"My goal is to do the best that I can in this class": relevance of potential based achievement goals for intrinsic motivation and course performance

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"My goal is to do the best that I can in this class": Relevance of potential-based achievement goals for intrinsic motivation and course performance

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*G*oals are a core aspect of motivation. Elliot et al. (2015) introduced potential-based goals as a type of self-based goals that are conceptualised as seeking to do as well as one possibly could (potential approach goals) or seeking to avoid doing worse than one possibly could (potential avoidance goals). We follow up on this construct by examining its factorial structure and investigating its associations with intrinsic motivation and performance. We assessed 436 Iranian university students' potential-based goals at the beginning of an English course, intrinsic motivation during the semester and end-of-course performance. Results attested factional separability similar to the original work, supporting generalisability concerning more collectivistic contexts. Potential approach goals were positively associated with intrinsic motivation and performance, while potential avoidance goals were negatively associated with performance, also after controlling for demographics. Overall, this affirms the relevance of potential-based goals for a comprehensive understanding of how goals motivate individuals.

Keywords: Achievement goals; Potential-based goals; Mastery; Learning; Personal-best.

Goals are central to how students engage and perform in school. In definitions and conceptualisations of human motivation, particularly motivations in achievement settings such as schools, goals constitute a key aspect. To better understand the role of goals for individuals' experiences and behaviours and to derive practical implications (e.g. creating optimally motivating environments in classrooms), it is necessary to investigate different types of goals and how they function across different cultural contexts. The achievement goal approach, arguably the most generative and fruitful achievement motivation tradition (Elliot & Hulleman, 2017), focuses on competence-relevant goals that guide and direct behaviours in achievement situations. Depending on the underlying orientation and valence of pursued end-states, goals can be consolidated into different types of achievement goals that span up different motivational systems. Over the course of achievement goal research, several different models have been articulated and much has been learned about the structure and predictive utility of these goals (for a review see Elliot & Hulleman, 2017).

Elliot et al. (2015) introduced potential-based goals as another type of achievement goal, however, they have hardly been investigated since. Investigations into potential-based achievement goals are especially important to better understand self-based standards in motivational research (Martin, 2006, 2011). In line with growth approaches to student development, goals focused on future possibilities are considered very relevant to education and academic development in terms of associations with learning processes and outcomes (see Martin, 2015, for an overview). Furthermore, considering the under-researched topic of potential-based standards (e.g. Albert, 1977; see Elliot et al., 2015, for an overview) is highly important for gathering a more comprehensive understanding of achievement goal pursuit regarding which types of goals exist and how they matter for learning processes. To this end, we follow up on the initial work of Elliot et al. (2015) by confirming the factorial separability of potential-based goals and investigating how potential-based goals are associated with intrinsic motivation and performance—the two most central and

frequently researched variables in achievement goal literature (Korn & Elliot, 2016). To additionally contribute to the gap of achievement goal research having primarily been conducted in Western contexts—although the configurations and relevance of motivations may differ cross-culturally (Henrich et al., 2010)—in the present work, we consider a collectivistic context to derive more comprehensive conclusions.

Theoretical background

From the conception of Achievement Goal Theory, *mastery goals* (entailing a focus on task mastery and improvement) have been posited as fundamental drivers for engaged and successful learning. To understand goal pursuit better, Elliot and colleagues conceptualised goals in terms of standards/referents with which competence is evaluated (Elliot, 1999). Following this perspective, mastery goals can be considered to be a combination of task- and self-based goals (Elliot et al., 2011). While task-based goals are focused on doing tasks right or not doing tasks wrong, self-based goals use a person's own intrapersonal trajectory as an evaluation standard. Elliot et al. (2015) demonstrated that this intrapersonal trajectory can be grounded in one's past or one's future potential. They termed the former *past-based goals* (which focus on doing better than one has done before) and the latter *potential-based goals* (which focus on living up to one's personal potential). Aside from the underlying orientation of goals (here: the standards used to define competence), a second fundamental way in which achievement goals are differentiated is their valence; that is, whether the respective end-states are sought to be approached or avoided (Elliot, 1999). This gives rise to *potential approach goals* (i.e. the aim to do as well as one possibly could) and *potential avoidance goals* (i.e. the aim to avoid doing worse than one possibly could).

