# Goal Orientation Profiles, Academic Achievement and Well-Being of Adolescents in Greece

**Stefanos Mastrotheodoros, Michael A. Talias, and Frosso Motti-Stefanidi**

**Abstract**  Adolescents differ in the way they motivate themselves, and the way they choose, perceive, and approach their goals. Goal orientations have been proposed to be a significant aspect of individual differences. In general, some students aim at gaining a higher level of skills, whereas other students aim at showing a high level of performance in relation to their classmates. This chapter aimed at exploring the links between goal orientation profiles and psychological well-being in adolescent students in Greece. Using a sample of 576 high-school students ($M_{age}$ = 15.2, 44% girls), person-centered analyses were performed on goal orientations scales whereas GPA, self-esteem and symptoms were used to measure adaptation and psychological well-being. Four profiles emerged, on the basis of the scores on the four goal orientation dimensions. Statistically significant mean differences were found between the four groups on all measures of adaptation. Mastery-oriented students were found to show the best adaptation, overall. The results support the notion that approaching learning tasks for the sake of learning and the resulting personal development is a strong indicator of positive adaptation.

Goals are an important part of human motivation. They guide young people's cognition and affect, and instigate, direct and maintain their behavior particularly as they become involved in academic work (Elliot & McGregor, 2001; Kaplan & Maehr, 2007). A highly influential framework that relates to the scientific study of goals is Achievement Goal Theory, or Goal Orientation Theory (Elliot & McGregor, 2001; Kaplan & Maehr, 2007). Goal orientations refer to the reasons why young people

S. Mastrotheodoros (✉)
Utrecht University, Utrecht, The Netherlands

National and Kapodistrian University of Athens, Athens, Greece
e-mail: s.mastrotheodoros@uu.nl

M.A. Talias
Open University of Cyprus, Nicosia, Cyprus

F. Motti-Stefanidi
National and Kapodistrian University of Athens, Athens, Greece

engage in learning. Their importance lies in that they predict youth's academic achievement and well-being (see Wigfield, Eccles, Fredricks, Simpkins, Roeser, & Schiefele, 2015). They are also linked to youth's goals for the future (e.g., Lee, McInerney, Liem, & Ortiga, 2010). Setting goals for the future is an integral part of identity formation, a key developmental task during the period of adolescence (Motti-Stefanidi, 2015). They predict youth's long-term quality adaptation and wellbeing (Motti-Stefanidi, 2015; Salmela-Aro, 2009).

The present chapter examines goal orientations of upper high school adolescents living in Greece. The study presented follows a person-focused approach. It was conducted in the Greater Athens area during the great economic crisis. It has two main goals. First, Greek and immigrant students' goal orientation profiles were identified. Second, their link with youth's academic achievement and well-being was examined.

## Goal Orientation Theory

According to Achievement Goal Orientation Theory, some students aim at acquiring a higher level of skills, whereas other students aim at achieving a high level of performance in relation to their classmates. These two goal orientations are called mastery and performance, respectively. People who endorse mastery goal orientations rely on a self-referent standard for judging competence, whereas those who endorse performance goal orientations judge their competence in relation to external standards (Ames, 1992; Kaplan & Maehr, 2007).

A significant distinction has also been drawn between the approach-avoidance quality of both mastery and performance orientations. This has led to a four-orientation typology: mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance (Elliot & McGregor, 2001). Students who endorse the mastery-approach orientation judge their competence referring to intrapersonal standards. They aim to learn new things and develop new skills. Students who endorse mastery-avoidance orientation are motivated by a need to avoid losing abilities and by perfectionism. Students who are motivated by performance-approach goals are mainly trying to show competence in relation to others. They strive to outperform others. Finally, students who endorse performance-avoidance orientation, are mainly motivated by a need to not appear incompetent (Elliot & McGregor, 2001; Senko, Durik, & Harackiewicz, 2008).

