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Goals, norms, attitudes, and self-efficacy as predictors of academic dishonesty: Two-wave prospective inquiries into additive and multiplicative effects

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ABSTRACT

Although students' achievement goals have been linked to academic dishonesty, more research is needed to clarify mixed findings and identify contextual factors that may influence these linkages. Guided by Expectancy-Value-Cost Theory versus Theory of Planned Behavior predictions, we tested how achievement goals, academic and cheating self-efficacy, injunctive and descriptive norms, and justifying attitudes jointly predict academic dishonesty in a preregistered two-wave study of 856 German university students. Appearance-approach goals, descriptive norms, and justifying attitudes positively related to exam cheating and plagiarism, other associations appeared behavior-specific (work-avoidance related only to plagiarism, cheating self-efficacy related more strongly to exam cheating). No interactions with achievement goals were found, favoring an additive risk structure consistent with the Theory of Planned Behavior. Results point to measurement specificity of both predictor variables and behavior types as one source of mixed findings.

KEYWORDS

Academic dishonesty; achievement goals; self-efficacy; social norms; attitudes

INTRODUCTION

Academic Dishonesty and Achievement Goals

Academic dishonesty among students is a widespread phenomenon within higher education. Common types of academic dishonesty include cheating in exams and plagiarizing in written assignments (Marques et al., 2019). Prevalence estimates vary with definitions and measures but are consistently high (Simha & Cullen, 2012). Repeated multi-campus U.S. surveys have consistently found around two-third of students reporting some form of cheating (McCabe et al., 2012), and more recent studies report similarly high rates across other countries (e.g., 98.78% in Indonesia, Ampuni et al., 2020; 76.5% in Spain; Cuadrado et al., 2019; or 95% in Romania; Ives et al., 2017). Unchecked cheating behavior poses a substantial threat to educational institutions, reducing assessment validity and fairness, institutional credibility, moral character building, and educational effectiveness as a whole (Bouville, 2010; Resurreccion, 2012).

Effectively preventing student misconduct requires understanding its causes. Research on personality traits and demographics (e.g., Plessen et al., 2020; Whitley et al., 1999) has focused on who is more likely to cheat, but such stable attributes neither explain the high prevalence nor its contextual variability. A motivational perspective has proven fruitful in addressing these issues by examining

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underlying psychological drivers that vary by situation and task (Murdock & Anderman, 2006). A prominent framework within this line of research is the Achievement Goal Theory (Elliot et al., 2017). Achievement goals describe future-directed cognitive representations of desired outcomes that differ in how achievement is construed: Performance goals use an other-referenced standard, focusing on appearing competent (appearance goals) or outperforming others (normative goals), each of which can be differentiated as approach (attaining competence demonstration) or avoidance goals (avoiding incompetence demonstration; Chazan et al., 2022; Harackiewicz et al., 2002). Mastery goals use a self- or task-referenced standard, focusing on knowledge gain (learning goals) or mastering a task (task goals), and are formulated primarily in the approach form (Murayama & Elliot, 2019). Lastly, work-avoidance goals describe a striving to save resources, meaning success is measured by way of getting through tasks with as little effort as possible.

Achievement goal theory regards achievement goals as proximal, explanatory constructs for achievement-relevant behavior and outcomes (Elliot et al., 2017). Accordingly, goals should facilitate or deter academic dishonesty depending on whether cheating serves goal attainment. The theoretical rationale posits that mastery-approach goals should deter dishonesty because cheating undermines learning. Meta-analytic findings indeed strongly support this notion (Fritz et al., 2023; Krou et al., 2021). In contrast, performance goals can, in principle, facilitate dishonesty by offering competitive advantages, yet findings are mixed (Fritz et al., 2023; Krou et al., 2021). Arguably, there are many routes to performing well apart from cheating, which may give rise to these mixed findings. Still, academic performance in educational contexts is typically expressed in the form of grades and the link between a focus on such extrinsic outcomes and academic dishonesty is amply established in the literature (Murdock & Anderman, 2006). Empirical evidence, though still limited, shows work-avoidance goals positively relate to academic dishonesty, consistent with theoretical predictions (e.g., Fritz et al., 2023; Putarek & Pavlin-Bernardić, 2020; Šeremet et al., 2018). Importantly, unlike mastery and performance goals which target broad outcomes (e.g., improved learning or grades) across tasks, work-avoidance goals prioritize reducing effort, favoring specific cheating behaviors that truly save work or cognitive resources (e.g., copying text or using unauthorized aids instead of studying) over other forms (Putarek & Pavlin-Bernardić, 2020).

A methodological critique of the achievement goal – academic dishonesty literature is that most studies use cross-sectional research designs (Fritz et al., 2023), although goals are inherently directed at future outcomes. To provide more solid evidence on how goals matter for academic dishonesty, prospective studies are needed (e.g., assessing goals at semester start and dishonesty at semester end). Accordingly, the first aim of this study was to test prospective links between achievement goals and subsequent exam cheating and plagiarism. In addition, prior research on relations between performance goals and academic dishonesty has yielded heterogeneous results that vary by operationalization (often collapsing subfacets or valence), outcome definition (global vs. behavior-specific), context, and samples (Fritz et al., 2023; Harackiewicz et al., 2002; Krou et al., 2021; Sideridis et al., 2014). Accordingly, we employed specific measures of goals and behaviors in the present study (see Measures). Given these mixed findings and previous research's primary focus on the main effects of goals on cheating behavior (Anderman & Koenka, 2017; Murdock & Anderman, 2006), our second aim was to examine moderating conditions that explain when performance goals translate into dishonesty. From a behavior-theoretic perspective, we focused on established contextual and personal predictors of academic dishonesty: self-efficacy beliefs, norms, and attitudes toward dishonesty.

Self-Efficacy Beliefs, Norms, and Attitudes as Further Predictors and Potential Moderators

Students' decisions to cheat can be understood as a function of value, feasibility, and acceptability of cheating behavior. This framing integrates Murdock and Anderman's (2006) Guiding Questions, the Theory of Planned Behavior (Ajzen, 1991, 2020), and Expectancy – Value – Cost Theory (Barron & Hulleman, 2015; Flake et al., 2015; Nagengast et al., 2011; Wigfield & Eccles, 2000), each of which has provided foundational perspectives for research on academic dishonesty (Anderman et al., 2022).

Below, we argue why we consider self-efficacy, social norms, and attitudes as core, overlapping constructs across these frameworks. Following Expectancy – Value – Cost Theory, we then develop a rarely tested moderation account linking these factors to performance goals.

Following Murdock and Anderman's (2006) first guiding question, "*What is my purpose?*," students differ in the value they place on achievement outcomes. Expectancy – Value – Cost Theory uses value as an umbrella term encompassing related constructs (e.g., intrinsic motivation or utility) and treats value as a central driver of motivation to engage in a task (Wigfield & Eccles, 2000). This maps onto achievement goals in the context of academic dishonesty: For mastery-oriented students, cheating carries little value because it conflicts with the intrinsic value of genuine learning. For performance-oriented students, cheating can hold higher value to the extent that it promises extrinsic rewards (e.g., appearing competent, outperforming others). In the Theory of Planned Behavior, values are considered as more general behavioral evaluations (outcome evaluations and behavioral beliefs) preceding the formation of attitudes toward a behavior (Ajzen, 2020).

The second guiding question of Murdock and Anderman (2006), "*Can I do this?*," concerns feasibility, capabilities, and outcome expectancies that influence the perceived likelihood that a behavior may lead to an aspired outcome (Barron & Hulleman, 2015). Expectancy – Value – Cost Theory conceptualizes such capability beliefs broadly as the expectancies to do well on a task or successfully conduct a behavior (Wigfield & Eccles, 2000). This aligns with the concept of self-efficacy (Bandura, 1997) and perceived behavioral control in the Theory of Planned Behavior (Ajzen, 1991, 2020). In the context of academic dishonesty, research distinguishes *academic self-efficacy* (i.e., the confidence to meet academic demands legitimately; Anderman et al., 2022; Nora & Zhang, 2010) from *cheating self-efficacy* (i.e., the confidence to cheat undetected; Greitemeyer & Kastenmüller, 2024; Imran et al., 2025).

The third guiding question, "*What are the costs?*," addresses anticipated consequences and moral evaluations. In Expectancy – Value – Cost Theory, behavioral cost is a distinct component, including effort, opportunity loss, and negative affect (Barron & Hulleman, 2015; Flake et al., 2015), and overlaps with factors assumed to influence perceived behavioral control in the Theory of Planned Behavior (Ajzen, 2020). We contend that acceptability-based behavioral costs should also arise from the remaining Theory of Planned Behavior components, with subjective norms informing social costs and attitudes informing psychological costs. Subjective norms encode social expectations and (dis)approval of behaviors (Ajzen, 1991; Cialdini & Trost, 1998). For academic dishonesty, there is an important distinction between *injunctive norms* describing what one should do (e.g., honor codes) and *descriptive norms* that define what others actually do (i.e., peers' cheating behavior). Injunctive norms shape expected sanctions and social consequences (McCabe et al., 2002), while descriptive norms signal both opportunity and detection risk and offer social rationalizations (Daumiller & Janke, 2020; Jensen et al., 2002; Zhao et al., 2022). *Attitudes*, which encode the net evaluation of behavioral outcomes (Petty et al., 1997) shape anticipated psychological costs, for example negatively through dissonance with a moral self-image, or positively through justifications that reduce guilt (e.g., blaming external factors such as unfair systems, Anderman & Koenka, 2017; O'Rourke et al., 2010; Stephens, 2017). We thus treat norms and attitudes as distinct determinants of acceptability and, by extension, of the costs of cheating.

