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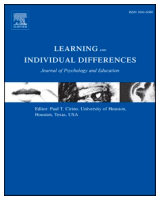

Lower secondary students' perfectionistic profiles: Stability, transitions, and connections with well-being

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ABSTRACT

We investigated lower secondary school students' (N = 511, M age = 15.3 years, girls 51.9 %) perfectionistic profiles, profile stability during the ninth grade, and how profile stability and transitions relate to students' well-being. Using latent profile analysis, students were classified according to their perfectionistic strivings and concerns (measured with SAPS). Four profiles were identified: *moderately concerned*, *perfectionists*, *ambitious*, and *non-perfectionists*. Latent transition analysis indicated substantial stability in the profiles (transition probabilities: .78–.87). Around 82 % of students held stable profiles over time, but significant transitions were also found: from moderately concerned to non-perfectionists or perfectionists, and from perfectionists to moderately concerned. Although ambitious and perfectionists were highly engaged, perfectionists displayed higher burnout, anxiety, and depressive symptoms. Also, the transitions were meaningfully linked to well-being. For example, transitioning from moderately concerned to perfectionists was related to higher exhaustion. The findings highlight the crucial role of perfectionistic concerns on students' well-being.

Educational relevance statement: This study contributes to our understanding of adolescents' perfectionistic tendencies in the school context, providing insights into the temporal stability of perfectionistic profiles and the links between these profiles and well-being. We identified four perfectionistic profiles among students in the ninth grade (i.e., the final year of comprehensive school), which were substantially stable over time, indicating the dispositional nature of perfectionism. Students with profiles characterised by high perfectionistic concerns displayed the most burnout, general anxiety, and depressive symptoms, even when perfectionistic strivings and school engagement were high. It can be concluded that worries about performance and dissatisfaction with accomplishments increase young people's vulnerability to emotional distress. Our findings concur with evidence showing that perfectionism can be a risk factor for health and well-being. Therefore, in adolescence, when perfectionistic tendencies are developing, it would be important to support healthy achievement strivings without debilitating concerns, and to create a less competitive atmosphere where young people can learn from their mistakes and focus on learning rather than on grades and performance.

1. Introduction

Perfectionism (i.e., setting of excessively high standards for performance accompanied by overly critical self-evaluations) has traditionally been studied among adults or higher education students and in relation to general well-being and health (Hewitt & Flett, 1991; Sironic & Reeve, 2012; Stoeber & Otto, 2006). However, there is a growing body of research examining adolescents' perfectionism and its associations with various emotional outcomes such as depression and psychological distress (Flett & Hewitt, 2022; Molnar, Thai, et al., 2023b; Vaillancourt & Haltigan, 2018), and adolescent perfectionism in an academic context has also attracted attention (Herman et al., 2013; Shih, 2012; Sironic & Reeve, 2015; Ståhlberg et al., 2019, 2021). While research has shown an increase in perfectionism among youth over the past 25 years (Curran & Hill, 2019), concerns have also been raised about ongoing negative trends in adolescents' well-being, such as an increase in school burnout, depressive symptoms, and schoolwork pressure (De Looze et al., 2020; Mojtabai et al., 2016; Widlund et al., 2021).

Adolescence is a particularly sensitive period for the development of perfectionism (Damian et al., 2017b). For many, studying at the end of

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lower secondary education and the approaching transition to upper secondary education is associated with an increased focus on performance and ongoing stressors (Tuominen-Soini et al., 2011; Widlund et al., 2021). Following the vulnerability models of perfectionism, which argue that perfectionism can be detrimental to well-being under periods of perceived stress (see Flett & Hewitt, 2022), it would be essential to better understand the different implications of students' healthy, ambitious goals during such a transitional phase, as opposed to the more debilitating pursuit of perfection accompanied by excessive performance-related concerns. In this study, we therefore investigate how adolescents' perfectionistic tendencies change at the end of lower secondary education, where and when expectations of academic success become more pronounced, and how the possible changes are related to well-being.

In contrast to the dimensional approach to the study of perfectionism, which connects the different dimensions of perfectionism to various outcomes in a variable-oriented manner, the group-based approach focuses on how different perfectionistic dimensions are combined into profiles and how these profiles are linked with the outcomes (Stoeber & Otto, 2006). This person-oriented approach emphasises the view that perfectionism is about individuals rather than variables (see Flett & Hewitt, 2022), and has therefore proved well suited to exploring how students with distinct perfectionistic profiles differ in terms of educational outcomes such as academic motivation, school engagement, and burnout (Shih, 2012; Sironic & Reeve, 2012; Ståhlberg et al., 2019). Given its focus on the patterning of the dimensions of perfectionism, the group-based approach also lends itself well to developmental analysis, allowing for the exploration of the extent to which students shift from one type of emphasis to another, and how such transitions are associated with well-being.

Despite the apparent utility of this approach, we still know relatively little about the prevalence and temporal stability of students' perfectionistic profiles during adolescence (see, however Ståhlberg et al., 2021) and, in particular, how the stabilities and transitions in these profiles are related to important educational and emotional outcomes. To address these gaps, we examined what kinds of perfectionistic profiles can be identified among Finnish ninth grade (i.e., final year of lower secondary school) students, how stable the profiles are across one academic year, and how the stability and transitions in perfectionistic profiles relate to academic (i.e., school engagement and burnout) and more general (i.e., anxiety and depressive symptoms) well-being.

1.1. Dimensions and profiles of perfectionism

Perfectionism is a multidimensional personality disposition characterised by a combination of two dimensions: striving for perfection and setting high personal standards (*strivings*) and worrying about one's performance and being overly concerned about making mistakes (*concerns*) (Frost et al., 1990; Hewitt & Flett, 1991; Stoeber, 2018). Perfectionism has been studied mainly from two perspectives: The *dimensional* approach investigates how the two dimensions of perfectionism are correlated with various outcomes, and the *group-based* (or person-oriented) approach looks at how the relative emphases on these dimensions (i.e., perfectionistic profiles) differ from each other and are linked with different outcomes (see Stoeber & Otto, 2006).

Group-based studies have differentiated mainly either three (Rice & Ashby, 2007) or four perfectionistic profiles (Lee & Anderman, 2020; Sironic & Reeve, 2012). The history of the tripartite model is based on the study by Hamachek (1978) of the distinction between normal (adaptive) and neurotic (maladaptive) perfectionism. The tripartite model has presented the combinations of high strivings and low concerns (*adaptive perfectionists*), high strivings and high concerns (*maladaptive perfectionists*), and low strivings together with either high or low concerns (*non-perfectionists*) (Gilman & Ashby, 2003; Rice & Ashby, 2007). In this model, a profile with both high strivings and concerns has been seen as the most detrimental (Rice & Ashby, 2007).

The more recent 2 × 2 model (see Gaudreau & Thompson, 2010) posits that within-person combinations of personal standards (strivings) and evaluative concerns (concerns) are the key features needed to differentiate four distinct subtypes of perfectionism: pure personal standards perfectionism, mixed perfectionism, non-perfectionism, and pure evaluative concerns perfectionism. In line with this model, group-based studies have distinguished the combinations of high strivings and low concerns (ambitious), high strivings and high concerns (perfectionists), low strivings and low concerns (non-perfectionists), and low strivings and high concerns (concerned) (Lee & Anderman, 2020; Lin & Muenks, 2022; Seong & Chang, 2021; Ståhlberg et al., 2019). It has been argued that this more detailed division better explains differences between individuals (Hill & Madigan, 2017). The fourth profile with low strivings accompanied with moderate or high concerns has been labelled as *concerned* (Ståhlberg et al., 2019), *self-critical* (Arana & Furlan, 2016), or *maladaptive perfectionists* (Lee & Anderman, 2020), and it has been shown in some studies to be the most disadvantageous in terms of certain academic and emotional outcomes (Seong & Chang, 2021).

