Career Goals in Young Adults: Personal Resources, Goal Appraisals, Attitudes, and Goal

Management Strategies

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Abstract

We tested a model based on the dual-process framework that assessed the relationships among personal resources, career goal appraisals, career attitudes, and career goal management, which have not been previously assessed together. The model (tested on a sample of 486 young adults: 74% female, M_{age} 22 years) proposed that personal resources (assimilation and accommodation) were associated with career goal management strategies (goal engagement and disengagement), and that these relationships were mediated by career goal appraisals (perceived attainability, importance, and substitutability) and career attitudes (career optimism and locus of control). Career optimism mediated between assimilation and goal engagement, and importance mediated between accommodation and goal disengagement. The results contribute to a better understanding of goal management processes in the career domain and have implications for the application of the dual-process framework to career development in young adulthood.

Keywords: dual process framework; career goal management; career goal appraisal; career attitudes

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Human behaviour is driven by goals and goal management strategies (Dijksterhuis & Aarts, 2010). Goals, which are "internal representations of desired outcomes", play a crucial role in adaptive self-regulation and individual development throughout the lifespan (Austin & Vancouver, 1996, p. 338). They can be short-term, such as completing daily tasks, or long-term, such as career plans, and are organised hierarchically, with lower-order goals (e.g., completing a training course) acting as prerequisites for higher-order goals (e.g., leading a productive, fulfilling life; Baumgardner & Crothers, 2009). An important aspect of goal management includes the capacity to determine if, and when, goals need to be adjusted or abandoned and new goals need to be pursued (Wrosch, Scheier, Carver, & Schulz, 2003). Individuals who can utilise resources available to them and then apply goal engagement and disengagement strategies in accordance with their needs and environmental constraints show the most adaptive goal management style (Wrosch, Scheier, Miller, Schulz, & Carver, 2003).

Management of career goals in young adulthood is particularly important as this is when individuals are deciding on a career path, undertaking the necessary training and education related to that direction, and seeking employment in their chosen career (Shulman & Nurmi, 2010). While studies have examined career goal management in young adults in relation to outcomes such as career satisfaction, work engagement, burnout, and distress (e.g., Haase, Heckhausen, & Silbereisen, 2012; Hyvönen, Feldt, Salmela-Aro, Kinnunen, & Mäkikangas, 2009; Wiese & Freund, 2005), few have assessed how the personal resources of the individual relate to career goal management strategies. Given the limited work in this area, we investigated how personal resources (operationalised as assimilation and accommodation) were related to career goal appraisals (regarding the attainability, importance, and substitutability of career goals) and career attitudes (optimism and locus of control), and how

these appraisals and attitudes were related to goal management strategies (career goal engagement and disengagement). Having a better understanding of the personal resources, appraisals, and attitudes that are related to goal management strategies will contribute to the limited literature in this area. To that end, we assessed a model of career goal management in young adults, based on the dual-process framework of goal management proposed by Brandtstädter and Renner (1990). See Figure 1.

The Dual-Process Framework of Goal Pursuit and Goal Adjustment

The dual-process framework (Brandtstädter & Rothermund, 2002) asserts that people manage goal-performance discrepancies by using either assimilative or accommodative resources. When using assimilative resources, individuals focus on modifying their environment to reduce any discrepancies between their actual and desired states. When using accommodative resources, individuals focus on modifying their desired goal for discrepancy reduction (Brandtstädter & Rothermund, 2002). This model shares similarities with other theories of goal management, such as control theory (Carver & Scheier, 1998), social cognitive theory (Bandura, 1986), and the lifespan theory of control (Heckhausen & Schulz, 1995). All of these approaches view humans as agentic, self-regulating organisms, who set goals, appraise them against internal standards, monitor discrepancies between them and their current situation, and implement strategies to manage these discrepancies (e.g., increase effort or lower the goal). However, they differ in relation to the emphases placed on either the psychological or cognitive processes involved in self-regulation or on the behavioural or psychological outcomes of goal management (Skinner, Edge, Altman, & Sherwood, 2003).

Skinner et al. (2003) proposed that higher-order, action typologies, which involve behaviours, emotions, attention, and goals, are the appropriate level at which to understand how individuals respond to goal-behaviour discrepancies (i.e., respond to environmental demands). Both the primary and secondary control distinction, favoured in the lifespan theory

of control (Heckhausen & Schulz, 1995), and the accommodation and assimilation distinction used in the dual-process framework fall into this category. However, Skinner et al. argued that the Brandtstädter and Renner's (1990) accommodation-assimilation distinction is preferable because it includes action typologies that describe both active pursuit of goals (i.e., assimilation) and unconscious adaptation to, or acceptance of, situational constraints (i.e., accommodation). Given its advantages, the current study was informed by the dual-process framework.