Importantly, past Theory of Planned Behavior-informed research treats behavioral control (i.e., self-efficacy), subjective norms, and attitudes as additive effects (e.g., Chudzicka-Czupała et al., 2016; Wang et al., 2022; Yusliza et al., 2022; Zhang, 2024), while Murdock and Anderman (2006) note that it is possible that value, capability, and cost combine multiplicatively. Their reasoning aligns with Expectancy – Value – Cost Theory's core claim that value and expectancies are non-compensatory: high value results in behavior only when expectancy (feasibility) is sufficient and anticipated costs seem manageable (Barron & Hulleman, 2015; Nagengast et al., 2011). Translated to academic dishonesty, performance goals (high value of expected gains from cheating) should predict cheating especially when cheating feels viable and feasible (low academic self-efficacy, high cheating self-efficacy) as well as acceptable (lenient injunctive climate, pervasive peer cheating, justifying attitudes).

In sum, from the lens of the Theory of Planned Behavior, self-efficacy, norms, and attitudes would be conceptualized as additive predictors, while Expectancy – Value – Cost Theory provides the

multiplicative rationale for testing whether these variables moderate the translation of performance goals into dishonesty via expectancies and anticipated consequences.

The Present Study

We used a two-wave prospective design to examine whether students' achievement goals predict academic dishonesty in the following semester, focusing on two common behaviors (exam cheating and plagiarism). Our primary aim, grounded in Expectancy – Value – Cost Theory, was to test whether appearance-approach and appearance-avoidance goals relate more strongly to dishonesty when expectancy- and cost-relevant conditions make cheating seem feasible and acceptable. Accordingly, we specified five preregistered moderation hypotheses: The positive association between appearance goals and dishonesty should be less pronounced for students with higher academic self-efficacy and stronger injunctive integrity norms, but more pronounced for students with higher cheating self-efficacy, stronger descriptive cheating norms, and justifying attitudes toward dishonesty. Beyond performance goals and following previous research, we also preregistered expected negative associations of mastery-approach (task and learning) goals and positive associations of work-avoidance goals with dishonesty.

In parallel with the broader, Theory of Planned Behavior-informed literature, we also expected main effects (exploratory analyses): cheating self-efficacy, descriptive cheating norms, and justifying attitudes should be positively, and injunctive integrity norms and academic self-efficacy negatively associated with dishonesty (see Figure 1 for the theoretical framework and hypotheses of predictors and moderators).

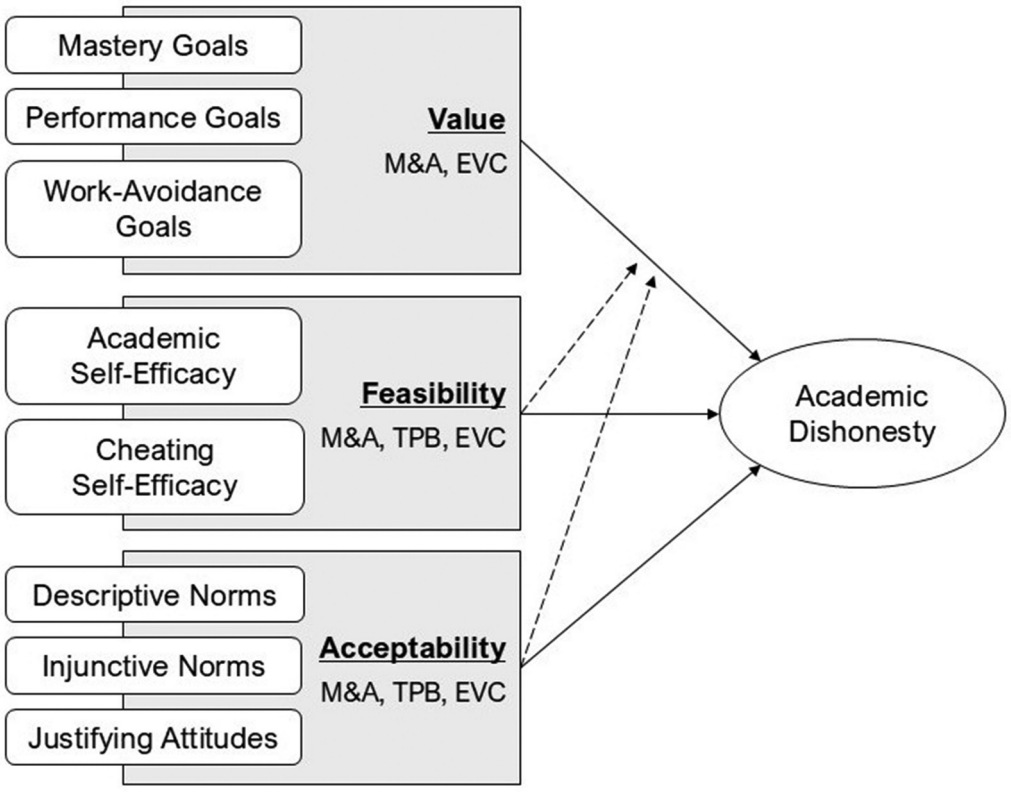

Figure 1. Theoretical framework on predictors and moderators of academic dishonesty. Note: M&A = Murdock and Anderman's (2006) Guiding Questions framework; TPB = Theory of Planned Behavior (Ajzen, 1991, 2020), EVC = Expectancy-Value-Cost Theory of motivation (Barron & Hulleman, 2015); Solid lines indicate main effects (following TPB reasoning), dashed lines indicate multiplicative effect (following M&A/EVC reasoning); Although the theory does not specify which achievement goals should be moderated, we focus on performance goals to elucidate mixed findings.

METHOD

Open Science Statement

This study's design and analysis plan were preregistered prior to data collection (https://aspredicted.org/WZV_MM4). The preregistration covered multiple, project-wide research questions. The present article focuses on RQ1 (prospective prediction of T2 levels of dishonesty from T1 goals and moderators without controlling for T1 dishonesty), which aligns with our theoretical aim. RQ2 (residual-change models that control for T1 dishonesty) is reported as preregistered sensitivity analyses in Supplement S1. Main effects of moderators, while not preregistered, are reported transparently and labeled exploratory. The data set, analysis code and supplementary files are available online at OSF (https://osf.io/v7xhd).

Ethics Statement

The study was approved by the ethics board of the University of Mannheim (EK Mannheim 25/2018). Informed consent was obtained from all participants prior to their inclusion in the study.

Procedure

The study was advertised and distributed through e-mail invitations via university and student bodies and social media at the beginning of the winter semester in November 2020. Our preregistered sampling strategy stated that participants had to be active students at a German university in the semester prior to when the two surveys were administered (as they also contained retrospective items). The survey was advertised as investigating the special study conditions at universities during the COVID-19 pandemic and also contained other study-related questions not relevant to the present research questions (see preregistration). Participants created their own personal code to match their data from both measurement time points while remaining anonymous. Those who agreed to be invited to the second survey were again contacted through a separately provided e-mail address at the beginning of the summer semester in April 2021 (response rate: 57.05%). Participants could win vouchers for online shops that were distributed to a randomly drawn subsample.

Participants

In total, 2162 (at T1, beginning of the winter semester 2020) and 983 (at T2, beginning of the summer semester 2021) participants finished the surveys. Data from four participants of the second survey had to be excluded because they had participated twice (keeping their first data points). We implemented one attention check item in the first survey and two items in the second survey ("*Please click the right-most answer option to answer this item.*") to make sure participants were reading the questions carefully. From the participants with available data from both surveys, following our preregistered procedure, we excluded 74 participants who failed at least one of those checks. Lastly, data of 49 participants from the second survey could not be matched to data from the first survey. To further ensure data quality, we implemented a per-item method replacing answers with lower than one second of answering time with missing values (rather than deleting the complete case to retain as much information as possible), with the goal to only use information that was filled out carefully (between 6% and 28% of answers from nine participants were set as missing following this approach).

The final sample contained 856 matched cases from both surveys (72.7% female, 26.5% male, 0.82% diverse; $M_{age} = 23.20$, $SD = 3.66$), although not all participants could be used for the analyses (see section Missing Data and Analytic Sample below). The mean number of semesters students had been studying at the beginning of the survey was 4.32 ($SD = 2.23$). Almost half of the students (46.9%) studied at research-focused universities (see detailed break-down of university types and study programs in Table 1). Of all students, 71.6% were enrolled in a bachelor's program, 19.4% in

Table 1. Descriptive statistics of sample characteristics.

	M (*SD*)
Age	23.20 (3.66)
Semesters	4.32 (2.23)
	%
Genders	
Female	72.66
Male	26.52
Diverse	0.82
University types	
Research-focused universities	46.14
Cooperative state universities	24.65
Universities of applied sciences	20.44
Universities of education	3.50
Non-specified	2.92
Private universities	1.98
Distance learning universities	0.35
Degrees[a]	
Bachelor	71.61
Master	19.39
State examination	8.53
Non-specified	0.35
Diploma	0.12
Study programs	
Economy, business, law, and public services	20.66
Education and pedagogy	15.49
Medicine, psychology, and health science	12.09
Technology, engineering, and architecture	11.74
Information/data science and mathematics	11.27
Linguistics and cultural studies	9.86
Social sciences	7.75
Natural sciences	6.46
Media and communication	1.64
Agriculture	1.53
Arts, design, and music	1.53

Note.[a] refers to the degree that students were currently pursuing.

a master's program, with the remainder working toward a state examination or diploma. The three most frequent categories of study majors were programs of economics, business, law, and service industry (20.7%), programs of education and pedagogy (15.5%), and programs of medicine, psychology, and health sciences (12.1%). Except for the city-state Hamburg, students from all other federal states in Germany were present in the sample.

We performed drop-out analyses to check whether study variables from the first measurement time point predicted drop-out (i.e., nonparticipation) at the second measurement time point. Through a logistic regression analysis, we found that drop-out was related to lower task-approach goals ($\beta = -0.07$, $p = .046$), higher appearance-approach goals ($\beta = 0.08$, $p = .034$), lower appearance-avoidance goals ($\beta = -0.09$, $p = .007$), lower cheating self-efficacy ($\beta = -0.12$, $p < .001$), as well as higher plagiarism ($\beta = 0.10$, $p = .002$) reported at T1 (see discussion for elaboration on this point).