1.2. Stability of perfectionistic dimensions and profiles

Adolescence is a time of many changes and challenges, often including important educational transitions, for example, from lower secondary to upper secondary education. While some students navigate this transitional period without notable problems in their academic well-being or other educational outcomes, some students experience emotional distress and burnout (Roeser et al., 1999; Salmela-Aro & Upadyaya, 2014a; Widlund et al., 2021). As perfectionism has been seen as a personality disposition (Frost et al., 1990; Stoeber & Otto, 2006), and also a risk factor for students' well-being (Enns et al., 2001; Robinson & Wade, 2021), it seems important to examine the stability of perfectionistic profiles during adolescence and to investigate how stability and transitions between these profiles relate to students' well-being. However, studies investigating perfectionism have focused mainly on the antecedents or consequences of perfectionism (Hewitt & Flett, 1991; Stoeber & Rambow, 2007) or examined the stability of perfectionistic dimensions and their connections to different variables (Cox & Enns, 2003; Damian et al., 2017b; Herman et al., 2013; Rice & Aldea, 2006).

Research has shown the dimensions of perfectionism to be relatively stable over time, both in short-term (Rice & Aldea, 2006; Rice & Dellwo, 2001; Valentine et al., 2018) and in long-term studies (Cox & Enns, 2003; Damian et al., 2017a, 2017b; Hong et al., 2017), but some changes in mean-levels have also been found (Herman et al., 2013; Hong et al., 2017; Stoeber et al., 2009). The overall findings of studies regarding stability have been rather similar regardless of which dimensions of perfectionism have been examined. In sum, the dimensions of perfectionism seem to be relatively stable over time thus reflecting their dispositional nature, although there is also some evidence of individual variation in the development of perfectionism.

However, the temporal stability of and changes in the perfectionistic profiles have been given little attention, and as far as we know, only one study (Ståhlberg et al., 2021) has investigated such stability. The study by Ståhlberg et al. (2021) revealed general upper secondary school students' perfectionistic profiles to be rather stable; 55 % of the students remained in the same profile over the school year, and no extreme changes were observed. Interestingly, there were some indications of the proportion of students reporting concerns increasing from the beginning to the end of the school year.

1.3. Connections of perfectionism with academic and general well-being

In addition to examining the stability of perfectionism in adolescence, we investigated various indicators of well-being in order to address comprehensively and understand better the links between adolescent perfectionism and well-being during this challenging period

when perfectionism is developing. Besides academic well-being, which has been less studied in relation to perfectionism, we also wanted to consider students' more general well-being: anxiety and depressive symptoms. Here, academic well-being is seen as a multidimensional construct including both positive and negative dimensions directly related to school and schoolwork: *school engagement* and *burnout* (Hascher, 2008). School engagement reflects a positive attitude to schoolwork, combining three components: energy, absorption, and dedication (Salmela-Aro & Upadaya, 2012). School burnout develops as a result of constant stress associated with studying, and it consists of three different symptoms: exhaustion at school, cynicism toward the meaning of school, and sense of inadequacy as a student (Salmela-Aro et al., 2009). Both school burnout and engagement have been previously linked with students' academic performance and more general well-being (e.g., depressive symptoms and life satisfaction; Salmela-Aro & Upadyaya, 2014b; Widlund et al., 2023). Regarding general well-being, anxiety commonly refers to feelings of nervousness, constant worrying, and trouble relaxing (Spitzer et al., 2006), while depressive symptoms involve low energy, feelings of worthlessness, loneliness, and even hopelessness about the future (Salokangas et al., 1995). Anxiety and depression have high common comorbidity (Spitzer et al., 2006). There is evidence that depressive symptoms and general anxiety in adolescence have increased in recent decades (Mojtabai et al., 2016; Myhr et al., 2020).

The connections between perfectionism and general well-being have been well-recognised in previous research among adults (Cox & Enns, 2003) and undergraduate students (Enns et al., 2001; Lo & Abbott, 2013; Rice & Ashby, 2007; Rice & Slaney, 2002), and perfectionistic concerns in particular can be considered a risk for depression and anxiety (Enns et al., 2001; Robinson & Wade, 2021). Less is still known about the connections between students' perfectionism and academic well-being: Dimensional studies have related perfectionistic *strivings* to school engagement, motivation, and academic achievement among adolescents (Accordino et al., 2000; Damian et al., 2017a; Shih, 2012; Stoeber & Rambow, 2007) and to academic achievement among university students (Lee & Anderman, 2020). Further, these studies have associated perfectionistic *concerns* with less positive outcomes such as burnout, depressive symptoms, fear of failure, emotional exhaustion, and lower self-esteem among adolescents (Accordino et al., 2000; Seong & Chang, 2021; Shih, 2012; Stoeber & Rambow, 2007) and worry, avoidance, burnout, stress, and depression among university students (Arana & Furlan, 2016; Eum & Rice, 2011; Lee & Anderman, 2020; Rice et al., 2006; Rice & Aldea, 2006).

Perfectionistic profiles have also been linked with different educational and emotional outcomes. The *adaptive perfectionists* profile has been found to be associated with higher school engagement and less burnout symptoms among adolescents (Shih, 2012), and with higher academic achievement and self-esteem, lower anxiety and depressive symptoms among university students (Grzegorek et al., 2004; Lo & Abbott, 2013; Rice & Ashby, 2007; Wang et al., 2007). The *maladaptive perfectionists* profile, in turn, has mainly been linked with outcomes that undermine well-being, such as higher burnout among adolescents (Shih, 2012), and higher depressive symptoms and anxiety, lower self-esteem (Rice & Slaney, 2002), higher stress (Lo & Abbott, 2013), and burnout (Lee & Anderman, 2020) among university students.

The profile low on both perfectionistic tendencies (*non-perfectionists*) has been linked with work avoidance (Ståhlberg et al., 2019), stress (Lo & Abbott, 2013), anxiety, and lower achievement motivation (Wang et al., 2007) but not with school burnout (Lee & Anderman, 2020) among university students. The profile with moderately low strivings and relatively high concerns (*concerned)* has been linked with depression, stress, anxiety (Sironic & Reeve, 2012), burnout (Seong & Chang, 2021; Tuominen et al., 2021), and work avoidance (Ståhlberg et al., 2019) among adolescents, and cynicism (Lee & Anderman, 2020), depression, stress, and anxiety (Wang et al., 2007) among university students. In some studies, this concerned profile represents the most detrimental profile of perfectionism with the most negative outcomes among both adolescents (Seong & Chang, 2021; Sironic & Reeve, 2012) and university students (Gaudreau & Thompson, 2010; Lee & Anderman, 2020). This highlights the importance of considering the different patterns of perfectionistic tendencies instead of limiting the investigation to just three a priori defined profiles (Gaudreau & Thompson, 2010; Hill & Madigan, 2017).

