The Role of Teachers in Adolescents' Career-Specific Future Orientation

Esther Anwuzia and Ros McLellan

To cite this article:

Link to the article online: https://doi.org/10.17863/CAM.90565

Published online: 30 November 2022

CERJ 9 Cambridge Educational Research e-Journal

The Role of Teachers in Adolescents' Career-Specific Future Orientation

Esther Anwuzia and Ros McLellan

Faculty of Education, University of Cambridge

ABSTRACT

Despite the importance of teachers and the school context to adolescents' career development, teachers' influence on adolescents' career preparation has received little attention. This study examined the relationship between perceived support from teachers and adolescents' career motivation and exploration. The sample for this study ($N = 801$) comprised senior secondary school students in Nigeria (Mean = 15.23 years) and data was analysed using structural equation modelling. Perceived teacher invested support, teacher expectations, and teacher autonomy support were related to intrinsic motivation to choose a career and career exploration. This study is relevant to research and practice in its investigation of the neglected role of teachers in adolescents' career development and its inclusion of an understudied population in the discourse on adolescents' future orientation.

KEYWORDS

Adolescence, perceived teacher support, future orientation, intrinsic motivation, career exploration

Introduction

The claim that the school context is influential in preparing adolescents for their future careers (Negru-Subtirica & Pop, 2018) has limited empirical support (Crespo et al., 2013), specifically regarding the actual role of teachers in adolescents' career preparation (Noack et al., 2010; Zhang et al., 2018). In contrast, family variables such as parent-child relationships, parenting styles, and parental career support have been discussed extensively in the career literature (Cordeiro et al., 2018; Dietrich & Kracke, 2009; Hargrove et al., 2005; Sawitri et al., 2013). Since both the family and school are fundamental social environments that nurture adolescents' capacities and future potentials (Song et al., 2015), more empirical studies on teacher-student relationships in the career domain are relevant to understanding adolescents' career development.

The understudied role of teachers in the school-to-work transition of adolescents can be attributed to the academic-centric focus of schools and how this translates into students' academic performance (Zhang et al., 2018). A recurrent measure of quality teaching, therefore, is the extent to which it enables students to attain good grades in tests and examinations (Hill et al., 2018). This paper argues that this is a one-sided approach to teaching and learning which simply focuses on the short-term goals of adolescents. According to Reeve (2006, p.226), "classroom surroundings feature a host of influences that affect students' daily motivations and *longer-term* motivational development". This idea of the longer-term effects of teacher-student interactions can be encapsulated

in the concept of future orientation.

Future orientation is a crucial concept that refers to how adolescents perceive and plan for their future (Crespo et al., 2013; Seginer et al., 2004). Being future oriented is central during adolescence for the following reasons: Firstly, adolescence is a transitory phase between childhood and adulthood (Stoddard et al., 2011) during which, developmentally, identity construction or the question of a self-concept starts to manifest (Stringer et al., 2012). Secondly, many critical decisions, such as career choices made during adolescence, stem from this self-concept and influence life satisfaction as an adult (Nurmi, 1991; Stringer et al., 2012; Vondracek et al., 1995; Uthayakumar et al., 2010). Also, previous studies have shown that awareness of and preparation for the future during adolescence result in positive developmental outcomes like increased school interest, concentration, and reduced violent and risk-taking behaviours (Chen & Vazsonyi, 2013; Crespo et al., 2013; Johnson et al., 2014; Stoddard et al., 2011).

The question, 'What would you like to be when you grow up?', prompts children to think about their future and points to the interrelationship between future orientation and career preparation. However, the degree of intentionality is the difference between thinking about one's future as a child and later as an adolescent (Hirschi, 2012). During adolescence, a distinction is made between the *content* and *process* of career decision-making (Betz & Hackett, 1986). The *content* refers to the 'what' in terms of the exact career choice (subject/profession based). In contrast, *process*, which is more germane to adolescents' career domain, refers to 'how' this choice was made and the associated influences, motivation, strategies, and emotions experienced by adolescents (Cordeiro et al., 2015; Duffy & Sedlacek, 2007). Since the career domain provides a meaningful pathway through which adolescents can project into the future (Fusco et al., 2019), care should be taken to ensure that they receive the right kind of support to experience less career decision-making difficulties and greater career choice satisfaction (Dietrich et al., 2011; Pesch et al., 2016).

With this background, the present study raises the question: What attitudes and behaviours does teacher support elicit in the career decision-making process of adolescents?