Following this logic, potential-based goals can theoretically be considered a type of achievement goal that is clearly distinct from other types of goals (for a comprehensive overview on how they differ from other standard-based goals, see Elliot et al., 2015; and for how they differ from further types of mastery goals and personal-best goals, see Supporting Information). Theoretical and empirical works on achievement goals typically focused on past-based operationalisations of self-based goals, however, potential-based items were sometimes also a part of the measures (Hulleman et al., 2010). Elliot et al. (2015) demonstrated that potential-based and past-based achievement goals can be separated from each other and empirically form two distinct constructs; however, they did not investigate associations with other variables. To allow for precise and meaningful interpretations, researchers should be clear about whether they define and measure self-based goals in terms of past-based or potential-based goals. Yet, opposed to past-based goals, very little is known about potential-based goals. In fact, we only found two further works investigating this type of goal: Eskicumalı et al. (2017) used a Turkish translation of the Elliot et al. (2015) scale and reported a good fit of a two-factorial structure, however, they did not investigate associations with other variables. Ning (2019) surveyed first-year undergraduate students in Hong Kong and assessed potential-based goals using the same measure as Elliot et al. (2015). Results showed that separating potential approach from potential avoidance goals described the data better than an undifferentiated model, yet only sufficiently fit to the data when additionally including a general factor representing the shared variance between both goal types (bifactor model). Furthermore, there were small associations between goals with self-reported learning behaviours and GPA.

While these findings provide first indications for the relevance of potential-based goals, further research is necessary regarding their factorial structure and linkages with relevant learning processes and outcomes. To this end, we focus on the two "gold standard outcomes in research on achievement motivation" (Korn & Elliot, 2016, p. 4), namely intrinsic motivation and performance. Intrinsic motivation describes a person's interest in and enjoyment of an activity for its own sake. In school, it characterises students' quality of engagement in class. When considering the theoretical link between potential-based goals and intrinsic motivation, seeking to do as well as one possibly could can be expected to be stimulating and afford self-serving appraisals (see Elliot et al., 2015; Korn et al., 2019). Such motivation should facilitate the pursuit of task engagement as well as optimal levels of challenge (in terms of difficulty; Locke & Latham, 2002) that support intrinsic motivation. Opposed to that, performance attainment, for instance, assessed through end-of-course scores, describes the quantity of knowledge acquisition. Aside from providing optimal levels of challenge, seeking to do as well as one possibly could in class should go along with increased effort (as this is required to reach the respective goal), and consequently, also better performance attainment. A first indication for this theoretical argument may be positive effects that have been found for "do your best" goals in complex tasks focused on skill-development (Seijts & Latham, 2001).

Constituting central aspects of the learning process and its outcomes respectively, intrinsic motivation and course performance can be considered to be key dependent variables for the study of the relevance of potential-based goals. Furthermore, as these two variables are most frequently researched in studies on achievement goals, studying how potential-based goals are associated with them is particularly helpful to increase our understanding of the effects of potential-based goals and how they may differ from other types of achievement goals.

Besides investigating their relevance for key variables in achievement motivation research, Elliot et al. (2015) argued that potential-based goals should be investigated in non-Western contexts, as this is important for confirming the generalisability of this construct. Specifically, most research on motivational constructs, and achievement goals in particular, has been conducted in Western, educated, industrialised, rich and democratic countries (Henrich et al., 2010; Khajavy et al., 2018). Opposed to that, Iran is considered a (moderately) collectivistic country where individuals are linked with others in a collective (Hofstede, 2001). In such contexts, avoidance goals may be more strongly endorsed (Elliot et al., 2001) and correlated to approach goals (Hulleman et al., 2010). Therefore, a strong case for the separability of potential approach and potential avoidance goals could be made in the collectivistic country of Iran. At the same time, in collectivist cultures, the self is construed in interdependent terms, as individuals focus on "fitting in" instead of "standing out" (Markus & Kitayama, 1991). Thus, motivations directed at fulfilling one's potential may not be as relevant of a driver in collectivist compared to individualistic societies (opposed to goals more strongly bound to external frames of reference). Therefore, also in terms of the relevance of potential-based goals, it is important to consider more collectivist countries such as Iran in order to allow for comprehensive conclusions.