1.4. The present study

Perfectionistic dimensions and profiles have been linked with students' well-being in some previous studies (e.g., Damian et al., 2017a; Gilman & Ashby, 2003; Shih, 2012; Sironic & Reeve, 2012; Stoeber & Rambow, 2007). However, most of these former studies are cross-sectional, and even though some investigate the stability of perfectionistic dimensions (e.g., Cox & Enns, 2003; Rice & Aldea, 2006), studies examining the temporal stability of perfectionistic profiles are lacking (see, however, Ståhlberg et al., 2021). From an educational perspective, it would be important to investigate the stability of perfectionistic profiles, especially during critical phases in students' educational paths, such as an approaching major educational transition. Further, it seems essential to study how stability within and transitions between these profiles relate to students' well-being. To our knowledge, this is the first study to examine how the transitions in students' perfectionistic profiles are associated with various indicators of academic and general well-being.

The aim of this longitudinal study was threefold: to investigate 1) what kinds of perfectionistic profiles (i.e., patterns of perfectionistic strivings and concerns) can be identified among adolescents, 2) how stable these profiles are during the last year of basic education (i.e., fall and spring of the ninth grade) and how they change, and 3) how the stability of and transitions in the perfectionistic profiles relate to academic (i.e., school engagement and burnout) and more general (i.e., anxiety and depressive symptoms) well-being.

Based on prior research using a group-based approach and in line with the 2 × 2 model, we expected to identify four profiles; that is, combinations of high strivings and low concerns (ambitious), high strivings and high concerns (perfectionists), low strivings and low concerns (non-perfectionists), and low strivings and high concerns (concerned) (Lin & Muenks, 2022; Ståhlberg et al., 2021; Tuominen et al., 2021; Wang et al., 2007). Despite limited prior evidence regarding the longitudinal stability of perfectionistic profiles, we presumed relatively high stability over time. In other words, reflecting the dispositional nature of perfectionism, we expected most students to display a stable perfectionistic profile during one school year, and some students to demonstrate either an adaptive change (i.e., increase in strivings and/or decrease in concerns) or a maladaptive change (i.e., decrease in strivings and/or increase in concerns) in their perfectionistic tendencies (Ståhlberg et al., 2021). In line with prior studies, we also expected that differences exist between profiles in terms of well-being. We hypothesised that staying in a profile with pure high strivings would be linked with high engagement (Shih, 2012; Tuominen et al., 2021) and low levels of school burnout (Shih, 2012), anxiety (Lo & Abbott, 2013; Wang et al., 2007), and depressive symptoms (Lo & Abbott, 2013; Wang et al., 2007), while staying in the profile with high strivings combined with high concerns would be similarly linked with high engagement (Tuominen et al., 2021) but also with higher levels of burnout (Lee & Anderman, 2020; Lin & Muenks, 2022; Shih, 2012), general anxiety, and depression (Wang et al., 2007). Further, we assumed that the stable profile with moderately low strivings and moderately high concerns would be related to relatively disadvantageous outcomes in terms of well-being, such as burnout (Lee & Anderman, 2020; Lin & Muenks, 2022; Seong & Chang, 2021), whereas the stable profile with low strivings and low concerns might be associated with relatively low engagement but also rather low levels of burnout (Lee & Anderman, 2020; Lin & Muenks, 2022), anxiety, and depressive symptoms (Wang

et al., 2007). Since there are no previous studies exploring how the stability of and transitions between perfectionistic profiles are associated with students' well-being, we did not set exact hypotheses about these connections. However, it seemed plausible to assume that transitioning to a more adaptive perfectionistic profile would be associated with higher well-being and moving to a more maladaptive profile would be reflected negatively in well-being.

2. Method

2.1. Context, participants and procedure

The data came from a longitudinal project "FRAM: Adolescents' well-being and learning in future society" (Åbo Akademi University) investigating the development of adolescents' well-being and educational outcomes, the present study being the first to focus on perfectionism. The study was conducted in Finland, where compulsory education starts when a child turns seven. Basic education consists of elementary (grades 1–6, ages 7–12) and lower secondary education (grades 7–9, ages 13–15). At the end of the ninth grade, students can for the first time make a decision concerning their educational track; that is, to choose whether they continue in vocational or general upper secondary education (lasting 3–4 years).

Five public lower secondary schools from different regions of Swedish-speaking areas of Finland (Swedish is the second official language in Finland) participated in the data collection. For this study, we used data from ninth-graders (girls 51.9 %). The participating students (*M* age at T1 = 15.3 y, *SD* = 0.47) responded to questionnaires twice during the ninth grade (T1 = autumn 2018, T2 = spring 2019; measurement period six months) during regular school hours. Trained research assistants conducted data collection in schools with groups of students during teacher-selected lessons. Institutional review board approval was not required in accordance with the Finnish national guidelines (Finnish National Board on Research Integrity, TENK, 2023) and institutional guidelines. APA ethical standards and the ethical guidelines of the Finnish National Board on Research Integrity were carefully followed. Participation in the study was voluntary, and the participants were assured of the confidentiality of their responses. Informed consent forms were collected from the students' parents before the data collection.

All students in the participating schools were initially invited to take part of the longitudinal study when they were in Grade 7, amounting to 613 students (98.5 %). This original sample size was guided by statistical modeling requirements and power for longitudinal structural equation models (e.g., Wolf et al., 2013). The data used in this study were collected two years later, when the participating students were in the ninth grade, and at this time, 511 students participated (i.e., 83 % of the original sample), as some students had moved to other schools or simply opted not to participate. This was the final sample for the study. Missing data patterns within each of the included variables ranged between 13 and 16 %. As often in longitudinal studies, Little's MCAR tests revealed that the missing data patterns in variables were not missing completely at random, $\chi^2(2228.870) = 2050$, $p = .003$. To ensure identical data at all stages of the analyses, we imputed missing values a priori using the expectation-maximization (EM) algorithm (Dong & Peng, 2013; Schafer & Graham, 2002) as implemented in the SPSS statistical program.

2.2. Measures

2.2.1. Perfectionism

Two dimensions of perfectionism, perfectionistic strivings and concerns, were assessed at both measurement points with the Short Almost Perfect Scale (SAPS; Rice et al., 2014), which was back-translated to Swedish. Both perfectionistic strivings (e.g., "*I have a strong need to strive for excellence*") and perfectionistic concerns (e.g., "*I am hardly ever satisfied with my performance*") were measured with four items. Students rated all items using a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Reliabilities (McDonald's ω) for T1 and T2 were .90 and .92 for perfectionistic strivings, and .84 and .87 for perfectionistic concerns.

2.2.2. Academic well-being: School engagement and burnout

School engagement was measured with the Schoolwork Engagement Inventory (EDA; Salmela-Aro & Upadaya, 2012). The inventory consists of nine items altogether, measuring energy (3 items, e.g., *When I study, I feel that I am bursting with energy*), dedication (3 items, e.g., *I am enthusiastic about my studies*), and absorption (3 items, e.g., *Time flies when I am studying*) in relation to schoolwork. Students rated all items using a 7-point Likert-type scale ranging from 1 (never) to 7 (every day). A composite score (ω = .96) was computed from all nine items to indicate overall schoolwork engagement (see Salmela-Aro & Upadaya, 2012).

School burnout was assessed with the School Burnout Inventory (SBI; Salmela-Aro et al., 2009), which consists of three subscales: exhaustion at school (4 items, e.g., "*I feel overwhelmed by my schoolwork*"), cynicism toward the meaning of school (3 items, e.g.,"*I feel lack of motivation in my schoolwork and often think of giving up*"), and sense of inadequacy as a student (2 items, e.g.,"*I often have feelings of inadequacy in my schoolwork*"), which were rated on a scale ranging from 1 (completely disagree) to 6 (completely agree). For burnout, composite scores were computed separately for the three subscales. The reliabilities (ω) were .86 for exhaustion, .85 for cynicism, and .73 for inadequacy.

