



Why do people set more self-concordant goals in need satisfying domains? Testing authenticity as a mediator [☆]



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ABSTRACT

Previous research has demonstrated that people set and pursue more self-concordant goals in domains where they experience the satisfaction of psychological needs (Milyavskaya, Nadolny, & Koestner, 2014). However, the mechanism for this has not been investigated. The present study proposes that authenticity experienced in a domain mediates the relationship between domain need satisfaction and goal self-concordance. Using multilevel structural equation modeling, we investigate two components of authenticity and find that only authentic behaviour, but not authentic awareness, relates to goal self-concordance and acts as a mediator. We also test an alternative model, ruling out the possibility that need satisfaction is influenced by authenticity.

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1. Introduction

People's feelings, thoughts, behaviours, and motivations differ across contexts. Indeed, it is not surprising when we hear of a person who is caring with her family, but ruthless in getting ahead at work. Although there are a variety of reasons why such disparity could exist, one explanation may be that the person is genuinely caring but pressured to act competitively at work, while alternatively such a behaviour may reflect the person's competitive nature. The extent to which a person is aware of and can act in line with their true nature is called authenticity. The ability to act in ways that are perceived as authentic in a given area of one's life likely depends on the psychological support and constraints afforded by the domains in which the person is engaged. Such authenticity, or lack thereof, may in turn be the driving force behind contextual differences in people's behaviours. In the present study, we investigate this proposed process, examining whether psychological experiences in a given domain impact authenticity, which

in turn explains contextual differences in the types of goals that people pursue.

Previous research has repeatedly shown that pursuing a goal concordant with one's ideals, values, and interests (termed self-concordant) is an important predictor of goal attainment and of well-being (Sheldon & Elliot, 1999). Goal self-concordance is typically defined and operationalized as the extent to which a goal fits with the person's underlying values, feelings, interests, and desires, *relative* to being set and pursued for external reasons, such as to please others or to gain rewards, or because of feelings of obligation, shame or guilt. Given the positive consequences of setting self-concordant goals (Koestner, Lekes, Powers, & Chicoine, 2002; Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001), it is important to understand *why* some goals that people set are more self-concordant than others. However, only one paper has examined this question, focusing on the role of the domains in which these goals are set (Milyavskaya et al., 2014).

One critical feature of domains, defined as "distinct spheres of human activity" (Emmons, 1995), is the amount of psychological need satisfaction experienced in them. As conceptualised by self-determination theory (Deci & Ryan, 2000), psychological needs are essential nutrients required for psychological growth and well-being that can be present or absent in any given environment based both on the actions of the social agents with whom the person interacts and on the person's perception of his or her surroundings. These needs are competence, autonomy, and relatedness (Deci & Ryan, 2000). Autonomy refers to experiencing choice and

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volition in behaviour. Competence involves experiencing mastery and the ability to effectively navigate and manage one's environment. Relatedness is feeling close and connected to other people with whom one interacts in that domain. For example, a strict, controlling boss who yells at his employees would result in a workplace where the employees' needs are thwarted. Conversely, perceiving a coach as understanding, providing choice and rationale would likely lead an athlete to experience need satisfaction in the sport domain.

Research has shown that the amount of autonomy, competence and relatedness experienced in any given domain contributes both to increased well-being and to motivation for continuing to engage in further activities in that domain (Milyavskaya & Koestner, 2011). For example, experiencing need satisfaction has been linked to greater vitality and lower exhaustion and burnout in sports (Adie, Duda, & Ntoumanis, 2008), persistence in school (Ratelle, Larose, Guay, & Sénécal, 2005), job performance (Baard, Deci, & Ryan, 2004), and relationship satisfaction (Patrick, Knee, Canevello, & Lonsbary, 2007), among others. While the three needs are sometimes examined separately, they are all considered essential, with research showing that they exert similar effects on basic outcomes (e.g. Reis, Sheldon, Gable, Roscoe, & Ryan, 2000). Because of these similar effects and typically high correlations among the needs, most researchers combine the three needs to form an index of need satisfaction (see Milyavskaya et al., 2014, pg. 708–709 for a further discussion on why including the three needs separately in a regression is problematic); we follow this convention in the present study.