Hypotheses

In the present study, we investigated the factorial structure of potential approach and avoidance goals and their associations with intrinsic motivation and performance in an Iranian sample. Based on Elliot et al. (2015), we hypothesised:

H1. Potential approach and potential avoidance goals can be separated from each other.

Regarding the associations with other variables, we follow the reasoning that focusing on future potential may be invigorating and afford self-serving appraisals, which suggests positive associations between potential approach goals and intrinsic motivation. However, as the avoidance orientation could undermine such processes (see Elliot & Hulleman, 2017), specifically by prompting individuals to constantly monitor themselves as a result of being worried about not doing as well as they possibly could, we did not formulate directed expectations regarding potential avoidance goals:

H2. Potential approach goals are positively associated with intrinsic motivation.

Finally, based on the reasoning that seeking to do as well as one possibly could should go along with increased effort, engagement, and optimal challenge, we expected positive associations between potential approach goals and course performance. Again, we did not formulate a hypothesis regarding potential avoidance goals (but tentatively expected negative links, as past-avoidance goals have been found to undermine examination performance, see Elliot et al., 2011):

H3. Potential approach goals are positively associated with performance.

METHOD

To test our hypotheses, we conducted a prospective study in a three-credit general Elementary English course at an Iranian university. To study the relevance of achievement goals for intrinsic motivation during the course and subsequent performance attainment, we measured potential-based goals at the start of the semester, intrinsic motivation in the middle of the semester and performance at the end of the course. Approval from the IRB board and the head of the Language Learning Center was provided prior to beginning the study. All data and codes underlying this study are available in an open access repository (https://osf.io/v8byx/).

All procedures of the conducted study were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all participants included in the study.

Participants

A total of 436 (137 male, 298 female, 1 diverse) undergraduate students participated (average age: 20.5, $SD = 3.4$ years; Ethnicity: 69.7% Fars, 14.9% Arab, 7.7% Lur, 3% Turk, 1% Kurd and 3.7% other). *Post-hoc* power tests revealed a minimum required sample size of 296 (assuming small-to-medium effect sizes; Soper, 2020). All participants responded to all measurement points and to all questions (i.e. there was no missing data).

Measures[1]

We measured potential-based goals, intrinsic motivation and end-of-course performance. The scales for potential-based goals and intrinsic motivation were translated to Persian, and back translated to English by an independent translator. This translation was then

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[1]Aside from the herein reported measures, further scales were assessed for unrelated, explorative purposes (social independence, perceived cooperation and competition).

compared to the original translation to see if there were any discrepancies. The first author of the original scales (Andrew J. Elliot) also conducted this step and confirmed the equivalence of this translation.

Potential goals

We assessed potential-based goals using the measure by Elliot et al. (2015) referring to the class in general. Potential approach goals ("My goal is to do as well as I can possibly do in this class", "My goal is to do what I can as well as possible in this class", "My goal is do the best that I can in this class"; internal consistency: $\omega = 0.86$) and potential avoidance goals ("My goal is to avoid doing worse than my very best in this class", "My goal is to avoid doing poorly in comparison to my absolute best in this class", "My goal is to avoid doing worse than I know I can do in this class"; $\omega = 0.84$) were measured with three items each on a 5-point Likert rating scale ranging from 1 (*not at all true of me*) to 5 (*extremely true of me*).