A slightly different conceptualization of mastery goals entails the distinction intrinsic-extrinsic, leading to mastery-intrinsic and mastery-extrinsic goal orientations. Mastery-intrinsic goal orientations refer to students who try to develop new skills and master the task at hand with an intrapersonal standard of competence (as in the mastery-approach orientation); mastery-extrinsic goal orientations refer to

students who want to do well at a task but judge their performance based on external standards, e.g. grades, or time spent to complete a task, but without referring to others' performance (Niemivirta, 2002; Tuominen-Soini, Salmela-Aro, & Niemivirta, 2012).

Finally, according to the so-called multiple goals perspective (Pintrich, 2000), people can hold simultaneously mastery and performance goal orientations. Thus, some people may strive both to learn and master new skills, and to achieve a good level of relative performance on what they do. For example, Pintrich (2000) showed that adaptation of students who endorsed both performance and mastery goals (multiple goals) was better than that of students who endorsed one but not the other.

In sum, achievement goal orientations refer to the way youth approach their learning (Kaplan & Maehr, 2007). Individual differences exist in why and how students engage in learning tasks, and these differences are linked to youth's academic achievement and well-being.

## Goal Orientations, Adaptation and Well-Being

The relationships of goal orientations with different indices of adaptation and well-being have been the focus of much scientific enquiry. In general, mastery-approach goals are associated with better academic outcomes, higher persistence (Linnenbrink-Garcia, Tyson, & Patall, 2008), more positive and fewer negative emotions (Pekrun, Elliot, & Maier, 2006, 2009). On the other hand, performance-avoidance goals are linked to lower academic achievement and higher negative emotions (Sideridis, 2005).

Meta-analyses have helped clarify the pattern of results in what concerns the link between achievement goal orientations and academic achievement (Huang, 2012; Hulleman, Schrager, Bodmann, & Harackiewicz, 2010; Wirthwein, Sparfeldt, Pinquart, Wegerer, & Steinmayr, 2013). It is now clear that, notwithstanding the small effect sizes, mastery-approach and performance-approach orientations are positively related to academic achievement as measured by school grades (Wirthwein et al., 2013).

The link between achievement goal orientations and wellbeing has also been studied extensively. For example, mastery orientations promote over time positive, and inhibit negative emotions (Pekrun et al., 2006, 2009), and are linked to higher self-esteem. In contrast, performance-avoidance orientations are linked to lower self-esteem (Tuominen-Soini, Salmela-Aro, & Niemivirta, 2008). On the other hand, the presence of performance goals, even along with mastery goals (i.e. multiple goals), may be maladaptive, as it is linked with higher anxiety and distress (Tuominen-Soini et al., 2008).

The link between achievement goal orientations and self-esteem is bidirectional. Self-esteem was found to longitudinally protect against maladaptive developments in goal orientations (Meier, Reindl, Grassinger, Berner, & Dresel, 2013). Thus, higher self-esteem predicts a longitudinal increase in mastery goals, and negative self-esteem predicts a longitudinal increase in performance-avoidance goals (Meier et al., 2013).

To summarize, different achievement goal orientations have been linked in theoretically meaningful ways to several indices of adaptation and well-being. However, those links can be affected by context, and therefore can be different in different cultural contexts.

## Cultural Aspects of Goal Orientations

Kaplan and Maehr (2007) called for more cross-cultural research, in order to help us better understand the meaning of achievement in different settings. However, still today research on achievement motivation continues to be predominantly conducted in the so-called WEIRD (Western, Educated, Industrialized, Rich, and Democratic) countries (Henrich, Heine, & Norenzayan, 2010; King & McInerney, 2016a).