Measures

The full item list of all used scales can be found in the online repository (Supplement S2, https://osf.io/v7xhd). Predictor variables were measured at T1 as follows: Achievement goals were measured as the current goals students pursue for their studies. Social norms, cheating self-efficacy, and attitudes were measured pertaining to experiences and beliefs during their studies in general. Academic self-efficacy was measured as pertaining to the upcoming semester. At T2, academic dishonesty was assessed retrospectively as students' cheating behavior in the previous semester (i.e., between the first and second survey).

Achievement Goals

Students' achievement goals were assessed with the German version of the Academic Achievement Goal Questionnaire by Daumiller et al. (2019). We used the scales assessing task-approach, learning-approach, appearance-approach, appearance-avoidance, and work-avoidance goals with four items each. Given conceptual ambiguities and limited empirical evidence on mastery-avoidance goals (Anderman et al., 2022; Murayama & Elliot, 2019), we focused on mastery approach goals. Furthermore, for construct specificity, we focused on the appearance facet of performance goals because they emphasize how one is seen rather than what one actually attains, and have empirically been found to result in more surface strategies and performance costs than the normative facet (Bardach et al., 2022; Senko et al., 2013) – all of which we deem more pertinent in the context of academic dishonesty. Students indicated the extent to which the statements apply to them (1 = *do not agree at all* to 8 = *agree completely*). The internal reliabilities of all scales were generally good (Cronbach's α = .87–.95/McDonald's ω = .90–.96).

Academic and Cheating Self-Efficacy

Academic self-efficacy was measured with the Self-efficacy for Learning and Performance subscale of the Motivated Strategies for Learning Questionnaire (Pintrich et al., 1991). The seven items were translated into German and the context was changed to pertain to the current semester instead of a specific class (e.g., "*I'm confident I can do an excellent job on the assignments and tests this semester.*"; 1 = *not at all true of me* to 7 = *very true of me*; α = .92/ω = .93). Cheating self-efficacy was assessed with six items that were designed as a behavior-specific measurement based on recommendations for constructing self-efficacy scales (Bandura, 2006). Students were asked how confident they were to engage in certain dishonest behaviors without their instructors noticing (e.g., "*I'm confident to not get caught when turning in an assignment someone else wrote for me.*"; 1 = *do not agree at all* to 7 = *completely agree*; α = .85/ω = .89).

Injunctive and Descriptive Social Norms

Injunctive norms were assessed with two items that were constructed to relate to the specific tasks for which dishonest behaviors were measured, as well as representing more direct instructions (i.e., as expressed by instructors) rather than potentially less salient norms such as institutional guidelines (e.g., "*How strongly do instructors point out in exams or written submissions that you should not cheat (e.g., by pointing out rules or consequences)?*" and "*How strongly do instructors point out in online exams that you should not cheat (e.g., requesting a signed statement)?*" (1 = *not very strongly* to 7 = *very strongly;* $\alpha_{\text{Spearman-Brown}}$ = .71/ω = .71). Descriptive norms were assessed with two items based on McCabe et al. (2002): "*How often do you believe other students cheat on exams?*" and "*How often do you believe other students cheat on other assessments (e.g., term papers)?*" (1 = *never* to 7 = *very often;* $\alpha_{\text{Spearman-Brown}}$ = .75/ω = .75).

Attitudes Towards Academic Dishonesty

Students' justifying attitudes were assessed by asking how justifiable they personally regard specific dishonesty behaviors. We compiled a list of 12 typical academic dishonesty behaviors by extracting the common, overlapping behaviors from established academic dishonesty scales (Akbulut et al., 2008; Carpenter et al., 2006; Royal & Flammer, 2015; Yang et al., 2013). These behaviors included exam cheating and plagiarism behaviors, as well as additional forms of misconduct (e.g., lying to extend deadlines, bribing educators for favors). To frame the items in a way that students would not reflexively oppose such behaviors, the items were introduced with the following statement: "*Sometimes certain situations are decisive for the assessment of a behavior. For the following statements, please indicate in how many situations the actions described are justifiable.*" (e.g., "*I find it justifiable to make up an excuse to get more time for a written assignment/seminar paper.*" or " *. . . to copy from someone else during an exam.*"; 1 = *in no situation* to 7 = *in every situation*; α = .80/ω = .82).

Academic Dishonesty

We focused on the two most common forms of academic dishonesty: exam cheating and plagiarism (Marques et al., 2019). Items were summarized and adapted from established instruments (Akbulut et al., 2008; Carpenter et al., 2006; Royal & Flammer, 2015; Yang et al., 2013). Items were selected to maximize content coverage across common forms and severity levels of dishonesty. Exam cheating was assessed with five items referring to on-site written exams (e.g., "*I have illicitly used learning materials or the internet to solve questions during an exam.*"). We also measured cheating in online exams with two items, but on-site exams were predominant ($N = 567$). Comparatively, fewer participants reported taking both online and on-site exams ($N = 334$), and fewer still had only online exams ($N = 171$). To ensure a uniform and comparable measure across respondents, we therefore focused the analyses on on-site written exams. Plagiarism was assessed with four items capturing both common (e.g., "*I have used passages from other sources without referencing them in written assignments.*") as well as more severe forms (e.g., "*I have paid another person to do a coursework (e.g. a term paper) for me.*"). Students indicated how often they had engaged in each behavior during the previous semester (1 = *never* to 7 = *very often*).

For analysis, items were dichotomized (0 = *never*; 1 = *at least once*) and summed into a variety index (see Outcome Construction below). Because such indices aggregate heterogeneous behaviors, high inter-item correlation is not expected and should not be interpreted as evidence against the measure in a reflective sense (Colquitt et al., 2019; McNeish, 2018). Rather, low overlap can reflect content breadth, with each formative behavior contributing to coverage of the theoretically defined construct (Colquitt et al., 2019; Fritz et al., 2024). For transparency, we report KR-20 and mean tetrachoric correlations ($\bar{r}$) with ranges (see Supplement 3 for the full matrices): exam cheating KR-20 = .72, $\bar{r} = .59$ ($.38 \leq r \leq .80$); plagiarism KR-20 = .56, $\bar{r} = .55$ ($.28 \leq r \leq .85$).

Statistical Analysis

We tested our hypotheses as regressions in structural equation models using the lavaan package (Version 0.6–10; Rosseel, 2012) in R (R Core Team, 2024; Version 4.1.2). Robust Maximum Likelihood Estimation (RMLE) was used to account for deviation from normal distribution.

Outcome Construction

As is common for academic dishonesty assessment (e.g., Anderman et al., 1998; Bureau et al., 2022; McCabe et al., 2012), item responses were highly skewed (many students reporting no and few students reporting frequent offenses). Following common practice (e.g., Anderman & Won, 2019; Jordan, 2001; Rettinger et al., 2004), we dichotomized each item to indicate whether the behavior occurred at least once during the reference semester. Concretely, for every exam cheating and plagiarism item, responses were coded 1 = *occurred ≥1 time* and 0 = *never*. This approach both ameliorates possible underreporting (in terms of frequency) and accounts for differences in the number of cheating opportunities between participants (e.g., having had three exams vs. only one), as the binary item then indicates whether the specific behavior was shown at least once within the time frame. We then formed variety indices (Rettinger et al., 2004) by summing the dichotomized items within each domain. Thus, higher scores reflect engagement in a broader repertoire of distinct behaviors, not higher frequency of a single behavior.

Measurement Model

We estimated a confirmatory factor analysis for all latent predictors. The model fit was acceptable to good (CFI = .91, TLI = .90, RMSEA = .05, SRMR = .04) with all item loadings above .468 ($M = 1.148$). Following simulation studies and recommendations for modeling latent interactions (Ng & Chan, 2020), we implemented a two-step factor score approach. In this approach, factor scores are extracted

for latent predictors and then used for building interaction terms between variables. Thus, for moderation tests, product terms were created by multiplying the factor scores of appearance-approach and -avoidance goals and each moderator (academic and cheating self-efficacy, injunctive and descriptive norms, attitudes).

Analytic Strategy

The primary preregistered models (RQ1) estimated T1 achievement goals prospectively predicting T2 levels of exam cheating and plagiarism and their moderators (separate models by outcome). Step 1 included achievement goals only (learning-approach, task-approach, appearance-approach, appearance-avoidance, work-avoidance). Step 2 added interaction terms between appearance goals and each moderator (academic self-efficacy, cheating self-efficacy, injunctive norms, descriptive norms, justifying attitudes), tested separately for appearance-approach and appearance-avoidance.

As preregistered sensitivity analyses (RQ2), we estimated models that control for T1 dishonesty, which predict T2 conditional on T1 (i.e., residual change). This specification addresses intra-individual change and by partialling stable variance shared across waves typically attenuates effects of traits and context that plausibly operate at both T1 and T2. The T1-controlled results are reported in Supplement S1; directions of effects are unchanged, albeit attenuated, and are summarized briefly in the Results.

Motivated by the literature on Theory of Planned Behavior-consistent additive effects, we examined main effects of moderators on academic dishonesty (academic self-efficacy and injunctive norms: negative; cheating self-efficacy, descriptive norms, and justifying attitudes: positive), added separately to the achievement goals model. These analyses were not preregistered and are labeled exploratory. One-sided p-values were thus adjusted for multiple comparisons (Benjamini – Hochberg with an FDR of $q = .05$) across the five moderators and both outcomes ($m = 10$ tests, see Supplement 1 for full results).

Ancillary Robustness Checks

To verify the robustness of our findings, we ran additional analyses (a) using reduced models that included only appearance goals, one moderator, and their interaction, and (b) models including correlated predictors simultaneously. Results remained directionally consistent with the primary analyses. We also examined potential group differences by gender, degree (bachelor vs. master), and university type. No significant differences emerged, except higher task-approach goals for bachelor's students (OR = 1.39, 95%-CI [1.02, 1.90]). These variables were therefore not considered as covariates to preserve model parsimony.