While there are different theoretical constituents of adolescents' future orientation (Chen & Vazsonyi, 2013; Fusco et al., 2019; Nurmi, 1991; Seginer et al., 2004), the motivational and behavioural components are consistent with the application of future orientation to the career domain of adolescents (Seginer et al., 2004; Seginer & Noyman, 2005). Apart from the interest in how adolescents perceive and work towards their future in general (Adelabu, 2008; Aronowitz, 2005; Di Maggio et al., 2016; N. E. Hill et al., 2018), some other studies have embraced this domain-specific approach to adolescents' future orientation to spotlight educational and career-related goals as critical identity considerations during adolescence (Beal & Crockett, 2010; Dietrich & Kracke, 2009; Seginer et al., 2004; Wong et al., 2019). The current study will investigate teachers' influence on adolescents' intrinsic career motivation and career exploration behaviours on the strength of the motivational and behavioural aspects of future orientation. By examining the relationship between teachers' support and these two sub-components of future orientation, this study will be among the first to determine and predict teachers' roles in adolescents' positive career development (Lent et al., 2016).

Adolescents' Career-Specific Future Orientation – Intrinsic Motivation and Career Exploration
Motivation in the context of future career orientation concerns the nature of interests, values, and

motives that guide adolescents' future career decisions. In other words, the 'why' (Seginer & Noyman, 2005). Following the traditional understanding of motivation (Ryan & Deci, 2000), adolescents' motivation to choose a career is linked to either intrinsic or extrinsic reasons. Intrinsic motivation implies choosing a career that one finds inherently interesting and enjoyable and congruent with one's interests and talents (Guay, 2005; Deci & Ryan, 2012). Extrinsic motivation, on the other hand, implies being induced to choose a career by pressures like avoidance of the feeling of guilt, fulfilling an obligation, or the desire to attract rewards and avoid punishment (Guay, 2005; Katz et al., 2018). Although intrinsic and extrinsic motivation have been primarily studied in the context of adolescents' learning environments, academic performance, and wellbeing (Caleon et al., 2015; Cerasoli & Ford, 2014; Niemiec & Ryan, 2009; Williams et al., 2000), the few studies on career motivation report a positive relationship between intrinsic motivation and outcomes like: adolescents' satisfaction with career choice and perceived self-efficacy, thereby suggesting that intrinsic motivation is a more favourable antecedent of adolescents' career development compared to extrinsic motivation (Hirschi, 2010; Katz et al., 2018).

The behavioural aspect of future orientation suggests that, as adolescents form mental images of their futures, these images influence the kinds of *behaviours* they adopt in the present, such that adolescents with optimistic expectations of the future are more likely to exhibit productive behaviours like academic engagement and involvement in extra-curricular activities, and less likely to engage in counterproductive behaviours like alcohol or substance abuse (Beal & Crockett, 2010; Chen & Vazsonyi, 2013; Coatsworth et al., 2006; Hill et al., 2018; Johnson et al., 2014; Sharp & Coatsworth, 2012). Within the literature on adolescents' future career orientation, one such productive behaviour that signifies positive or hopeful career expectations is career exploration (Seginer et al., 2004; Seginer & Noyman, 2005). Career exploration concerns the strategies adolescents employ in preparing for their future careers, specifically introspecting to discover their strengths and interests and searching for information about jobs that are related to these interests (Noack et al., 2010). Engaging in career exploration is essential to the career decision-making process because it helps to ensure that adolescents' career decisions are based on insights about the self and the world of work, which will help to develop authentic and realisable career goals.

Since adolescents develop within a system of social interactions, for example, with teachers, positive motivational and behavioural career antecedents like intrinsic motivation and career exploration are influenced by these interactions (Hombrados-Mendieta et al., 2012; Soenens & Vansteenkiste, 2005). Therefore, teachers should demonstrate behaviours that encourage their cultivation in order to foster positive adolescents' career development.

Teachers' Support and Adolescents' Future Orientation
Compared to other developmental outcomes among adolescents, the influence of teacher social support on their career development has only been vaguely considered, both in theory (Noack et al., 2010) and in practice (Musset & Kurekova, 2018). The idea of career education and guidance in the school context has so far been reserved for in-school career counsellors, believed to be experts on career guidance (Musset & Kurekova, 2018). Although helpful, apart from career counsellors and since students spend more time with their teachers, they are likely to also benefit from the overt involvement of their teachers in their career preparation, as well as from the pedagogical methods implemented in the classroom (Hooley et al., 2015). It is, as such, vital for teachers to recognise their unique role in the lives of adolescents and to maximise the likelihood of students perceiving them as trusted advisers in their future orientation. However, according to the Organisation for Economic

Cooperation and Development's (OECD) PISA[1] data, the percentage of teachers with training on how to provide career education and guidance is generally low (Musset & Kurekova, 2018). The Teacher Support Scale developed by Metheny et al. (2008) is the most robust and tailored instrument for measuring teachers' roles in adolescents' career development (Zhang et al., 2018). The scale comprises four dimensions: Teacher invested effort, Teacher emotional support, Teacher expectations, and Teacher accessibility.