Intrinsic motivation

We used a scale by Elliot and Church (1997) to measure participants' intrinsic motivation (eight items; e.g. "I am enjoying this class very much"; $\omega = 0.89$). Participants indicated their response on a rating scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

Course performance

We used participants' total scores in the course examination as a performance measure. The course examination consisted of a standardised test encompassing 20 questions with 4 answer options each that was developed and administered by the Language Learning Center for all Elementary English classes. Specifically, the examination was constructed based on a criterial reference norm concerning the competencies specified in the national curriculum for Elementary English. It should be noted that students typically perform well and acquire most of the expected competencies.

Age and gender (control variables)

As relevant demographic background variables, we assessed participants' age and gender. Based on the reasoning that potential-based goals, intrinsic motivation, and course performance could also be related to gender and age differences (e.g. Gherasim et al., 2013), we included them as control variables in the analyses.

RESULTS

Similar to Elliot et al. (2015), the means of potential approach and potential avoidance goals were above the mid-point of the scale, the full theoretical range was attained, and there were substantial interindividual differences in how strongly individuals pursued the goals (Table 1). Course performance was less symmetrically distributed, with most scores being situated in the upper third of the theoretical range (which is typical for empirical distributions for course grades in introductory courses at the university in which the study was conducted). The variability of course performance was half a large as the variability of intrinsic motivation (coefficient of variation: 0.10 vs. 0.19), which makes it more difficult to detect larger effects for course performance compared to intrinsic motivation.

To test our hypotheses, we conducted Structural Equation Modelling with Mplus 8.1 using WLSMV as an estimator (non-normal data distribution and potential-goal items only having five ordinal-scaled answer options). To evaluate model-fit, we used χ^2, SRMR, TLI, RMSEA and CFI (with CFI, TLI ≥ 0.95, SRMR ≤ 0.08 and RMSEA ≤ 0.06, as cut-off values indicating adequate model fit; Hu & Bentler, 1999). To confirm the robustness of our findings, and to yield relative fit indices that can be used for model comparison (AIC: Akaike Information Criterion, BIC: Bayesian Information Criterion, ssBIC: sample-size adjusted BIC), we estimated the same models again using MLR as an estimator.

First, we ran a one-factor confirmatory factor analysis with the potential-based goal items ($\chi^2 = 432.89$, $df = 9$, CFI $= 0.91$, TLI $= 0.84$, SRMR $= 0.09$) and compared it against a two-factor model distinguishing potential approach and potential avoidance goals ($\chi^2 = 109.08$, $df = 8$, CFI $= 0.98$, TLI $= 0.96$, SRMR $= 0.04$; latent factor correlation $\rho = 0.65$). The data could only be described well when separating potential approach and past-avoidance goals from one another, affirming their factorial separability. That distinguishing between potential approach and potential avoidance goals describes the data better than the one-factor model was also evident in the differences in relative fit indices (AIC $= 5952$, BIC $= 6075$, ssaBIC $= 5979$ vs. AIC $= 5703$, BIC $= 5829$, ssaBIC $= 5731$).[2]

Next, we included intrinsic motivation (as a latent factor, estimated using item parcels[3]) and course performance as outcome variables. The results (see Table 2) showed positive associations between potential approach goals at the start of the semester and subsequent intrinsic motivation. Furthermore, potential approach goals were

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[2]Additionally, we ran an exploratory factor analysis. Both a visual inspection of the scree plot as well as the Guttman–Kaiser criterion clearly pointed to a two-factor solution.

[3]Against the background of intrinsic motivation being measured with eight items, we used item parcels to model intrinsic motivation as a latent variable to reduce the amount of error in model estimation (Little et al., 2013). We did so following the item-to-construct method (Little et al., 2002).