Missing Data and Analytic Sample

All items relevant to the present research question had mandatory responses, thus, missingness occurred only when behaviors were not applicable (e.g., students without any written assignments had no answers on the plagiarism items). Such structural missingness led to case wise exclusion within the affected models (not missing at random but by design). Analytic Ns are reported with each model: for exam cheating models, the on-site analytic sample was $N = 468$; plagiarism models used $N = 569$.

RESULTS

Descriptive statistics and zero-order correlations of manifest scale scores are provided in Table 2. Students reported on average rather strong task- and learning-approach goals ($M =$ 6.78/7.29 on a maximum scale range of 8), with comparatively small variability, whereas all other goals roughly averaged around the scale's midpoint. Moreover, whereas all moderator variables showed average scores in terms of scale ranges, students reported rather low justifying attitudes toward academic dishonesty ($M = 2.71$ on a maximum scale range of 7). Exam cheating was more frequent (60.68% have engaged at least once in one of the behaviors)

Table 2. Descriptive statistics and bivariate pearson correlations of all study variables.

Variable	*M*	*SD*	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Task-approach T1	6.78	1.17											
2. Learning-approach T1	7.29	0.83	.43**										
3. Appearance-approach T1	5.27	1.62	.42**	.16**									
4. Appearance-avoidance T1	5.70	1.66	.28**	.03	.58**								
5. Work-avoidance T1	3.48	1.80	−.32**	−.29**	−.03	.06							
6. Academic self-efficacy T1	4.62	1.26	.27**	.26**	.14**	.10**	−.14**						
7. Cheating self-efficacy T1	3.36	1.48	−.10**	−.01	−.03	−.05	.11**	.02					
8. Descriptive norms T1	4.78	1.24	.04	−.00	.02	−.07	.06	−.13**	.18**				
9. Injunctive norms T1	5.21	1.39	.07*	.04	.02	.04	−.00	−.00	−.11**	−.04			
10. Attitudes T1	2.71	0.77	−.22**	−.15**	.02	−.03	.21**	−.15**	.43**	.22**	−.07*		
11 Exam cheating T2[a]	0.27	0.31	−.06	−.01	.04	−.01	.00	−.02	.16**	.21**	−.04	.30**	
12. Plagiarism T2[b]	0.13	0.23	−.13**	−.09*	−.03	−.08	.18**	−.09*	.11**	.13**	.02	.32**	.32**

Note. Total sample $N = 856$; [a] $N = 468$, means and standard deviations correspond to the five dichotomous items of the scale; [b] $N = 569$, means and standard deviations correspond to the four dichotomous items of the scale; T2 variables were assessed in the subsequent semester pertaining to the semester of T1 assessment; An extended version of this table including 95% confidence intervals of correlations and exam cheating and plagiarism assessed at T1 can be found in the Supplement 4.
* $p < .05$, ** $p < .01$.

than plagiarism (29.70%). Regarding zero-order effects, task- and learning-approach goals showed significant negative correlations with plagiarism in the subsequent semester. Cheating self-efficacy and descriptive norms showed moderate correlations to attitudes toward dishonesty ($r = .43$ and .22, respectively), with all other moderator variables only weakly correlating to each other (all $|r| < .18$), speaking to our theoretical premise that these form distinct aspects (also consistent with the robustness analyses showing stable results when including correlated predictors).

Regarding our preregistered analyses, results from the first step of latent regression analyses with goals-only models predicting exam cheating and plagiarism are reported in Table 3. Exam cheating showed a small, positive association with appearance-approach goals ($\beta = .14$, $p = .020$), and plagiarism showed a small, positive association with appearance-approach ($\beta = .13$, $p = .019$) and work-avoidance goals ($\beta = .15$, $p < .001$). Although not statistically significant based on our prediction of positive associations, we want to note that appearance-avoidance goals showed consistent negative associations with plagiarism and had, along with work-avoidance goals, the largest effect size of goals ($\beta = -.15$). In the second step including interactions between all moderator variables and appearance-approach and appearance-avoidance goals, none of the interactions were statistically significant (all $|\beta| < .05$ and $p > .174$; see Supplement S1), while cheating self-efficacy, descriptive norms, and attitudes toward dishonesty showed significant main effects (positive association) with both types of cheating. Academic self-efficacy and injunctive norms showed no significant association for both types of dishonesty.

Regarding the preregistered sensitivity analyses (T1-controlled residual-change models), results were directionally consistent and effect sizes were attenuated as expected (see Supplement S1): The significant effect of goals disappeared except the negative association of work-avoidance goals on plagiarism. Attitudes remained a strong predictor for both exam cheating and plagiarism, while descriptive norms only predicted exam cheating and cheating self-efficacy was not a significant predictor in these models.

Following the nil findings in the moderator tests, we exploratorily tested only main effects of the hypothesized moderator variables (without interaction terms). Models with significant main effects are reported in Table 3 (for models with non-significant effects see Supplement S1): After Benjamini-Hochberg adjustment for multiple testing (see also Supplement 1), descriptive norms and attitudes again showed significant positive association with both types of cheating, while cheating self-efficacy was only significantly related to exam cheating.

To summarize, we did not find evidence that performance goals lead to increased academic dishonesty depending on students' self-efficacy beliefs, norms, and attitudes. Instead, we confirmed substantial prospective main effects of cheating self-efficacy, descriptive norms, and attitudes on both exam cheating as well as plagiarism. Regarding the main effects of

Table 3. Main effects model of achievement goals only (T1) and those with significant moderator variables (T1) on exam cheating and plagiarism (T2).

	Exam cheating ($N = 468$)				Plagiarism ($N = 569$)			
	b	*SE*	β	p^a	*b*	*SE*	β	p^a
Achievement goals								
Learning-approach	.06	.10	.03	.864	−.05	.05	−.04	.815
Task-approach	−.15	.10	−.10	.059	−.07	.05	−.08	.901
Appearance-approach	**.13**	**.07**	**.14**	**.020**	**.07**	**.03**	**.13**	**.019**
Appearance-avoidance	−.07	.06	−.08	.907	−.08	.03	−.15	.996
Work-avoidance	.02	.05	.02	.346	**.08**	**.02**	**.15**	**<.001**
Adj. R^2	.01				.01			
Achievement goals and cheating self-efficacy								
Learning-approach	.05	.10	.02	.677	−.05	.05	−.04	.168
Task-approach	−.13	.09	−.09	.080	−.06	.05	−.08	.110
Appearance-approach	**.13**	**.06**	**.13**	**.024**	**.07**	**.03**	**.13**	**.021**
Appearance-avoidance	−.07	.06	−.08	.897	−.08	.03	−.15	.996
Work-avoidance	.01	.05	.01	.419	**.08**	**.02**	**.14**	**.001**
Cheating self-efficacy	**.18**	**.08**	**.11**	**.007**	.07	.04	.08	.031[b]
Adj. R^2	.03				.06			
Achievement goals and descriptive norms								
Learning-approach	.07	.10	.04	.766	−.04	.05	−.04	.228
Task-approach	**−.19**	**.09**	**−.13**	**.019**	−.08	.05	−.09	.069
Appearance-approach	.09	.06	.09	.084	**.06**	**.03**	**.11**	**.038**
Appearance-avoidance	−.02	.05	−.03	.669	−.06	.03	−.12	.984
Work-avoidance	−.01	.05	−.01	.568	**.07**	**.02**	**.14**	**.002**
Descriptive norms	**.33**	**.06**	**.25**	**<.001**	**.09**	**.03**	**.12**	**.002**
Adj. R^2	.07				.07			
Achievement goals and attitudes								
Learning-approach	.07	.09	.04	.793	−.02	.05	−.02	.378
Task-approach	−.01	.09	−.01	.442	−.02	.05	−.02	.377
Appearance-approach	.03	.06	.03	.304	.03	.03	.05	.196
Appearance-avoidance	−.03	.05	−.04	.265	−.05	.03	−.10	.965
Work-avoidance	−.04	.05	−.04	.782	**.05**	**.02**	**.09**	**.019**
Attitudes	**.82**	**.12**	**.35**	**<.001**	**.40**	**.06**	**.31**	**<.001**
Adj. R^2	.12				.13			

Note. Variables were entered as factor scores; Significant effects are in bold-face; Results of all models can be found in Supplement S1; [a]One-sided *p*-values following our preregistered, directed hypotheses; [b]This effect was not deemed significant after Benjamini-Hochberg adjustment (see also Supplement S1).

achievement goals, a differential pattern emerged. Except for one single significant effect of mastery goals across all models, we did not find the expected negative association between mastery goals and academic dishonesty. The hitherto little investigated work-avoidance goals were positively linked to plagiarism, but not statistically significantly related to cheating in exams. The significant main effects of appearance-approach goals partially disappeared when including attitudes into the models (as well as descriptive norms in models predicting exam cheating). This shows that descriptive norms and attitudes might contribute to a stronger degree to students' engagement in academic dishonesty than performance goals. This was corroborated by intra-individual change models, controlling for students' prior cheating (T1), where only work-avoidance goals, descriptive norms, and attitudes remained strong predictors. In general, attitudes toward dishonesty accounted for the highest amount of variability in academic dishonesty.

DISCUSSION

This study provides a prospective account of academic dishonesty, leveraging a large sample, preregistration, and joint modeling of motivational and contextual predictors, and responds to Murdock

and Anderman's (2006) still lingering call for comprehensive tests of multiplicative effects. Our findings contribute (a) a fine-grained perspective on achievement goals, showing sensitivity to measurement specificity when subfacets and valence distinctions are considered; (b) a prospective design that aligns with the Theory of Planned Behavior's causal ordering (antecedents to intentions to behavior), adding to limited longitudinal applications of the Theory of Planned Behavior in academic dishonesty research (e.g., Beck & Ajzen, 1991; Maloshonok & Shmeleva, 2019); (c) evidence that, for student cheating, Theory of Planned Behavior components may be best specified as cheating (rather than academic) self-efficacy, descriptive (rather than injunctive) norms, and justifying attitudes; (d) behavior-specific patterns (e.g., work-avoidance goals related to plagiarism but not exam cheating); and (e) indications that motivation measured by achievement goals may be less decisive than Theory of Planned Behavior components in predicting dishonest behavior, mirroring recent findings (Perry et al., 2025).