Teacher invested effort refers to a profound interest in the future orientation of adolescents - particularly those on the verge of the school-to-work transition. It involves teacher behaviours such as helping students with career-related dilemmas by providing them with information on their different interests, observing students closely to help them discover and harness their strengths and potentials, and engaging students in non-formal conversations about their career goals (Metheny et al., 2008). Zhang et al. (2018) found that teachers' invested effort in the future of adolescents positively influenced adolescents' degree of confidence in themselves to choose and pursue a career, otherwise known as their career self-efficacy (Betz, 2000). Also, teacher emotional support, which has to do with the expression of care and empathy for students (Malecki & Demary, 2002) is positively associated with students' academic competence, social skills, self-esteem, and career self-efficacy (Ikiz & Cakar, 2010; Malecki & Demary, 2002; Metheny et al., 2008). Teacher accessibility concerns students' perceptions of their teachers as approachable and willing to help. Lastly, teacher expectations convey whether students perceive that their teachers are positively disposed towards them and believe that they have high prospects.

Another relevant dimension of teacher support to adolescents' career development is teacher autonomy support, which has been influenced by the increasing popularity of self-determination theory in adolescents' developmental domains but is less frequently discussed in adolescents' career literature (Assor et al., 2002; Ljubin-Golub et al., 2020; Pesch et al., 2016). According to Reeve (2006), teacher autonomy support entails helping students to develop intrinsic motivation through communicating the value and relevance of classwork and allowing students to participate in the design of classroom activities by acknowledging their thoughts or perspectives. An autonomy-supportive teaching style also enables students to express their feelings (positive or negative) about school work, which provides feedback to the teacher on the impact of school activities (Assor et al., 2002). An example of teacher autonomy support regarding career development is when teachers attempt to relate academic content to occupational knowledge and skills (Musset & Kurekova, 2018) or assist students in understanding the practical relevance of the school curriculum to their prospects and society. Teacher autonomy support generally allows students to connect classroom activities with their interests and goals (Assor et al., 2002) and can positively influence adolescents' career preparation. The opposite of teacher autonomy support is a controlling teaching style, where the teacher relies on extrinsic sources of motivation like the promise of reward and threat of punishment and fails to consider students' thinking on classroom activities (Reeve, 2009). This controlling style is antithetical to self-regulation among students and obstructs the realisation of inherent potentials and competencies that facilitate their career development.

Methodology
Sample
The present study is part of the first author's doctoral study which was carried out among secondary school students in Nigeria (*N*= 801) across five schools. In Nigeria, secondary education is the

---

1 Programme for International Student Assessment

intermediate stage between primary and tertiary education and consists of six year groups. The first three years correspond to Years 6 – 9 and are regarded as junior secondary school, while the last three years correspond to Years 10 – 12 and are regarded as senior secondary school. This study involved only senior secondary school students because at the start of Year 10 in Nigeria, students are expected to select specific subjects that will determine their professional expertise for the next three years and which constitute the basis for their preferred careers. As they undertake their chosen speciality, this study aimed to understand if teacher-student interactions stimulate intrinsic career motivation and career exploration. All students in this study were indigenously Nigerians comprising 232 boys and 565 girls. Four students did not indicate their gender but were included in the total sample size. There were more girls in the sample because two of the five schools admit only girls. The age range of respondents was 13-20 years (Mean (M) = 15.23, Standard Deviation (SD) = 1.22).

Research Design
An initial exploratory pilot study, conducted among students in Years 10 – 12 in a school in Nigeria, influenced this study's quantitative research design. The first author conducted in-person semi-structured interviews with nine students to understand their career motivation, how they arrived at their career choice, and the influence of social agents like teachers. Based on the findings, a larger sample was recruited to test the validity of the predicted impact of perceived teachers' support on adolescents' career decision-making.

Procedures
The current study involved four public schools and one private school in Lagos, Nigeria. For the public schools, informed consent was sought from and granted by the Lagos State Ministry of Education. While for the private school, approval was given directly by the school's Principal. This study used a paper questionnaire containing all the measured variables, which are itemised and discussed below. Questionnaires were distributed by the first author in person to students in their classrooms during school hours. Apart from the school administrators, informed consent was also obtained from students.

Measures
To investigate the possible ways teachers can positively influence adolescents' career preparation, the current study hypothesised two broad classifications of teachers' support, namely: teacher social support and teacher autonomy support. Teacher social support was sub-divided into teacher invested support, teacher emotional support, teacher expectations, and teacher accessibility while teacher autonomy support was sub-divided into teacher perspective taking and teacher emphasis on subject relevance.

Teacher Social Support was measured using the Teacher Support Scale developed by Metheny et al. (2008). *Teacher invested support* comprised 8 items. A sample item was "Most teachers in my school are helpful when I have questions about career issues". *Teacher emotional support* comprised 5 items. A sample item was "Most teachers in my school care about what happens to me". *Teacher expectations* comprised 5 items. A sample item was "Most teachers in my school want me to do well in school". *Teacher accessibility* comprised 3 items. A sample item was "Most teachers in my school will listen if I want to talk about a problem". The internal consistency, otherwise known as Cronbach's alpha, for each subscale was: .83, .81, .71, and .74 respectively.

