A Neglected Tenet of Achievement Goal Theory:
Associations Between Life Aspirations and Achievement Goal Orientations

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Abstract

In this article, we propose a hierarchical model of human goal striving. This conceptual model is based in the assumption that broader life aspirations shape achievement goal orientations. Building on Self-Determination Theory, we assumed that intrinsic life aspirations (striving for self-actualization and personal growth) predict learning goal orientations and that extrinsic life aspirations (striving for fame, wealth, and recognition) predict performance goal orientations. We found empirical support for the hypothesized associations within a first set of studies in three achievement related contexts ($n_{Study1a}$ = 313 university students; $n_{Study1b}$ = 294 teachers; $n_{Study1c}$ = 209 soccer players). This study set provided critical evidence on the robustness of the postulated associations as well as their generalizability to a broad set of contexts. In a final longitudinal study, we investigated the direction of these relationships in a sample of 97 freshmen, who we questioned at the very beginning of their first semester and three months later. Cross-lagged panel analyses support the assumption that initial intrinsic life aspirations positively influence the development of a learning goal orientation in this critical transition period. The overall result pattern indicates that life aspirations are part of the foundation of achievement goal orientations.

Keywords: Achievement Goals, Life Aspirations, Self-Determination Theory, Performance Goal Orientation, Learning Goal Orientation, Intrinsic Aspirations, Extrinsic Aspirations, Goal Hierarchy

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1 Introduction

Achievement goal orientations (i.e., the tendency to strive for particular aims in achievement related situations) are known to influence achievement related outcomes (e.g., intrinsic motivation, test anxiety or performance) in a broad set of contexts like school (Meece, Anderman, & Anderman, 2006), sports (Duda, 2005) or at work (Butler, 2007). Typically, they are seen as at least partly stable over time (Fryer & Elliot, 2007) which is why achievement goal orientations have often been ascribed as being founded in more general aspects of achievement motivation like the need for achievement or fear of failure (Dickhäuser, Dinger, Janke, Spinath, & Steinmayr, 2016; Elliot & Church, 1997). It has also been stated that achievement goal orientations are rooted in broader goals that influence human goal striving in a set of contexts, including but not limited to achievement situations (Pintrich, 2000). This tenet of achievement goal theory has often been ignored in prior goal research and critical evidence is largely lacking. As a response to this research gap, we aim for the conceptualization of a hierarchical model of goal striving that explains how broader *life aspirations* influence achievement goal orientations. We rely on the assumption that goals can be arranged in a hierarchy ranging from very broad life aspirations to situation specific goals. Higher-order goals can be considered as reasons behind goal pursuit in more specific situations (Boekaerts, de Koning, & Vedder, 2006). This assumption leads to clear hypotheses regarding the relationships between life aspirations and achievement goal orientations. In the following, we will elaborate on why this postulated goal hierarchy has been a crucial yet rarely explored aspect of achievement goal research in the past decades.

2. Life Aspirations as Neglected Antecedents of Achievement Goal Orientations

Murayama, Elliot, and Friedman (2012) described achievement goal orientations as comprehensive achievement-related mind-sets that determine the pathway that individuals

consider the most suitable to accomplish a feeling of competence. Achievement goal orientations are often differentiated by their goal content into a *learning* or *mastery goal orientation* (i.e., striving for skill development) and a *performance goal orientation* (i.e., striving for performance demonstration; Murayama et al., 2012). While this differentiation has become almost universal, theoretical expansions have introduced additional goal types and goal defining dimensions to achievement goal research (Daumiller, Dickhäuser, & Dresel, 2018; Elliot & Covington, 2001; Elliot, Murayama, & Pekrun, 2011). No clear consensus on the superiority of any goal model has emerged thus far. Nevertheless, most researchers at least agree that performance goal orientations should be further differentiated into *performance approach goal orientation* (i.e., striving to demonstrate competence by outperforming others) and *performance avoidance goal orientation* (i.e., striving to prevent demonstrating a lack of competencies by being outperformed by others; Elliot, 1999; Janke et al., 2016; Murayama, Elliot, & Yamagata, 2011). Empirical research confirms that achievement goal orientations have a strong impact on a wide array of outcomes. A learning goal orientation positively predicts help-seeking at the workplace (Butler, 2007) as well as the use of deep learning strategies in educational contexts (Elliot, McGregor, & Gable, 1999), while a performance approach goal orientation is linked to enhanced performance in sports competitions (Stoeber, Uphill, & Hotham, 2009) and at university (Elliot & Church, 1997). The most maladaptive outcome pattern was consistently reported for a performance avoidance goal orientation, which is linked to test anxiety or loss of interest (Dickhäuser et al., 2016; Janke et al., 2016) in educational settings and burn-out in the workplace (Retelsdorf, Butler, Streblow, & Schiefele, 2010).

Given the multitude of consequences that achievement goal orientations evoke, it is of fundamental importance to understand which factors influence the degree to which individuals adopt achievement goal orientations. Elliot and Church (1997) provided the most influential framework for antecedents of achievement goal orientations. They argued that the

need for achievement and the need to avoid failure (often labeled as fear of failure) are the two main factors that influence the adoption of achievement goal orientations. Whereas the need for achievement supposedly increases (performance and learning) approach goal orientations, fear of failure is meant to induce both performance approach and performance avoidance goal orientations (see Dickhäuser et al., 2016; Elliot & Murayama, 2008 for empirical evidence). However, reflections on antecedents such as fear of failure, which are mainly rooted in personality, largely neglected the importance of situational and cultural influences. Paul Pintrich (2000), a distinguished scholar of achievement goals, called this a paradox because trait-like achievement goal orientations were often observed to be sensitive to contextual cues (i.e., changes in patterns of instruction; see Meece et al., 2006).

To solve this conundrum, Pintrich (2000) proposed a social cognitive approach to achievement goals. A core tenet of this approach is that the adoption of achievement goal orientations depends on aspects of the individual (i.e., chronical accessibility) as well as on aspects of the context (i.e., situated activation). Additionally, Pintrich (2000) made the assumption that *general goals* "trickle down" in their influence and serve as driving forces for more specific goal striving (see also Boekaerts et al., 2006; Payne, Youngcourt, & Beaubien, 2007). The idea of such a goal hierarchy matches the social-cognitive approach because general goals or life aspirations are a product of socialization and can shift over the course of one's life depending on parental, cultural and contextual influences (Benmoyal-Bouzaglo & Moschis, 2010; Lekes, Gingras, Philippe, Koestner, & Fang, 2010). Thus, goal hierarchies might explain relative change in achievement goal orientations over time (Tuominen-Soini, Salmela-Aro, & Niemivirta, 2011) or due to a change of context (Anderman & Midgley, 1997) as such changes could be induced by a shift in life aspirations. However, research on the relationship between life aspirations and achievement goal orientations is relatively rare. This may be partly because the original term "general goals" and their content has remained rather obscure, which makes it impossible to postulate clear predictions on their impact. To

address this research gap, we aim to introduce a more nuanced definition of life aspirations to achievement goal research, which we derive from Self-Determination Theory.