Previous studies have examined assimilative and accommodative resources in relation to a variety of goal management outcomes, notably well-being outcomes; however, most of these studies either focused on older adults (e.g., Bailly, Joulain, Hervé, & Alaphilippe, 2011; Brandtstädter, Wentura, & Greve, 1993; Heyl, Wahl, & Mollenkopf, 2007), disabled adults (e.g., Boerner, 2004; Garnefski, Kraaij, de Graaf, & Karels, 2010), or adults with chronic health problems (e.g., Darlington at al., 2007; Mackay, Charles, Kemp, & Heckhausen, 2011). The current study extends the application of the dual-process framework to challenges associated with career goal management in young adults.

A Dual-Process Approach to Career Goal Management

Career goal management can be understood from the perspective of the dual-process framework. Assimilation and accommodation are personal resources that influence individuals' appraisals of, and attitudes towards, their career goals, which, in turn, influence goal management strategies. When assimilating, people experience optimistic thoughts about achieving their career goal and maintain positive attitudes regarding the outcomes and sense of meaning that will result. Consequently, they increase their motivation to pursue their career goal, which can be done by being proactive and drawing on other self-regulatory resources, such as their self-efficacy or their capacity to elicit support from others, in order to modify their environment to facilitate career goal attainment (Leipold & Greve, 2009). When assimilating,

career goals are perceived as attainable and the focus is on active engagement with that goal (Brandtstädter & Rothermund, 2002; Frazier, Newman, & Jaccard, 2007). Goal engagement, or active goal pursuit, is articulated as the main outcome of assimilation.

Accommodative resources are most adaptive when career goals are perceived as too difficult or unattainable (i.e., when the individual believes they are too costly in terms of the time, energy, or resources required). Accommodation helps individuals accept that they might not reach their goal and facilitates redefining their desired state. When accommodating, career goals that are viewed as unattainable are adjusted or given up. The person's scope of awareness widens so that attention is redirected towards re-engaging with more achievable, substitute career goals, and information that supports the decision to give up or revise a career goal is made more salient. In addition, thoughts that link the person's current state with positive outcomes and meaning are generated, and alternative career goals become more appealing (Brandtstädter & Rothermund, 2002). Goal disengagement, which involves reducing effort and commitment to the goal (Wrosch, Scheier, Carver et al., 2003), is the main outcome of accommodation. When accommodating, individuals reduce their goal-behaviour discrepancy by achieving a more positive attitude toward the actual state, a more negative attitude toward their desired goal, or both (Brandtstädter & Rothermund, 2002). Accommodation is adaptive as it helps people to cope with the negative emotions caused by an inability to control their environment, and protects them from developing a self-concept based on multiple, failed goal attempts (Brandtstädter & Rothermund, 2002).

Optimal adaptive goal management results when a person is able to switch resources in accordance with their needs and situational constraints (Brandtstädter & Rothermund, 2002; Kelly, Wood, & Mansell, 2013). While the description of assimilation and accommodation implies flexibility in their use, Brandtstädter and Rothermund (2002) proposed that the constructs are somewhat trait-like, and that most individuals have a preference for one or the

other, even though they will use a combination of both. Consistent with the dual-process framework, we expected that a stronger orientation toward assimilation would be associated positively with goal engagement and negatively with goal disengagement, whilst a stronger orientation toward accommodation would be associated negatively with goal engagement and positively with goal disengagement. See Figure 1.

Mediating Variables: Career Goal Appraisals and Career Attitudes

According to the dual-process framework, three key goal appraisals and two attitudes are associated with assimilation and accommodation. These are appraisals of the goal's importance, substitutability, and attainability (Dietrich, Joisaari, & Nurmi, 2012), and attitudes of optimism and control (Brandtstädter & Rothermund, 2002). In the career domain, individuals who are assimilating are more likely to appraise their career goals as important, difficult to substitute, and to be attainable. They are also more likely to believe they are in control of their career direction and to hold positive attitudes about achieving their goal. These appraisals and attitudes are likely, in turn, to foster goal engagement strategies. For example, goal striving is more likely to occur when the individual perceives their goal to be important and attainable. On the other hand, accommodators will appraise their goal as less important, more readily substituted, and less attainable. In addition, they are likely to have a pessimistic attitude towards their career and to not feel in control. These appraisals and attitudes stimulate goal disengagement. As assimilation and accommodation are expected to be related to goal appraisals and attitudes and goal management strategies, and goal appraisals and attitudes are expected to be related to goal management strategies, we treat and assess these appraisals and attitudes as mediators between assimilation and accommodation and goal management strategies.