Need satisfaction within domains also affects the goals that a person sets and pursues in that domain (Milyavskaya et al., 2014). In three studies, Milyavskaya and colleagues investigated differences in goals pursued in domains where the needs are either thwarted or satisfied. They found that goals are both perceived as more self-concordant in need satisfying domains, and that more self-concordant goals are selected for pursuit. In their introduction, Milyavskaya and colleagues (2014) discuss likely reasons why need satisfying domains would be conducive to the pursuit of self-concordant goals. Specifically, they suggest that in need-satisfying domains people may be able to “act more in line with their underlying values and beliefs”, and that in non-satisfying domains people may lack self-knowledge or have inaccurate self-knowledge (Milyavskaya et al., 2014, pg. 3). However, these hypothesised pathways are not actually operationalized or tested. A closer look at these proposed mechanisms shows that both acting in line with underlying values and possessing adequate self-knowledge are two facets of authenticity.

Authenticity refers to the extent to which people's actions and understanding is reflective of their “true self” (for a description of the concept of true self, see Schlegel, Hicks, Arndt, and King (2009), Schlegel, Hicks, King, and Arndt (2011)). Previous research and theorising has connected authenticity with people's self-understanding, the extent to which their actions are expressions of underlying values and chosen volitionally, and the willingness and ability to accurately view the core of the self (Kernis & Goldman, 2006). Although authenticity is often examined as a trait measure, people's functioning can be more or less authentic on a day-to-day basis (Heppner et al., 2008), suggesting that particular experiences and situations can play a role in authentic functioning. According to SDT, authentic functioning is particularly likely to occur in situations where supports for autonomy, competence and relatedness are in place (Deci & Ryan, 2000). Similarly, the idea that the true self can be expressed around close others who are unconditionally supportive has been used in previous research to distinguish the ‘true self’ from the ‘actual self’ (i.e. those aspects of the self that the person expresses to others at any given moment; Bargh, McKenna, and Fitzsimons (2002)). In turn,

research has shown that validation of one's true self, including feeling like one's true self is accepted by others, leads to lower defensiveness (Schimmel, Arndt, Pyszczynski, & Greenberg, 2001). Consequently, in domains where support for the three needs is available, people should be able to express their true self to a greater extent, and act in a more open, non-defensive way. We expect that this includes choosing and pursuing goals that are more in line with that true self – i.e., that are self-concordant. We thus expect that feelings of authenticity will mediate the link between psychological need satisfaction and adopting self-concordant goals. For example, if in her work Julie feels competent, that she is provided with meaningful choices (autonomy), and that her colleagues and supervisors respect and accept her (relatedness), she will feel and act more authentically in that setting, and will be able to set and pursue goals that are in line with her true self, instead of blindly pursuing goals simply to please her supervisors.

Although authenticity is often described as a unitary construct, researchers (Kernis & Goldman, 2006) have argued that it is composed of four distinct components: awareness, unbiased processing, behaviour, and relational orientation. While these four components of authenticity have been shown to be related to a number of positive outcomes (see Kernis and Goldman (2006), for a review), we are especially interested in two of them: authentic behaviour and authentic awareness. *Awareness* refers to the ability to understand one's true self, including “one's motives, feelings, desires, and self-relevant cognitions.” (Kernis & Goldman, 2006, pg. 294). *Authentic behaviour* consists of the ability to behave in accordance with one's preferences, values and needs.

Our reasons for focusing on authentic awareness and behaviour stem from their relevance to the goal setting phases described in many established theories of goal pursuit. For example, in the action phases theory (Gollwitzer, 1990), authentic awareness would be especially relevant in selecting goals, since knowing or understanding oneself would dictate the types of goals that a person would select. Similarly, authentic behaviour would be especially relevant in the planning and enacting phases, when it is the ability to act in a certain way that would regulate the outcome of these phases. Since goal setting is primarily a matter of choosing goals and planning goal pursuit (comprising Gollwitzer's first two stages), authentic awareness and behaviour should be most relevant. These two components of authenticity (awareness and behaviour) are also the ones that were specifically mentioned as potential mechanisms by Milyavskaya and colleagues (2014). In the present study, we actually test these two aspects of authenticity as mediators, hypothesising that the ability to understand one's true self in a given domain, and the ability to behave in a free and authentic manner accounted for the effects of need satisfaction on setting and pursuing self-concordant goals. Given that need satisfying settings encourage the free development and expression of one's true self (Deci & Ryan, 2000), we expected that people would report higher authenticity in domains where they experience the satisfaction of their needs for autonomy, competence, and relatedness. Feelings of authenticity should in turn translate into setting and pursuing goals that are authentic, or self-concordant.