TABLE 1
Descriptive statistics and bivariate correlations

	Descriptives				Bivariate correlations				
	M	*SD*	*Range*	*Skew*	*1*	*2*	*3*	*4*	*5*
1. Potential approach	4.00	0.88	1–5	−0.60					
2. Potential avoidance	3.74	0.90	1–5	−0.26	**.51**				
3. Intrinsic motivation	3.68	0.71	1–5	−0.73	**.27**	.05			
4. Course performance	17.60	1.67	9.5–20	−1.57	**.20**	**.16**	.04		
5. Gender (0 = male, 1 = female)	0.69	—	—	—	**.11**	−.01	.05	**.12**	
6. Age	20.53	3.37	15–40	1.97	**.10**	.05	**.16**	−.01	.03

Note: N = 436. Theoretical range: 1–5 (goals and intrinsic motivation), 0–20 (performance: 0 = worst, 20 = best). All statistically significant correlations are boldfaced, with $|r| > .05$: $p < .05$, $|r| > .11$: $p < .01$, $|r| > .16$: $p < .001$.

TABLE 2
Prediction of intrinsic motivation and performance from potential-based goals

	Intrinsic motivation			Performance		
	β	*SE*	*p*	*β*	*SE*	*p*
Potential approach	.47	0.06	<.001	.19	0.06	.002
Potential avoidance	−.27	0.06	<.001	.05	0.06	.38
R^2	.16	0.04	.001	.06	0.02	.002

Note: N = 436. Reported are standardised coefficients from a structural equation model. Correlations between goals and between intrinsic motivation and performance were allowed. Age and gender were used as control variables (reported associations do not change without controls but are descriptively slightly larger). $\chi^2 = 153.83$, $df = 32$, CFI = 0.98, TLI = 0.96, SRMR = 0.03.

also positively associated with end-of-course performance. Conversely, potential avoidance goals were negatively linked to intrinsic motivation. Including age and gender of participants as control variables did not change these findings significantly which speaks to the robustness of these findings.

DISCUSSION

We examined potential-based achievement goals by theoretically distinguishing them from further mastery-based goals and personal-best goals and analysing their relevance for two key variables in achievement goal research. Strengths of the present work include its innovative focus on a scarcely examined type of achievement goals, the prospective research design involving a standardised performance outcome, and the consideration of a collectivistic context to allow comprehensive conclusions. Our results confirm the separability of potential approach and potential avoidance goals in an Iranian sample and indicate that potential approach goals are positively associated with intrinsic motivation and performance.

Our first hypothesis regarding the factorial separability of potential approach and potential avoidance goals was confirmed. In particular, like Elliot et al. (2015), we observed a similar, moderate correlation between both goals. Paired with good internal consistencies, this confirms the usefulness of their measure. In doing so, we followed the call by Elliot et al. (2015) to confirm their findings in different cultural contexts. Our results

strengthen the generalisability of the potential-based goal construct across different cultures and document that also in a collectivistic context, individuals distinguish between potential approach and potential avoidance goals.

Our second and third hypotheses were also confirmed. The associations that we found between potential approach goals and intrinsic motivation and performance confirm the expected adaptive orientation of such goals. Descriptively, the effects on academic performance were rather small, however, against effect sizes that are typical in personality psychological literature, they can be interpreted as moderate (see benchmarks suggested by Gignac & Szodorai, 2016, for interpreting the magnitude of small, moderate, and large effects, respectively: $r = .10$, $.20$ and $.30$). Furthermore, it should be borne in mind that our performance measure constituted end-of-course scores (which are typically related to motivational constructs in a similar range of effect sizes that we observed in the present work; Richardson et al., 2012). As such, 6% of participants' course performance being attributable to their potential-based goals assessed at the beginning of the course can be considered to be rather substantial. Individuals pursuing potential approach goals may perceive their goal pursuit as invigorating, while being focused on giving one's best during schoolwork may be helpful to engage in it to greater extent, which could enable stronger intrinsic motivation while studying. This line of interpretation matches well to other reasoning concerning one's future potential, such as possible selves (Markus & Nurius, 1986) as well as evaluations