The Current Study

We tested a cross-sectional model of career goal management in young adults based on the dual-process framework. Consistent with this framework, assimilative and accommodative resources were expected to be related differentially to career goal engagement and disengagement, and career goal appraisals (goal importance, attainability, and substitutability) and career attitudes (optimism and locus of control) were expected to mediate between these resources and career goal management. Specifically, we hypothesised that assimilation would be associated positively with attainability, importance, control (internal), and optimism, and associated negatively with substitutability. We hypothesised that accommodation would be associated positively with substitutability, and associated negatively with attainability, importance, control, and optimism. Next, we hypothesised that attainability, importance, control, and optimism would be associated positively with goal engagement, and associated negatively with goal disengagement, and that substitutability would be associated negatively with engagement and positively with disengagement. Finally, we hypothesised that attainability, importance, control, optimism, and substitutability would mediate between assimilation and accommodation and engagement and disengagement. See Figure 1.

These relationships have not been assessed previously in one comprehensive model in any population, and, specific to the current study, have not been assessed in a young adult population or in the career domain. Understanding these relationships will contribute to a better understanding of how young adults manage and adjust their career goals.

Method

Participants

These were 486 young adults (74% female; mean age 21.72 years, *SD* 3.33, range 18-29 years) recruited via the social networking website Facebook (36%) and from the authors' university. Most participants (77%) had tertiary education, while 22% had completed high

school, and 2% had not. Almost half (46%) was employed in casual or part-time work, 28% were full-time students who were not working, 19% were working full-time, 6% were unemployed, and 2% were homemakers. This was a convenience sample, which was better educated and of higher SES than the general young adult population, and was comprised mainly of university students. While not representative of young Australians, the sample was, nonetheless, typical of this population, which is Westernised and relatively homogenous for cultural/racial background.

Materials

Unless otherwise indicated, participants responded using a 6-point, Likert-type format with endpoints of *Strongly disagree* and *Strongly agree*. Higher scores indicated stronger endorsement of the construct. Participants were directed to respond to the items in the context of the career they had in mind for themselves. All items were evaluated before use, and where appropriate were modified for use with a young adult population (e.g., the question "Getting the job I want is mostly a matter of luck" was amended to "Getting the career I want is mostly a matter of luck"). The amended scales can be obtained from the second author.

Assimilation and accommodation. Existing scales designed to measure these constructs, Tenacious Goal Pursuit Scale and Flexible Goal Adjustment Scale (Brandtstädter & Renner, 1990), show poor psychometric properties. Therefore, based on the recommendations by Henselmans et al. (2011) and Mueller and Kim (2004), we developed 10-item assimilation and 10-item accommodation scales for use with young adults (AUTHORS, 2013). Sample items were "In general, when I have to do something that's really important to me, and it's really difficult, I usually... feel positive that I can persist" (assimilation), and "In general, when it turns out that I can't do something that's really important to me, I usually... work on something else instead" (accommodation). Confirmatory factor analysis supported two separate assimilation and accommodation factors and evidence for convergent and discriminant validity

was provided by correlations with goal engagement and disengagement in the expected directions (AUTHORS, 2013). Kjoelaas (2013) reported good internal reliability for both scales (Cronbach's alphas of .93 and .90, respectively) with a sample of young adults. Our sample yielded alphas of .90 (assimilation) and .93 (accommodation).

Attainability. We used the 5-item Goal Achievement Subscale of the Work-Related Goal Appraisal Scale (Nurmi, Salmela-Aro, & Koivisto, 2002), which taps beliefs about the likelihood of attaining one's occupational goals (e.g., "I am likely to achieve my current career goals"). The scale developers reported an alpha of .74, and demonstrated construct validity by showing moderate correlations with ratings of goal importance and positive emotions. Our alpha was .83.

Importance. We used the 7-item Career Commitment Scale (Blau, 1985). A sample item is: "If I had all the money I needed without working, I would probably still want to work in my career". This scale has demonstrated good construct validity, with positive correlations with job involvement and negative correlations with perceived control and role ambiguity, as well as good reliability (alpha of .87, Blau, 1985). Our alpha was .86.

Substitutability. As we were unable to find a measure of career goal substitutability, we used an adapted 9-item version of the Quality of Alternatives Subscale of the Investment Model Scale (Rusbult, Martz, & Agnew, 1998). The original scale measured romantic relationships. We modified items to assess individuals' perceptions about whether their career needs could be met by an alternative career. For example, "My needs for intimacy, companionship, etc., could easily be fulfilled in an alternative relationship" was changed to "My personal growth and development needs could be fulfilled in an alternative career". The original scale showed good internal reliability (alpha range .82 to .88) and construct validity was supported by negative correlations with commitment and degree of investment. A confirmatory factor analysis indicated a single career substitutability factor, and the scale was associated in the

expected direction with other scales in the study (see Table 1). Alpha was .82 for our adapted scale.

Optimism. We used the 5-item Career Optimism Scale (Hennessey, Rumrill, Fitzgerald, & Roessler, 2008), which assesses optimistic cognitions about career goal outcomes (e.g., "I will be able to maintain employment in my chosen career field"). Hennessey et al. (2008) reported good internal reliability (alpha of .89), and support for construct validity by negative associations with items asking about the effect of having a disability. Our alpha was .86.