2.2.3. General well-being: Anxiety and depressive symptoms

In addition to academic well-being, we also measured more general well-being. Anxiety was assessed with the Generalised Anxiety Disorder Scale (GAD-7; Spitzer et al., 2006), which is a valid self-report measure for generalised anxiety symptoms in adolescents (Tiirikainen et al., 2019). It consists of seven items asking adolescents to indicate how often, over the past 14 days, they have been bothered by the core symptoms of generalised anxiety disorder (e.g.,"*Worrying too much about different things*", "*Feeling nervous, anxious, or on edge*"). Items were rated on a 4-point scale: 0 (not at all), 1 (several days), 2 (more than half the days), and 3 (nearly every day). A composite score (ω = .94) was computed from all seven items to indicate overall general anxiety.

Depressive symptoms were measured with DEPS (Salokangas et al., 1995). The scale consisted of ten items concerning participants' depressive mood (e.g., *"Felt low in energy or slowed down"*, *"Felt all pleasure and joy has gone from life"*, *"Felt lonely"*) during the last month. Items were rated ranging from 1 (not at all) to 4 (very much). A composite score (ω = .95) was computed from all ten items to indicate overall depressive symptoms.

2.3. Data analyses

2.3.1. Preliminary analyses

First, cross-sectional confirmatory factor analyses (CFA) on perfectionism were performed separately for the two time points to verify the structural validity of the measures. Also, CFA was conducted for the well-being measures at Time 2. Next, measurement invariance of perfectionism over time from fall to spring was tested with longitudinal CFAs (see Tables S1–S3 in the Supplemental material).

2.3.2. Latent profile analysis

To classify students according to their emphasis of the perfectionistic tendencies, we conducted two cross-sectional latent profile analyses separately for Time 1 and 2 using the seven perfectionism items as clustering variables. Seven classes were added stepwise to explore the most optimal data fit in terms of number of classes. The following statistical criteria were used to conclude the number of profiles: Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), Sample-size Adjusted BIC (SABIC), Vuong–Lo–Mendell–Rubin likelihood ratio test (*p*VLMR), and Lo–Mendell–Rubin adjusted likelihood

ratio test (*p*LMR). Lower values in AIC, BIC, and SABIC indicate better fit. For VLMR and LMR, *p*-values smaller than .05 indicate that the estimated model is preferable compared to the model with one less class (Lo et al., 2001; Nylund et al., 2007). When comparing different models, we carefully considered classification quality (entropy value >0.70), profile sizes, and meaningfulness of the latent classes in the solution in relation to the theory and previous research.

2.3.3. Latent transition analysis

To examine the stabilities and transitions between perfectionistic profiles over time, a two-wave LTA was used. LTA is a longitudinal extension of LPA, designed to model latent profile memberships and possible transitions (Collins & Lanza, 2010). First, measurement invariance of perfectionism over time was tested, to enable interpretation of between-profile transitions (Meeus et al., 2011). LTA demonstrates the probability (ranging from 0 to 1) of the student being in the same or different profile between timepoints, and transition probabilities demonstrate the probability of changing from one profile to another (Collins & Lanza, 2010).

Finally, following the BCH-LTA approach (Asparouhov & Muthén, 2021), outcomes measured at Time 2 (i.e., school engagement, burnout, general anxiety, depressive symptoms) were included in the mixture model, and through pairwise comparisons of means, we examined whether stability and changes in perfectionistic profile memberships were linked with different well-being outcomes.

The LPA and LTA models were estimated using Mplus 8.8 (Muthén & Muthén, 1998–2022).

3. Results

3.1. Preliminary results

The factorial structure of perfectionism and well-being measures, and the longitudinal CFAs are reported in Tables S1–S3 in the Supplemental material. LCFAs indicated satisfactory measurement invariance over time.

Descriptive statistics, internal consistencies, and correlations for all variables are presented in Table 1. The interrelationships between the variables were theoretically consistent. At both measurement points, a rather high correlation was found between perfectionistic strivings and concerns (T1 $r = .36$, T2 $r = .42$), but similar correlations have also been found in previous studies with adolescents (e.g., Seong & Chang, 2021; Sironic & Reeve, 2015). Rank-order stability of both perfectionistic strivings and concerns between measurement points (T1 and T2) was high. Perfectionistic strivings at both times were positively associated with engagement and weakly but significantly correlated with exhaustion, general anxiety, and depressive symptoms measured at T2. Perfectionistic concerns at both times were positively linked with exhaustion, inadequacy, cynicism, general anxiety, and depressive symptoms measured at T2.

3.2. Perfectionistic profiles

The first aim of this study was to investigate what kinds of perfectionistic profiles can be identified during the ninth grade. Four distinct profiles were identified as the most suitable model at both measurement points (for information criteria values, see Table 2). Although the values for AIC and BIC continued to decrease with the addition of profiles, the decline slowed down at around four profiles. Also, *p*VLMR and *p*LMR, and high entropy provided support for the four-class solution. The entropy value for the four-profile solutions was 0.85 for Time 1 and 0.90 for Time 2.

The identified profiles were similar at both time points, consistent with the theory and the findings of previous studies (Lee & Anderman, 2020; Seong & Chang, 2021; Ståhlberg et al., 2021) and the group sizes were also reasonable. Based on the means of perfectionistic strivings and concerns as well as relative differences between the profiles, the groups were labelled *moderately concerned*, *perfectionists*, *ambitious*, and *non-perfectionists* (for means and standard errors of perfectionism items, see Table 3; see also Figures S1-S2 in the Supplemental material).

3.3. Stability and transitions

The second aim was to examine how stable the perfectionistic profiles are during one academic year (from fall to spring in ninth grade; measurement period 6 months). Based on the LPAs, a four-profile model was relocated for the LTA. The four profiles (for time-invariant perfectionistic profiles, see Fig. 1), moderately concerned, perfectionists, ambitious, and non-perfectionists were very similar to those identified separately for both measurement points (Table 3). The largest profile at both measurement points was characterised by rather moderate but still relatively low (the second lowest) strivings and relatively high (the second highest) concerns and was thus labelled as *moderately concerned* (T1: 38 %/ T2: 35 %). Due to the high prevalence and moderate levels of strivings and concerns, this profile represented a "typical" student in the sample. The second largest profile was *perfectionists* (23 %/23 %); the students in this group reported very high strivings and the highest concerns. *Ambitious* (21 %/20 %) students reported high strivings accompanied with low concerns, and, finally, *non-perfectionists* (18 %/21 %) displayed both low strivings and low concerns. The entropy of the LTA model was 0.92, indicating a clear classification.

The transition probabilities from the LTA (see Table 4 and Fig. 2) indicated that perfectionistic profiles were stable over time: being assigned to the same profile yielded the highest transition probabilities

Table 1
Descriptive statistics, internal consistencies, and bivariate correlations for all variables (T1 and T2).