Teacher Autonomy Support was measured as a multidimensional variable, rather than the more

common unidimensional measurement of teacher autonomy support as just accommodating students' choices or perspectives (Ljubin-Golub et al., 2020). Similar to some previous studies (Assor et al., 2002; Schuitema et al., 2016), the current study recognises another fundamental but less examined aspect of teacher autonomy support, which is providing a *rationale* for school work (Reeve, 2006). Firstly, to measure the extent to which teachers in Nigeria consider students' choices and perspectives in the learning process – depicted in this study as *Teacher perspective taking*, the current study employed the short version of the Learning Climate Questionnaire (Yu et al., 2018) comprising 6 items. A sample item was "I feel understood by most of my teachers". Cronbach's alpha was .87.

Secondly, the subscale, *Relevance* from the Teacher as Social Context Questionnaire was used to measure how well teachers explain the usefulness of school work – depicted in this study as *Teacher emphasis on subject relevance*. It comprised 5 items. A sample item was "My teachers talk about how I can use the things we learn in school". After deleting two items with poor factor loadings from the confirmatory factor analysis, Cronbach's alpha was .73.

Intrinsic Motivation to choose a career was measured using a scale developed by Katz et al. (2018). It comprised 6 items. A sample item was "I chose this department because I understand it is important for my future". After deleting one item due to low factor loading, Cronbach's alpha was .72.

Career Exploration was measured using The Career Exploration Scale developed by Kracke (1997) and comprised 6 items. A sample item was "I try to find out which occupations best fit my strengths and weaknesses". Cronbach's alpha for this scale was relatively low at .57.

Analysis & Results

Using structural equation modelling in RStudio to test the causal relationships rather than just correlations between teacher support and adolescents' career motivation and career exploration, the analysed model comprising the latent and corresponding measured variables had good fit indices (Hu & Bentler, 1999). The fit indices determine if the predicted theoretical model is applicable to the sampled population (Kline, 2015). According to Schreiber et al., (2006), the most fundamental and acceptable fit indices to be reported are: the Comparative Fit Index (CFI), Tucker Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA) The fit indices for the current study was: $CFI = 1.000$, $TLI = 1.000$, $RMSEA = 0.000$.[2] Since the model fit well with the sample data, modifications to the initial theoretical model were not necessary (Lomax & Schumacker, 2004; Schreiber et al., 2006). However, not all predicted paths were significant. The significant paths were as follows: Teacher invested effort was positively related to intrinsic motivation ($\beta = 0.117$, $p = 0.04$) and career exploration ($\beta = 0.103$, $p = 0.03$); Teacher autonomy support as emphasising subject relevance predicted intrinsic motivation ($\beta = 0.147$, $p = 0.001$); and Teacher expectations predicted career exploration ($\beta = 0.093$, $p = 0.04$); Teacher emotional support, teacher perspective taking, and teacher accessibility were unrelated to intrinsic motivation and career exploration. The next section will explain these findings and their implications for teaching practices and adolescents' career decision-making.

---

2 There are standard cut-offs for each fit measures as follows: $CFI \geq 0.95$, $TLI \geq 0.95$ (can also be less than 0), and RMSEA $\leq 0.06 - 0.08$ (see Hu & Bentler, 1999; Schreiber et al., 2006).

Table 1

Descriptive statistics and correlations between measured variables3

		M	SD	1	2	3	4	5	6	7	8
1	Intrinsic motivation	4.69	.51		.21	.23	.18	.14	.17	.22	.23
2	Career exploration	3.12	.53	.21		.29	.25	.26	.21	.27	.21
3	Teacher invested effort	4.07	.61	.23	.29		.68	.64	.62	.74	.54
4	Teacher emotional support	3.94	.68	.18	.25	.68		.58	.53	.67	.43
5	Teacher expectations	4.41	.48	.14	.26	.64	.58		.49	.60	.38
6	Teacher accessibility	3.9	1.03	.17	.21	.62	.53	.49		.66	.49
7	Teacher perspective taking	5.32	1.03	.22	.27	.74	.67	.61	.66		.59
8	Teacher emphasis on subject relevance	3.62	.53	.23	.21	.54	.43	.38	.49	.59	

Discussion

As adolescents transition from childhood into adulthood, their behaviour becomes more influenced by self-evaluation (Seginer et al., 2004). However, since optimal self-definition during adolescence occurs within rather than independent of social interactions (Shahar et al., 2003), it is important to assess how contextual variables such as teacher support influence adolescents' subjective appraisal of their futures, otherwise known as their future orientation. The current study applied the domain-specific approach to future orientation (Seginer, 2008; Seginer & Noyman, 2005) by examining the content and quality of adolescents' career motivation and the extent of their career exploration behaviours. Findings from this study showed that, of the four dimensions of the teacher support scale (Metheny et al., 2008), only teacher invested effort and expectations were influential to career-related outcomes. When teachers express interest in adolescents' career preparation by initiating discussions about possible careers and encouraging students to think about their capabilities, students could be more inclined to pursue careers that amplify these capabilities and take active steps to make informed career decisions through career exploration. Teachers can, therefore, influence psychological (motivation) and behavioural (career exploration) aspects of adolescents' career decision-making.