Career locus of control. We used the 8-item Short Form of the Work Locus of Control Scale (Spector, 1988). An example item is: "In most careers, people can pretty much accomplish whatever they set out to accomplish". The variable was recoded so that high scores represented high perceived control over one's goals. Spector (1988) reported an alpha of .81 and supported construct validity by testing associations with general locus of control and job satisfaction. The alpha in our study was .76.

Goal engagement. We used the 8-item Selective Primary Control Subscale of the Optimization in Primary and Secondary Control Scale (Haase, Heckhausen, & Köller, 2008), which we also adapted to refer to career goals. An example item is: "I am ready to do everything necessary in order to achieve my career goals". Prior research has shown the scale to have high internal reliability (alpha .83 to .85) and construct validity to be supported by positive association with apprenticeship seeking, discussions with parents about life after graduation, willingness to relocate for an apprenticeship, and the number of apprenticeship applications made (Haase et al., 2008). Our alpha was .90.

Goal disengagement. We adapted the four disengagement items from the Goal Adjustment Scale (Wrosch, Scheier, Miller, et al., 2003) to assess career disengagement. A sample item is: "If I have to stop pursuing an important career goal in my life, it's easy for me to reduce my effort toward the career goal". The scale authors reported an alpha of .84 and

supported construct validity by finding a positive correlation with the ability to easily abandon specific goals. Our alpha was .76.

Procedure

The study draws on data from an ongoing research project examining assimilation and accommodation in young adults (AUTHORS, 2014). Approval to conduct the research was obtained from the authors' university ethics committee. University students were recruited by advertising the study on university web pages, and additional participants were recruited by posting the survey on Facebook. All respondents were provided with access to an online questionnaire (SurveyMonkey), which took approximately 15 minutes to complete. Participants were eligible to enter a prize draw to win a $100 voucher.

<div align="center">Results</div>

Data Management for Model Testing

All analyses were conducted using maximum likelihood (ML) estimation in AMOS 21. To meet the recommended ratio of participants to parameters of 10:1 (Bentler & Chou, 1987), we followed the recommendations of Landis, Beal, and Tesluck (2000) and created multi-item parcels to represent the nine latent variables. To do this, each scale was individually subjected to an exploratory factor analysis where a single-factor solution was specified. We then rank-ordered the items based on factor loadings, and allocated a mixture of high and low loading items to each parcel (cf. Little, Cunningham, Shahar, & Widaman, 2002). Parcels were formed by summing the items allocated to them. The longer scales were represented by three parcels and the shorter scales by two.

First, we assessed a measurement model to ensure that all latent variables were independent and could be represented by their multi-item parcels. Next, we assessed the hypothesized structural model and tested if the appraisal and attitude variables mediated between assimilation and accommodation and goal engagement and disengagement. Model fit was

assessed using the chi-square statistic (χ^2) statistic, the normed chi-square (χ^2/df), which is less sensitive to sample size than χ^2, Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA). For a sample >250 with up to 30 observed variables, significant *p*-values for χ^2 are expected even with good fit, and a χ^2/df < 3.0, a CFI value ≥ .90, and an RMSEA value < .07 reflect a good model fit (Hair, Black, Babin, & Anderson, 2010).

Measurement Model

The measurement model consisted of nine latent variables representing the personal resources (assimilation and accommodation), career goal appraisals (attainability, importance, and substitutability), attitudes (locus of control and optimism), and goal management strategies (career goal engagement and disengagement), each with multi-item parcel indicators. All latent variables were allowed to covary freely and no residual terms were correlated. The fit statistics for this model, $\chi^2(287) = 574.17$, *p*< .001, $\chi^2/df = 2.66$, CFI = .95, RMSEA = .06, were good. All standardized regression weights were significant ($p < .001$), and ranged from .66 to .95. See Table 1 for descriptive statistics.

Predicting Career Goal Management Outcomes

The fit statistics for the hypothesized mediation model (i.e., assimilation and accommodation resources → career goal appraisals and career attitudes → career goal engagement and disengagement) were also good, $\chi^2(224) = 665.37$, $p < .001$, $\chi^2/df = 2.97$, CFI = .94, RMSEA = .06. In this model: (a) assimilation was associated with all five mediators, and accommodation was associated with substitutability and importance; (b) attainability, importance, and optimistic cognitions were associated with both engagement and disengagement; and (c) substitutability and control were associated with engagement. See Figure 2 for individual standardised regression weights. Accommodation was not related to attainability, control, or optimistic cognitions, and substitutability and control were not related to disengagement. Fifty-seven percent of the variance in goal engagement was accounted for,

56% in disengagement, 44% in attainability, 27% in optimistic cognitions, 14% in control, 13% in importance, and 7% in substitutability. We also tested a plausible, alternative model (assimilation and accommodation resources → goal engagement and disengagement → career goal appraisals and attitudes), but this model had a significantly poorer fit than the hypothesised model, $\chi^2_D(7) = 37.64$, $p < .001$.