2.1 Goal Hierarchy Under the Lens of Self-Determination Theory

According to Self-Determination Theory, life aspirations can be classified into sets of goals, which are more or less bound to the self (Kasser & Ryan, 1996). Goals characterized by striving for inherent human needs like autonomy, competence or relatedness are referred to as *intrinsic life aspirations*, while goals characterized by striving for external motivators like fame, wealth and recognition are labeled as *extrinsic life aspirations*. Numerous empirical studies have shown that whether individuals favor intrinsic over extrinsic aspirations makes a difference. More specifically, striving for intrinsic life aspirations is known to nourish well-being and health in college students as well as working adults (Niemiec, Ryan, & Deci, 2009; Ryan, Huta, & Deci, 2008). In contrast, striving for extrinsic life goals relates to impaired well-being (within vastly different populations, see Dittmar, Bond, Hurst, & Kasser, 2014) and even symptoms of depression (Auerbach et al., 2011). These effects are generalizable across cultures (Lekes et al., 2010; Unanue, Dittmar, Vignoles, & Vansteenkiste, 2014).

Moreover, life aspirations provide an individual perspective on the value of accomplishing certain aims (Kasser & Ryan, 1996), which could shape individuals' view of achievement contexts (Janke & Dickhäuser, 2018). Intrinsic life aspirations facilitate a personal focus on growth in various contexts (Rijavec, Brdar, & Miljkovic, 2006). This overarching goal striving could manifest as a learning goal orientation in achievement related contexts because the acquisition of new skills and knowledge can be highly instrumental for the long-term goals of self-actualization and personal growth (Vansteenkiste, Lens, & Deci, 2006). In contrast, a personal focus on extrinsic aims (i.e., extrinsic life aspirations), such as the acquisition of wealth and fame, may shape the perspective that it is important to outperform others as such behavior can lead to respect and rewards (Kasser, 2016). For example, if you want to be a rich business tycoon, you have to succeed in a highly

competitive business world. If you want to become famous as an actor, you have to outperform others on stage. This necessity of competition could trigger normative evaluations of competence (i.e., comparing one's present performance with the performance of competitors; Elliot, McGregor, & Thrash, 2002), which is a core aspect of a performance goal orientation (Janke et al., 2016). In other words, the adoption of a performance goal orientation is supposedly highly adaptive for the pursuit of higher-order extrinsic life aspirations. Life aspirations have typically been conceptualized as approach goals rather than as avoidance goals in Self-Determination Theory. We think that achievement goal orientations characterized by an approach goal valence align more strongly with those "approach" life aspirations than achievement goal orientations characterized by an avoidance goal valence. Nevertheless, we suspect that extrinsic life aspirations might be positively associated with performance avoidance goal orientations because performance avoidance goal orientations are founded in the same normative evaluation standard as performance approach goal orientations (Elliot et al., 2002; Janke et al., 2016). However, this relationship is likely weaker than the relationship between extrinsic life aspirations and performance approach goal orientation due to the diverging goal valence.

There is at least some empirical evidence that directly supports associations between broader life aspirations and achievement goal orientations. Mouratidis, Vansteenkiste, Lens, Michou, and Soenens (2013) showed that adolescents who perceived their parents as endorsers of intrinsic life aspirations also reported a higher degree of learning goals in school than adolescents with parents who did not promote such motives. Ku, Dittmar, and Banerjee (2012) showed that materialism in teenagers was positively predictive for performance approach goal endorsement. Moreover, John Wang, Sproule, McNeill, Martindale, and Lee (2011) directly investigated the association between both kinds of life aspirations and achievement goals in a pioneering study conducted with young athletes in Singapore. They

found first evidence for positive associations between intrinsic life aspirations and learning goals as well as between extrinsic life aspirations and performance goals.

On a side note, we want to mention that achievement goal orientations likely do not represent the lowest but rather an intermediate tier within a holistic goal hierarchy of achievement goal striving. More specifically, achievement goal orientations can be considered as antecedents for *situated achievement goals* (Breland & Donovan, 2005; Payne et al., 2007). Situated achievement goals are in turn probably most predictive for actual human behavior due to their situated nature (Breland & Donovan, 2005) and low construal level (Trope & Liberman, 2010). Even though we solely focus on the relationships between life aspirations and achievement goal orientations in our empirical investigations (see Breland & Donovan, 2005; Janke & Dickhäuser, 2018 for investigations into the link between goal orientations and situated goals), we included situated achievement goals in our holistic hierarchical model of achievement goal striving, which we summarize in figure 1.

--- Insert Figure 1 about here ---

3 Research Question

In the following studies, we aim to provide empirical evidence on the association between life aspirations and achievement goal orientations. Our research into this topic is important due to three main reasons: First, even though broader (life) goals have been hypothesized as potential driving forces behind achievement goal orientations for decades, empirical evidence is scarce. We consider goal hierarchies to be an insufficiently researched tenet of Achievement Goal Theory, which needs to be explored to a greater extent. Second, research bridging the reasoning on goal content within Self-Determination Theory (intrinsic versus extrinsic) and Achievement Goal Theory (learning versus performance) has the potential to synthesize two vibrant theoretical frameworks into one overarching theory of

human goal striving (on the importance of integrative theorizing within motivational research, see Baumeister, 2016). Third, research on how intrinsic and extrinsic life aspirations act as driving factors for achievement goal orientations provides additional insights in a contemporary debate on the reasons behind goals. More specifically, Vansteenkiste, Lens, Elliot, Soenens, and Mouratidis (2014) have claimed that both learning and performance goal orientations could be adopted for intrinsic or extrinsic reasons. We can see that this assumption may be applicable for the lowest tier of achievement goal striving (i.e., situated achievement goals) but we doubt that it is also true for higher tiers of the goal hierarchy. We are skeptical because achievement goal orientations are more stable (Boekaerts et al., 2006) and, thus, probably more consistently related to overarching values and goals.