Relevant to the need to expand achievement motivation studies to countries other than the WEIRD countries, is the increasingly adopted universalist perspective, which endorses both etic (phenomena that are common to most countries) and emic (studying phenomena which are characteristic of a country) approaches to the study of psychological phenomena (King & McInerney, 2016a; Zusho & Clayton, 2011). In other words, there are both universal aspects in motivation, and aspects that are strongly shaped by the cultural context. For example, whereas student school engagement has been found to develop in common ways across countries (etic aspect) (e.g., Motti-Stefanidi, Masten, & Asendorpf, 2015), parental support is more important for school engagement of students living in collectivist countries than in individualist countries (emic aspect) (Lam et al., 2016). The study of patterns of relations between different goal orientations and adaptation are another example where this universalist perspective can be applied, as it entails both etic and emic aspects.

More specifically, the relation between achievement goal orientations and different (mal) adaptive outcomes has been found to show commonalities as well as differences between countries. A relatively common aspect in many cross-cultural studies is the finding that mastery-approach orientations are generally positively associated with academic achievement, as well as different affective and cognitive aspects of motivation. On the other hand, an example of differences between cultures is the finding that performance-avoidance goals are not as maladaptive in collectivist cultures, as they have been shown to be in more individualistic ones (Elliot, Chirkov, Kim, & Sheldon, 2001; King, 2016). In a recent meta-analysis the relationship between performance-avoidance and achievement outcomes was significant in

both western and Asian cultures, but the direction of the relationships was the opposite (Hulleman et al., 2010). In western cultures the link was negative, whereas in Asian cultures this link was positive. This difference can be at least partly attributed to cultural differences in the dimension of individualism-collectivism (King, 2016).

## Goal Orientations in Greek Context

The present study was conducted in 2012 when the economic crisis was in full swing in Greece. According to a UNICEF ( 2014) report child poverty increased dramatically between 2008 and 2012. The number of children whose families are income-poor (income below the poverty line), as well as those who are severely materially deprived (e.g., cannot afford to pay rent, heat their home, eat meat or proteins regularly etc.) doubled. The percentage of young people who are not participating in education, employment or training (NEET) also doubled (from 11.7 to 20.6%) during this period. Youth unemployment reached 60% and about 223,000 young people left Greece between 2008 and 2016 to find work in other countries.

Greece is considered a non-WEIRD (Western, Educated, Industrialized, Rich, and Democratic; Henrich et al., 2010) cultural context in motivation research (King & McInerney, 2016b). Studies of goals in this context have supported the universalist perspective, as both culturally invariant as well as idiosyncratic findings have emerged. On the one hand, performance-avoidance and mastery-avoidance goals have been shown in agreement with goal orientation theory to relate to negative outcomes, such as negative affect, cognitive and somatic anxiety among Greek students (Sideridis, 2005; Sideridis, 2008). On the other hand, idiosyncratic patterns of goal orientations relations to adaptation have been also observed in Greek students, such that achievement outcomes were higher when teacher instructions emphasized performance rather than when they emphasized mastery (Efklides & Dina, 2007). In the same experimental study, mastery instructions were detrimental to the achievement of students with performance-avoidance personal orientations.

## Person-Centered Approaches to Goal Orientations Research

Students may have more than one reason why they engage or do not engage in different tasks. For example, a student may consider a task as interesting in its own sake (endorsement of mastery orientation) and at the same time consider success in this task when compared to others as important (endorsement of performance orientation). This idea is also integrated in the multiple goals perspective (Pintrich, 2000). However, most research on goal orientations focuses on the correlates and effects of each goal dimension alone, or in interaction with each other. Although such research greatly helps us understand the nature and the processes of goal orientations, it still

leaves open the question *who* has more chances of showing positive adaptation. Such questions can better be answered by person-centered approaches.

Few studies have used this approach in the goal orientations field (Bråten & Olaussen, 2005; Daniels et al., 2008; Tuominen-Soini et al., 2008, 2012). The number of resulting goal orientations profiles differs depending on the measures used and the samples studied. For example, a study that differentiated between mastery and performance orientations resulted in four groups (Daniels et al., 2008). Also, two Finnish studies, which used the same instrument and included same-age participants as we did, resulted in different number of profiles (Tuominen-Soini et al., 2008, 2012). Therefore, it is interesting to see what profiles of goal orientations are formed in a culturally different context.