Although these three concepts (need satisfaction, especially of the need for autonomy, authenticity, and self-concordance) may seem very similar at first glance, they are conceptually quite different. Need satisfaction represents a good fit between the person and the environment, and can be thought of as an environmental or contextual characteristic (how well the environment satisfies the three needs). Authenticity is an internal characteristic of the person, representing an internal psychological state. Finally, goal self-concordance represents a behavioural outcome, whether the goal(s) that a person generates and decides to pursue represent a high or low degree of fit with the ‘self’. In our model, both authentic

behaviour and awareness were expected to serve as mediators. To ensure that our results are not due to people's trait authenticity (such that more authentic people generally experience more need satisfaction, which then translates to greater domain-specific authenticity and more self-concordant goals), we controlled for trait authenticity in the analyses.

2. Method

Participants ($N = 240$, 77% female, M age = 20.5) were undergraduate students recruited through online advertisements for a large prospective study of goal pursuit². In September, participants completed trait-level measures, including a measure of trait authenticity. Three months later (in December; $N = 212$), participants completed measures of psychological need satisfaction in four domains (school, social life, health/physical well-being, and activities/hobbies). Four weeks later (in January; $N = 220$), they were asked to rate their authenticity in these four domains, and set three goals for themselves, which they rated on self-concordance. These goals were coded into domains by two independent coders ($\kappa = .91$). For example, a goal of "getting a 3.5 GPA" was coded as falling into the school domain. Data was re-organised so that goals were nested within person, with domain need satisfaction and domain authenticity associated with each goal that matched one of the domains. Of all the goals indicated, 29.7% were academic goals, 9.7% were social goals, 20.9% were health goals, and 11.4% were goals related to hobbies or activities. The remainder of the goals (28.3%) did not correspond to one of the four domains and thus did not have a score for domain need satisfaction or authenticity.

3. Measures

3.1. Domain need satisfaction

A six-item measure of need satisfaction (Milyavskaya, Philippe, & Koestner, 2013) was used to assess domain need satisfaction. Sample items include "In this domain I feel free to do things and think how I want" (autonomy), "In this domain I feel competent or capable" (competence), and "In this domain I feel connected to people" (relatedness). One item assessing autonomy was negatively worded ("In this domain I feel obliged to do things or think in certain ways") and reverse-coded. A mean overall need satisfaction score was obtained for each domain (α 's ranging from .78 to .85). All responses were made on a 7-point scale of -3 (*Strongly disagree*) to 3 (*Strongly agree*).

3.2. Domain authenticity

Authentic behaviour and authentic awareness were assessed in each domain using two items per subscale adapted from the authenticity inventory (Kernis & Goldman, 2006)³. One regular and one reverse-coded item from the two subscales were selected based on applicability to the domain level: "For better or for worse I am aware of who I truly am in this domain" and "In this domain I frequently am not in touch with what's important to me" (authentic awareness); "In this domain I frequently pretend to enjoy some-

² The study also included the collection of numerous measures not considered in the present manuscript. Other research with this sample has examined the role of interpersonal support in goal pursuit (Koestner, Powers, Milyavskaya, Carbonneau, & Hope, 2014); perfectionism and affect (Milyavskaya et al., 2014), and how aspirations predict the resolution of Eriksonian life stages (Hope, Koestner, Milyavskaya, & Holding, 2013). There is no overlap between the content and the hypotheses of the present study with the aforementioned studies.

³ Domain and trait authenticity were assessed using shortened measures rather than the original scales for the sake of brevity, as to not overly burden the participants.

Table 1
Descriptive statistics of study variables.