Several potential mediation pathways can be identified from the structural analysis: importance mediating between accommodation and disengagement and engagement, all five mediators intervening between assimilation and engagement, and attainability, optimism, and importance mediating between assimilation and disengagement. For mediation, the predictor should be related to the mediator and the outcome, the mediator should be related to the outcome, and the association between the predictor and the outcome should be reduced (for partial mediation) or become zero (for full mediation) when the mediator is included (Baron & Kenny, 1986). The structural analysis showed (a) that assimilation was related to five mediators and accommodation was related to two (importance and substitutability), and (b) that the five mediators were related to engagement and three (attainability, optimism, and importance) were related to disengagement.

To test for mediation, we followed the procedure outlined by Shrout and Bolger (2002). First, we tested a model that included the direct effects, but not the indirect effects, of assimilation and accommodation on engagement and disengagement. This showed that assimilation was associated positively with engagement ($\beta = .62$, $p < .001$) and negatively with disengagement ($\beta = -.49$, $p < .001$), and that accommodation was associated positively with disengagement ($\beta = .22$, $p < .001$), but not with engagement ($\beta = .02$, $p = .63$). These results indicated that there can be no mediated paths from accommodation to engagement, and, as a result, these paths were not tested.

Second, we assessed the indirect effects in a model that included both the direct and indirect paths. To do this, we used the AMOS bootstrapping procedure (1000 samples) to generate 95% bias-corrected confidence intervals (CIs; Shrout & Bolger, 2002). Mediation can be inferred when the 95% CIs of the indirect effects do not include zero. These analyses showed that there were significant mediation paths between assimilation and engagement (CIs = .08 to .23) and accommodation and disengagement (CIs = .01 to .12), but not between assimilation and disengagement (CIs = -.19 to .01). As the direct paths between assimilation and engagement (β = .46, $p < .001$) and between accommodation and disengagement (β = .17, $p < .001$) remained significant, both mediated relationships were partial. These direct paths were added to Figure 2. The total effect of assimilation on engagement was 61.4%, with 15.5% being mediated via the appraisal and attitude variables; the corresponding percentages were 23.2% and 6.6% for accommodation on disengagement.

Finally, we used RMediation (Tofighi & MacKinnon, 2011), which generates CIs for each mediated effect, to assess which specific mediators intervened between assimilation and engagement and between accommodation and disengagement. While all five mediators potentially explained the relationship between assimilation and engagement, the only significant indirect effect was via optimism (CIs = .13 to .24). Additionally, the only significant indirect effect from accommodation to disengagement was via importance (CIs .01 to .08).

Discussion

We assessed a model of career goal management in young adults based on the dual-process framework (Brandtstädter & Renner, 1990). Determining how young adults employ their personal resources, how they appraise their career goals, and how they engage in goal management strategies contributes to our understanding of career development in this population. No previous studies have tested the relationships among personal resources, career goal appraisals, career attitudes, and goal management strategies in one comprehensive, theory-

driven, model. The model proposed that personal resources (assimilation and accommodation) were related to career goal management strategies (goal engagement and disengagement), and that career goal appraisals (attainability, importance, and substitutability) and career attitudes (optimism and locus of control) mediated these relationships. We found partial support for the hypothesised model. Assimilation was associated positively with career goal engagement (and negatively with disengagement), and the assimilation/engagement relationship was mediated by career optimism. Accommodation was associated with career goal disengagement, and this relationship was mediated by goal importance. These results suggest that the dual-process framework has application in the career domain and could help extend our knowledge about career goal management in young adulthood.

As expected, the personal resource of assimilation was associated with all three career appraisals (attainability, importance, and substitutability) and both career attitudes (optimism and control), in the expected directions. In contrast, accommodation was associated with substitutability and importance only, providing partial support for the hypotheses here. These results suggest that young adults who have a stronger assimilative orientation have a more positive and proactive attitude towards their career: they are more likely to be optimistic about their career, to perceive it as important, manageable, and attainable, and less likely to see it as easily replaced with another goal. On the other hand, those who have a stronger accommodative orientation appraise their career goals less positively: they are less likely to appraise their career goal as important and more likely to see it as easily replaced. Accommodation also had negative, bivariate associations with attainability, optimism, and control, as expected, but these correlations became non-significant when considered in the context of the full model. Overall, these results highlight important differences in correlates depending on whether young adults are relying on assimilative or accommodative resources, with assimilation being associated

with positive appraisals and attitudes and accommodation being associated with more negative ones.

