**Cross-Lagged Relationships between Person-Based Resources, Self-Perceptions, and
Career and Life Satisfaction in Young Adults**

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Abstract

We tested the across-time relationships between the person-based resources of assimilation (or goal pursuit) and accommodation (or goal adjustment) and two well-being outcomes (satisfaction with career progress and life satisfaction), and assessed if these relationships were mediated by self-perceptions (perceived goal attainability and optimism). Participants were 204 young adults (79% female; M_{age} 26 years), who were surveyed twice, 6 months apart. Consistent with the dual-process framework for goal management, assimilation was associated with more positive self-perceptions (attainability and optimism) and higher subsequent satisfaction with career progress and life satisfaction. Perceived goal attainability mediated between assimilation and the two satisfaction outcomes. Accommodation was associated with higher subsequent life satisfaction only. Thus, both assimilation and accommodation were related to better life satisfaction in young adults, but assimilation was more adaptive in the career domain.

Keywords: assimilation; accommodation; career goal attainability; career optimism; career satisfaction; life satisfaction; dual-process framework

Cross-Lagged Relationships between Person-Based Resources, Self-Perceptions, and Career and Life Satisfaction in Young Adults

Working towards and achieving career milestones and goals are critical developmental tasks for young adults, as this is the time of life when they are completing training or education, deciding on a career path, searching for employment, or advancing their career (Shulman & Nurmi, 2010). Successful management of these tasks has implications for later occupational success and satisfaction (Haase, Heckhausen, & Koller, 2008), for those who do the tasks poorly are more likely to experience stress and difficulty adjusting to later adult roles (Schulenberg, Bryant, & O'Malley, 2004). However, the tasks are challenging, as young adults are required to set realistic goals, maintain motivation, pay attention to information that will facilitate goal progress, and manage distractions that are likely to impede goal attainment. All of this must be done in a changing environment at the same time as they have to deal with demands from other areas of their life, such as establishing romantic and friendship attachments and formulating a life philosophy (Shulman, Feldman, Blatt, Cohen, & Mahler, 2005).

Central to goal management and well-being are adaptive person-based resources, but these do not feature strongly in traditional career models and have been under-researched in this area (Savickas et al., 2009). We tested a model in which adaptive person-based resources (assimilation and accommodation, which reflect different goal management approaches) are related to satisfaction with career progress and life satisfaction. As different orientations are likely to generate different self-appraisals, which, in turn, are likely to affect goal progress and satisfaction differently (Brandtstädter & Rothermund, 2002), we also assessed two self-appraisals (career goal attainability and optimism) as mediators between adaptive person-based resources and satisfaction with career progress and life satisfaction. See Figure 1.

Career Goal Management

Several overlapping goal management models that consider humans as goal-directed and agentic (e.g., control theory, Carver & Scheier, 1998; social cognitive theory, Bandura, 2001; goal-setting theory, Locke & Latham, 1990) have been applied to career development (Abele & Spurk, 2009; Haase et al., 2008). However, Skinner, Edge, Altman, and Sherwood (2003) recommended that goal management theories that involve higher order, action typologies (i.e., which include orientation, emotion, behaviours, and goals) are most useful for accounting for goal management and goal progress. The lifespan theory of control (Heckhausen & Schulz, 1995) and the dual-process framework (Brandtstädter & Renner, 1990) meet these criteria. Skinner et al. favoured the dual-process framework (which distinguishes between assimilation and accommodation orientations), as this model accounts for both active engagement and unconscious agentic processes when managing goals and goal progress. Given this recommendation, we assessed the dual-process framework in the career domain with young adults for the first time.

Dual-Process Framework

According to the dual-process framework, adaptive goal management results from being able to effectively utilise one's personal resources in accordance with current circumstances. The model asserts that people appraise and monitor the progress made towards their goals, and, when discrepancies are identified between their actual and desired state, they respond by using self-regulatory resources and strategies to reduce the discrepancies (Brandtstädter & Renner, 1990; Brandtstädter & Rothermund, 2002). Responding involves applying one of two key approaches: assimilation (or pursuing the goal) or accommodation (adjusting or abandoning the goal). The appropriate application of these adaptive goal management approaches (i.e., according to the situation) results in better well-being outcomes (as the discrepancy is potentially reduced), although the outcomes for goal progress and achievement will differ as, for example, assimilation will lead to goal pursuit, whereas,

accommodation will lead to goal adjustment or abandonment (Haase, Heckhausen, & Silbereisen, 2012). As assimilative and accommodative approaches are considered somewhat trait-like (Brandtstädter & Rothermund, 2002), individuals will have a tendency to rely more on one approach than the other, irrespective of the situation.

To summarise, people with an assimilation orientation utilise their resources to engage in proactive, intentional behaviours to modify their environment in order to be congruent with their goals and sense of self; that is, they engage in goal pursuit activities. In contrast, those with an accommodative orientation apply their resources to reduce their goal/goal progress discrepancies by downgrading, revising, or scaling back their goals so that they are closer to their actual, rather than their desired, state. These accommodative behaviours result in the discrepant goal being re-appraised as less attractive and the actual state being viewed as more positive, and attention being directed towards alternative, more achievable, goals (Brandtstädter & Rothermund, 2002). Both assimilation and accommodation processes are assumed to be adaptive in different situations (i.e., they can both result in improved well-being). Assimilative resources are most adaptive when the chosen goal is appraised as achievable, whereas accommodative resources are adaptive when efforts towards attaining a goal have proven futile and the person is losing motivation and abandoning their commitment to the goal (Diener, Suh, Lucas, & Smith, 1999; Frazier, Newman, & Jaccard, 2007). However, the outcomes for goal progress and achievement can differ, as assimilation is focused on goal pursuit, while accommodation involves goal adjustment.