How do Achievement Goals Matter for Academic Dishonesty?

We observed some consistency and some unexpected findings regarding achievement goals' relations to academic dishonesty when using goal subfacets. As expected, appearance-approach goals showed small but robust positive relations with exam cheating and plagiarism, consistent with the idea that prioritizing appearing competent can open the door for dishonest means, independent of the task at hand. In contrast, although we preregistered positive associations for appearance-avoidance goals parallel to appearance-approach, the observed pattern was consistently negative (see for example Putarek & Pavlin-Bernardić, 2020, for similar findings). We treat this as an informative signal rather than a confirmatory effect, but it underscores the importance of measurement specificity: collapsing across subfacets (appearance vs. normative), valence (approach vs. avoidance), and behavior types might mask divergent mechanism and produce heterogenous patterns of results (e.g., Fritz et al., 2023; Harackiewicz et al., 2002; Simamora & Mutiarawati, 2021). A plausible mechanism lies in different emotional qualia entailed in goals' valence: relative to approach goals, avoidance goals may be accompanied by a stronger fear of failure and heightened concern about being caught or appearing incompetent (Putarek & Pavlin-Bernardić, 2020). Indeed, people oriented toward gains (vs. avoiding losses) are more willing to lie, reflecting lower risk aversion (Gino & Margolis, 2011). Future work should probe this account directly (e.g., cognitive interviews contrasting reasons for (not) cheating between approach vs. avoidance goals) and test whether the same logic and our findings extend to normative performance goals (see also for instance Sideridis et al., 2014, for work on conceptual clarification).

Although we did not specifiy differential effects, work-avoidance goals showed a behavior-specific association in our sample, relating to plagiarism but not to exam cheating. This pattern aligns with prior findings linking work-avoidance goals to plagiarism (e.g., Putarek & Pavlin-Bernardić, 2020; Šeremet et al., 2018; Šimon & Pavlin-Bernardić, 2024), though a more general association with other forms of cheating cannot be ruled out. Conceptually however, a behavior-specific mechanism seems plausible: In written assignments, copying readily available text instead of producing original work can function as a direct shortcut that saves time and cognitive resources. By contrast, the exam behaviors we assessed may offer fewer genuine shortcuts (e.g., preparing crib sheets or collecting old exam items still requires effort) and may entail higher perceived detection risk (e.g., in proctored settings) than plagiarizing in the privacy of one's home. Accordingly, differentiating dishonesty behaviors along dimensions such as shortcut potential and detection risk may be useful, and work-avoidance goals may matter differently across such contexts. Future work should confirm this apparent behavior specificity and whether perceived shortcut potential and detection risk mediate it. Crucially, work-avoidance goals should not be reduced to laziness. Students often report time pressure and workload as reasons for cheating through assignments (Anderman et al., 1998). As a result, work-avoidance goals might be situation- and task-specific, where students have to weigh on how to best allocate resources, possibly dependent on the subjective importance of specific assignments. Furthermore, teacher and peer

support reduces work-avoidance goal adoption (King & McInerney, 2014). The ongoing digitization of education, especially remote and asynchronous teaching, poses a risk factor in this regard by lessening these important interpersonal interactions (Govindarajan & Srivastava, 2020).

Together, these points imply future research avenues: By means of situational approaches, researchers could work out which types of assignment facilitate the use of shortcuts, which boundary conditions influence resource allocation in achievement tasks, and which anteceding factors facilitate the adoption of work-avoidance goals (e.g., low self-efficacy for self-regulated learning: Šimon & Pavlin-Bernardić, 2024).

Although mastery-approach (task and learning) goals correlated negatively with plagiarism (not exam cheating) at zero-order, they did not add unique variance in the regression models. One explanation could lie in a ceiling effect of the rather high scores and their comparatively low variability (see Table 2), and like with performance goals, the measurements' specificity. Mastery goals are often measured in broader terms (merging task and learning or approach and avoidance; Elliot et al., 2011). As argued above, future research should focus on these finer goal distinctions to investigate whether the consistent negative links between mastery goals and academic dishonesty actually hold true for all sub-facets.

Taken together, the prospective effects of achievement goals on plagiarism and exam cheating showed more nuanced patterns than previous literature suggests. Moreover, we found no evidence that performance (appearance) goals were moderated by the examined context variables. The findings following our increased measurement specificity, distinguishing subfacets and valence, speak to one methodological account for effect heterogeneity in prior work (Fritz et al., 2023; Krou et al., 2021), although other sources of variability, including additional moderators, remain plausible.

Relevant Personal and Situational Influences on Academic Dishonesty

Drawing on Expectancy – Value – Cost Theory, we predicted that appearance goals would interact with feasibility and acceptability factors. However, our respective preregistered moderator hypotheses were not supported. Given that detecting moderations in the field is a difficult endeavor (Nagengast et al., 2011) and that there is some evidence from experimental studies supporting moderation effects (Daumiller & Janke, 2019, 2020), it is too early to rule out moderations. Yet, the pattern of robust main effects for cheating self-efficacy, descriptive cheating norms, and justifying attitudes is most consistent with an additive risk structure, aligning with the Theory of Planned Behavior. Notably, the Theory of Planned Behavior acknowledges that these predictors are unlikely to initiate cheating on their own (Ajzen, 2020) and that in the absence of motives, most students should default to honest conduct. Under the right preconditions, however, such as pressures (e.g., limited time), incentives (e.g., high-stakes testing), and opportunities (e.g., easy-to-copy assignments), expecting to cheat successfully, cheating-permissive peer climates, and justifying attitudes each can facilitate reasoning for dishonest behavior and thus lower behavioral thresholds. A perceived competitive disadvantage when others frequently cheat, especially under relative grading systems, may further tilt the cost – benefit calculus.

Cheating self-efficacy seems a particularly informative predictor, as the confidence in being able to cheat undetected aggregates multiple situational cues (e.g., perceived detection risk, observations of peers "getting away with it," one's own successful cheating experiences, Nora & Zhang, 2010; Ogilvie & Stewart, 2010) into a single expectancy judgment, aligning with perceived and actual behavioral control in the Theory of Planned Behavior. Practically, institutions can lower such expectancies through credible control mechanisms and transparent communication about cheating detection and penalties. However, a more sustainable and effective approach might be to create a general atmosphere of integrity, emphasizing learning over grades and moral character building over student monitoring. Such an approach plays into peer behavior and attitudes at the same time and while it might not eliminate all student cheating, it could result in "the lifelong benefit of learning the value of living in a community of trust" (Arnold et al., 2007, p. 2). Given that after the Benjamini – Hochberg adjustment the main effect of cheating self-efficacy remained supported for exam cheating but not

for plagiarism (which was only nominally significant), the behavioral specificity of this feasibility factor should be examined in future studies.

In contrast to prior research (e.g., Nora & Zhang, 2010; Ogilvie & Stewart, 2010), academic self-efficacy did not significantly predict academic dishonesty in our study. Several factors may account for this null finding. First, self-efficacy is typically task- and class-specific (Bandura, 2006; Nora & Zhang, 2010), whereas in our study, we could only implement a general measure regarding students' self-efficacy for their studies overall (see Limitations for more elaboration), which might have attenuated effects. Second and related to this, this null finding in fact underscores the Theory of Planned Behavior's principle of compatibility (Ajzen, 2020): Predictors best forecast a behavior when they match it in action, meaning that perceived control over legitimate performance (academic self-efficacy) can be expected to relate less strongly to cheating (the action) than perceived control specific to cheating (cheating self-efficacy). Third, efficacy judgments are shaped by prior mastery experiences (Usher & Pajares, 2008), which may have been less diagnostic during pandemic-altered assessments unfamiliar to students. Lastly, academic self-efficacy can precede (du Rocher, 2020) or moderate (Ajzen, 2020) attitudes, making its influence partly indirect and potentially absorbed by more proximal Theory of Planned Behavior components in our models.

In contrast to descriptive norms, injunctive norms did not significantly predict cheating behavior. This is consistent with evidence that broad integrity messages and honor codes have ambiguous effectiveness (Arnold et al., 2007), whereas immediate peer climates are more informative to behavior (Zhao et al., 2022). According to the Theory of Planned Behavior, the significance of the social referent determines the strength of injunctive and descriptive norms (Ajzen, 2020). Hence, future research could examine whether injunctive norms for cheating exert greater influence depending on students' regard for and relationship with their educators or university. The pandemic context may also have reduced the salience or clarity of instructor-level sanctions, thereby weakening injunctive norms' impact.

Considerations for Future Research

Several open questions remain for future research. For instance, do justifying attitudes enable subsequent cheating, or do prior cheating experiences rationalize lenient attitudes? A bidirectional sequence of these pathways seems plausible and is consistent with our data, where attitudes correlated with both prior and subsequent behavior. Clarifying this would require longer multi-wave designs, ideally incorporating intentions to test the full Theory of Planned Behavior causal chain. Work on extending the Theory of Planned Behavior model in predicting academic dishonesty for instance with the cultural context (Imran et al., 2025) or emotions (Curtis et al., 2022; Tindall et al., 2021) also holds promise. Furthermore, although we found no interaction effects between variables, going beyond main effects in future work remains worthwhile: First, our nil-findings on moderator effect should be replicated in even larger samples that are required to robustly identify expectancy-value interactions (Nagengast et al., 2011). Moreover, social learning theory posits that the translation of attitudes into behavior may be mediated by observing others, rather than operating independently as in the Theory of Planned Behavior (Bandura, 1986). The contemporary formulation of the theory suggests various mediation and moderation effects applicable to academic dishonesty, such as intentions mediating and perceived behavioral control moderating the influence of attitudes and norms on behavior (see a summary in Ajzen, 2020). Following this theorizing, Expectancy – Value – Cost Theory may not so much be a competitor to the Theory of Planned Behavior, but rather a complementary component: The Theory of Planned Behavior formalizes the supposed precursors of behavioral control, norms, and attitudes as respective expectancy-value beliefs (Ajzen, 2020). Empirically testing such a unified framework in the context of academic dishonesty could advance both research on student cheating and broader theorizing on behavioral prediction. Finally, regarding achievement goals, laboratory studies have identified interactions between performance goals and descriptive social norms (Daumiller & Janke, 2020) as well as assessment modalities (relating to behavioral expectancies,

Daumiller & Janke, 2019) under controlled conditions, underscoring that interactions may emerge in specific settings which we could not capture in our field data. Together, these directions offer promising avenues for advancing the traditional Theory of Planned Behavior framework as well as integrating achievement goals (or values more broadly) and other social-cognitive constructs into the equation.

