the year, $\beta = .109$, $p = .021$. Results of indirect effects also supported the mediating role effect of agentic goal motivation (at T1 and T2) and mid-year goal progress (T2) in the relation between Openness to experience and end-of-year agentic goal progress (T3), $\beta = .005$, 95% CI = [.001, .012]. Importantly, the indirect effects of Conscientiousness on end-of-year agentic goal progress remained significant after including the other traits in the model, $\beta = .008$, 95% CI = [.002, .019].

In addition to Extraversion, Agreeableness was positively associated with communal goal motivation at the beginning of the year, $\beta = .182$, $p < .001$. Results of indirect effects also supported the mediating role effect of communal goal motivation (at T1 and T2) and mid-year goal progress (T2) in the relation between Agreeableness and end-of-year communal goal progress at the end of the academic year (T3), $\beta = .011$, 95% CI = [.005, .023]. Importantly, the indirect effects of Extraversion on end-of-year communal goal progress remained significant after including the other traits in the model, $\beta = .010$, 95% CI = [.004, .020].

As in our initial model, no crossover effects were observed between either Conscientiousness or Openness to experience and Extraversion with agentic and communal goal motivation and progress, respectively.
and communal goal motivation or progress. Such crossover effects were also not found between either Extraversion or Agreeableness and agentic goal motivation or progress. Overall, the proposed model fits the data adequately: MLR $\chi^2 (df = 52, N = 355) = 84.330, p = .003, CFI = .954, RMSEA = .042 (.024, .058), SRMR = .059.$

5 | DISCUSSION

The present study examined the role of the Big Five personality traits in the pursuit of agentic and communal goals in the context of a multi-wave prospective study of university students over an academic year. We hypothesized that when individuals pursue goals that match their personality traits, they feel relatively more autonomous and are more likely to achieve progress. We hypothesized that the trait of Conscientiousness would be linked with agentic goals that emphasize achievement and mastery, whereas the trait of Extraversion would be linked with communal goals that emphasize interpersonal relationships. Providing support for our trait-goal matching hypotheses, the relations of Conscientiousness with progress on agentic goals, and of Extraversion with progress on communal goals, were confirmed, as were links with goal-specific indicators of autonomous motivation. Structural equation modeling analyses highlighted the unique links between Conscientiousness and agentic goal motivation, and between Extraversion and communal goal motivation. There was no evidence of crossover effects from Conscientiousness to communal variables or Extraversion to agentic variables. The model testing also showed that mid-year levels of goal motivation and goal progress were associated with baseline trait levels and that the mid-year levels were associated with end-of-year goal progress. Together, these results support the hypothesis that the effects of Conscientiousness and Extraversion on goal progress depend on the specific content of the goal being pursued. When individuals select trait-concordant goals, they appear to feel more autonomous in their goal pursuit, which, in turn, leads to enhanced goal progress.

Interestingly, our results indicated that the specific effects of trait-goal matching on autonomous goal motivation for communal goals, but not agentic goals, were restricted to the goal selection phase of the goal action sequence. For communal goals, there was no evidence of an emergent, dynamic relation such that the trait-goal match resulted in significant increases in autonomous goal motivation from baseline, to mid-year, and to the end-of-year. We are unsure as to why trait-goal matching seemed to have a prolonged direct effect on agentic, but not communal goal motivation. One potential explanation for this finding may be that participants tended to already have more autonomous, rather than controlled, motivation for their communal goals in general; therefore, perhaps they may have had less room to become more autonomously motivated for their communal goals over time over time, than they did for agentic goals. That being said, there was evidence that baseline differences in autonomous motivation
appeared to facilitate making goal progress on both agentic and communal goals over the academic year via links with subjective ease of goal effort during the academic year. This suggests a pathway from trait-goal matching, to autonomous goal motivation, to efficient goal pursuit, and ultimately, to greater goal success.

The main findings of the present study are original. The positive association of autonomous motivation and goal progress supports the SDT perspective of goal striving, but also adds an important theoretical wrinkle by highlighting the motivational benefits of trait-goal matching. Although previous research pointed to linkages of Conscientiousness and Extraversion with different types of goals (e.g., achievement vs. social), no previous study has used a longitudinal design to test the hypothesis that matching these traits with goal content would result in significantly greater goal progress over time. Instead, previous research has focused on links with concurrent feelings of subjective satisfaction or well-being (e.g., McGregor et al., 2006).