## The Present Chapter

The aim of the study reported in the present chapter is twofold. The first goal is to identify achievement goal orientation profiles that characterize high-school students in in the Greek context during the economic crisis. The second goal is to examine whether and how achievement goal orientation profiles are linked to academic achievement and to indices of well-being.

We expected based on the literature that meaningful goal orientation profiles will emerge. However, since the two previous Finnish studies that have used the same instrument (Tuominen-Soini et al., 2008, 2012) have resulted in different numbers of profiles, no specific hypotheses regarding the number and content of profiles can be made. We also expected that these profiles would be differentially related to academic achievement and well-being. Profiles high in mastery intrinsic orientation will be linked to high well-being (high self-esteem, and low psychological symptoms) and academic achievement. Profiles high in performance approach orientation will show high GPA, high self-esteem, but are also expected to be linked to higher symptoms of anxiety. Profiles high in performance-avoidance are expected to show the worst academic achievement and well-being.

## Method

### *Sample and Procedure*

This study is part of a larger field study of adolescent adaptation, which was conducted at the Department of Psychology, of the University of Athens, Greece. The total sample consisted of 576 adolescent students (45.3% female, $M_{age}$ = 15.2, $SD$ = 0.54), attending upper high school of eight public schools in the greater area of Athens, Greece. Most of the students ($n$ = 408, 70.8%) had both parents born in

Greece, whereas 91 students (15.8%) were of Albanian descent. Seventy seven students were either of "Other" ethnicity (6.4%), or had one parent born in a country other than Greece (labelled "Mixed ethnicity", 6.9%).

Permission to collect data from these schools was granted by the Greek Ministry of Education. We collected data from eight high-schools from different parts of Athens metropolitan area, corresponding to different socio-economic strata: three schools from the center of Athens (low/lower-middle class), three schools from middle-class areas (western, southern, and eastern parts of the city), one school from an upper middle-class suburb (north), and one school from a less-urbanized middle class town outside Athens (east).

## *Measures*

**Achievement Goal Orientations**  Achievement goals orientations were measured using part of the Goal Orientations and Motivational Beliefs scale (Niemivirta, 2002). Four subscales were used: Mastery-extrinsic ($\alpha = 0.78$), mastery-intrinsic ($\alpha = 0.80$), performance-approach ($\alpha = 0.68$), and performance-avoidance ($\alpha = 0.51$). Each of the five subscales were measured with three items, answered on a 7-point likert scale. Example items are "*My goal is to succeed in school*" (mastery-extrinsic), "*To acquire new knowledge is an important goal for me in school*" (mastery-intrinsic), "*An important goal for me in school is to do better than other students*" (performance-approach), and "*I try to avoid situations in which I might fail or make a mistake*" (performance-avoidance).

**Academic Achievement**  Academic achievement was measured by means of Grade Point Average on five main subjects: Mathematics, Ancient Greek, Modern Greek, Physics, and History, retrieved from school records. Each of those subjects is rated on a 20-point scale. GPA is also measured on a 20-point scale.

**Psychological Symptoms**  The Greek version of the Symptoms Checklist 90 – Revised (Derogatis & Unger, 2010; Donias, Karastergiou, & Manos, 1991) was used to measure general symptoms as well as symptoms of depression and anxiety. The general symptoms is the mean of all 90 items ($\alpha = 0.96$). Depression was measured with 13 items ($\alpha = 0.84$), on a 5-point Likert scale (e.g. "How much were you bothered by feeling low on energy or slowed down"). Anxiety was measured with ten items ($\alpha = 0.79$), on a 5-point Likert scale (e.g. "How much were you bothered by nervousness or shakiness inside").

**Self-Esteem**  The Greek Rosenberg Self-Esteem Scale (Galanou, Galanakis, Alexopoulos, & Darviri, 2014; Rosenberg, 1965) was used to assess self-esteem. The scale consists of ten items ($\alpha = 0.84$), on a 5-point Likert scale. Example item is "On the whole, I'm satisfied with myself".