Limitations

One limitation of this study concerns the reliance on self-reported academic dishonesty, which may be affected by social desirability bias (e.g., Bernardi & Adamaitis, 2006). We sought to mitigate this risk through fully anonymous online data collection and the absence of any educator – student relationship with respondents, conditions known to reduce misreporting (Tourangeau & Yan, 2007). Moreover, research on both dishonest behavior in general as well as students cheating in particular emphasizes its situational nature (Gerlach et al., 2019; Murdock & Anderman, 2006), which is strongly shaped by incentives and opportunity rather than a stable propensity to cheat across contexts (Curtis & Clare, 2024; Schuhmann et al., 2013). In contrast to high-stakes assessments, anonymous surveys offer little incentive to misreport. Our prevalence estimates fall within the range typically found in prior self-report research on academic dishonesty (e.g., McCabe, 2024), including during the pandemic (Newton & Essex, 2024), though under- or over-reporting cannot be ruled out entirely.

A second limitation concerns generalizability. While our sample roughly mirrors the distribution of bachelor vs. master students and university types in Germany at the time of data collection (Statistisches Bundesamt, 2021), it is predominantly female (72.7%). Findings should therefore be generalized with caution, particularly beyond the German context. Furthermore, data were collected during the COVID-19 pandemic, when most students in our sample were predominantly taught online (95.9%). Atypical assessment modalities and altered study conditions (e.g., reduced in-person student-faculty interaction that typically supports engagement; Umbach & Wawrzynski, 2005), together with universities' rapid and sometimes unprepared digital shift (Coman et al., 2020), may have altered both opportunities and justifications for cheating (Newton & Essex, 2024) as well as motivational and contextual influences. Because national health measures and institutional responses varied (Ives & Cazan, 2024), generalizability to traditional, in-person settings and to other country contexts is limited. However, while these specific circumstances may have impacted the prevalence of the measured dishonest behavior, we have little reason to believe that the associations between the variables are pandemic-specific given consistency of our effect patterns with similar works.

Third, the drop-out analysis showed that nonparticipation in the second survey was correlated with lower task-approach goals, higher appearance-approach goals, lower appearance-avoidance goals, as well as lower cheating self-efficacy reported at T1. Consequently, mean values of these variables at T1 could have been over-/underestimated in the data of participants who took part in both surveys. Although we were not using mean scores for the analyses, the natural variability of these variables could have been reduced, which might in turn have lowered effect sizes. Nonparticipation at T2 was also correlated with higher plagiarism reported at T1, possibly leading to underestimation of the extent of plagiarism at T2 (having only participants in the matched data with generally lower engagement).

Lastly, some null effects may reflect insufficient measurement specificity. Some predictors were assessed at a general level, which can dilute effects that are class-, educator-, or task-specific. For example, the injunctive norms items captured perceived enforcement by educators across assessment types and classes, where students may have averaged over heterogeneous practices, reducing precision. Likewise, academic self-efficacy was measured globally (for students' studies in general), although efficacy judgments are most valid when task-specific (Bandura, 2006). Thus, following the Theory of Planned Behavior's principle of compatibility (Ajzen, 2020), aligning efficacy (academic and cheating) with the same target behavior (e.g., cheating in math exams) would better match levels of analysis. A similar point applies to achievement goals, which are known to

vary by domain and time (e.g., Daumiller et al., 2021; Gehlbach, 2006; Sparfeldt et al., 2015). Our dispositional measures showed smaller effects than context variables. While a fully class- or task-specific design was infeasible here (due to participant burden and potentially high drop-out), future work should calibrate predictors and outcomes at the same granularity to more sensitively test moderation.

CONCLUSION

This study contributes to the limited body of research on how achievement goals prospectively influence different forms of academic dishonesty. The investigated moderator variables did not explain heterogeneity in performance goal – dishonesty relationships found in the literature, but our findings suggest that goal effects in general depend on measurement specificity often not considered in prior studies: Negative associations between mastery goals and cheating were less predictive when accounting for goal subfacets and dishonesty types. Effects for work-avoidance goals could only be found for plagiarism, and links between performance goals and academic dishonesty varied by goal valence (appearance-approach goals predicted both exam cheating and plagiarism, whereas appearance-avoidance goals showed consistent negative associations). Together, these results underscore the importance of examining distinct motivational underpinnings across types of academic dishonesty. The independent main effects of proposed moderator variables in turn strengthen previous theorizing and findings on the influence of cheating self-efficacy, descriptive social norms (i.e., perceived peer cheating), and justifying attitudes toward academic dishonesty on students' engagement in cheating behavior, thus corroborating the Theory of Planned Behavior as a robust predictive model. In conclusion, the impact of achievement goals appears to be contingent upon specific situational contexts and may exhibit temporal limitations, particularly in conjunction with stronger behavioral drivers.

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AUTHORS' CONTRIBUTIONS (CREDIT STATEMENT)

Tanja M. Fritz: Methodology, Software, Formal Analysis, Investigation, Resources, Data Curation, Writing – Original Draft, Writing – Review & Editing, Vizualization; **Hernán González Cruz**: Software, Validation, Writing – Review & Editing; **Selma C. Rudert**: Conceptualization; Writing – Review & Editing; **Stefan Janke**: Conceptualization, Writing – Review & Editing, Supervision, Project administration, Funding acquisition; **Martin Daumiller**: Methodology, Conceptualization, Formal Analysis, Writing – Review & Editing, Supervision, Project administration, Funding acquisition

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REFERENCES

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies*, *2*(4), 314–324. https://doi.org/10.1002/hbe2.195

Akbulut, Y., Şendağ, S., Birinci, G., Kılıçer, K., Şahin, M. C., & Odabaşı, H. F. (2008). Exploring the types and reasons of internet-triggered academic dishonesty among Turkish undergraduate students: Development of internet-triggered academic dishonesty scale (ITADS). *Computers & Education*, *51*(1), 463–473. https://doi.org/10.1016/j.compedu.2007.06.003

Ampuni, S., Kautsari, N., Maharani, M., Kuswardani, S., & Buwono, S. B. S. (2020). Academic dishonesty in Indonesian college students: An investigation from a moral psychology perspective. *Journal of Academic Ethics*, *18*(4), 395–417. https://doi.org/10.1007/s10805-019-09352-2

Anderman, E. M., Griesinger, T., & Westerfield, G. (1998). Motivation and cheating during early adolescence. *Journal of Educational Psychology*, *90*(1), 84–93. https://doi.org/10.1037/0022-0663.90.1.84

Anderman, E. M., & Koenka, A. C. (2017). The relation between academic motivation and cheating. *Theory Into Practice*, *56*(2), 95–102. https://doi.org/10.1080/00405841.2017.1308172

Anderman, E. M., Tilak, S., Perry, A. H., von Spiegel, J., & Black, A. (2022). Academic motivation and cheating: A psychological perspective. In D. A. Rettinger & T. BERTRAM. Gallant (Eds.), *Cheating academic integrity: Lessons from 30 years of research* (pp. 75–92). Jossey-Bass.

Anderman, E. M., & Won, S. (2019). Academic cheating in disliked classes. *Ethics & Behavior*, *29*(1), 1–22. https://doi.org/10.1080/10508422.2017.1373648

Arnold, R., Martin, B. N., & Bigby, L. (2007). Is there a relationship between honor codes and academic dishonesty? *Journal of College and Character*, *8*(2), 1–20. https://doi.org/10.2202/1940-1639.1164

Bandura, A. (1986). *Social foundations of thought and action*. Prentice-Hall.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman.

Bandura, A. (2006). Guide for constructing self-efficacy scales. In T. Urdan & F. Pajares (Eds.), *Self-efficacy beliefs of adolescents* (pp. 307–337). Information Age Publishing.

Bardach, L., Yanagida, T., Klassen, R. M., & Lüftenegger, M. (2022). Normative and appearance performance-approach goal structures: Two-level factor structure and external linkages. *The Journal of Experimental Education*, *90*(1), 130–145. https://doi.org/10.1080/00220973.2020.1729081

Barron, K. E., & Hulleman, C. S. (2015). Expectancy-value-cost model of motivation. In J. S. Eccles & K. Salmela-Aro (Eds.), *International encyclopedia of social and behavioral sciences* (2nd ed. pp. 503–509). Elsevier.