Interestingly, two other Big Five traits, Openness to experience and Agreeableness, also showed some evidence for trait-goal matching effects. More specifically, Openness to experience, like Conscientiousness, was significantly associated with agentic goal motivation. In addition, Agreeableness, like Extraversion, was significantly associated with communal goal motivation. Moreover, there was evidence that Openness to experience indirectly affected agentic goal progress through its influence on agentic goal motivation, whereas Agreeableness did the same for communal goals. Unlike Conscientiousness and Extraversion, however, there was no evidence of direct goal matching effects on progress for Openness to experience and Agreeableness.

The present study suggests that it is useful for goal researchers to distinguish between the agentic and communal nature of various goals. We were surprised that setting communal goals was a relatively rare occurrence among university students, with the number of such socially oriented goals being four times fewer than the number of agentic ones. Although, it is possible that a greater percentage of communal goals would have appeared if participants were asked to list a larger number of goals. Interestingly, despite their relatively infrequent selection, communal goals appeared to have some distinct advantages over agentic ones—students reported significantly higher levels of autonomous, rather than controlled, motivation and attained somewhat higher rates of success. Why did our university student participants not generate and pursue more of such goals? We would hypothesize that the excessive achievement pressures of modern universities may induce many students to restrict their goal-setting efforts to specifically achievement-related strivings.

Although Conscientiousness and Extraversion were shown to be importantly related to how participants pursued agentic and communal goals, there was no evidence that these Big Five traits were actually directly related to choosing to pursue more agentic or communal goals. Thus, conscientious individuals were just as likely as extraverted ones to select communal goals and extraverted individuals were just as likely as conscientious ones to select communal goals. Where the traits seemed to matter was in how individuals felt about pursuing the different types of goals and whether they were able to succeed at them. Stated differently, traits do not lead people to select a greater proportion of goals that match their trait; however, having chosen a goal that matches one’s traits does seem to have a detectable motivational benefit—one perceives the goal as more interesting and personally meaningful.

We would hypothesize that other aspects of personality—such as motives and values—would be more directly related to the generation of agentic versus communal goals. Previous research by Emmons and McAdams (1991) suggests that the implicit motive for achievement is significantly related to the number of agentic goals one generates, whereas the intimacy motive is associated with communal goals. We would hypothesize that motive-goal matching would yield similar motivational advantages to those we demonstrated for trait-goal synchrony.

As previously mentioned, the motivational model of life span development (Heckhausen, Wrosch, & Schulz, 2010, 2019) highlights the importance of the transition from the deliberative goal selection phase to the implementational goal pursuit phase of a goal action sequence. A limitation of the current study is that we did not systematically examine motivational processes that come to the fore during the goal implementation and pursuit stages of the goal action sequence. Future research should aim to explore how goal motivation relates to sustained engagement in goal pursuit and aim to clarify the mechanisms by which motivation influences goal progress. Previous research suggests that the relation of autonomous goal motivation to goal progress is mediated by motivational processes that make goal pursuit more efficient and resilient during later phases of goal pursuit—for example, subjective ease of effort (Werner, Milyavskaya, Foxen-Craft, & Koestner, 2016), reduced difficulty with distractions and temptations (Milyavskaya, Inzlicht, Hope, & Koestner, 2015), and reduced action crises (Holding et al., 2016). We would expect that trait-goal matches, which result in greater autonomous motivation, would lead to more frequent and effective use of the positive goal pursuit strategies listed above. Indeed, in Footnote 3, we offer some initial evidence for this speculation in which we reported that baseline goal autonomy was significantly associated with subjective ease of effort midway through the first semester.

As described in Figure 1, which illustrates our original theoretical model, we hypothesized a directional pathway in which goal motivation leads to greater concurrent goal progress for both agentic and communal goals. That being said, it is important to note that, based on our findings, we cannot
fully rule out the possibility for the reverse directionality (i.e., making more progress leads to more autonomous motivation). Indeed, Sheldon and Houser-Marko (2001) found that individuals having more autonomous motivation for their goals can lead to greater goal progress, and, subsequently, making greater goal progress, can lead individuals to be more autonomously motivated, creating an upward spiral. In Footnote 2, we describe having tested an alternative model in which we explored the inverted directional path of concurrent goal motivation and goal progress. This alternative model was less parsimonious and did not improve fit when compared to our Figure 2 model. This led us to be more confident in putting forward the model described in Figure 2 in this manuscript.