Second, and as expected, we found that two of the career goal appraisals (importance and substitutability) and one of the career attitudes (optimism) were associated with the career goal management strategies: importance and optimism were related positively to engagement; whereas, importance was related negatively, and substitutability was related positively, to disengagement. These results are consistent with the dual-process framework, which proposes that goals are more likely to be pursued when they are important to the individual and there are optimistic expectations for success, and goals are more likely to be discarded when they are low in importance and perceived to be readily substitutable (Brandtstädter & Rothermund, 2002; Carver, Scheier, & Segerstrom, 2010). When considered with the other variables in the model, attainability and control were unrelated to both goal management strategies (although attainability and control were associated bivariately with both strategies in the expected directions). Attainability (Hull-Blanks et al., 2005) and control (Abele & Spurk, 2009) have been implicated in goal progress and achievement, but have not been assessed in models incorporating such a range of appraisals. Our results suggest that goal importance, optimism, and substitutability are the more important variables in goal management, and reinforce the value of assessing multiple correlates in comprehensive models.

Third, the relationship between assimilation and goal engagement was mediated by optimism, and the relationship between accommodation and goal disengagement was mediated by importance. These results suggest that utilising assimilative resources fosters optimism regarding one's career, which, in turn, contributes to career goal engagement. In contrast, when individuals are utilising accommodative resources, goal importance is downplayed, and this, in turn, fosters career goal disengagement. Our results demonstrate that young adults utilise both assimilative and accommodative resources, but that assimilation is more strongly

associated with goal-related strategies, which is predicted by the dual-process model (Brandtstädter & Rothermund, 2002). Additionally, the results suggest both of these personal resources are associated differentially with career goal appraisals and career attitudes, and, in turn, different goal management behaviours.

Limitations and Future Directions

The current findings should be interpreted in light of some limitations. First, our sample was over-represented with young women (74%) and was better educated (77% had at least some tertiary education) than the general, young adult population, indicating that generalising the results to other populations needs to be done cautiously. Future studies need to assess the model on other groups of young adults to allow for a wider application. Additionally, our sample was Westernised, and these relationships might not hold up in non-Western cultures, where, for example, accommodation might be more esteemed, as this approach would be more consistent with fitting-in with the goals and needs of important others (e.g., parents; Sawitri, Creed, & Zimmer-Gembeck, 2014).

Second, as there were no existing scales that specifically assessed the importance or substitutability of career goals, we modified scales from the general literature that measured related constructs. Specifically, we used a career commitment scale (Blau, 1985) to reflect career goal importance and modified a measure relating to substitutability of romantic relationships (Rusbult, Martz, & Agnew, 1998) to assess career goal substitutability. To more fully advance research related to career goal management, specific scales to assess these constructs need to be devised, and future studies should use these to more precisely measure these career goal appraisals.

Third, we know little about the conditions that might further enhance the relationship between assimilation and positive career goal appraisals, or the conditions that might buffer the relationship between accommodation and more negative appraisals. Future studies can test

for potential moderators in these relationships, as these might lead to more specific recommendations for career-related interventions that can help foster an assimilation orientation and help individuals better manage accommodative resources. For example, providing young adults with insight and a fuller array of strategies to manage career-related discrepancies might mean that they do not rely overly on the goal reduction option.

Fourth, we only assessed cognitive constructs, and it is likely that contextual variables are implicated in how the different orientations relate to different appraisals and attitudes, and even how the orientations themselves are developed and maintained. Social support, for example, has been shown to be associated with goal pursuit (Shulman, Kalnitzki, & Shahar, 2009), suggesting that assimilation might be associated with perceived and actual support from others. Therefore, these and other contextual variables should be assessed in combination with these cognitive attitudes. Additionally, appraisals and attitudes are many and varied and serve multiple functions (e.g., motivational, ego-defence, self-expression, self-consistency; Greenwald, 2014), and we might not have assessed all those relevant to goal management. Potentially important variables related to assimilation and accommodation include cognitions regarding effort and time expenditure, when to "give-up", procrastination, time focus, and progress compensation (Rhodewalt, 2008). Future research should assess other attitudes, especially in relation to accommodation, and test their importance for facilitating career goal management.

Finally, we tested a plausible causal model that was based on a theoretical framework that has been widely applied in other settings, and tested a reverse causality model as a validation. However, only longitudinal data can confirm the proposed causal directions, and, as mediational relationships can differ when cross-sectional and longitudinal data are compared (Maxwell & Cole, 2007), longitudinal data also more rigorously assess these effects. Therefore,

longitudinal data, which are important to inform career interventions and counselling, are needed to confirm the causal direction of these relationships.