In sum, we can postulate clear hypotheses on the relationship between life aspirations and achievement goal orientations with the help of Self-Determination Theory. We tested these assumptions in two subsequent steps: In a first step (studies 1a – 1c), we tested whether intrinsic life aspirations are indeed predictive for a learning goal orientation and whether extrinsic life aspirations are predictive for performance approach and performance avoidance goal orientations within three different samples (students, teachers, soccer players). The aim of this set of studies was to show that life aspirations are associated with achievement goal orientations as predicted, that the obtained associations are robust for replication and that they can be generalized to a broad scope of different achievement related contexts. In a second step (study 2), we conducted a longitudinal study with two measurement points to address the direction of the previously observed relationships. Thereby, we wanted to show that life aspirations have prospective effects on achievement goal orientations (in line with the hierarchical model) rather than vice versa.

4 Study 1

In the first set of studies, we investigated the relationship between life aspirations and achievement goal orientations within three different populations that have often been

investigated in achievement goal research in the past (teachers, students, soccer players). Participants from all three populations focus on different achievement related tasks in their daily life: Students mostly focus on academic tasks (Meece et al., 2006), teachers on working tasks related to teaching (Butler, 2007) and athletes on tasks related to athletic competition (Duda, 2005). While the achievement related tasks might differ, we assumed that the association between life aspirations and achievement goal orientations would be the same for all three populations. We assessed the relationships between life aspirations and achievement goal orientations by applying path analytic procedures in all three samples. Thereby, we added both life aspirations as predictors of all three-achievement goal orientations simultaneously in one comprehensive model. We also allowed for correlations between life aspirations and for correlations between achievement goal orientations. By doing so, we can judge how life aspirations relate to achievement goal orientations when considering both intrinsic and extrinsic life aspirations in one analytic model. Before calculating the model, we also checked for zero-order correlations of age and gender with the predictor set and the criteria. We included all statistically significant relationships with these control variables as direct paths in the path model in order to a) rule out that the relationships are based in these variables and b) avoid saturating the path model, so that we would be able to judge the model fit. A full matrix of all zero-order correlations can be found in the electronic supplement.

We conducted the path analyses with Mplus Version 7.2. (Muthén & Muthén, 1998-2012) using the robust MLR estimator[1]. The model fit of all computed models is reported according to the recommendations by Hu and Bentler (1999). Hence, we used the χ^2-test for

[1] Especially the answer pattern for intrinsic life aspirations and learning goal orientations often deviated from the normal distribution, which is why we used the robust estimator. The results of Kolmogorov–Smirnov tests for all predictors and criteria are presented in the electronic supplement.

model fit in combination with misfit (SRMR, RMSEA) and fit indices (CFI). Our interpretation of these indices relied on the rules of thumb for cut-off values by Schermelleh-Engel, Moosbrugger, and Müller (2003). We distinguished between an acceptable model fit (SRMR ≤ .10, RMSEA ≤ .08, CFI ≥.95) and a good model fit (SRMR ≤ .05, RMSEA ≤ .05, CFI ≥.97).

4.1 Study 1a

4.1.1 Method.

4.1.1.1 Participants and Procedure. We sampled 313 German university students enrolled in social science programs (76.4% female, M_{age} = 23.5 years; *SD* = 5.8 years) using an online survey. The participants had studied for 3 to 4 semesters on average (*M* = 3.3 semesters; *SD* = 2.5 semesters). We distributed the survey via online newsgroups and mailing lists. Participants were assured that their responses would remain confidential and would be used for scientific purposes only.

4.1.1.2 Measures. Life Aspirations were assessed with the German version of the *Aspiration Index* (Klusmann, Trautwein, & Lüdtke, 2005). This instrument consists of seven subscales that reflect either intrinsic or extrinsic life aspirations. The subscales that indicate extrinsic life aspirations are *fame, wealth* and *image.* In contrast, the subscales *personal growth, relationships, community,* as well as *health* indicate intrinsic life aspirations. Each of these subscales consists of five items. All items directly capture the essence of intrinsic or extrinsic life aspirations. Each item includes two components that define life aspirations: An explicit goal component ("It is an important life goal for me…") and an aim component that either addresses intrinsic values ("… to decide what to do for myself rather than subject myself to the constraints of life"; subscale personal growth) or extrinsic values ("… to be rich"; subscale wealth). Klusmann and colleagues (2005) found that the subscale measuring personal striving for health could be characterized as an intrinsic as well as an extrinsic life aspiration. We found the same pattern in our sample: The aspiration for health was closely

linked to the extrinsic life aspiration to maintain a positive image ($r = .31$, $p < .001$; second highest correlation of this subscale with another subscale). This pattern indicates that striving for health can be adopted for intrinsic reasons (i.e., well-being) as well as extrinsic reasons (i.e., social desirability to look young and athletic). In conclusion, we decided to exclude this particular subscale from all of our analyses due to its high ambiguity.

Principal component analyses by Klusmann and colleagues (2005) showed that the other subscales of the Aspiration Index can clearly be clustered into two general factors representing intrinsic and extrinsic life aspirations. However, these authors only conducted second-order factor analyses. We conducted a bi-factor model, which allows general variance (i.e., intrinsic vs. extrinsic life aspirations) to be separated from specific variance (i.e., content-specific subscales; see Chen, Hayes, Carver, Laurenceau, & Zhang, 2012), to be sure that each single item was applicable to indicate the overarching general factors for intrinsic or extrinsic life aspirations. In bi-factor models, each item loads on two uncorrelated latent factors: One factor represents the general variance (e.g., indicated by all 15 items measuring extrinsic life aspirations) and one factor represents the specific variance (e.g., indicated by 5 items from the subscale striving for wealth). In our sample, such a model achieved a sufficient model fit, χ^2 (375; $n = 313$) = 950.82, $p < .001$, RMSEA = .07, CFI = .94; estimator = WLSMV. All factor loadings on the two general factors (intrinsic versus extrinsic life aspirations) were statistically significant, and most items (70 percent) reached factor loadings on these general factors of $\lambda > .45$, which were higher than the loadings on the specific factors for 57 percent of the items. Based on this empirical evidence, we found it justifiable to aggregate the 15 items indicating either intrinsic or extrinsic life aspirations to mean scores, which showed sufficient internal consistencies ($\alpha_{\text{intrinsic aspirations}} = .81$, $\alpha_{\text{extrinsic aspirations}} = .90$).

Achievement goal orientations were measured with a well validated German self-report questionnaire (“Skalen zur Erfassung der Lern- und Leistungsmotivation”; SELLMO; Spinath, Stiensmeier-Pelster, Schöne, & Dickhäuser, 2002), which is very commonly used in

studies within German populations (e.g., Dickhäuser et al., 2016; Janke et al., 2016). The measure consists of subscales for learning goal orientation (e.g., "At university, it is my goal to learn as much as possible"), performance approach goal orientation (sample item: "At university, it is my goal to show that I am good at something"), and performance avoidance goal orientation (sample item: "At university, it is my goal to conceal if I know less than others"). Learning goal orientation and performance avoidance goal orientation were indicated by eight items, while performance approach goal orientation was indicated by seven items.