This study also found that students' convictions that their teachers are optimistic about their futures facilitates their career exploration. This finding implies that adolescents may have high regard for their teachers' opinions concerning their post-secondary transitions. However, since previous studies have shown that teachers may inadvertently communicate low or negative expectations of their students which, when sensed by students, could result in negative self-appraisal (Verhoeven et al., 2019), the current study argues that for students to *trust* that their teachers do not perceive them as failures but as promising individuals, teachers will need to overtly communicate these positive expectations and beliefs either in actions or words through, for example, regular positive affirmation as opposed to criticisms. Since the current study measured students' perceptions of their teachers' expectations, it is essential for students to not only believe that their teachers have optimistic projections for them, but for teachers to actually communicate these expectations, to propel positive behaviours like career exploration.

Regarding teacher autonomy support and adolescents' career development, this study found a positive relationship between teachers' emphasis on subject relevance and adolescents' intrinsic motivation to

---

3 Numbers 1 – 8 in the horizontal column correspond to the measured variables.

choose a career. Helping students establish the value of academic content can therefore encourage conscious and self-driven career decision-making instead of choosing careers for less intrinsic reasons such as satisfying social expectations or avoiding self-guilt (Katz et al., 2018; Niemiec & Ryan, 2009). This finding is also meaningful because it responds to the puzzling question of how to elicit intrinsic motivation and cognitive engagement among students (Niemiec & Ryan, 2009; Pietarinen et al., 2014; Reeve, 2006; Skinner & Belmont, 1993), particularly among middle to late adolescents who are likely to lose interest in schooling and may drop out due to perceived poor association between school activities and personal identity domains like the career domain (Hill et al., 2018; Negru-Subtirica & Pop, 2018; Nada et al., 2020). The positive effect of teacher autonomy support on adolescents' intrinsic career motivation as found in the current study therefore suggests that, through teacher autonomy support, students may better situate schoolwork in the context of long-term goals like their future career aspirations, which could have a spillover effect on their motivation to learn and may minimise the intention to drop out (Haugan et al., 2019).

Following the conceptualisation of intrinsic motivation and career exploration as adaptive antecedents of positive identity construction in adolescence (Guardia, 2009; Luyckx et al., 2005), findings from the current study show that, aside from their academic roles, teachers can also create opportunities for healthy identity development through the extent of concern and kinds of expectations they have for students' futures, and their pedagogical approaches. However, teachers' cultivation of these helpful behaviours could be hindered by excessive workloads, high student-teacher ratios, or poor teacher professional development (Bubb & Earley, 2004; Quota & Bhatia, 2022), suggesting the importance of structural provisions for teachers to demonstrate these behaviours adequately.

Limitations and Future Directions

The cross-sectional nature of this study precludes any claims of causality (Khampirat, 2020). Also, the current study considers the limitation of measuring teacher support in collective terms since, in most instances, students respond to such instruments in reference to one or some teachers (Dietrich et al., 2015). Results may, therefore, not be representative of all teachers in the schools sampled. Future studies may want to examine the role of school contexts, for example, how teachers' opportunities for professional development influence teacher-student interactions in the career domain. Despite some limitations of this study, the findings indicate that teachers' support is relevant to adolescents' career-specific future orientation.

References

Adelabu, D. H. (2008). Future time perspective, hope, and ethnic identity among African American adolescents. *Urban Education*, *43*(3), 347–360.

Aronowitz, T. (2005). The role of "envisioning the future" in the development of resilience among at-risk youth. *Public Health Nursing*, *22*(3), 200–208.

Assor, A., Kaplan, H., & Roth, G. (2002). Choice is good, but relevance is excellent: Autonomy-enhancing and suppressing teacher behaviours predicting students' engagement in schoolwork. *British Journal of Educational Psychology*, *72*(2), 261–278.

Beal, S. J., & Crockett, L. J. (2010). Adolescents' occupational and educational aspirations and expectations: Links to high school activities and adult educational attainment. *Developmental Psychology*, *46*(1), 258.

Betz, N. E. (2000). Self-Efficacy Theory as a Basis for Career Assessment. *Journal of Career Assessment*, *8*(3), 205–222. https://doi.org/10.1177/106907270000800301

Betz, N. E., & Hackett, G. (1986). Applications of Self-Efficacy Theory to Understanding Career Choice Behavior. *Journal of Social and Clinical Psychology; New York*, *4*(3), 279–289.

Bubb, S., & Earley, P. (2004). *Managing teacher workload: Work-life balance and wellbeing*. Sage.

Caleon, I. S., Wui, M. G. L., Tan, J. P.-L., Chiam, C. L., Soon, T. C., & King, R. B. (2015). Cross-cultural validation of the Academic Motivation Scale: A Singapore investigation. *Child Indicators Research*, 8(4), 925–942.