	Min	Max	Mean	SD	ICC
<i>Goal level</i>					
Domain need satisfaction	1.33	7	5.04	1.08	.46
Domain authentic awareness	1.5	7	5.06	1.22	.56
Domain authentic behaviour	2	7	4.98	1.20	.66
Goal self-concordance	-12	12	3.13	4.77	.22
<i>Person level</i>					
Authentic awareness	2	7	5.29	.91	
Authentic behaviour	2.2	7	4.52	1.05	

thing when in actuality I really do not." and "In this domain I find that my behaviour typically expresses my personal needs and desires." (authentic behaviour).

3.3. Trait authenticity

Trait authentic awareness and authentic behaviour were each assessed using five items drawn from the respective subscales of Kernis and Goldman's (2006) Authenticity Inventory. The reliabilities of the subscales were .65 for behaviour and .68 for awareness; these values are similar to reliabilities found using the full scale (e.g. Gillath, Sesko, Shaver, & Chun, 2010).

3.4. Goal self-concordance

Participants were asked to rate their motivation for pursuing that goal using four items that assessed external ("Because somebody else wants you to, or because you'll get something from somebody if you do"), introjected ("Because you would feel ashamed, guilty, or anxious if you did not – you feel that you ought to strive for this"), identified ("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 will provide you – the primary reason is simply your interest in the experience itself") reasons for goal pursuit (Koestner et al., 2002). All responses were made on a 7-point scale of -3 (*Strongly disagree*) to 3 (*Strongly agree*). We computed a general measure of self-concordance for each goal by adding the intrinsic and identified (autonomous) scores and subtracting the external and introjected (controlled) scores.

4. Results

4.1. Preliminary analyses

Table 1 presents the range, means, standard deviations and intraclass correlations (ICCs) for all study variables. As goals were nested within person, we were able to look at the variance that was accounted for at the within and between-person levels. Results showed that 54% of the variance in domain need satisfaction, and 30–40% of the variance in domain authenticity was among goals, with the rest among participants. Strikingly, 78% of the variance in goal motivation was among goals, suggesting that people set goals for very different reasons.

4.2. Mediation analyses

Multilevel mediation analyses were conducted using Mplus 7.1 software. A full information maximum likelihood (FIML) approach was used to deal with missing data, so that all 240 participants were included in the analysis. A 1-(1,1)-1 model (Preacher, Zyphur, & Zhang, 2010) with random intercepts and fixed slopes was specified, with trait authenticity added as a control variable