Measures		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.	Perfectionistic strivings T1	–									
2.	Perfectionistic concerns T1	.36**	–								
3.	Perfectionistic strivings T2	.70**	.17**	–							
4.	Perfectionistic concerns T2	.28**	.60**	.42**	–						
5.	Engagement T2	.33**	−.15**	.42**	−.01	–					
6.	Exhaustion T2	.22**	.49**	.21**	.56**	−.09	–				
7.	Cynicism T2	−.12*	.30**	−.14**	.34**	−.41**	.60**	–			
8.	Inadequacy T2	.07	.43**	.09	.52**	−.23**	.74**	.64**	–		
9.	General anxiety T2	.25**	.46**	.25**	.55**	−.10**	.60**	.38**	.54**	–	
10.	Depressive symptoms T2	.18**	.45**	.17**	.55**	−.15**	.57**	.43**	.52**	.77**	–
M		4.61	3.74	4.60	3.69	3.91	2.85	2.64	3.08	0.88	1.80
SD		1.61	1.61	1.73	1.70	1.58	1.30	1.30	1.45	0.85	0.75
Skewness		−0.30	−0.21	−0.42	0.24	−0.09	0.41	0.54	0.18	0.84	1.10
Kurtosis		−0.76	−0.75	−0.72	−0.72	−0.89	−0.62	−0.45	−0.94	−0.32	0.67
ω		.90	.84	.92	.87	.96	.86	.85	.73	.94	.95

Note. ω = McDonald's omega. * $p < .05$. ** $p < .01$.

Table 2
Information criteria values for different class solutions for T1 and T2 (cross-sectional LPAs).

	k	AIC	BIC	SABIC	*p*VLMR	*p*LMR	Entropy	Group sizes
Time 1, 9th Fall	1	12,675.734	12,733.107	12,688.677	–	–	–	445
	2	11,802.294	11,892.452	11,822.633	0.0000	0.0000	0.855	211, 234
	3	11,491.657	11,614.599	11,519.392	0.5108	0.5152	0.829	164, 166, 115
	4	**11,256.334**	**11,412.061**	**11,291.465**	**0.0031**	**0.0033**	**0.847**	**98, 120, 121, 106**
	5	11,148.035	11,336.546	11,190.562	0.2758	0.2817	0.838	64, 108, 82, 99, 92
	6	11,076.355	11,297.651	11,126.279	0.3951	0.4000	0.850	90, 105, 46, 27, 81, 96
	7	11,026.369	11,280.449	11,083.688	0.5451	0.5466	0.847	39, 62, 93, 57, 33, 72, 89
Time 2, 9th Spring	1	12,488.700	12,545.690	12,501.262	–	–	–	433
	2	11,437.700	11,527.257	11,457.441	0.0000	0.0000	0.884	191, 242
	3	11,059.012	11,181.134	11,085.931	0.2221	0.2266	0.901	58, 210, 165
	4	**10,683.556**	**10,838.244**	**10,717.653**	**0.0040**	**0.0044**	**0.896**	**92, 148, 104, 89**
	5	10,515.901	10,703.155	10,557.176	0.1835	0.1888	0.898	47, 130, 72, 84, 100
	6	10,389.041	10,608.861	10,437.495	0.0448	0.0471	0.909	44, 23, 75, 123, 87, 81
	7	10,274.773	10,527.158	10,330.405	0.0544	0.0581	0.922	42, 20, 126, 14, 65, 84, 82

Note. k = number of latent profiles in the model; AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; SABIC = Sample-Size Adjusted BIC; *p*VLMR = Vuong–Lo–Mendell–Rubin likelihood ratio test; *p*LMR = Lo–Mendell–Rubin adjusted likelihood ratio test. Values bolded indicate the best-fitting model.

Table 3
Cross-sectional LPAs: means and standard errors of perfectionism items (T1 and T2).

Time 1	Moderately concerned		Perfectionists		Ambitious		Non- perfectionists	
	N = 121, 27 %		*N* = 106, 24 %		*N* = 120, 27 %		*N* = 98, 22 %	
Variable	*M*	*SE*	*M*	*SE*	*M*	*SE*	*M*	*SE*
Strivings 1	4.10	0.21	6.33	0.11	6.00	0.14	3.02	0.25
Strivings 3	3.80	0.21	6.44	0.11	5.29	0.22	2.07	0.22
Strivings 5	3.83	0.22	6.19	0.11	5.07	0.24	2.08	0.18
Strivings 7	4.25	0.15	6.21	0.10	5.57	0.17	2.72	0.29
Concerns 2	4.39	0.26	5.92	0.16	2.63	0.20	2.63	0.21
Concerns 6	4.22	0.24	5.55	0.19	2.68	0.15	2.50	0.23
Concerns 8	4.19	0.32	5.52	0.23	2.14	0.14	2.41	0.20

Time 2	Moderately concerned		Perfectionists		Ambitious		Non-perfectionists	
	N = 148, 34 %		*N* = 89, 21 %		*N* = 104, 24 %		*N* = 92, 21 %	
Variable	*M*	*SE*	*M*	*SE*	*M*	*SE*	*M*	*SE*
Strivings 1	4.37	0.14	6.34	0.13	6.38	0.08	2.83	0.26
Strivings 3	3.96	0.20	6.49	0.11	5.85	0.18	1.83	0.15
Strivings 5	3.81	0.17	6.12	0.13	5.70	0.15	1.79	0.17
Strivings 7	4.23	0.14	6.19	0.11	6.16	0.12	2.13	0.29
Concerns 2	4.15	0.18	6.06	0.21	2.79	0.25	2.18	0.20
Concerns 6	4.18	0.16	6.13	0.17	2.56	0.23	1.82	0.18
Concerns 8	3.84	0.16	5.57	0.26	2.35	0.16	2.21	0.23

(.78–.87). The majority of the students (82 %) displayed a stable profile over time. Some changes were observed between measurement points with reasonably high transition probabilities (transition probability $\gtrsim$ .10, $n \geqq 15$). The only likely transitions were from moderately concerned to non-perfectionists (transition probability = .11, n = 21) or to perfectionists (transition probability = .09, n = 19), and from perfectionists to moderately concerned (transition probability = .11, n = 15). Transitions with low transition probabilities or only few students representing such patterns ($\gtrsim$.10, $n \geqq 15$) were not interpreted further. For profile differences in perfectionistic dimensions (strivings and concerns), see Table S4 in the Supplemental material.

3.4. Profile differences in academic and general well-being

Regarding the third aim, based on the LTA results, we investigated whether students with stable or changing perfectionistic profiles differed in academic (i.e., engagement, exhaustion, cynicism, inadequacy) and more general (i.e., general anxiety, depressive symptoms) well-being. Mean differences in all the outcomes were compared between stable profiles and between the transition patterns identified in the original LTA (for mean differences in well-being measures, see Tables 5, 6, and 7).

Regarding stable patterns, students who remained in the ambitious profile across the ninth grade were the most engaged with their studies (M = 4.88), followed, first, by stable perfectionists (M = 4.08) and, second, by stable moderately concerned (M = 3.57). Students who remained in the stable non-perfectionists profile were the least engaged (M = 2.92). Compared to staying in the moderately concerned profile, transitioning from moderately concerned to perfectionists was related to higher engagement (M = 4.64).