Cerasoli, C. P., & Ford, M. T. (2014). Intrinsic motivation, performance, and the mediating role of mastery goal orientation: A test of self-determination theory. *The Journal of Psychology*, 148(3), 267–286.

Chen, P., & Vazsonyi, A. T. (2013). Future orientation, school contexts, and problem behaviors: A multilevel study. *Journal of Youth and Adolescence*, 42(1), 67–81.

Coatsworth, J. D., Palen, L.-A., Sharp, E. H., & Ferrer-Wreder, L. (2006). Self-defining activities, expressive identity, and adolescent wellness. *Applied Developmental Science*, 10(3), 157–170.

Cordeiro, Paixão, M. P., Lens, W., Lacante, M., & Luyckx, K. (2015). Cognitive–motivational antecedents of career decision-making processes in Portuguese high school students: A longitudinal study. *Journal of Vocational Behavior*, 90(Supplement C), 145–153. https://doi.org/10.1016/j.jvb.2015.08.005

Cordeiro, Paixão, M. P., Lens, W., Lacante, M., & Luyckx, K. (2018). Parenting Styles, Identity Development, and Adjustment in Career Transitions: The Mediating Role of Psychological Needs. *Journal of Career Development*, 45(1), 83–97. https://doi.org/10.1177/0894845316672742

Crespo, C., Jose, P. E., Kielpikowski, M., & Pryor, J. (2013). "On solid ground": Family and school connectedness promotes adolescents' future orientation. *Journal of Adolescence*, 36(5), 993–1002.

Deci, E. L., & Ryan, R. M. (2012). *Motivation, Personality, and Development Within Embedded Social Contexts: An Overview of Self-Determination Theory*. https://doi.org/10.1093/oxfordhb/9780195399820.013.0006

Di Maggio, I., Ginevra, M. C., Nota, L., & Soresi, S. (2016). Development and validation of an instrument to assess future orientation and resilience in adolescence. *Journal of Adolescence*, 51, 114–122. https://doi.org/10.1016/j.adolescence.2016.06.005

Dietrich, J., & Kracke, B. (2009). Career-specific parental behaviors in adolescents' development. *Journal of Vocational Behavior*, 75(2), 109–119. https://doi.org/10.1016/j.jvb.2009.03.005

Dietrich, J., Dicke, A.-L., Kracke, B., & Noack, P. (2015). Teacher support and its influence on students' intrinsic value and effort: Dimensional comparison effects across subjects. *Learning and Instruction*, 39, 45–54.

Dietrich, J., Kracke, B., & Nurmi, J.-E. (2011). Parents' role in adolescents' decision on a college major: A weekly diary study. *Journal of Vocational Behavior*, 79(1), 134–144. https://doi.org/10.1016/j.jvb.2010.12.003

Duffy, R. D., & Sedlacek, W. E. (2007). What is most important to students' long-term career choices: Analyzing 10-year trends and group differences. *Journal of Career Development*, 34(2), 149–163.

Fusco, L., Sica, L. S., Boiano, A., Esposito, S., & Sestito, L. A. (2019). Future orientation, resilience and vocational identity in southern Italian adolescents. *International Journal for Educational and Vocational Guidance*, 19(1), 63–83.

Guardia, J. (2009). Developing Who I Am: A Self-Determination Theory Approach to the Establishment of Healthy Identities. *Educational Psychologist*, 44(2), 90–104. https://doi.org/10.1080/00461520902832350

Guay, F. (2005). Motivations underlying career decision-making activities: The career decision-making autonomy scale (CDMAS). *Journal of Career Assessment*, 13(1), 77–97.

Hargrove, B. K., Inman, A. G., & Crane, R. L. (2005). Family interaction patterns, career planning attitudes, and vocational identity of high school adolescents. *Journal of Career Development*, 31(4), 263–278.

Haugan, J. A., Frostad, P., & Mjaavatn, P.-E. (2019). A longitudinal study of factors predicting students' intentions to leave upper secondary school in Norway. *Social Psychology of Education*, 22(5), 1259–1279.

Hill, N. E., Liang, B., Price, M., Polk, W., Perella, J., & Savitz-Romer, M. (2018). Envisioning a meaningful future and academic engagement: The role of parenting practices and school-based relationships. *Psychology in the Schools*, 55(6), 595–608.

Hirschi, A. (2010). Positive adolescent career development: The role of intrinsic and extrinsic work values. *The Career Development Quarterly*, 58(3), 276–287.

Hooley, T., Watts, A. G., & Andrews, D. (2015). *Teachers and careers: The role of school teachers in delivering career and employability learning*. International Centre for Guidance Studies, University of Derby.

Hombrados-Mendieta, M. I., Gomez-Jacinto, L., Dominguez-Fuentes, J. M., Garcia-Leiva, P., & Castro-Travé, M. (2012). Types of social support provided by parents, teachers, and classmates during adolescence. *Journal of Community Psychology*, *40*(6), 645–664.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55.