Practical Implications

The study has implications for career practitioners. As assimilation was associated with more engagement with career goals (both directly and indirectly via holding optimistic views about future career outcomes) and accommodation was associated with more disengagement (both directly and indirectly via perceiving the career goals to be less important), the results suggest that young adults who rely more on accommodative resources should be identified, as they might be relatively disadvantaged in relation to their career progress. Career practitioners can assist these young people to explore their reactions in adverse circumstances (i.e., their tendency to accommodate rather than persist), provide them with skills to manage setbacks (e.g., to fully explore implications of disengaging rather than persisting), to help them clarify when it is desirable to disengage, provide them with strategies for identifying realistic and satisfying alternate goals, and help them to develop resources that can advance their career and life goals (e.g., drawing on social support, managing concerns about failure). On the surface, assimilators seem better placed to achieve the goals they set, although those with a strong assimilative orientation might benefit from exploring whether their tenacity is functional and whether they are efficient in their goal pursuit.

Conclusion

In summary, we found support for the utility of the dual-process framework in understanding the mechanisms that underlie career goal management in young adulthood. This framework has been mainly applied to goal management in older adult populations (e.g., Bailly et al., 2011; Garnefski et al., 2010; Mackay et al., 2011), but our results suggest that it can be applied with young adults to help explain their career goal management strategies. As predicted

by the framework, assimilative resources were related to engagement with career goals (partially due to having an optimistic attitude towards one's career), while accommodative resources were related to career goal disengagement (partially due to appraising career goals as being unimportant). We encourage researchers to further investigate the dual-process model with younger populations, as this approach has the potential to advance our understanding of career goal management.

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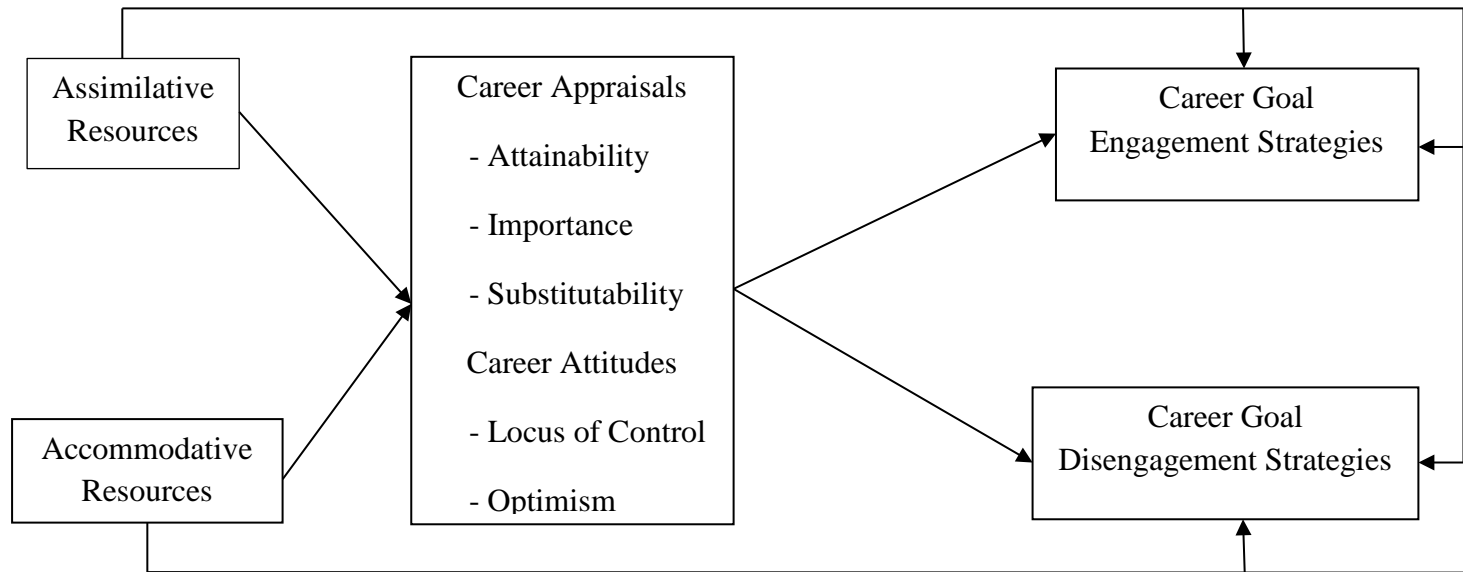
Figure 1. Assimilation and accommodation resources are related to career appraisals and attitudes, which, in turn, are related to career goal engagement and disengagement strategies; assimilation and accommodation are related directly to engagement and disengagement; and career appraisals and attitudes mediate between assimilation/accommodation and engagement/disengagement.
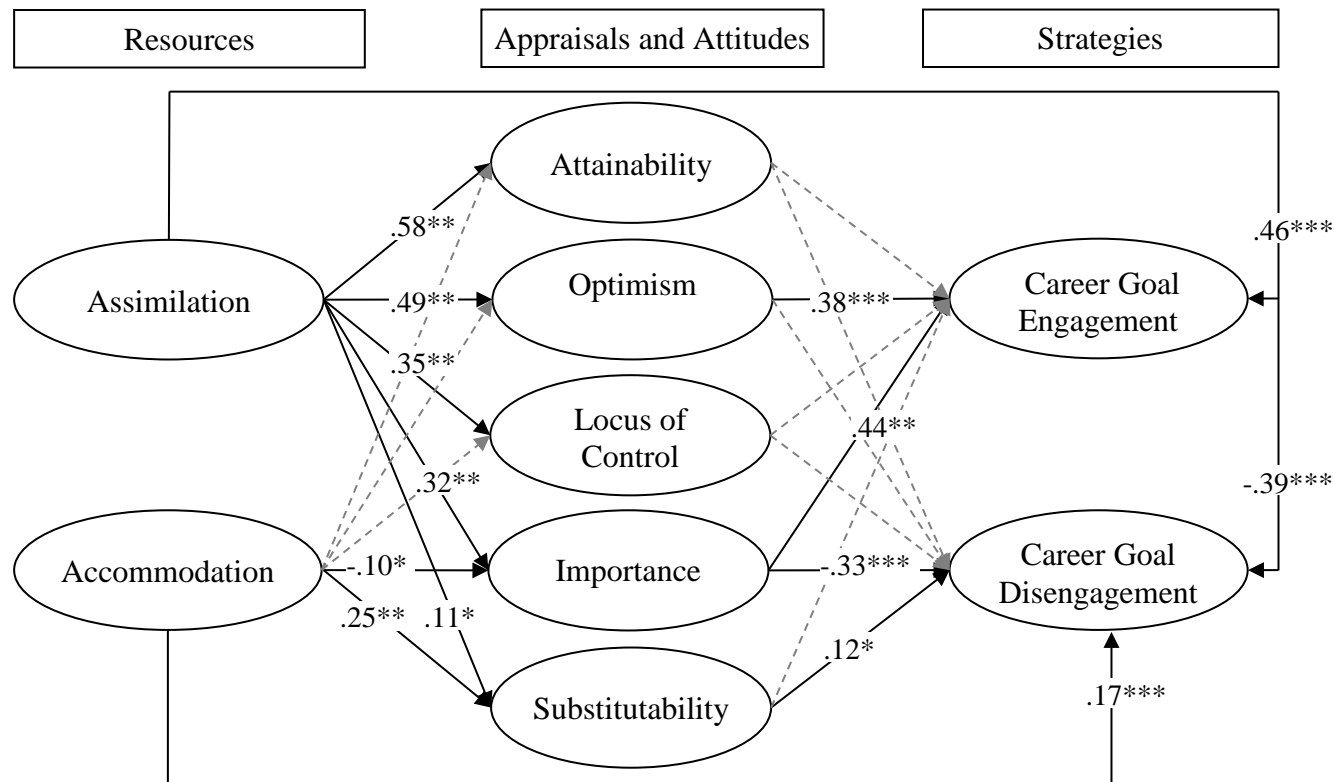
Figure 2. Final model for relationships among personal resources (assimilation and accommodation), career goal appraisals (attainability, substitutability, and importance), career attitudes (locus of control and optimism), and career goal management strategies (goal engagement and disengagement). The significant mediation pathways were (a) assimilation → optimistic cognitions → engagement, and (b) accommodation → importance → disengagement. Standardised beta weights are reported. Dashed lines are non-significant pathways. * $p < .05$; ** $p < .01$; *** $p < .001$