# Results

## *Preliminary Analyses*

We performed a Little's MCAR test for missingness. In the goal orientations scales a maximum 5.9% of values ($N = 34$) was missing. The pattern can be assumed to be Missing Completely At Random, $\chi^2 (23) = 20.71$, $p = 0.60$. Therefore, the missing values mechanism can be assumed to be negligible, and we relied on robust methods for estimation of the goal orientations profiles.

## *Descriptive Statistics*

Means, standard deviations, and bivariate correlations of the main variables can be seen in Table 1. Please comment a bit if you leave it as a section.

## *Person-Centered Analyses: Achievement Goal Orientation Profiles*

To answer our research question regarding the goal orientations profiles that characterize high-school students in Greece, we first applied a two-step clustering technique in SPSS 22 (IBM Corp, 2013) using the standardized scores of the four goal orientations dimensions. Four groups emerged and the classification quality was fair (average silhouette = 0.4). We then tried to replicate this solution in a latent framework, using Latent Profile Analysis in Mplus 7 (Muthén & Muthén, 1998–2015). We compared solutions with 2, 3, 4, 5, and 6 latent profiles, based on the Bayesian Information Criterion and the Akaike's Information Criterion where lower is better, Entropy which should be as closest to 1.0 as possible, the Vuong-Lo-Mendell-Rubin test which is a *p* value that tests the null hypothesis that adding more groups adds no more explanatory power (therefore a model with VLMR $p < 0.05$ should be preferred), as well as inspecting the interpretability of the profiles. The four-classes solution was favoured strongly (see Table 2, and Fig. 1).

The results resemble those of another study conducted in Finland and using the same instrument (Tuominen-Soini et al., 2012). Therefore, we apply the same labels with this study. The first profile ($N = 194$, 33.7%) had the highest standardized scores on all measures, showing its peak on performance-approach (z = 0.92) and its lowest score on performance-avoidance (z = 0.64). Therefore, it was called *success-oriented*. The second profile ($N = 156$, 27.1%) scored below the mean on both mastery orientations (z = −0.79 and z = −0.52 for mastery-intrinsic and mastery-extrinsic respectively) and slightly above the mean on performance orientations (z = 0.03 and z = 0.22 on performance-approach and performance-avoidance

**Table 1** Means, standard deviations, and bivariate correlations of study variables

| | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Mastery-intrinsic | 5.25 | 1.36 | – | | | | | | | |
| 2. Mastery-extrinsic | 5.20 | 1.41 | 0.65*** | – | | | | | | |
| 3. Performance-approach | 4.28 | 1.39 | 0.32*** | 0.48*** | – | | | | | |
| 4. Performance-avoidance | 3.90 | 1.36 | 0.11* | 0.26*** | 0.54*** | – | | | | |
| 5. GPA | 14.1 | 2.92 | 0.30*** | 0.36*** | 0.10* | –0.04 | – | | | |
| 6. General symptoms | 0.83 | 0.51 | –0.08 | 0.01 | 0.12** | 0.23*** | –0.11** | – | | |
| 7. Depression | 0.95 | 0.66 | –0.08 | –0.01 | 0.09* | 0.20*** | –0.06 | 0.89*** | – | |
| 8. Anxiety | 0.82 | 0.62 | –0.09* | 0.01 | 0.09* | 0.18*** | –0.11* | 0.88*** | 0.74*** | – |
| 9. Self-esteem | 3.74 | 0.69 | 0.24*** | 0.17*** | 0.01 | –0.18*** | 0.10* | –0.45*** | –0.50*** | –0.37*** |