Ikiz, F. E., & Cakar, F. S. (2010). Perceived social support and self-esteem in adolescence. *Procedia-Social and Behavioral Sciences*, *5*, 2338–2342.

Johnson, S. R. L., Blum, R. W., & Cheng, T. L. (2014). Future orientation: A construct with implications for adolescent health and wellbeing. *International Journal of Adolescent Medicine and Health*, *26*(4), 459–468.

Katz, I., Cohen, R., Green-Cohen, M., & Morsiano-davidpur, S. (2018). Parental support for adolescents' autonomy while making a first career decision. *Learning and Individual Differences*, *65*, 12–19. https://doi.org/10.1016/j.lindif.2018.05.006

Khampirat, B. (2020). The relationship between paternal education, self-esteem, resilience, future orientation, and career aspirations. *Plos One*, *15*(12), e0243283.

Kline, R. B. (2015). *Principles and Practice of Structural Equation Modeling, Fourth Edition*. Guilford Publications. http://ebookcentral.proquest.com/lib/cam/detail.action?docID=4000663

Kracke, B. (1997). Parental behaviors and adolescents' career exploration. *The Career Development Quarterly*, *45*(4), 341–350.

Lent, R. W., Ezeofor, I., Morrison, M. A., Penn, L. T., & Ireland, G. W. (2016). Applying the social cognitive model of career self-management to career exploration and decision-making. *Journal of Vocational Behavior*, *93*, 47–57.

Lomax, R. G., & Schumacker, R. E. (2004). *A beginner's guide to structural equation modeling*. psychology press.

Ljubin-Golub, T., Rijavec, M., & Olčar, D. (2020). Student flow and burnout: The role of teacher autonomy support and student autonomous motivation. *Psychological Studies*, *65*(2), 145–156.

Luyckx, K., Goossens, L., Soenens, B., Beyers, W., & Vansteenkiste, M. (2005). Identity statuses based on 4 rather than 2 identity dimensions: Extending and refining Marcia's paradigm. *Journal of Youth and Adolescence*, *34*(6), 605–618.

Malecki, C. K., & Demary, M. K. (2002). Measuring perceived social support: Development of the child and adolescent social support scale (CASSS). *Psychology in the Schools*, *39*(1), 1–18. https://doi.org/10.1002/pits.10004

Metheny, J., McWhirter, E. H., & O'Neil, M. E. (2008). Measuring perceived teacher support and its influence on adolescent career development. *Journal of Career Assessment*, *16*(2), 218–237.

Musset, P., & Kurekova, L. M. (2018). Working it out: Career guidance and employer engagement. *OECD Education Working Papers*, *175*, 0_1-91.

Nada, C. I., Santos, S. A., Macedo, E., & Araújo, H. C. (2020). Can mainstream and alternative education learn from each other? An analysis of measures against school dropout and early school leaving in Portugal. *Educational Review*, *72*(3), 365–385.

Negru-Subtirica, O., & Pop, E. I. (2018). Reciprocal Associations between Educational Identity and Vocational Identity in Adolescence: A Three-wave Longitudinal Investigation. *Journal of Youth and Adolescence*, *47*(4), 703–716. https://doi.org/10.1007/s10964-017-0789-y

Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory and Research in Education*, *7*(2), 133–144.

Noack, P., Kracke, B., Gniewosz, B., & Dietrich, J. (2010). Parental and school effects on students' occupational exploration: A longitudinal and multilevel analysis. *Journal of Vocational Behavior*, *77*(1), 50–57. https://doi.org/10.1016/j.jvb.2010.02.006

Nurmi, J.-E. (1991). How do adolescents see their future? A review of the development of future orientation and planning. *Developmental Review*, *11*(1), 1–59. https://doi.org/10.1016/0273-2297(91)90002-6

Pesch, K. M., Larson, L. M., & Surapaneni, S. (2016). Parental Autonomy Support and Career Well-Being: Mediating Effects of Perceived Academic Competence and Volitional Autonomy. *Journal of Career Assessment*, *24*(3), 497–512.

Pietarinen, J., Soini, T., & Pyhältö, K. (2014). Students' emotional and cognitive engagement as the determinants of well-being and achievement in school. *International Journal of Educational Research*, *67*, 40–51. https://doi.org/10.1016/j.ijer.2014.05.001

Quota, M., & Bhatia, J. (2022). *Designing TPD programs to overcome motivational barriers: 10 strategies*. https://blogs.worldbank.org/education/designing-tpd-programs-overcome-motivational-barriers-10-strategies-0

Reeve, J. (2006). Teachers as facilitators: What autonomy-supportive teachers do and why their students benefit. *The Elementary School Journal*, *106*(3), 225–236.

Reeve, J. (2009). Why teachers adopt a controlling motivating style toward students and how they can become more autonomy supportive. *Educational Psychologist*, *44*(3), 159–175.