Despite their high engagement, stable perfectionists had the highest levels of exhaustion (M = 3.90), followed by stable moderately concerned (M = 2.92). Transitioning from moderately concerned to perfectionists was related to significantly higher school-related exhaustion (M = 3.96) compared to staying in the moderately concerned profile, and transitioning from moderately concerned to non-perfectionists to lower exhaustion (M = 1.85) compared to stable moderately concerned. Profiles with low perfectionistic concerns (stable ambitious and non-perfectionists) showed low school-related exhaustion, and they did not differ significantly from each other. Students who remained in the ambitious profile reported significantly lower cynicism (M = 1.92) than students in the other stable profiles. Stable perfectionists displayed the highest feelings of inadequacy (M = 4.05), followed by stable moderately concerned (M = 3.19) and non-perfectionists (M = 2.88), who

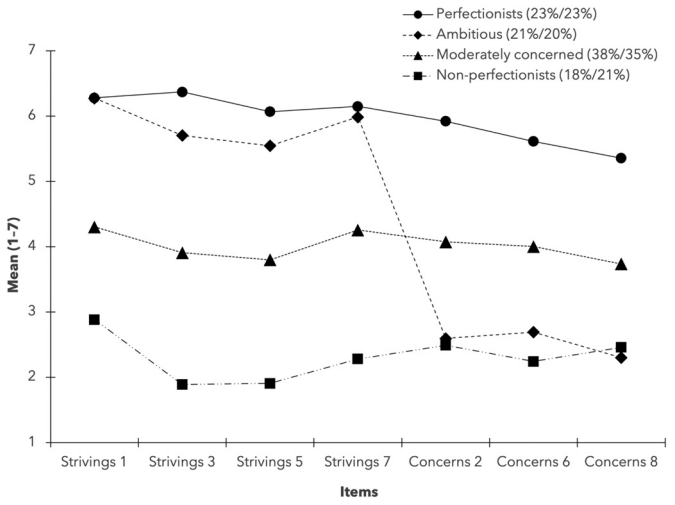

Fig. 1. The time-invariant perfectionistic profiles based on estimated means for strivings and concerns from the four-group solution.
Note. Perfectionistic strivings: Strivings 1 = I have high expectations for myself, Strivings 3 = I set very high standards for myself, Strivings 5 = I have a strong need to strive for excellence, Strivings 7 = I expect the best from myself. Perfectionistic concerns: Concerns 2 = Doing my best never seems to be enough, Concerns 6 = My performance rarely measures up to my standards, Concerns 8 = I am hardly ever satisfied with my performance.

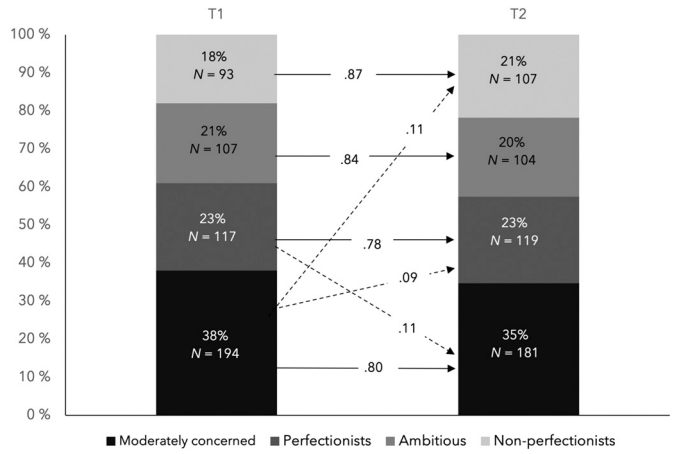

Fig. 2. Stabilities and transitions of perfectionistic profiles.
Note. Arrows represent latent transition probabilities. Straight arrows represent the same profile over time, and dashed arrows represent likely transitions (different profile over time). T1 = Grade 9 Fall, T2 = Grade 9 Spring.

reported similar levels of inadequacy. Stable ambitious had significantly lower inadequacy ($M = 2.22$). than other stable profiles. Transitioning from moderately concerned to non-perfectionists was related to lower feelings of inadequacy ($M = 1.790$) compared with staying in the moderately concerned profile ($M = 3.19$).

Concerning more general well-being, similar between-profile differences were found for general anxiety and depressive symptoms. Students who remained in the ambitious and non-perfectionist profiles reported equally low levels of general anxiety (ambitious $M = 0.54$; non-perfectionists $M = 0.48$) and depressive symptoms (ambitious $M = 1.44$; non-perfectionists $M = 1.54$), while stable perfectionists expressed the highest levels (general anxiety, $M = 1.57$; depressive symptoms, $M = 2.32$), followed by stable moderately concerned (general anxiety, $M = 0.87$; depressive symptoms, $M = 1.78$). Transitioning from moderately concerned to non-perfectionists was related to lower general anxiety ($M = 0.36$) and depressive symptoms ($M = 1.24$) compared with staying in the moderately concerned profile.

4. Discussion

The aim of this study was to investigate 1) what kinds of perfectionistic profiles can be identified among adolescents, 2) how stable the profiles are during the final year of lower secondary education, and 3) how the stability of and transitions in the perfectionistic profiles relate to academic (i.e., school engagement and burnout) and more general (i.e., anxiety and depressive symptoms) well-being. The main contributions of this study were, first, that we managed to identify qualitatively distinct groups of adolescent students with various patterns of perfectionistic strivings and concerns. Second, we added to previous knowledge by showing that the majority of students exhibit stable perfectionistic profiles over time, but also that some students experience either positive or negative shifts in their emphases of strivings and concerns even within one school year. Finally, a novel finding of this study was that students' perfectionistic profiles as well as changes in these were related to students' academic and general well-being.

4.1. Perfectionistic profiles among ninth-graders

Our findings concerning the identified perfectionistic profiles (moderately concerned, perfectionists, ambitious, and non-perfectionists) were in line with the 2 × 2 model (Gaudreau & Thompson, 2010) and prior studies conducted among adolescent students (Damian et al., 2017a, 2017b; Seong & Chang, 2021) and older, for example, upper secondary (Sironic & Reeve, 2012; Ståhlberg et al., 2019) and higher education (Gaudreau & Thompson, 2010; Lee & Anderman, 2020; Wang et al., 2007) students. First, a group of students with relatively low strivings and relatively high concerns (moderately concerned) was identified at both measurement points. Previous studies have found a similar profile (Arana & Furlan, 2016; Seong & Chang, 2021; Ståhlberg et al., 2019; Wang et al., 2007), although the labelling of this profile has varied (e.g., Low-Standards/High-Discrepancy, self-critical, concerned). There seems to be a discrepancy between these students' strivings and concerns in that despite their relatively low level of goals, they still seem somewhat worried about their achievements. This profile was the largest among ninth-graders and represented rather an average profile (see also Ståhlberg et al., 2019) than a highly concerned profile (see e.g., Gaudreau & Thompson, 2010; Wang et al., 2007).

Second, although the participants of this study were relatively

Table 4
Cross-classification of perfectionistic profiles and transition probabilities.

Time 1	Time 2			
	1. Moderately concerned	2. Perfectionists	3. Ambitious	4. Non-perfectionists
1. Moderately concerned	**.80 (155)**	*.09 (19)*	.00 (0)	*.11 (21)*
2. Perfectionists	*.11 (15)*	**.78 (90)**	.08 (10)	.03 (2)
3. Ambitious	.07 (8)	.07 (5)	**.84 (93)**	.02 (2)
4. Non-perfectionists	.06 (4)	.03 (3)	.05 (4)	**.87 (80)**

Note. Values bolded represent the probability of being assigned to the same profile over time. Values in italics represent transition probabilities ($\gtrsim .10$, $n \geqq 15$). Number of students in parentheses.

Table 5
Mean differences in engagement and exhaustion between stable profiles and transitions.