The items of both the achievement goal orientations measure and the Aspiration Index were measured with a Likert-type scale ranging from 1 (*total disagreement*) to 7 (*total agreement*). Descriptives and reliability coefficients are depicted in table 1.

--- Insert Table 1 about here ---

4.1.2 Results. Overall, the conducted path model reached a good model fit; χ^2 (6) = 3.99, p = .678, SRMR = .02, RMSEA = .00, CFI = 1.00. The path coefficients in the resulting model are depicted in figure 2. The result pattern was in line with our initial hypotheses: Students' intrinsic life aspirations were positively predictive for the learning goal orientation (β = .35; p < .001), while extrinsic life aspirations were positively predictive for a performance approach goal orientation (β = .50; p < .001) and to a lesser degree for a performance avoidance goal orientation (β = .41; p < .001). No statistically significant correlation between intrinsic and extrinsic life aspirations emerged, while the three achievement goal orientations were differentially interrelated. With regard to control variables, we found that older students reported a stronger learning goal orientation (β = .13; p = .003) and lowered extrinsic life aspirations (β = -.14; p = .006). Furthermore, women reported a higher degree of intrinsic life aspirations than men (β = .30; p < .001).

--- Insert Figure 2 about here ---

4.2 Study 1b

4.2.1 Method

4.2.1.1 Participants and Procedure. We questioned 294 German teachers (66.7% female, M_{age} = 42.7 years; *SD* = 11.5 years) on their life aspirations and work related goal orientations using an online survey that we distributed via online newsgroups and mailing lists for people working in the teaching profession. The teaching experience of the participants ranged from 0 to 42 years (*M* = 13.4 years, *SD* = 10.8 years) and they were mostly employed in the secondary tracks of the German school system (83.1%). Participants were assured that their responses would remain confidential and would be used for scientific purposes only.

4.2.1.2 Measures. Life Aspirations were assessed with the same German version of the *Aspiration Index* by Klusmann et al. (2005) that was used in study 1a. Both intrinsic life aspirations and extrinsic life aspirations were indicated by the same 15 items as in the previous study. Work related goal orientations were assessed with corresponding subscales from the *Goal Orientation Questionnaire for Teachers* (Nitsche, Dickhäuser, Fasching, & Dresel, 2011). The scale measures teachers' work-related learning goal orientation with nine items (sample item: "In my vocation, I aspire to improve my pedagogical knowledge and competence") and teachers' work related performance approach goal orientation (sample item: "In my vocation, I aspire to demonstrate to my students that I know more than other teachers") as well as their work related performance avoidance goal orientation (sample item: "In my vocation, I aspire to not show my students when I have more trouble meeting job demands than other teachers") with twelve items each. While the questionnaire originally differentiated work related goal orientations alongside either three (learning goal orientation) or four facets (both performance goal orientations), we were only interested in the higher order factors representing work related goal orientations on a more general level. Thus, we

aggregated all items to general scores as recommended by Nitsche et al. (2011). Reliability coefficients and descriptives for all scales used in study 1b are depicted in table 1. All items of the achievement goal orientations measure and the Aspiration Index were measured with a Likert-type scale ranging from 1 (*total disagreement*) to 7 (*total agreement*).

4.2.2 Results. The path model reached a good model fit; χ^2 (5) = 9.09, p = .105, SRMR = .02, RMSEA = .05, CFI = .99. Overall, the result pattern was very similar to the result pattern from study 1a (see figure 2). As expected, we found that intrinsic life aspirations were positively predictive for teachers' learning goal orientation (β = .42; p < .001) and extrinsic life aspirations were positively predictive for both teachers' performance approach goal orientation (β = .48; p < .001) and to a lesser degree for their performance avoidance goal orientation (β = .32; p < .001). In contrast to study 1a, we found a small but statistically significant positive association between both life aspirations, while achievement goal orientations were largely unrelated (besides a substantial positive association between performance approach and performance avoidance goal orientation). With regard to control variables, we found that older teachers reported lower intrinsic (β = -.19; p < .001) as well as extrinsic life aspirations (β = -.18; p < .001) and lower performance approach (β = -.11; p = .043) and performance avoidance goal orientations (β = -.25; p < .001). We found no gender effects.

4.3 Study 1c

4.3.1 Method.

4.3.1.1 Participants and Procedure. We questioned 209 German soccer players (34.8 % female, M_{age} = 26.8 years; *SD* = 8.7 years) with an online survey that was distributed via mailing lists of German soccer clubs and social media. All participating soccer players played soccer on a regular basis and invested 6.23 hours on average per week for soccer related activities like training or attending matches (*SD* = 2.52 hours). Most (93.8 %) played in clubs that were ranked in lower amateur leagues of the German league system and only one

participant stated that he played soccer as an occupation. Therefore, we can safely say that the vast majority of our sample consisted of amateur players who played soccer as a leisure activity. All participants were assured that their responses would remain confidential and would be used for scientific purposes only.

4.3.1.2 Measures. Life Aspirations and achievement goal orientations were measured with the same measures as in study 1a. Thereby, the self-report questionnaire measuring achievement goal orientations was slightly modified according to the recommendations by Schwinger, Olbricht, and Stiensmeier-Pelster (2015) to enhance the fit of the items to the sports context. For example, the original item "At university, it is my goal to show that I am good at something" was modified to "When playing soccer, it is my goal to show that I am good at something". Internal consistencies and descriptive statistics are depicted in table 1.

4.3.2 Results. The obtained model fit of the path model was good; χ^2 (7) = 1.82, p = .969, SRMR = .011, RMSEA = .00, CFI = 1.00. All obtained path coefficients are depicted in figure 2. Similar to the result pattern from our previous studies, we found that life aspirations were positively predictive for soccer players' learning goal orientation (β = .48; p < .001) and that extrinsic life aspirations were positively predictive for performance goal orientations. This association was slightly stronger for a performance approach goal orientation (β = .46; p < .001) than for a performance avoidance goal orientation (β = .44; p < .001). We also obtained one statistically significant but unexpected positive path coefficient that linked intrinsic life aspirations to the performance approach goal orientation of the sampled soccer players (β = .22; p < .001). We found no significant associations between life aspirations, while achievement goal orientations were partially interrelated. With regard to the control variables, we found that older soccer players reported lower extrinsic life aspirations (β = -.20; p = .004). Furthermore, women reported higher intrinsic life aspirations (β = .15; p = .029) and lower extrinsic life aspirations (β = -.34; p < .001).