Beck, L., & Ajzen, I. (1991). Predicting dishonest actions using the theory of planned behavior. *Journal of Research in Personality*, *25*(3), 285–301. https://doi.org/10.1016/0092-6566(91)90021-H

Bernardi, R. A., & Adamaitis, K. L. (2006). Data contamination by social desirability response bias: An international study of students' cheating behavior. In C. Jeffrey (Ed.), *Research on professional responsibility and ethics in accounting* (Vol. 11, pp. 199–218). Emerald. https://doi.org/10.1016/S1574-0765(06)11008-0

Bouville, M. (2010). Why is cheating wrong? *Studies in Philosophy and Education*, *29*(1), 67–76. https://doi.org/10.1007/s11217-009-9148-0

Bureau, J. S., Gareau, A., Guay, F., & Mageau, G. A. (2022). Investigating how autonomy-supportive teaching moderates the relation between student honesty and premeditated cheating. *British Journal of Educational Psychology*, *92*(1), 175–193. https://doi.org/10.1111/bjep.12444

Carpenter, D. D., Harding, T. S., Finelli, C. J., Montgomery, S. M., & Passow, H. J. (2006). Engineering students' perceptions of and attitudes towards cheating. *Journal of Engineering Education*, *95*(3), 181–194. https://doi.org/10.1002/j.2168-9830.2006.tb00891.x

Chazan, D. J., Pelletier, G. N., & Daniels, L. M. (2022). Achievement goal theory review: An application to school psychology. *Canadian Journal of School Psychology*, *37*(1), 40–56. https://doi.org/10.1177/08295735211058319

Chudzicka-Czupała, A., Grabowski, D., Mello, A. L., Kuntz, J., Zaharia, D. V., Hapon, N., Lupina-Wegener, A., & Börü, D. (2016). Application of the theory of planned behavior in academic cheating research: Cross-cultural comparison. *Ethics & Behavior*, *26*(8), 638–659. https://doi.org/10.1080/10508422.2015.1112745

Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity and compliance. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (pp. 151–192). McGraw-Hill.

Colquitt, J. A., Sabey, T. B., Rodell, J. B., & Hill, E. T. (2019). Content validation guidelines: Evaluation criteria for definitional correspondence and definitional distinctiveness. *Journal of Applied Psychology*, *104*(10), 1243–1265. https://doi.org/10.1037/apl0000406

Coman, C., Țîru, L. G., Meseșan-Schmitz, L., Stanciu, C., & Bularca, M. C. (2020). Online teaching and learning in higher education during the coronavirus pandemic: Students' perspective. *Sustainability*, *12*(24), 10367. https://doi.org/10.3390/su122410367

Cuadrado, D., Salgado, J. F., & Moscoso, S. (2019). Prevalence and correlates of academic dishonesty: Towards a sustainable university. *Sustainability*, *11*(21), 6062. https://doi.org/10.3390/su11216062

Curtis, G. J., & Clare, J. (2024). Academic integrity scholarship: The importance of theory. In S. E. Eaton (Ed.), *Second handbook of academic integrity* (pp. 1651–1669). Springer. https://doi.org/10.1007/978-981-287-079-7_164-1

Curtis, G. J., Clare, J., Vieira, E., Selby, E., & Jonason, P. K. (2022). Predicting contract cheating intentions: Dark personality traits, attitudes, norms, and anticipated guilt and shame. *Personality and Individual Differences*, *185*, 111277. https://doi.org/10.1016/j.paid.2021.111277

Daumiller, M., Dickhäuser, O., & Dresel, M. (2019). University instructors' achievement goals for teaching. *Journal of Educational Psychology*, *111*(1), 131–148. https://doi.org/10.1037/edu0000271

Daumiller, M., & Janke, S. (2019). The impact of performance goals on cheating depends on how performance is evaluated. *AERA Open*, *5*(4), 1–10. https://doi.org/10.1177/2332858419894276

Daumiller, M., & Janke, S. (2020). Effects of performance goals and social norms on academic dishonesty in a test. *British Journal of Educational Psychology*, *90*(2), 537–559. https://doi.org/10.1111/bjep.12310

Daumiller, M., Janke, S., Hein, J., Rinas, R., Dickhäuser, O., & Dresel, M. (2021). Do teachers' achievement goals and self-efficacy beliefs matter for students' learning experiences? Evidence from two studies on perceived teaching quality and emotional experiences. *Learning and Instruction*, *76*, 101458. https://doi.org/10.1016/j.learninstruc.2021.101458

du Rocher, A. R. (2020). Active learning strategies and academic self-efficacy relate to both attentional control and attitudes towards plagiarism. *Active Learning in Higher Education*, *21*(3), 203–216. https://doi.org/10.1177/1469787418765515

Elliot, A. J., Dweck, C. S., & Yeager, D. S. (Eds.). (2017). *Handbook of competence and motivation: Theory and application*. Guilford.

Elliot, A. J., Murayama, K., & Pekrun, R. (2011). A 3 × 2 achievement goal model. *Journal of Educational Psychology*, *103*(3), 632–648. https://doi.org/10.1037/a0023952

Flake, J. K., Barron, K. E., Hulleman, C., McCoach, B. D., & Welsh, M. E. (2015). Measuring cost: The forgotten component of expectancy-value theory. *Contemporary Educational Psychology*, *41*, 232–244. https://doi.org/10.1016/j.cedpsych.2015.03.002

Fritz, T., González Cruz, H., Janke, S., & Daumiller, M. (2023). Elucidating the associations between achievement goals and academic dishonesty: A meta-analysis. *Educational Psychology Review*, *35*(1), 33. https://doi.org/10.1007/s10648-023-09753-1

Fritz, T., González Cruz, H., Janke, S., & Daumiller, M. (2024). How to best measure academic dishonesty in students: A systematic review of self-report assessment methods and psychometric quality. *European Journal of Psychological Assessment*, *40*(6), 498–514. https://doi.org/10.1027/1015-5759/a000861

Gehlbach, H. (2006). How changes in students' goal orientations relate to outcomes in social studies. *The Journal of Educational Research*, *99*(6), 358–370. https://doi.org/10.3200/JOER.99.6.358-370

Gerlach, P., Teodorescu, K., & Hertwig, R. (2019). The truth about lies: A meta-analysis on dishonest behavior. *Psychological Bulletin*, *145*(1), 1–44. https://doi.org/10.1037/bul0000174

Gino, F., & Margolis, J. D. (2011). Bringing ethics into focus: How regulatory focus and risk preferences influence (un) ethical behavior. *Organizational Behavior and Human Decision Processes*, *115*(2), 145–156. https://doi.org/10.1016/j.obhdp.2011.01.006

Govindarajan, V., & Srivastava, A. (2020). What the shift to virtual learning could mean for the future of higher ed. *Harvard Business Review*. https://www.accs.edu/wp-content/uploads/2020/06/What-the-Shift-to-Virtual-Learning-Could-Mean-for-the-Future-of-Higher-Ed.pdf

Greitemeyer, T., & Kastenmüller, A. (2024). A longitudinal analysis of the willingness to use ChatGPT for academic cheating: Applying the theory of planned behavior. *Technology, Mind, and Behavior*, *5*(2), 90–97. https://doi.org/10.1037/tmb0000133

Harackiewicz, J. M., Barron, K. E., Pintrich, P. R., Elliot, A. J., & Thrash, T. M. (2002). Revision of achievement goal theory: Necessary and illuminating. *Journal of Educational Psychology*, *94*(3), 638–645. https://doi.org/10.1037/0022-0663.94.3.638

Imran, A. M., Hussien, S., & Alaraimi, A. S. (2025). Examining the utility of an extended theory of planned behavior (TPB) on academic dishonesty among undergraduates. *Journal of Academic Ethics*, *23*(3), 363–388. https://doi.org/10.1007/s10805-024-09548-1

Ives, B., Alama, M., Mosora, L. C., Mosora, M., Grosu-Radulescu, L., Clinciu, A. I., Cazan, A., Badescu, G., Tufis, C., Diaconu, M., & Dutu, A. (2017). Patterns and predictors of academic dishonesty in Romanian university students. *Higher Education*, *74*(5), 815–831. https://doi.org/10.1007/s10734-016-0079-8

Ives, B., & Cazan, A. M. (2024). Did the COVID-19 pandemic lead to an increase in academic misconduct in higher education? *Higher Education*, *87*(1), 111–129. https://doi.org/10.1007/s10734-023-00996-z

Jensen, L. A., Arnett, J. J., Feldman, S. S., & Cauffman, E. (2002). It's wrong, but everybody does it: Academic dishonesty among high school and college students. *Contemporary Educational Psychology*, *27*(2), 209–228. https://doi.org/10.1006/ceps.2001.1088

Jordan, A. E. (2001). College student cheating: The role of motivation, perceived norms, attitudes, and knowledge of institutional policy. *Ethics & Behavior*, *11*(3), 233–247. https://doi.org/10.1207/S15327019EB1103_3

King, R. B., & McInerney, D. M. (2014). The work avoidance goal construct: Examining its structure, antecedents, and consequences. *Contemporary Educational Psychology*, *39*(1), 42–58. https://doi.org/10.1016/j.cedpsych.2013.12.002

Krou, M. R., Fong, C. J., & Hoff, M. A. (2021). Achievement motivation and academic dishonesty: A meta-analytic investigation. *Educational Psychology Review*, *33*(2), 427–458. https://doi.org/10.1007/s10648-020-09557-7

Maloshonok, N., & Shmeleva, E. (2019). Factors influencing academic dishonesty among undergraduate students at Russian universities. *Journal of Academic Ethics*, *17*(3), 313–329. https://doi.org/10.1007/s10805-019-9324-y

Marques, T., Reis, N., & Gomes, J. (2019). A bibliometric study on academic dishonesty research. *Journal of Academic Ethics*, *17*(2), 169–191. https://doi.org/10.1007/s10805-019-09328-2

McCabe, D. (2024). Cheating and honor: Lessons from a long-term research project. In S. E. Eaton (Ed.), *Second handbook of academic integrity* (pp. 599–610). Springer.

McCabe, D. L., Butterfield, K. D., & Trevino, L. K. (2012). *Cheating in college: Why students do it and what educators can do about it*. Johns Hopkins University Press.

McCabe, D. L., Trevino, L. K., & Butterfield, K. D. (2002). Honor codes and other contextual influences on academic integrity: A replication and extension to modified honor code settings. *Research in Higher Education*, *43*(3), 357–378. https://doi.org/10.1023/A:1014893102151

McNeish, D. (2018). Thanks, coefficient alpha, we'll take it from here. *Psychological Methods*, *23*(3), 412–433. https://doi.org/10.1037/met0000144

Murayama, K., & Elliot, A. J. (2019). Achievement goals. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (2nd ed. pp. 299–322). Oxford University Press.