Table 1

Means, Standard Deviations, Zero-Order Correlations (above diagonal), and Correlations among Latent Variables (below diagonal); N = 486

Scale	*M*	*SD*	Range	α	1	2	3	4	5	6	7	8	9
1. Assimilation	46.60	6.33	18-60	.90	-	-.14**	.57***	.48***	.34***	.32***	.07	.58***	-.40***
2. Accommodation	37.48	8.70	10-60	.93	-.15**	-	-.09	-.10	-.14**	-.15**	.23***	-.09*	.23***
3. Attainability	23.29	3.64	6-30	.83	.51***	-.08*	-	.71***	.48***	.47***	.05	.49***	-.30***
4. Optimistic cognitions	22.32	3.93	5-30	.86	.43***	-.09*	.82***	-	.41***	.53***	-.01	.52***	-.25***
5. Locus of control	35.86	5.14	8-48	.76	-.31***	-.12**	.51***	.41***	-	.40***	.08	.27***	-.23***
6. Importance	31.67	6.27	10-42	.86	.29***	-.14**	.42***	.46***	.36***	-	-.26***	.35***	-.40**
7. Substitutability	35.02	6.59	14-54	.82	.06	.21***	.05	.01	.09*	-.31***	-	.05	.18***
8. Goal engagement	35.26	6.38	11-48	.90	.61***	-.09	.53***	.58***	.25***	.36***	.05	-	-.48***
9. Goal disengagement	11.80	3.52	4-21	.76	-.51***	.30***	-.38***	-.32***	-.34***	-.51***	.23***	-.48***	-

* p < .05; ** p < .01; *** p < .001