4.4 Discussion

In line with our hypotheses, we found that intrinsic life aspirations were almost exclusively predictive for a learning goal orientation, while extrinsic life aspirations were solely predictive for both performance goal orientations in all three samples. Furthermore, extrinsic (approach) life aspirations were more closely related to performance approach goal orientation than to performance avoidance goal orientation. The only exception from the hypothesized result pattern was that soccer players' intrinsic life aspirations positively predicted their performance approach goal orientation. This relationship did not occur in the pioneering research conducted by Wang and colleagues (2011; see section 2.1). The reason for this interesting difference could be that Wang and colleagues (2011) sampled professional athletes (sport students), while our participants mostly engaged in soccer during their leisure time. Leisure activities are likely characterized by higher self-determination than vocational activities (i.e., studying and teaching; Milyavskaya & Koestner, 2011), which could mean that individuals adopt achievement goal orientations for stronger internal reasons than in other contexts. However, this line of reasoning makes it even more interesting that extrinsic life aspirations were still more strongly associated with a performance approach goal orientation than intrinsic life aspirations, even for amateur soccer players who set goals for activities in their spare time.

In all three samples, we also found consistent associations between predictors as well as between criteria. Performance approach goal orientations were strongly associated with performance avoidance goal orientations in all three samples, which has been found in prior research across contexts (Janke et al., 2016; Murayama, Elliot, & Yamagata, 2011). Intrinsic and extrinsic life aspirations were not significantly correlated except for a rather small positive association within the teacher sample. We are cautious in interpreting this single deviation. Prior studies found the two classes of life aspirations to be independent in teachers as well (Jang, 2017). In addition, the relationship observed in our teacher samples was rather

small. Therefore, it is difficult to say if this relation would be replicated in other samples. The same caution is needed when interpreting the small but significant negative association between learning goal orientation and performance avoidance goal orientation, which only occurred for university students. In our teacher sample, we found no association between learning and performance approach goal orientation. This finding deviated from the literature as these two goal orientations are often positively associated in students (Dickhäuser et al., 2016), athletes (Stoeber, Uphill, & Hotham, 2009) and teachers (Butler, 2007) alike. However, the absence of such an association is typical for the applied questionnaire, which differed from the questionnaires that were used in the other two samples and is characterized by items that distinguish more sharply between the two approach goal orientations (Nitsche et al., 2011; Nitsche, Dickhäuser, Fasching, & Dresel, 2013). The fact that we find the same result pattern for associations between achievement goal orientations and life aspirations even with a slightly different questionnaire strengthens the generalizability of our findings. On an exploratory note, we found a stable negative association between age and extrinsic life aspirations in all three samples and women reported a higher magnitude of intrinsic life aspirations than men in study 1a and 1c.

5 Study 2

In our second study, we aimed to qualify the previously obtained cross-sectional evidence in a longitudinal design that allowed for stronger conclusions regarding the direction of those relationships. More specifically, we wanted to show that life aspirations facilitate prospective effects on achievement goal orientations over time rather than the other way around. We chose to investigate freshmen during their first semester at university because we anticipated that the first semester forms an important transition period, in which students' personal beliefs, values and goals are in disarray (Krishnan, 2008). We assumed that the life aspirations of freshmen would shape the development of achievement goal orientations at university during this time span. More specifically, we assumed that initial intrinsic life

aspirations would predict the development of the learning goal orientation and initial extrinsic life aspirations would predict the development of performance goal orientations.

5.1 Method

5.1.1 Participants and Procedure. We recruited a sample of 197 German university freshmen (M_{age} = 20.3 years, *SD* = 3.2 years; 72.1 % female) who participated in a broader longitudinal study covering their first experiences at university. The participants mostly enrolled in educational study programs (48.7 %), social sciences (33.5 %) and financial sciences (10.6 %). We asked them to fill out online surveys at two time points during their first semester: The first measurement took place at the very beginning of the freshmen's studies, while the second measurement took place about three months later at the beginning of the first exam period. Only 97 of the original participants completed the second questionnaire. We conducted step-wise cox proportional hazard regression models to investigate whether this substantial dropout over time was partly influenced by initial life aspirations or achievement goal orientations, which was not the case, χ^2 (6) = 7.24, p = .299.

5.1.2 Measures. Life Aspirations were assessed with a short questionnaire largely based on items from the German version of the *Aspiration Index* (Klusmann et al., 2005). The short version had the same subscales as the longer version, but each subscale consisted of three instead of five items so that the whole questionnaire only included 18 instead of 30 items. The internal consistencies, associations with the original subscales and factorial validity were pretested in two convenience samples consisting of German university students (n_1 = 81; n_2 = 290). The final short scales achieved acceptable internal consistencies (subscales: $\alpha > .70$; general scales: $\alpha > .80$) and were sufficiently associated with the original

scales with $r > .90$ for five out of six subscales[2]. We conducted a confirmatory factor analyses within the second sample. Thereby a bi-factor model with six subscales (three items each) and two general factors indicating extrinsic and intrinsic aspirations (15 items each) reached a sufficient fit, χ^2 (117; n = 290) = 211.84, $p < .001$, RMSEA = .05, CFI = .98, estimator = WLSMV. All factor loadings on the two general factors were statistically significant, and most items (72 percent) reached factor loadings on these general factors of $\lambda > .45$, which were higher than the loadings on the specific factors for 50 percent of the items. This means that the original factor structure is also present in the short version of the scale. Achievement goal orientations were measured in the same way as in study 1a. All internal consistencies and descriptive statistics are depicted in table 2.

--- Insert Table 2 about here ---

5.1.3 Analysis Strategy. We conducted cross-lagged panel analyses to investigate whether initial life aspirations influenced the development of achievement goal orientations over time or vice versa. Due to the small sample size, we decided to investigate each relationship that had been qualified in the previous four studies in a separate analysis. Thus, we conducted cross-lagged panel analyses for the relationship between intrinsic aspirations

[2] The slightly lower validity coefficient for the subscale covering personal growth (r = .70) is due to the fact that it was the only subscale that did not consist of original items from the long version entirely, but instead consisted of one original and two newly constructed items. We decided to remodel the items of the scale since it was the least reliable subscale indicating intrinsic aspirations. A newly constructed example item for the subscale would be "It is an important life goal for me to use and expand my personal potential in a self-determined way."

and learning goal orientation as well as for the relationships between extrinsic aspirations and both performance goal orientations. Cross-lagged panel analyses are saturated models by nature.