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

**Table 2** Fit indices of the latent profile analyses of the 2, 3, 4, 5, and 6 profiles models

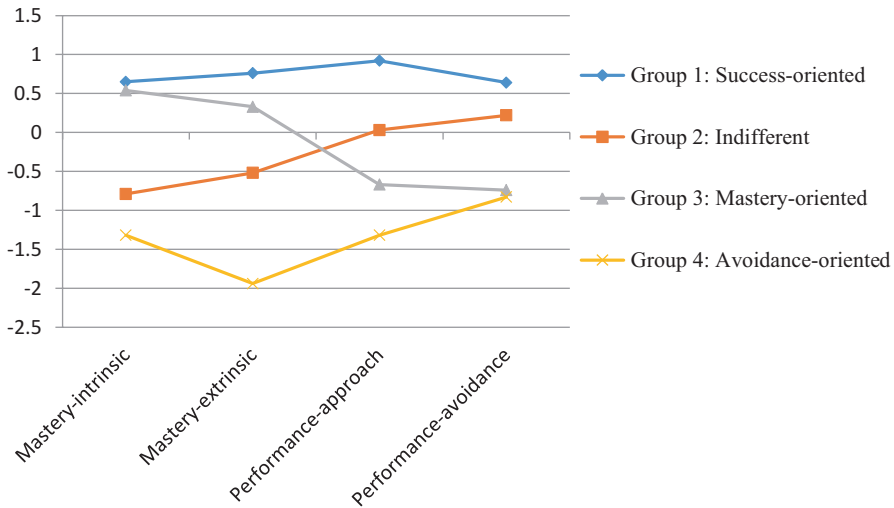| Number of classes | BIC[a] | AIC | Entropy | VLMR | Group sizes |
|---|---|---|---|---|---|
| 2 | 17227 | 17198 | 0.897 | 0.560 | 197, 359 |
| 3 | 16676 | 16637 | 0.867 | 0.004 | 172, 171, 213 |
| 4 | 16068 | 16019 | 0.901 | 0.001 | 62, 156, 144, 194 |
| 5 | 15847 | 15787 | 0.908 | 0.279 | 42, 146, 43, 183, 142 |
| 6 | 15704 | 15634 | 0.887 | 0.640 | 41, 111, 46, 98, 138, 122 |

[a]Sample-adjusted BIC



**Fig. 1** Goal-orientation profiles (Latent Profile Analysis)

respectively) and was called *indifferent*. The third profile ($n = 144$, 25%), had above the mean on both mastery measures ($z = 0.54$ and $z = 0.33$ for mastery-intrinsic and mastery-extrinsic respectively) and had the lowest scores of all students on performance orientations ($z = -0.67$ and $z = -0.74$ on performance-approach and performance-avoidance respectively) and was labelled *mastery-oriented*. Finally, the fourth profile ($n = 62$, 10.8%) had very low scores on all goal-orientations and were therefore called *avoidance-oriented*.

## School Achievement and Psychological Well-Being of Different Goal-Orientations Profiles

We compared the means on GPA, psychological symptoms, and self-esteem of the four goal-orientations profiles by means of univariate ANOVA. Post-hoc comparisons were done with the Bonferroni criterion. In accordance with previous studies,

**Table 3** Mean comparisons of school achievement and psychological well-being between the goal-orientations profiles

| | Goal orientations profiles | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| | Success-oriented | Indifferent | Mastery-oriented | Avoidance-oriented | | |
| | M | M | M | M | df | F |
| GPA | $14.7_b$ | $13.1_a$ | $15.2_b$ | $12.2_a$ | 3/542 | 27.34*** |
| Psychological symptoms | $0.88_a$ | $0.88_a$ | $0.68_b$ | $0.84_{a,b}$ | 3/550 | 5.37*** |
| Depression | $0.99_a$ | $1.01_a$ | $0.79_b$ | $0.94_{a,b}$ | 3/552 | 3.60* |
| Anxiety | $0.81_a$ | $0.86_a$ | $0.66_b$ | $0.87_{a,b}$ | 3/550 | 3.99** |
| Self-esteem | $3.79_{a,c}$ | $3.59_b$ | $3.92_c$ | $3.54_{a,b}$ | 3/551 | 8.20*** |

*Note*: means with common subscripts do not differ significantly

we found that the four profiles differed statistically significantly in all those indices of adaptation. Regarding school achievement, both success-oriented ($M = 14.7$, $SD = 2.8$) and mastery-oriented ($M = 15.2$, $SD = 2.7$) had significantly higher GPA than indifferent ($M = 13.1$, $SD = 2.7$) and avoidance-oriented ($M = 12.2$, $SD = 2.6$) students, $F (3, 542) = 26.34$, $p = 0.00$.