Sawitri, D. R., Creed, P. A., & Zimmer-Gembeck, M. J. (2013). The adolescent–parent career congruence scale: Development and initial validation. *Journal of Career Assessment*, *21*(2), 210–226.

Seginer, R. (2008). Future orientation in times of threat and challenge: How resilient adolescents construct their future. *International Journal of Behavioral Development*, *32*(4), 272–282.

Seginer, R., & Noyman, M. S. (2005). Future orientation, identity and intimacy: Their relations in emerging adulthood. *European Journal of Developmental Psychology*, *2*(1), 17–37. https://doi.org/10.1080/17405620444000201

Seginer, R., Vermulst, A., & Shoyer, S. (2004). The indirect link between perceived parenting and adolescent future orientation: A multiple-step model. *International Journal of Behavioral Development*, *28*(4), 365–378.

Shahar, G., Henrich, C. C., Blatt, S. J., Ryan, R., & Little, T. D. (2003). Interpersonal relatedness, self-definition, and their motivational orientation during adolescence: A theorical and empirical integration. *Developmental Psychology*, *39*(3), 470.

Song, J., Bong, M., Lee, K., & Kim, S. (2015). Longitudinal Investigation into the Role of Perceived Social Support in Adolescents' Academic Motivation and Achievement. *Journal of Educational Psychology*, *107*(3), 821–841.

Stringer, K., Kerpelman, J., & Skorikov, V. (2012). A longitudinal examination of career preparation and adjustment during the transition from high school. *Developmental Psychology*, *48*(5), 1343.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, *25*(1), 54–67.

Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research*, *99*(6), 323–338.

Schuitema, J., Peetsma, T., & van der Veen, I. (2016). Longitudinal relations between perceived autonomy and social support from teachers and students' self-regulated learning and achievement. *Learning and Individual Differences*, *49*, 32–45. https://doi.org/10.1016/j.lindif.2016.05.006

Seginer, R., & Noyman, M. S. (2005). Future orientation, identity and intimacy: Their relations in emerging adulthood. *European Journal of Developmental Psychology*, *2*(1), 17–37. https://doi.org/10.1080/17405620444000201

Seginer, R., Vermulst, A., & Shoyer, S. (2004). The indirect link between perceived parenting and adolescent future orientation: A multiple-step model. *International Journal of Behavioral Development*, *28*(4), 365–378.

Sharp, E. H., & Coatsworth, J. D. (2012). Adolescent Future Orientation: The Role of Identity Discovery in Self-Defining Activities and Context in Two Rural Samples. *Identity*, *12*(2), 129–156. https://doi.org/10.1080/15283488.2012.668731

Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology*, *85*(4), 571.

Soenens, B., & Vansteenkiste, M. (2005). Antecedents and outcomes of self-determination in 3 life domains: The role of parents' and teachers' autonomy support. *Journal of Youth and Adolescence*, *34*(6), 589–604.

Stoddard, S. A., Zimmerman, M. A., & Bauermeister, J. A. (2011). Thinking about the future as a way to succeed in the present: A longitudinal study of future orientation and violent behaviors among African American youth. *American Journal of Community Psychology*, *48*(3–4), 238–246.

Uthayakumar, R., Schimmack, U., Hartung, P. J., & Rogers, J. R. (2010). Career decidedness as a predictor of subjective well-being. *Journal of Vocational Behavior*, *77*(2), 196–204. https://doi.org/10.1016/j.jvb.2010.07.002

Verhoeven, M., Poorthuis, A. M. G., & Volman, M. (2019). The Role of School in Adolescents' Identity Development. A Literature Review. *Educational Psychology Review*, *31*(1), 35–63. https://doi.org/10.1007/s10648-018-9457-3

Vondracek, F. W., Schulenberg, J., Skorikov, V., Gillespie, L. K., & Wahlheim, C. (1995). The relationship of identity status to career indecision during adolescence. *Journal of Adolescence*, *18*(1), 17–29. https://doi.org/10.1006/jado.1995.1003

Williams, G. C., Hedberg, V. A., Cox, E. M., & Deci, E. L. (2000). Extrinsic Life Goals and Health-Risk Behaviors in Adolescents1. *Journal of Applied Social Psychology*, *30*(8), 1756–1771. https://doi.org/10.1111/j.1559-1816.2000.tb02466.x

Wong, T. K. Y., Parent, A.-M., & Konishi, C. (2019). Feeling connected: The roles of student-teacher relationships and sense of school belonging on future orientation. *International Journal of Educational Research*, *94*, 150–157. https://doi.org/10.1016/j.ijer.2019.01.008

Yu, S., Traynor, A., & Levesque-Bristol, C. (2018). Psychometric examination of the short version of the learning climate questionnaire using item response theory. *Motivation and Emotion*, *42*(6), 795–803. https://doi.org/10.1007/s11031-018-9704-4

Zhang, J., Yuen, M., & Chen, G. (2018). Teacher support for career development: An integrative review and research agenda. *Career Development International*.