Murdock, T. B., & Anderman, E. M. (2006). Motivational perspectives on student cheating: Toward an integrated model of academic dishonesty. *Educational Psychologist*, *41*(3), 129–145. https://doi.org/10.1207/s15326985ep4103_1

Nagengast, B., Marsh, H. W., Scalas, L. F., Xu, M. K., Hau, K. T., & Trautwein, U. (2011). Who took the "×" out of expectancy-value theory? A psychological mystery, a substantive-methodological synergy, and a cross-national generalization. *Psychological Science*, *22*(8), 1058–1066. https://doi.org/10.1177/0956797611415540

Newton, P. M., & Essex, K. (2024). How common is cheating in online exams and did it increase during the COVID-19 pandemic? A systematic review. *Journal of Academic Ethics*, *22*(2), 323–343. https://doi.org/10.1007/s10805-023-09485-5

Ng, J. C., & Chan, W. (2020). Latent moderation analysis: A factor score approach. *Structural Equation Modeling: A Multidisciplinary Journal*, *27*(4), 629–648. https://doi.org/10.1080/10705511.2019.1664304

Nora, W. L. Y., & Zhang, K. C. (2010). Motives of cheating among secondary students: The role of self-efficacy and peer influence. *Asia Pacific Education Review*, *11*(4), 573–584. https://doi.org/10.1007/s12564-010-9104-2

Ogilvie, J., & Stewart, A. (2010). The integration of rational choice and self-efficacy theories: A situational analysis of student misconduct. *Australian & New Zealand Journal of Criminology*, *43*(1), 130–155. https://doi.org/10.1375/acri.43.1.130

O'Rourke, J., Barnes, J., Deaton, A., Fulks, K., Ryan, K., & Rettinger, D. A. (2010). Imitation is the sincerest form of cheating: The influence of direct knowledge and attitudes on academic dishonesty. *Ethics & Behavior*, *20*(1), 47–64. https://doi.org/10.1080/10508420903482616

Perry, A. H., Rettinger, D. A., Stephens, J. M., Anderman, E. M., McTernan, M. L., Tatum, H., McNally, D., Cullen, C., & Bertram Gallant, T. (2025). From institutional climate to moral attitudes: Examining theoretical models of academic misconduct. *Ethics & Behavior*, 1–18. https://doi.org/10.1080/10508422.2025.2514577

Petty, R. E., Wegener, D. T., & Fabrigar, L. R. (1997). Attitudes and attitude change. *Annual Review of Psychology*, *48*(1), 609–647. https://doi.org/10.1146/annurev.psych.48.1.609

Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1991). *A manual for the use of the motivated strategies for learning questionnaire (MSLQ)*. University of Michigan. https://doi.org/10.13140/RG.2.1.2547.6968

Plessen, C. Y., Gyimesi, M. L., Kern, B. M. J., Fritz, T. M., Catalán Lorca, M., Voracek, M., & Tran, U. S. (2020, January 30). Associations between academic dishonesty and personality: A pre-registered multilevel meta-analysis. *PsyArxiv*. https://doi.org/10.31234/osf.io/pav2f

Putarek, V., & Pavlin-Bernardić, N. (2020). The role of self-efficacy for self-regulated learning, achievement goals, and engagement in academic cheating. *European Journal of Psychology of Education*, *35*(3), 647–671. https://doi.org/10.1007/s10212-019-00443-7

R Core Team. (2024). *R: A language and environment for statistical computing* [Computer software]. R Foundation for Statistical Computing. https://www.r-project.org/

Resurreccion, P. F. (2012). The impact of faculty, peers and integrity culture in the academe on academic misconduct among Filipino students. *International Journal of Academic Research in Business and Social Sciences*, *2*(12), 33–50. https://www.researchgate.net/publication/304169734

Rettinger, D. A., Jordan, A. E., & Peschiera, F. (2004). Evaluating the motivation of other students to cheat: A vignette experiment. *Research in Higher Education*, *45*(8), 873–890. https://www.jstor.org/stable/40197369

Rosseel, Y. (2012). Lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, *48*(2), 1–36. https://doi.org/10.18637/jss.v048.i02

Royal, K. D., & Flammer, K. (2015). Measuring academic misconduct: Evaluating the construct validity of the exams and assignments scale. *American Journal of Applied Psychology*, *4*(3–1), 58–64. https://doi.org/10.11648/j.ajap.s.2015040301.20

Schuhmann, P. W., Burrus, R. T., Barber, P. D., Graham, J. E., & Elikai, M. F. (2013). Using the scenario method to analyze cheating behaviors. *Journal of Academic Ethics*, *11*(1), 17–33. https://doi.org/10.1007/s10805-012-9173-4

Senko, C., Durik, A. M., Patel, L., Lovejoy, C. M., & Valentiner, D. (2013). Performance-approach goal effects on achievement under low versus high challenge conditions. *Learning and Instruction*, *23*, 60–68. https://doi.org/10.1016/j.learninstruc.2012.05.006

Šeremet, A., Perić, K., & Brdovčak, B. (2018). Determinants of academic dishonesty among students. In S. NAKIĆ. Radoš (Ed.), *Protection and promotion of the well-being of children, youth, and families* (pp. 301–312). Catholic University of Croatia.

Sideridis, G. D., Kaplan, A., Papadopoulos, C., & Anastasiadis, V. (2014). The affective experience of normative-performance and outcome goal pursuit: Physiological, observed, and self-report indicators. *Learning and Individual Differences*, *32*, 114–123. https://doi.org/10.1016/j.lindif.2014.03.006

Simamora, B., & Mutiarawati, E. V. (2021). Achievement goals model validation: Is the 2 × 2 better than the trichotomous? *International Journal of Evaluation and Research in Education*, *10*(1), 142–149. https://doi.org/10.11591/ijere.v10i1.20869

Simha, A., & Cullen, J. B. (2012). A comprehensive literature review on cheating. *International Journal of Cyber Ethics in Education*, *2*(4), 24–44. https://doi.org/10.4018/ijcee.2012100102

Šimon, J., & Pavlin-Bernardić, N. (2024). Academic dishonesty in written assignments: The role of contextual and motivational factors. *Metodički Ogledi: Časopis Za Filozofiju Odgoja*, *59*(1), 11–38. https://doi.org/10.21464/mo.31.1.12

Sparfeldt, J. R., Brunnemann, N., Wirthwein, L., Buch, S. R., Schult, J., & Rost, D. H. (2015). General versus specific achievement goals: A re-examination. *Learning and Individual Differences*, *43*, 170–177. https://doi.org/10.1016/j.lindif.2015.08.022

Statistisches Bundesamt. (2021). Fachserie 11 reihe 4.1. Bildung und kultur. Studierende an hochschulen. Wintersemester 2020/2021 [Statistical report]. https://www.statistischebibliothek.de/mir/receive/DEHeft_mods_00135733

Stephens, J. M. (2017). How to cheat and not feel guilty: Cognitive dissonance and its amelioration in the domain of academic dishonesty. *Theory Into Practice*, *56*(2), 111–120. https://doi.org/10.1080/00405841.2017.1283571

Tindall, I. K., Fu, K. W., Tremayne, K., & Curtis, G. J. (2021). Can negative emotions increase students' plagiarism and cheating? *International Journal for Educational Integrity*, *17*(1), 25. https://doi.org/10.1007/s40979-021-00093-7

Tourangeau, R., & Yan, T. (2007). Sensitive questions in surveys. *Psychological Bulletin*, *133*(5), 859–883. https://doi.org/10.1037/0033-2909.133.5.859

Umbach, P. D., & Wawrzynski, M. R. (2005). Faculty do matter: The role of college faculty in student learning and engagement. *Research in Higher Education*, *46*(2), 153–184. https://doi.org/10.1007/s11162-004-1598-1

Usher, E. L., & Pajares, F. (2008). Sources of self-efficacy in school: Critical review of the literature and future directions. *Review of Educational Research*, *78*(4), 751–796. https://doi.org/10.3102/0034654308321456

Wang, Y. Y., Wang, Y. S., & Wang, Y. M. (2022). What drives students' internet ethical behaviour: An integrated model of the theory of planned behaviour, personality, and internet ethics education. *Behaviour & Information Technology*, *41*(3), 588–610. https://doi.org/10.1080/0144929X.2020.1829053

Whitley, B. E., Jr., Nelson, A. B., & Jones, C. J. (1999). Gender differences in cheating attitudes and classroom cheating behavior: A meta-analysis. *Sex Roles*, *41*(9–10), 657–680. https://doi.org/10.1023/A:1018863909149

Wigfield, A., & Eccles, J. S. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology*, *25*(1), 68–81. https://doi.org/10.1006/ceps.1999.1015

Yang, S. C., Huang, C. L., & Chen, A. S. (2013). An investigation of college students' perceptions of academic dishonesty, reasons for dishonesty, achievement goals, and willingness to report dishonest behavior. *Ethics & Behavior*, *23*(6), 501–522. https://doi.org/10.1080/10508422.2013.802651

Yusliza, M. Y., Fawehinmi, O., Mat, N. H. N., & Mohamed, M. (2022). Exploring the intention to cheat among undergraduate students through the lens of the theory of planned behaviour. *International Journal of Business and Society*, *23*(2), 1042–1065. https://doi.org/10.33736/ijbs.4857.2022

Zhang, Y. (2024). Academic cheating as planned behavior: The effects of perceived behavioral control and individualism-collectivism orientations. *Higher Education*, *87*(3), 567–590. https://doi.org/10.1007/s10734-023-01024-w

Zhao, L., Mao, H., Compton, B. J., Peng, J., Fu, G., Fang, F., Heyman, G. D., & Lee, K. (2022). Academic dishonesty and its relations to peer cheating and culture: A meta-analysis of the perceived peer cheating effect. *Educational Research Review*, *36*, 100455. https://doi.org/10.1016/j.edurev.2022.100455