The present study successfully tested Sheldon’s (2014) trait-goal matching model within a year-long prospective study tracking the personal goal progress of a large sample of university students. However, there are additional limitations to our study that should be noted. First, our sample was narrowly drawn from among university students at a highly competitive school. To enhance the generalizability of our findings, this research should be replicated within a community sample. Second, it should be acknowledged that, although the present research was prospective and longitudinal, we are unable to make firm conclusions based on causality. Third, the content of personal goals was coded in a simple, dichotomous manner. It is likely that coding goals for agency and communion separately using continuous scales would have allowed for more careful analysis of trait-goal matching effects. Future research should also consider having participants code the level of agency and communion of their own goals, a procedure that has been used for the coding of self-defining memories by Phillippe, Koestner, and Lekes (2013).

In addition, the implications of this research merit some consideration. Although the benefits of matching the content of one’s goals were clearly demonstrated for the traits of Conscientiousness and Extraversion, it is possible that a different and more nuanced coding system could have found goal-progress links for the other Big Five traits as well—Agreeableness, Openness to experience, and emotional stability. It might also be useful to consider distinct facets of Extraversion and Conscientiousness in predicting progress on certain types of agentic goal or communal goal (e.g., social dominance and leadership tasks). For example, many researchers have found it useful to differentiate Extraversion into two facets: social vitality and social dominance. It is plausible that different facets of Extraversion may be more or less relevant for certain types of goal outcomes (e.g., a socially confident extraverted individual may perform better at a goal such as improve my public speaking skills, whereas a socially vital extraverted individual may perform better at a goal such as meeting new people).

Even though individuals low on Conscientiousness and Extraversion may find it generally more difficult to pursue agentic and communal goals, respectively, there is a reason to believe that trait-goal mismatches can be overcome. Bryan Little’s (2008) free trait theory suggests that in the context of certain important goals (e.g., graduating from university or finding a significant other), an individual may be able to stretch their personality in order to pursue goals that are not in line with their natural underlying personality; however, the experience of stretching one’s personality may be draining and come at the price of their health and well-being (Bono & Vey, 2007; Little, 2008).

6 | CONCLUSION

The present study provided empirical support for Sheldon’s (2014) self-concordance model, highlighting the importance of matching one’s personal goals to one’s traits. Individuals who pursue more self-concordant goals (e.g., when more extraverted individuals pursue communal goals or more conscientious individuals pursue agentic goals) tend to benefit motivationally in terms of feeling more autonomous, which is predictive of more successful goal pursuit. The present study integrated SDT with trait theories of personality to enhance our understanding of variations in goal success.

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CONFLICT OF INTERESTS

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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ENDNOTES

1 Goal-specific self-efficacy was assessed at baseline with the following single item: To what extent do you feel you have the skills and resources

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necessary to attain this goal. Participants rated their agreement with the previous item in relation to each of their three personal goals on a 7-point scale with 1 corresponding to not at all and 7 corresponding to extremely. There was evidence that Conscientiousness was selectively associated with self-efficacy for agentic goals, whereas Extraversion was selectively associated with self-efficacy for communal goals. We do not report these results in the main article due to goal-specific self-efficacy having been assessed with only a single item and only at a single time point.

2 An alternative model, in which measures of goal motivation and goal progress for both agentic and communal goals at T2 were inverted (T1 trait → T1 goal motivation → T2 goal progress → T2 goal motivation → T3 goal progress), was also tested. This model provided acceptable fit to the data (MLR $\chi^2 (df=28, N=355) = 51.002, p = .005$, CFI = .964, RMSEA = .048 (.026, .069), SRMR = .062). However, this alternative model did not represent an improvement over our original model, as it was less parsimonious and did not significantly improve model fit (AMLR $\chi^2 = -0.567, \Delta df = 2, p = .755$; differences in scaled log likelihood were calculated using a publicly available online calculator: http://www.uoguelph.ca/~scowlld/lidiffest.html).

3 Subjective ease of effort for pursuing each goal was also assessed in the middle of the first semester for the 2016–2017 study. Following Werner et al. (2016), for each of their three personal goals, participants were asked about their subjective ease (how easy and natural does it feel to engage in activities related to this goal?) and feelings of laboriousness (how laborious and taxing does it feel to engage in activities related to this goal?). Participants rated their agreement with the previous items on a 7-point scale with 1 corresponding to not at all and 7 corresponding to extremely. Ratings for laboriousness were subtracted from ratings of ease to form an index of subjective ease of effort. Results revealed evidence that Conscientiousness was selectively associated with subjective ease of effort for agentic goals, whereas Extraversion was selectively associated with subjective ease of effort for communal goals. Moreover, there were significant positive links between goal motivation and ease of effort. We did not report these results in the main article due to subjective ease of effort ratings only having been collected for the 2016–2017 sample. Nonetheless, we do believe that self-concordant goal motivation may have influence throughout the entire goal action sequence because it promotes adaptive goal pursuit processes.

REFERENCES