5.2 Results

When reporting results, we will focus on the relevant cross-paths between time points, which reflect the influence of life aspirations on achievement goal orientations over time and vice versa. Furthermore, we will elaborate on the magnitude of the stability coefficients to investigate whether life aspirations or achievement goal orientations are more stable over time by using the z-test for the equality of regression coefficients (Paternoster, Brame, Mazerolle, & Piquero, 1998). Finally, we also report associations within each time point to replicate the previously found cross-sectional associations between the variables in question.

5.2.1 Intrinsic Life Aspirations and Learning Goal Orientation. We found that intrinsic life aspirations at time point one were predictive for a learning goal orientation at time point two ($\beta = .21$; $p = .006$), in the absence of the reversed effect ($\beta = -.06$; $p = .428$). We also found that intrinsic life aspirations were more stable over time than the learning goal orientation ($z = 2.39$, $p = .017$). Cross-sectional relationships between both constructs were present at both time points ($r_{T1} = .51$; $p < .001$ and $r_{T2} = .34$; $p = .004$).

5.2.2 Extrinsic Life Aspirations and Performance Approach Goal Orientation. We did not find a statistically significant cross-path connecting extrinsic life aspirations at time point one to a performance approach goal orientation at time point two ($\beta = .08$; $p = .337$), but we did find a small tendency indicating a reversed effect ($\beta = .13$; $p = .088$). There was no significant difference regarding the stability of extrinsic life aspirations and performance approach goal orientation ($z = 0.21$, $p = .834$). We found cross-sectional relationships between the variables at both time points ($r_{T1} = .49$; $p < .001$ and $r_{T2} = .27$; $p = .013$).

5.2.3 Extrinsic Life Aspirations and Performance Avoidance Goal Orientation.

We found neither a significant cross-path connecting extrinsic life aspirations at time point one to the performance approach goal orientation at time point two (β = .11; p = .209), nor the reverse (β = .06; p = .337). Again, extrinsic life aspirations were not more stable than performance avoidance goal orientation (z = 0.90, p = .368) and both constructs were cross-sectionally interrelated (r_{T1} = .27; p = .006 and r_{T2} = .39; p < .001).

5.3 Discussion

This study delivered first empirical evidence on the notion that intrinsic life aspirations predict the development of a learning goal orientation over time rather than vice versa. Intrinsic life aspirations showed the expected prospective effect and were also more stable over time than the learning goal orientation (meaning that they are more likely to transcend contexts and situations in their influence). However, the result pattern regarding extrinsic life aspirations and performance goal orientations remains less clear. It should be noted, though, that the power was impaired due to an unexpectedly high attrition rate and that the time interval was rather short. Both factors may have contributed to a lack of significant cross-paths indicating the direction of the relationship between extrinsic life aspirations and performance goal orientations.

6 General Discussion

We conducted four studies to investigate the claim that broad life aspirations facilitate context-bound achievement goal orientations. Thereby, we showed that intrinsic life aspirations were significantly predictive for a learning goal orientation, whereas extrinsic life aspirations were significantly predictive for both observed performance goal orientations. Moreover, extrinsic life aspirations were more strongly associated with performance approach goal orientations than with performance avoidance goal orientations. Besides one exception, no significant positive associations between intrinsic life aspirations and performance goal orientations as well as between extrinsic life aspirations and learning goal orientations

emerged within our studies. We were able to replicate these results across different contexts (higher education, workplace and sports). Longitudinal analyses in our second study revealed that intrinsic life aspirations were more likely to influence the development of a learning goal orientation in critical transition periods than vice versa. Furthermore, the analyses showed that the learning goal orientation was in more disarray during the investigated time period than more stable intrinsic life aspirations.

6.1 Implications

Our empirical findings strengthen the groundwork for a hierarchical theory on achievement goal striving: The relationships between the lowest tier (achievement goals) and the intermediate tier (achievement goal orientations) of this model have been well investigated (Payne et al., 2007). Our research now provides additional information on the association between the intermediate tier (achievement goal orientations) and the highest tier (life aspirations) of the model. As the empirical findings show, a performance (approach) goal orientation might be most suitable to serve long-term extrinsic aspirations like striving for financial success, while a learning goal orientation could ultimately assist long-term intrinsic goal striving centering on personal growth. We found this association pattern in all four of our samples. Additionally, the results of our final study support the notion that the development of a learning goal orientation in a new context depends on the value that the individual ascribes to intrinsic life aspirations.

Our findings challenge the assumption that achievement goal orientations serve intrinsic and extrinsic reasons equally well regardless of their content (Vansteenkiste et al., 2014). To be fair, we have to admit that prior research on this assumption focused on the lowest (situated achievement goals) rather than on the intermediate tier (achievement goal orientations) of achievement goal striving (Vansteenkiste et al., 2014). Also, we do not think that our findings contradict the assumption that intrinsic or extrinsic reasons for goal striving can interact with learning or performance aims as shown in other studies (e.g., Michou,

Vansteenkiste, Mouratidis, & Lens, 2014; Vansteenkiste et al., 2010). For instance, complex interactions between reasons and aims of goal striving might be a possible explanation for the positive association between intrinsic life aspirations and the performance approach goal orientation within the soccer players in study 1c. However, our findings do support the assumption that such interactions between reasons and aims are probably not based in perfectly orthogonal factors but rather in strongly but not perfectly associated aspects of achievement goal striving.

On a more practical note, our research further strengthens the notion that extrinsic life aspirations ultimately lead to less desirable outcomes than intrinsic goal striving (Dittmar et al., 2014; Kasser & Ryan, 1996). This is at least true when we consider a learning goal orientation as a desirable outcome variable, which we might as well do due to its rather beneficial associations with patterns of learning and intrinsic motivation (Dickhäuser et al., 2016; Elliot et al., 1999). However, this evaluation is normative by nature, as a performance (approach) goal orientation has also shown positive patterns with regard to performance (Lochbaum & Gottardy, 2015). Nevertheless, our stance would be that parents, educators, trainers as well as politicians should at least consider these effects on patterns of learning when they emphasize the value of intrinsic versus extrinsic life aspirations to the public, their students, and trainees.

6.2 Limitations and Future Directions

A restriction of our results concerns the question of causality. While we were able to obtain first evidence on the assumed direction of the relationship between life aspirations and achievement goal orientations for the development of a learning goal orientation in a critical transition period, different causal mechanisms remain entirely possible. Bidirectional effects might occur over the course of the life span. We think that neither cross-sectional studies nor experiments in the laboratory can sufficiently address such bidirectional patterns. In contrast, further longitudinal studies are needed to investigate such developmental patterns. These

studies should address longer time spans than our final study to acquire information on substantial changes. It seems of importance to strive for large sample sizes in future longitudinal studies to get additional evidence on the direction of the relationship between extrinsic life aspirations and performance goal orientations, which we were not able to unravel in our final study, possibly due to impaired statistical power.