		Engagement M (SE)	*Exhaustion M (SE)*	1	2	3	4	5	6	7
1	Stable non-perfectionists	2.92 (0.17)	2.29 (0.11)	–	0.08	0.45	−0.62*	−1.67*	−1.44*	−1.61*
2	Stable ambitious	4.88 (0.14)	2.21 (0.12)	−1.97*	–	0.37	−0.71*	−1.75*	−1.52*	−1.69*
3	Moderately concerned → non-perfectionists	3.89 (0.69)	1.85 (0.35)	−0.98	0.99	–	−1.07*	−2.12*	−1.88*	−2.05*
4	Stable moderately concerned	3.57 (0.10)	2.92 (0.08)	−0.66*	1.31*	0.32	–	−1.05*	−0.81	−0.98*
5	Moderately concerned → perfectionists	4.64 (0.38)	3.96 (0.35)	−1.72*	0.24	−0.75	−1.07*	–	0.23	0.06
6	Perfectionists → moderately concerned	3.10 (0.54)	3.73 (0.44)	−0.19	1.78*	0.79	0.47	1.54*	–	−0.17
7	Stable perfectionists	4.08 (0.13)	3.90 (0.11)	−1.16*	0.81*	−0.19	−0.51*	0.56	−0.97	–

Note. Values represent mean differences (pairwise comparisons) across the different transition types. Values for *engagement* are depicted on the left side of the diagonal and for *exhaustion* on the right side.
* $p < .05$.

young, almost a quarter of students reported simultaneously high strivings and concerns and were identified as perfectionists at both measurement points. These students strived for high achievements and excellence but, at the same time, struggled with feelings of not being good enough. This is in line with previous studies across a range of samples, where approximately 20–30 % of the students have been identified as perfectionists, often labelled as maladaptive or unhealthy perfectionists (Lee & Anderman, 2020; Rice & Slaney, 2002; Seong & Chang, 2021; Ståhlberg et al., 2019; Wang et al., 2007).

Third, approximately one fifth of the students belonged to the

Table 6
Mean differences in cynicism and inadequacy between stable profiles and transitions.

		Cynicism M (SE)	*Inadequacy M (SE)*	1	2	3	4	5	6	7
1	Stable non-perfectionists	2.76 (0.15)	2.88 (0.16)	–	0.66*	1.09*	−0.31	−1.06*	−1.15*	−1.17*
2	Stable ambitious	1.92 (0.11)	2.22 (0.12)	0.83*	–	0.43	−0.98*	−1.72*	−1.82*	−1.84*
3	Moderately concerned → non-perfectionists	2.44 (0.53)	1.79 (0.44)	0.32	−0.51	–	−1.40*	−2.15*	−2.24*	−2.26*
4	Stable moderately concerned	2.85 (0.08)	3.19 (0.09)	−0.10	−0.93*	−0.42	–	−0.74	−0.84*	−0.86*
5	Moderately concerned → perfectionists	3.37 (0.35)	3.94 (0.38)	−0.62	−1.45*	−0.94	−0.52	–	−0.10	−0.12
6	Perfectionists → moderately concerned	3.72 (0.43)	4.03 (0.30)	−0.97*	−1.80*	−1.29	−0.87*	−0.35	–	−0.02
7	Stable perfectionists	2.87 (0.12)	4.05 (0.13)	−0.12	−0.95*	−0.44	−0.02	0.50	0.85	–

Note. Values represent mean differences (pairwise comparisons) across the different transition types. Values for *cynicism* are depicted on the left side of the diagonal, and *inadequacy* are on the right side.
* $p < .05$.

Table 7
Mean differences in general anxiety and depressive symptoms between stable profiles and transitions.

		Anxiety M (SE)	*Depressive M (SE)*	1	2	3	4	5	6	7
1	Stable non-perfectionists	0.48 (0.07)	1.54 (0.07)	–	0.10	0.30	−0.24*	−0.82*	−0.72*	−0.78*
2	Stable ambitious	0.54 (0.06)	1.44 (0.04)	−0.06	–	0.20	−0.34*	−0.92*	−0.82*	−0.88*
3	Moderately concerned → non-perfectionists	0.36 (0.20)	1.24 (0.13)	0.12	0.18	–	−0.54*	−1.12*	−1.02*	−1.08*
4	Stable moderately concerned	0.87 (0.06)	1.78 (0.05)	−0.39*	−0.33*	−0.51*	–	−0.59	−0.48	−0.55*
5	Moderately concerned → perfectionists	1.35 (0.26)	2.36 (0.29)	−0.86*	−0.81*	−0.98*	−0.48	–	0.11	0.04
6	Perfectionists → moderately concerned	1.07 (0.30)	2.26 (0.32)	−0.59	−0.54	−0.71*	−0.20	0.27	–	−0.07
7	Stable perfectionists	1.57 (0.08)	2.32 (0.08)	−1.09*	−1.03*	−1.21*	−0.70*	−0.22	−0.50	–

Note. Values represent mean differences (pairwise comparisons) across the different transition types. Values for *general anxiety* are depicted on the left side of the diagonal, and *depressive symptoms* are on the right side.
* $p < .05$.

ambitious profile characterised by high strivings and low concerns. Previous studies have found a similar profile, commonly labelled as healthy or adaptive perfectionists (Lee & Anderman, 2020; Lo & Abbott, 2013; Stoeber & Otto, 2006). By naming this profile ambitious, we wanted to highlight their healthy pursuit of high strivings accompanied with low concerns (see Ståhlberg et al., 2019). In our view, labels referring to perfectionism (e.g., adaptive perfectionists; Lee & Anderman, 2020; Sironic & Reeve, 2012) would be somewhat misleading for this profile as they fail to make a clear distinction between perfectionism and striving for excellence (see Gaudreau et al., 2022; Greenspon, 2000; Pacht, 1984). The fourth profile with low strivings and concerns was labelled as non-perfectionists, as it represents the opposite profile to perfectionists. This profile is commonly identified and similarly labelled in previous research (Lin & Muenks, 2022; Lo & Abbott, 2013; Stoeber & Otto, 2006).

4.2. Stability of and transitions in the profiles during ninth grade

Although ninth-graders face an important educational transition and are approaching the decision about further education, which is likely to trigger achievement-related concerns, the perfectionistic profiles remained stable for the majority of students (82 %) in our study. This likely reflects the dispositional nature of perfectionism, and was expected, as it is consistent with to our knowledge the only previous study available on the stability of perfectionistic profiles (Ståhlberg et al., 2021). In fact, the stability was even higher than in the Ståhlberg et al. (2021) study, as they found 55 % of general upper secondary school students to maintain a similar profile over the school year.

The difference in stability between these two studies may be due to the students being at different stages of their school careers. Upper secondary education (the context of the study by Ståhlberg et al., 2021) is characterised by high academic demands as the forthcoming application process to further education (e.g., university studies) is highly competitive, and this might result in higher degree of instability in students' achievement strivings. Although the grades at the end of lower secondary education (the context of our study) are also considered when transitioning to upper secondary education, this admission system is relatively uncompetitive (especially among the Swedish-speaking minority), with only 2–3 % of students not being accepted into further education after the ninth grade (Statistics Finland, 2022). Furthermore, when comparing the findings of these studies, it should be noted that different analytical approaches were used in the study by Ståhlberg et al. (2021) and the present one (i.e., TwoStep cluster analyses utilising the ISOA approach vs. latent transition analyses), which may have also contributed to the differences.

As to the transitions, three significant moves from one profile to another were observed: from moderately concerned to either non-perfectionists or perfectionists, and from perfectionists to moderately concerned. This means that some students reported an increase in both strivings and concerns, while others reported a decrease. In a sense, then, none of these changes were truly positive, but rather showed a mutually exclusive shift in degree within and between the more unfavourable profiles. That is, the transitions reflected either simultaneous increase or decrease in both the positive and negative dimensions of perfectionistic tendencies. Differences in well-being help to qualify further the meaning of these transitions.