based on potential stimulating greater interest (Tormala et al., 2012). It is worth noting that these findings are also similar to standpoint-based mastery-approach goals and past-approach goals (for an overview, see Elliot et al., 2015). Therefore, it would be interesting for future research to follow up on the individual relevance of these different types of goals for intrinsic motivation. In contrast, findings regarding mastery-based goals and academic performance are often mixed. In particular, past-approach goals are often not associated with academic performance (Elliot et al., 2011). Here, our findings align with positive results for "do your best" goals in complex learning tasks (Seijts & Latham, 2001). Opposed to performance goals, these goals may generally be easier to attain for each student, as outperforming others is difficult given weak initial performance, however, being as good as one possibly can be is not. Furthermore, such goals may be optimally challenging in terms of difficulty (Locke & Latham, 2002), and may thereby be relevant for performance outcomes. As such, following up on potential-based goals may be a progressive avenue for understanding why sometimes (or some types of) mastery goals are or are not linked to performance outcomes.

Furthermore, while we had no directed hypotheses, we found potential avoidance goals to go along with impaired intrinsic motivation. Given the explorative nature of this finding, it should be interpreted cautiously, but might nonetheless point to potential avoidance goals prompting students to monitor themselves more frequently due to concerns about not doing as well as they possibly could. Paired with pressure and anxiety on the individual, this could thus disrupt intrinsic motivation. This also aligns with research on past avoidance goals that have been found to go along with reduced feelings of energisation in class (Elliot et al., 2011). It is worth noting that frequent monitoring might also support students to better regulate their learning strategies. This, in turn, might counteract the negative influence on process-motivation that pursuing this type of goal may hold, and explain why no significant relations with performance were observed. When interpreting this finding, it should be mentioned that the bivariate correlation between potential avoidance goals and intrinsic motivation was negligible. Only when variance due to potential approach goals was partialled out of the association between potential avoidance goals and intrinsic motivation, was the negative relationship revealed. Given the strong correlation between potential approach and potential avoidance goals that can mask the maladaptive orientation of potential avoidance goals, we consider this suppression effect to be theoretically sensible (analogously to perfectionistic strivings and concerns; see Stoeber & Gaudreau, 2017, for an overview). As such, the negative associations with intrinsic motivation should be interpreted as the unique relation of potential avoidance goals (compared to their bivariate relations). On a more general level, this points to the necessity of pairing bivariate analyses with multivariate analyses in order to interpret the effects of achievement goals well—particularly with regard to strongly correlated types of goals.

When interpreting our findings, it is further necessary to bear the prospective research design in mind. Given that we assessed goals at the semester start, intrinsic motivation during the semester and performance at the semester end, our findings can be interpreted more strongly in line with the proposed directions of the effects (achievement goals mattering for subsequent intrinsic motivation and performance) compared to an assessment of all constructs at the same time. However, as we did not assess the same constructs repeatedly, we cannot causally interpret the reported effects. This points to the importance of conducting cross-lagged longitudinal studies or experimental works to more strongly derive causally interpretable findings. Furthermore, it should be considered that the performance measure that we used in the present study only provided small variability when compared to intrinsic motivation. As such, it may not be surprising that larger effects were found for intrinsic motivation than for course performance. Finally, it should be borne in mind that we explicitly considered Iran as a more collectivistic context to overcome the limitation of achievement goal research having primarily been conducted in Western, educated, industrialised, rich and democratic societies (Henrich et al., 2010; Khajavy et al., 2018). While our findings speak to the generalisability of the configurations and relevance of potential-based goals to more collectivistic countries such as Iran, we only consider this as a first step towards a more comprehensive understanding of how goals motivate individuals cross-culturally. Future goal research should explicitly include participants from different cultures and countries and consider their identities and backgrounds to situate their motivations. Such research initiatives will help to better understand and support the motivations of diverse learners (Usher, 2018).

To conclude, potential-based achievement goals can be considered to be an interesting type of achievement goal that is theoretically distinct from other goals. Having examined a collectivistic context to derive more comprehensive conclusions, our findings affirm the separability of potential approach and potential avoidance goals and their relevance for key variables such as intrinsic motivation and performance. We believe that considering potential-based goals in reflections on goal pursuit is helpful for a more complete understanding of how goals and growth approaches to student development drive cognitions and behaviours in achievement situations.

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Appendix S1: Supporting Information.

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