An additional limitation of our research is that all of our studies solely investigated one achievement relevant context at a time. However, most people spend their day involved in several achievement-related contexts like work, school or their sports club. Future research could investigate whether the effects of life aspirations on achievement goal orientations are context-invariant within individuals. Furthermore, all of our studies were conducted in Germany, which is characterized by a typical western culture that promotes individualism (comparable especially to the US; see Oyserman, Coon, & Kemmelmeier, 2002) and, thus, the pursuit of self-centered life aspirations. Past research has shown that cultural values may influence the average magnitude of intrinsic or extrinsic life aspirations in the respective population but that the direction of effects on outcome variables was largely unaffected by such cultural influences (see Dittmar et al., 2014 for a contemporary meta-analysis on the issue). Nevertheless, we think that it is worthwhile to address potential cultural moderators in future research because we do not yet know whether findings of prior research (mostly on subjective well-being) can be generalized to the relationship between life aspirations and achievement motivation. One cultural variable that may potentially moderate the relationship between extrinsic life aspirations and performance goal orientations is, for example, the adherence to meritocratic principles in the respective society, which could influence the utility of individual performance for the attainment of well-paying positions.

We also think that future research should address the assumed mediation of life aspirations via achievement goal orientations on situated achievement goal pursuit. First empirical findings on this connection between the highest (life aspirations) and the lowest tier

of human goal striving (situated achievement goals) support the proposed hierarchical model of goal striving (at least in the workplace; see Janke & Dickhäuser, 2018). However, additional evidence and replications in a variety of achievement situations are important to build a stable foundation of the proposed hierarchical model on human goal striving. Finally, it has to be noted that we consider our research as a first step into the comprehensible evaluation of goal hierarchies within achievement goal research rather than as the end state of research on this topic. We have, for instance, not included all potential antecedents of achievement goal orientations that could explain or mitigate the association between life aspirations and achievement goal orientations. Investigating complex moderations between antecedents of achievement goal orientations and life aspirations would, for example, be interesting for psychological need strength and need fulfillment both in terms of achievement motivation (needs for achievement and avoidance of failure; Elliot & Church, 1997) and Self-Determination Theory (needs for autonomy, competence and relatedness; Deci & Ryan, 2000). For instance, it is possible that the strength of the association between intrinsic life aspirations and the learning goal orientation depends on the degree to which individuals feel autonomous in choosing the learning content in accordance with personal interests. Additional research into moderating and mediating factors could help to develop a comprehensible hierarchical process model of human goal striving that integrates decades of research within Achievement Goal Theory and Self-Determination Theory.

7 Conclusion

In this article, we have shown that life aspirations are directly related to achievement goal orientations in a broad set of achievement related contexts. We hope that our empirical findings spark a new debate on the hierarchical nature of human goal striving that helps to put previous findings of achievement goal research into a more holistic perspective on human motivation.

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Table 1

Descriptives and Internal Consistencies for the Applied Scales in the Different Samples of the First Study Set.

	M	*Md*	*SD*	α
Intrinsic life aspirations	5.98 / 5.81 / 5.62	6.07/5.87/5.67	0.56 / 0.59 / 0.66	.81 / .83 / .87
Extrinsic life aspirations	3.19 / 2.96 / 3.45	3.13/2.87/3.40	0.88 / 0.78 / 0.89	.90 / .87 / .91
Learning goal orientation	6.05 / 5.67 / 5.67	6.13/5.78/5.88	0.61 / 0.73 / 0.86	.79 / .88 / .89
Performance approach goal orientation	4.05 / 3.24 / 4.83	4.00/3.08/5.00	0.97 / 1.28 / 0.96	.80 / .95 / .82
Performance avoidance goal orientation	3.19 / 3.77 / 3.72	3.00/3.75/3.75	1.19 / 1.23 / 1.14	.91 / .93 / .85

Note. All scales range from 1 (total agreement) to 7 (total disagreement). The descriptive statistics are depicted according to the order of the corresponding studies (study 1a, student sample; study 1b, teacher sample; study 1c, soccer player sample).

Table 2

Descriptives and Internal Consistencies for the Scales Applied in Study 2.

	M	*Md*	*SD*	α
(1) Intrinsic life aspirations T1	6.07	6.11	0.59	.77
(2) Intrinsic life aspirations T2	5.96	6.11	0.69	.85
(3) Extrinsic life aspirations T1	3.09	2.89	0.92	.85
(4) Extrinsic life aspirations T2	3.05	3.00	0.90	.86
(5) Learning goal orientation T1	5.95	6.00	0.58	.77
(6) Learning goal orientation T2	5.98	6.00	0.64	.85
(7) Performance approach goal orientation T1	4.02	4.00	1.01	.81
(8) Performance approach goal orientation T2	3.89	4.00	1.05	.87
(9) Performance avoidance goal orientation T1	2.66	2.50	1.01	.87
(10) Performance avoidance goal orientation T2	2.89	2.88	1.10	.93

Note. The data derived from all students who participated on both measurement occasions. All scales range from 1 (total agreement) to 7 (total disagreement). T1 = time point 1, T2 = time point 2.