4.3. Profile differences in well-being

It is important to separate dysfunctional perfectionism from healthy striving, as dysfunctional thinking patterns by perfectionists with self-critical beliefs can lead to high levels of emotional distress (Lo & Abbott, 2013). Defining perfectionism as a combination of high strivings and concerns implies that a person striving for excellence without simultaneous worry about accomplishments is in fact not a perfectionist. A perfectionist strives for excellence with “chronic dissatisfaction” (Pacht, 1984). In our view, this distinction is also captured by the findings of this study.

The profile differences in well-being observed here were consistent with previous studies (Damian et al., 2017a; Shih, 2012; Wang et al., 2007) and our hypotheses, and partly in line with the 2 × 2 model (Gaudreau & Thompson, 2010). Overall, high strivings seemed to go together with high engagement, as students in both the ambitious and perfectionists profiles reported the highest levels of school engagement. However, high strivings and school engagement alone may not protect students from negative well-being: the perfectionists, who also felt highly concerned about their accomplishments, reported some of the highest levels of school-related exhaustion, feelings of inadequacy, depressive symptoms, and anxiety. In turn, ambitious students with low concerns displayed very positive overall well-being. Profiles with low strivings were linked with low engagement. Stable non-perfectionists were the least engaged in their studies, but simultaneously, were not anxious or exhausted. Stable moderately concerned were relatively concerned about their accomplishments, and their engagement was almost as low as non-perfectionists', but they experienced more exhaustion, general anxiety, and depressive symptoms.

Perfectionism has previously been identified as a risk factor for depression and anxiety, thus undermining well-being (Robinson & Wade, 2021; Spitzer et al., 2006). In this study, stable perfectionists experienced the most general anxiety and depressive symptoms, followed by moderately concerned, whereas the anxiety and depressive symptoms experienced by non-perfectionists and ambitious were low. Our findings support the notion that profiles characterised by high levels of concerns (perfectionists and moderately concerned) are most likely to experience emotional distress, like anxiety and depressive symptoms (Arana & Furlan, 2016; Lo & Abbott, 2013; Rice & Dellwo, 2001; Sironic & Reeve, 2012), even when the strivings are high (perfectionists). However, our findings did not support the hypothesis of the 2 × 2 model suggesting that the concerned profile should be associated with the most debilitating outcomes (Gaudreau & Thompson, 2010), possibly due to this profile in the present study representing moderately rather than highly concerned students.

This study provides new insight on how the transitions in students' perfectionistic profiles are associated with various indicators of academic and general well-being. The transition from moderately concerned to non-perfectionists, in other words from one less desirable profile to another, could despite the lower strivings be characterised as positive, given the significantly lower perfectionistic concerns, exhaustion, inadequacy, general anxiety, and depressive symptoms of the latter profile compared with the former. Transitioning from perfectionists to moderately concerned, on the other hand, was more neutral in the sense that it was associated with significantly lower perfectionistic strivings and concerns, but there were no differences in well-being between this transition and the initial profile (stable perfectionists). Finally, compared to the initial profile (moderately concerned), the transition from moderately concerned to perfectionists was associated with a mix of positive and negative effects: higher strivings and engagement along with higher concerns and exhaustion.

4.4. Limitations, future directions, and practical implications

Although this study significantly adds to our understanding of the nature and stability of perfectionistic profiles among adolescent students, especially preceding an important educational transition, it also has some limitations. First, the time span of our design was relatively short, which might partly explain the high stability observed. Therefore, studying profile stability over a longer period of time would be important. Also, as in previous findings on adolescent students (e.g., Seong & Chang, 2021; Sironic & Reeve, 2015), the correlation between perfectionistic strivings and concerns was rather high, which should be acknowledged. However, in the school context, where evaluation and pressure to perform are constantly present, it seems logical that strivings

should, to some extent, coincide with concerns.

Another limitation of this study is the lack of measures of academic performance, considering that achievement or changes in achievement likely influence the goals students set for themselves and how they experience their accomplishments. It would be particularly important for future research also to connect changes in students' perfectionistic profiles to academic performance. It might also be informative to address gender differences in this context, as research has shown increased prevalence of burnout and other indicators of ill-being among female students (De Looze et al., 2020; Mojtabai et al., 2016).

In this study, we followed the theoretical approach to perfectionism that focuses on perfectionistic strivings and concerns. This, per se, is not a limitation, but as social context and the expectations of significant others seem to affect young people's self-perception (Molnar, Blackburn, et al., 2023a; Sironic & Reeve, 2015), it might be informative to consider these developmental dynamics from a broader perspective by also including measures that explicitly address the more social aspects of perfectionistic tendencies (e.g., socially prescribed or other-oriented perfectionism). Some researchers have also raised a question about the conceptual distinction between perfectionism and excellencism, and are concerned about the measure's (i.e., standards in SAPS-R; Rice et al., 2014) ability to differentiate between these two phenomena (see Gaudreau et al., 2022). We agree that it might be fruitful in future research to distinguish these more precisely. Also, in terms of outcomes, it would be interesting to see how different operationalizations of the dimensions of perfectionism relate to students' well-being (Hill et al., 2020). Instead of conceptualising well-being in terms of stable, trait-like characteristics, and assessing it using one-occasion dispositional self-report measures, future work could examine how perfectionistic tendencies relate to situational, daily assessments of well-being. It might be that individuals with high concerns are more vulnerable to daily fluctuations in well-being depending on whether or not their performance expectations are met (see Dunkley et al., 2012).

Although perfectionism is considered as a personality disposition, its development is not context-independent. Thus, it would be important to follow the development of students' perfectionistic profiles across educational transitions (e.g., from lower to upper secondary education) and in different educational contexts (e.g., general academic school or vocational school), as changes in school environments may imply changes in the role or importance of achievement.

Our findings show that not only are there significant individual differences in how students express perfectionistic tendencies, but the patterning of those tendencies is also quite stable, and systematically associated with well-being. In terms of practical implications, it would therefore appear important to identify and be aware of these differences and take them into account in the classroom. Although the considerable stability of perfectionistic profiles suggests that this may not be an easy task, practices from effective interventions could perhaps be translated into instruction (see Flett & Hewitt, 2014; Wade, 2018). As perfectionistic concerns are seen as particularly important for well-being, practices that focus on reducing social comparison and competition on the one hand and promoting self-acceptance and healthy goal setting on the other, may be most effective.

4.5. Conclusions

Recently observed increases in perfectionism (Curran & Hill, 2019), perceived demands (Curran & Hill, 2022), and pressure and burnout during young people's educational transitions (Pascoe et al., 2019; Widlund et al., 2021) are alarming. Although these developments reflect changes in the society and the lives of youth in general, we should seek to understand better their antecedents and consequences at the individual level. Our study contributes to this by showing how students' relative emphases on perfectionistic tendencies develop over time, and how these developments relate to well-being during a critical period in education. Given the dual nature of perfectionism, the balance between nurturing strivings and debilitating concerns, and the particular importance of the latter for well-being, we should pay more attention to how we might promote healthy strivings and reduce impending worries in the classroom. Decoupling experiences of self-worth from achievements, turning mistakes into learning opportunities, and focusing more on learning rather than performance would be a good place to start.

CRediT authorship contribution statement

Anna Kuusi: Conceptualization, Formal analysis, Investigation, Visualization, Writing – original draft. **Heta Tuominen:** Conceptualization, Formal analysis, Methodology, Supervision, Writing – review & editing. **Anna Widlund:** Formal analysis, Methodology, Project administration, Writing – review & editing. **Johan Korhonen:** Methodology, Project administration, Writing – review & editing. **Markku Niemivirta:** Conceptualization, Formal analysis, Methodology, Supervision, Writing – review & editing.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.lindif.2024.102419.

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