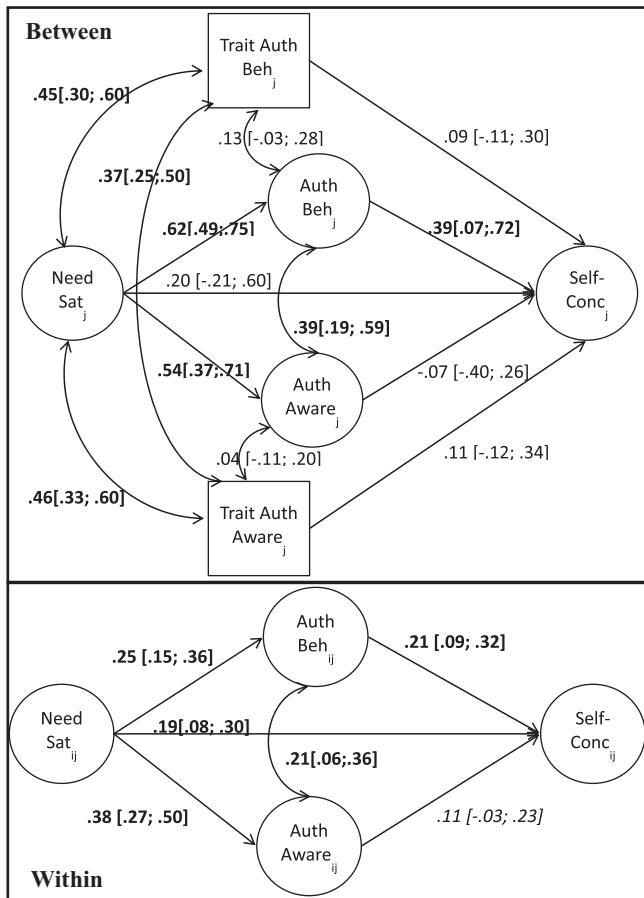


Fig. 1. Results of multilevel mediation model. Complete model of between (top panel) and within (bottom panel) mediation effects. Need Sat: psychological need satisfaction; Auth Aware: authentic awareness; Auth Beh: authentic behaviour; Self-Conc: self-concordance; model presents standardized coefficients and 95% confidence intervals. Numbers in bold are significant at $p < .05$. Italicised numbers are marginally significant at $p < .10$. Single-headed solid arrows represent direct paths tested in the model; curved lines represent covariation; circles represent latent variables (created by separating the variance of the observed variable into within and between portions); rectangles represent observed variables.

on the between-person level. In this procedure, scores are decomposed into two latent parts, a between-person score and a within-person score, which are then used to estimate the model at both levels (Preacher et al., 2010). This approach has been shown to yield unbiased estimates of the effects at each level of analysis (Preacher et al., 2010). We thus build a model wherein need satisfaction in a goal-related domain predicted goal self-concordance, and included both domain authentic behaviour and authentic awareness as mediators. Trait-level authentic behaviour and awareness were specified as control variables at the between-person level. The model with all included effects is illustrated in Fig. 1.⁴ Consistent with expectations, psychological need satisfaction was related to authentic behaviour, authentic awareness, and goal self-concordance. As expected, we found a significant indirect effect at the within level through authentic behaviour (Indirect effect = .28, $p < .05$, 95% CI = .06–.50), but not through authentic awareness (Indirect effect = .22, $p = .10$, 95% CI = -.04–.43). This was also the case at the between level, with a significant indirect effect

Table 2
Fit indices of hypothesised model (Model 1) and alternate model (Model 2).

	Model 1	Model 2
AIC	8791.945	8821.701
BIC	8948.961	8978.717
CFI	.994	.921
RMSEA	.038	.141
SRMR within	.003	.002
SRMR between	.029	.147

through authentic behaviour (Indirect effect = .75, $p < .05$, 95% CI = .10–1.40), but not through authentic awareness (Indirect effect = -.12, $p = .68$; 95% CI = -.67–.43). These results suggest that it is the ability to behave in an authentic manner in a given domain, rather than possessing self-knowledge, that leads people to set more self-concordant goals in domains where they experience psychological need satisfaction. Additionally, people who are generally able to behave authentically across all goal-related domains also set more self-concordant goals overall. The model accounted for 13.7% of the within-person variance and 35.7% of the between-person variance in self-concordance. We also examined the proportion of the effect that was mediated by authentic behaviour by dividing the mediation effect by the total effect (Ditlevsen, Christensen, Lynch, Damsgaard, & Keiding, 2005). This analysis showed that 19% of the within-person effect and 60% of the between-person effect of need satisfaction on self-concordance are explained by authentic behaviour.

Although we hypothesised that it is need satisfaction in the domain that influences domain authenticity, it may be possible that instead authentic behaviour or awareness allows people to perceive increased need satisfaction. To rule out this possibility we tested an alternate model where domain-specific authentic awareness and authentic behaviour predicted need satisfaction, which in turn predicted goal self-concordance. This model provided a worse fit (see Table 2), including unacceptable RMSEA and SMR between values.

5. Discussion

This study builds on previous research examining the reasons why some goals people set are self-concordant while others are not. In this study, we tested whether authentic awareness and authentic behaviour mediated the relationship between domain need satisfaction and goal self-concordance, providing a direct test of the mechanism proposed (but not tested) by Milyavskaya and colleagues (2014). Results showed that only authentic behaviour, but not awareness, was a mediator, suggesting that it is the ability to behave authentically afforded by need-supporting domains, rather than an awareness of oneself in those domains, that allows people to set and pursue self-concordant goals.