Astery-oriented students showed significantly fewer psychological symptoms in general ($M = 0.68$, $SD = 0.5$) than both success-oriented ($M = 0.88$, $SD = 0.5$) and indifferent ($M = 0.88$, $SD = 0.5$), whereas the avoidance-oriented group ($M = 0.84$, $SD = 0.5$) did not differ significantly from none of the other three groups, $F (3, 550) = 5.37$, $p = 0.001$. The same pattern of results was found for both symptoms of depression and anxiety: Mastery-oriented students had lower means than both success-oriented and indifferent, whereas avoidance-oriented students did not differ significantly from any of the other groups (see Table 3). Finally, regarding self-esteem the mastery-oriented group had the highest mean ($M = 3.92$, $SD = 0.6$).

## Discussion

The goal of this study was to investigate the goal orientation profiles of adolescent students in Greece, and to compare those profiles in terms of indices of adaptation.

### Four Goal Orientations Profiles

Four profiles emerged, bearing striking resemblance to previous studies using the same instrument but in a different cultural setting (Tuominen-Soini et al., 2012). The most frequent profile was the success-oriented profile, which described students who had the highest scores on all four goal orientations dimensions compared to students with other profiles. These students showed their peak score on

performance-approach, and their lowest score on performance-avoidance. Their scores on mastery orientations were in the middle. These students are mainly motivated by their need to perform better than other students, whereas at the same time they aim at getting good grades, as a sign of high mastery (mastery-extrinsic) and at mastering the task so that they feel they develop their skills (mastery-intrinsic).

The second commonest profile was the indifferent. We used this term in order to be in accordance with previous studies that have used the same instrument and similar analytic procedure (Tuominen-Soini et al., 2012). The profile of these students did not show any prominent peak and/or nadir. They were characterized by scores around the group mean on all four dimensions.

The third profile described one quarter of the students and was characterized by a clear prominence of mastery orientations in comparison to the performance orientations. These students were mainly motivated by trying to enrich their skills and get good grades as a sign of mastering well the task at hand, whereas they saw interpersonal comparison (performance goal orientations) as much less motivating (if at all).

Finally, 10.8% of the sample was characterized by very low scores on mastery orientations, and a peak on performance-avoidance. These students were mainly motivated by their need to not do worse than others. These results are very similar to those of Tuominen-Soini et al. (2012). Although those authors used one more scale to produce their profiles (avoidance-orientation scale), we were able to replicate their solution with four goal orientations dimensions.

When we compared the percentages of the students in each profile between that study and the current, some interesting results emerged. In both studies, the most common profile was the success-oriented, and the percentage of this profile in the current study (33.7%) did not differ significantly from the percentage of success-oriented students in the Finnish study (35.5%). However, all other percentages differed significantly. Fewer Greek (27.1%) than Finnish (36.4%) students belonged to the indifferent group, more Greek (25%) than Finnish (21%) belonged in the mastery-oriented group, and, finally, more Greek (10.8%) than Finnish (7.2%) students belonged in the avoidance-oriented group. It seems that, the fewer indifferent students in Greece are split between the mastery and the avoidance profiles.