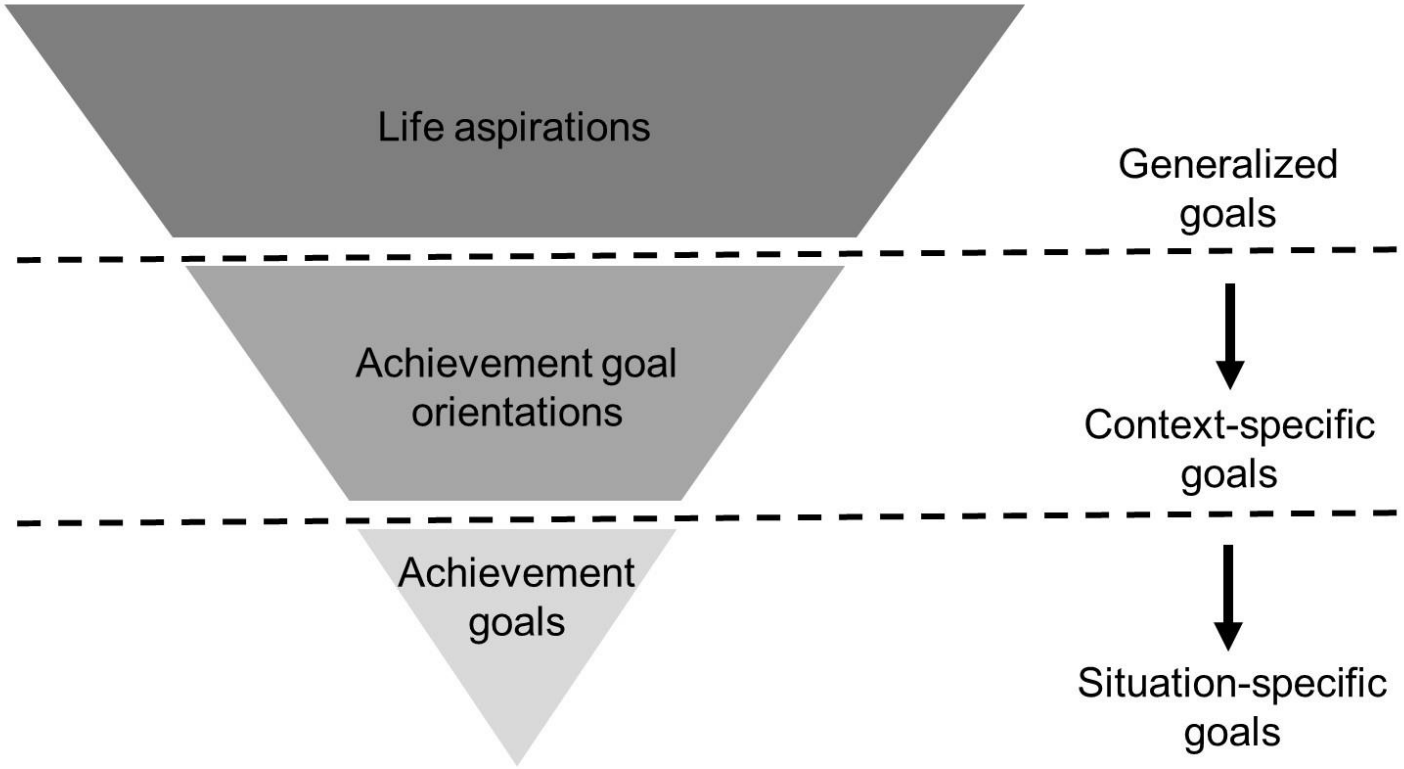

Figure 1. Visualization of a hierarchical model of achievement goal striving specified. Higher tiers of goal striving are meant to influence lower tiers of goal striving.

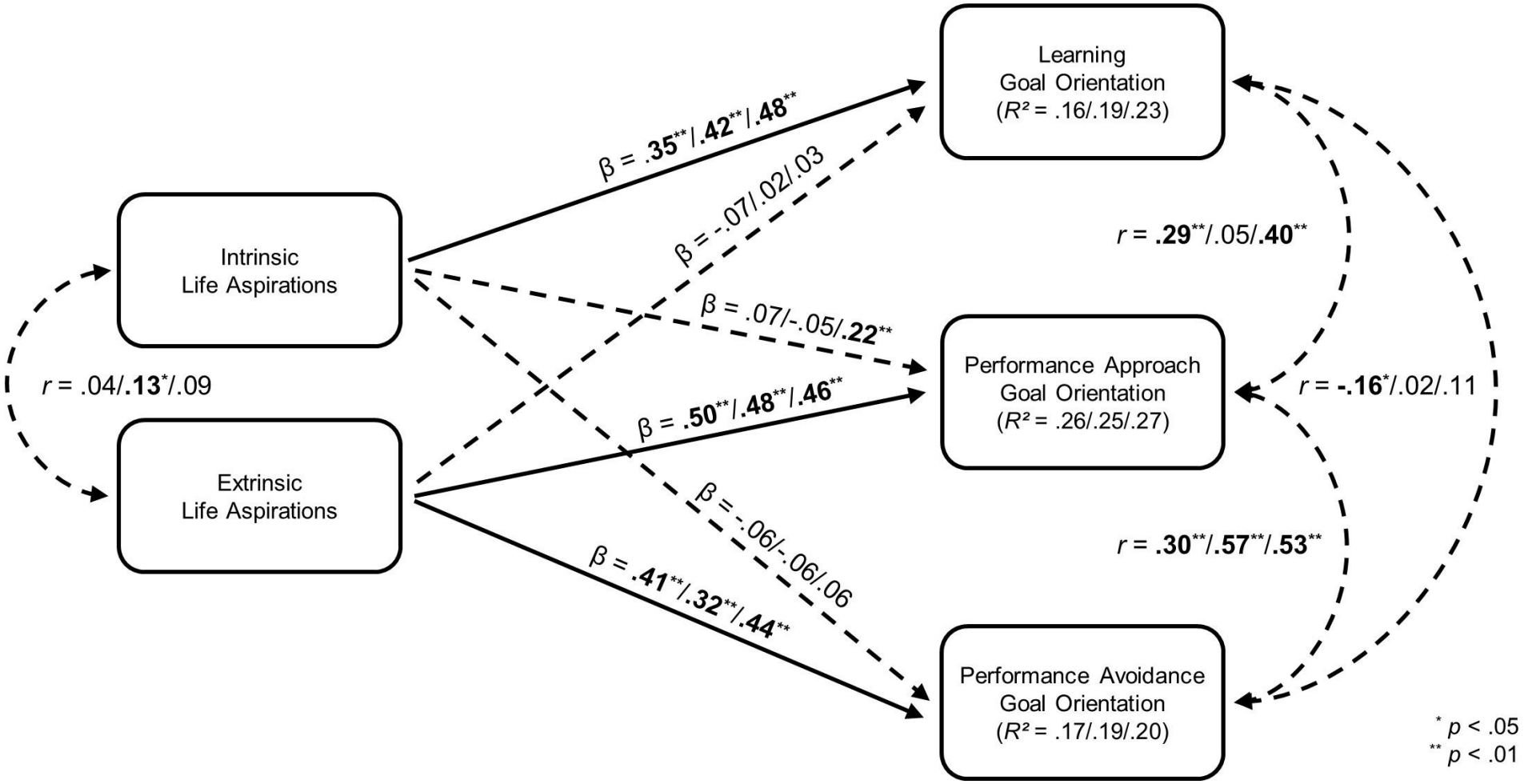

Figure 2. Result pattern of all path analyses conducted within studies 1a to 1c. The path coefficients are presented in order of the studies (First number = study 1a; second number = study 1b; third number = study 1c). Solid lines indicate hypothesized direct paths, bold numbers indicate significant path coefficients. Associations with the control variables gender and age are not depicted for better comprehensibility.