Need satisfaction was related to both authentic awareness and authentic behaviour at both the within and between person level, showing that people feel and act more authentically in the goal-related domains where their needs are satisfied compared to other domains, and also that people who generally experience competence, autonomy and relatedness (across all the domains in which they are involved) are better able to be authentic in those domains. This remains true controlling for trait authenticity. That is, experiencing need satisfaction predicts additional variance in domain-specific manifestations of authenticity independently of how generally authentic a person is. In the present study, over 50% of the variance in need satisfaction and almost 80% of the variance in goal self-concordance was among goals, showing once again the importance of situating goals and psychological functioning more gener-

⁴ To ensure that our results were not simply due to all our variables of interest measuring one underlying concept (e.g. autonomy or authenticity in the domain), we first tested a latent factor model where all the variables were loaded on one factor at the within-level and another on the between level. The fit statistics for this model were poor (CFI = .69; RMSEA = .10; SRMR within = .08; SRMR between = .07).

ally in a broader contextual framework (see Milyavskaya et al. (2014) for a further discussion of this issue).

While we initially predicted that both authentic awareness and authentic behaviour would be related to setting more self-concordant goals, this was not the case. Authentic awareness did not play a role in goal self-concordance, suggesting that it is not the case that better self-understanding allows a person to set goals that are more in line with one's core needs, values, and desires. Although at first glance it seems as though an understanding of one's values and needs is necessary to be able to set goals in line with these values and needs, it is likely not sufficient. That is, no matter how clear one's understanding of a situation may be, a person may not always be in a position to act on that understanding and self-knowledge, resulting in goals that are less than optimal. This may be the case in situations or domains where a person feels constrained or pressured to set a certain set of goals or behave in a certain way, where no amount of awareness would likely help the person select self-concordant goals (since such goals may not even be available). On the other hand, being able to behave authentically in a given context would allow the person to pursue those goals that are most self-concordant. This was supported by our data.

The present study also examined the proportion of the total effect of need satisfaction on self-concordance that was mediated by authentic behaviour, finding that authentic behaviour explained 19% of the within-person and 60% of the between-person total effects. This also means that a substantial portion of the effect remains unexplained, especially on the within level. This suggests that there are other mechanisms likely responsible for the relationship between need satisfaction and self-concordance that could play a more important role than authentic behaviour; future research is needed to identify them.

In testing and ruling out an alternate model where authenticity predicts need satisfaction, we were able to demonstrate the directionality of these findings, showing that psychological need satisfaction predicted authentic awareness and behaviour. This is in line with previous research in which need fulfillment in important life goals, although correlated with overall authenticity, did not mediate the relationship between authenticity and well-being (Kernis & Goldman, 2006). Although their measures of need fulfillment differ from ours and were directly related to the goals themselves rather than to goal domains, their findings, together with ours, suggest that need satisfaction is indeed responsible for authentic functioning rather than vice versa.

The present study examined two components of authenticity, *authentic awareness* and *behaviour*, leaving out *relational orientation* and *unbiased processing*. This was done because we expected that the left-out components were less relevant to the goal-setting phase. Specifically, while unbiased processing would be useful during goal pursuit (for example, while evaluating whether progress is being made), it is not likely to play much of a role during goal adoption. Similarly, while authentic relational orientation may be useful in the pursuit of relationship goals or of goals shared with others, it should have little to do with the personal goals that people are adopting. While these theoretical reasons along with the need for survey brevity prevented us from including *relational orientation* and *unbiased processing*, further research is needed to confirm that these components of authenticity are indeed unrelated to goal setting.

As this study was conducted with students, the domains in which they are engaged and the goals they set may not be applicable to the broader working population. Additionally, as students' affect fluctuates throughout the academic year, with decreasing affect throughout the semester and rejuvenation in January (Milyavskaya et al., 2014), the timing of our assessments may have influenced responses. However, this would likely have been the case across all goals (i.e., all responses would have been similarly

influenced), so would not account for the within-person effects found in this research.

In sum, this study provides further evidence of the importance of domains and the psychological need satisfaction experience therein for goal setting. Showing that people set more self-concordant goals in need-satisfying domains because they are able to behave more authentically in those domains enhances our understanding of the role of domains and how need satisfaction experienced in these domains exerts its effects. Overall, this research reinforces the necessity to take into consideration the broader contextual framework in which goal pursuit occurs. Goals are not set in a vacuum, but are influenced by the circumstances and affordances of the domains or contexts in which they are pursued.

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