These similarities in profiles mean that in culturally different settings, like the Finnish and the Greek, students are grouped in very similar constellations of goal orientations. Therefore, the underlying motivating mechanisms that are responsible for how individuals approach school may not be culture-specific. However, the distribution of students in these profiles differs between those countries, which might reflect societal differences. First, education is very important in the Greek value system, and it is considered a vehicle to upward social mobility. Furthermore, success in school reflects not only on the individual student, but also on the family as a whole (Charalambis, Maratou-Alipranti, & Hadjiyanni, 2004). These conditions may make school more salient in Greece, and, therefore, fewer students approach school without a specific goal (fewer indifferent students).

One main conclusion of these results is that even during a vast and enduring economic crisis in the society, more than half of the students belong to an adaptive

profile (either success-oriented, or mastery-oriented). This study was conducted during 2012, when the Great Economic Recession in Greece was already established. For example, according to Eurostat the unemployment rate for youth under age 25 was 55.3% during 2012, whereas at the same time the European-28 unemployment rate was 23.3%. It is notable that even under those demotivating conditions, most students are still motivated to succeed in school. Although this study did not investigate crisis effects, its results are in accordance with other studies that did so, in the same context (Motti-Stefanidi & Asendorpf, 2017).

## *Differences in Adaptation of the Four Goal Orientations Profiles*

In the current study, mastery orientations were found to be important agents of positive adaptation, as the mastery-oriented profile which was characterized by a dominance of mastery orientations, showed the most adaptive pattern. Students in this profile had the highest school achievement coupled with the best psychological well-being. Therefore, promoting a task-related view where students approach a learning task with the main goal of learning and developing themselves (in contrast to performing better than others) seems to be conducive to positive adaptation.

In previous Greek studies of university students avoidance orientations were found to be more strongly related to sadness than approach orientations, regardless the distinction mastery-performance (Sideridis, 2008). The current study replicates this result in a younger sample. Both success-oriented and indifferent profiles, had higher psychological symptoms than mastery-oriented students. Although the success-oriented students had high scores on mastery orientations, their relatively high score on performance-avoidance may be responsible for their low psychological well-being. Although they had a high GPA, they also had lower psychological well-being, which may indicate that their relatively high achievement comes with a cost.

Previous Greek studies have speculated on the possible not-so-negative effect of performance-approach orientation in Greece (Efklides & Dina, 2007), because in countries "that still have characteristics of a collectivist culture …, the meaning of performance-approach goal orientation is not necessarily one that builds on competition and outperforming others but one that builds on the sense of competence and enjoying doing well at school" (Efklides & Dina, 2007, p. 134). The current results do not support this idea. First, although small, there were significant negative correlations between performance-approach orientation and psychological well-being. Second, the profiles that were higher on this dimension (i.e. success-oriented and indifferent) showed worse psychological well-being than the mastery-oriented profile (although not worse adaptation than the avoidance-oriented profile). Hence, although performance-approach may not be catastrophic, it has rather negative effects on psychological well-being.

It is important to stress the fact that this study was conducted amidst a great economic recession. Although crisis effects were not studied explicitly, the current

results reflect studies that did so. For example, in the same context, Motti-Stefanidi and Asendorpf (2017) compared the adaptation and well-being in the school context of two cohorts of Greek and immigrant early adolescents; one cohort was in middle school before the economic crisis (assessed in 2005) and the other during the crisis (assessed in 2013). Despite the fact that conduct problems increased during the crisis, some students of the crisis-cohort showed significantly better academic achievement compared to their pre-crisis counterparts. Furthermore, behavioral school engagement did not differ between the two cohorts, whereas crisis cohort students did not report lower self-esteem or higher depression and anxiety, compared to students of the pre-crisis cohort. These findings corroborate the main finding of the current study, that even amidst the crisis, most students adopt a healthy motivational profile, and approach school in an adaptive manner.

## Conclusions and Implications

The current results indicate that the patterns of goal orientations that students follow may not be affected by the cultural environment. Furthermore, students who are mainly motivated by learning-oriented goals, have the highest chances of showing positive youth development, since they depict high academic achievement along with a positive psychological well-being. Please elaborate more on the points above (see also my prior emails with guidelines about points to address).

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