Dual-Process Framework and Well-being

Studies testing the dual-process framework have focused primarily on well-being as the outcome. As expected, both assimilation (goal pursuit) and accommodation (goal adjustment) have been found to correlate positively with measures of life satisfaction and well-being (Bailly et al., 2012; Brandtstädter & Renner, 1990; Frazier et al., 2007; Tobin & Raymundo, 2010; Wrosch, Miller, Scheier, & Brun de Pontet, 2007; Wrosch, Scheier, Carver,

& Schulz, 2003; Wrosch, Scheier, Miller, Schulz, & Carver, 2003) and correlate negatively with depressive symptoms (Bailly et al., 2011; Henselmans et al., 2011; Rothermund & Brandtstädter, 2003). Assimilation and accommodation also are associated positively with environmental mastery (Frazier et al., 2007), happiness (Mueller & Kim, 2004), and personal control (Henselmans et al., 2011), all components of well-being (Ryff, 1989). Most studies testing these relationships have utilised samples of older adults and have been cross-sectional. The longitudinal studies that have been conducted have shown that assimilative and accommodative behaviours predict well-being over time, including decreases in depressive symptoms, hostility, and ill health after 10 years in middle aged adults (Kelly, Wood, & Mansell, 2013), and increased quality of life after a 5- to 12-month time lag in mature-aged, stroke patients (Darlington et al., 2007). In younger samples, perceptions of goal progress and attainment predicted later well-being in college students (Sheldon & Elliot, 1999; Singley, Lent, & Sheu, 2010). Similar results have been found in longitudinal studies with adolescents (Haase et al., 2008) and non-college, emerging adults (Schulenberg et al., 2004).

In all of these studies, context-free well-being was the outcome variable. We assessed this construct in our study (i.e., life satisfaction), but also evaluated a measure of context-specific well-being that was based on an appraisal of career goal progress; specifically, satisfaction with career progress. Studies have examined goal management behaviours in relation to career-related well-being (e.g., career satisfaction and work engagement), but have done this outside of the dual-process framework. The results of these studies have been mixed, possibly due to goal-relevant, person factors not being included in the studies (e.g., not including goal-adjustment tendencies as articulated in the dual-process framework), but also because of the different samples used (e.g., employed adults, college students) and the way well-being was operationalised (e.g., positively, as satisfaction, and negatively, as burnout and distress). For example, Hyvönen, Feldt, Salmela-Aro, Kinnunen, and Mäkikangas (2009) found work engagement and goal progress to be related negatively to occupational burnout in

young managers cross-sectionally; whereas, Wiese and Freund (2005) found that goal progress was not associated with well-being or job satisfaction in young professionals over a 3-year period. In contrast, undergraduate students who downgraded or limited their career options because of actual or perceived barriers, or had a pessimistic attitude towards their career goals, experienced more career-related distress (Creed & Hughes, 2013). The one study we found that used the dual-process framework, Tolentino, Garcia, Restubog, Bordia, and Tang (2013), found that both assimilative and accommodative resources were associated positively with career satisfaction in a sample of full-time employed, post-graduate, Filipino university students. In the current study, we tested the associations between assimilation and accommodation and two types of well-being (one related to career progress and one context-free), and tested the associations across-time, which is important as this methodology allows for stronger statements to be made regarding causality (Burkholder & Harlow, 2003).

Mediating Variables: Self-Perceptions

Research has shown that both assimilative and accommodative resources are associated differentially with a variety of self-perceptions (Brandtstädter & Rothermund, 2002). Further, studies have found that the rate at which young people make progress towards their career goals is highly variable and is influenced by both personal resources and self-perceptions (Brandtstädter, 1989; Krings, Bangerter, Gomez, & Grob, 2008). For example, assimilative and goal pursuit behaviours have been associated positively with perceived goal attainability (Nurmi, Salmela-Aro, & Koivisto, 2002) and optimism about future goal success (Gaudreau & Blondin, 2004). Based on these studies, we anticipated that young adults who utilised assimilative resources would be more likely to perceive that they could achieve their self-set, career goals (i.e., they would perceive their career goals as attainable) and be more optimistic about the progress that they have made towards their career goals. As far as we could find, the relationship between the use of accommodative resources and career goal attainability and career optimism has not been examined in the career domain, but based on

the dual-process framework, we anticipated that accommodation would be associated negatively with these two self-perceptions. Thus, we investigated the relationships between both assimilative and accommodative resources and career goal attainability and career optimism, as self-perceptions potentially influence goal progress (Krings et al., 2008).

Individuals who are using assimilative resources are more likely to perceive their goal as more attainable, and to be more optimistic about achieving it. These self-perceptions, in turn, should foster goal engagement strategies and result in better outcomes and more satisfaction: that is, goal striving and satisfaction is more likely to occur when the goal is perceived as attainable and there is a perception that the outcome will be positive. In our study, we specifically focused on career goals as a context. Using assimilative resources, and perceiving one's career goal as attainable and likely to be achieved, should lead to increased satisfaction with career progress and increased general life satisfaction. On the other hand, those engaging accommodative resources will see the career goal as less attainable and are likely to be less optimistic about their career. These self-perceptions are likely to stimulate goal adjustment and disengagement. While downward goal adjustment (i.e., accommodation) will be associated with better well-being, as predicted by the dual-process framework (Brandtstädter & Renner, 1990), it is likely to be associated with dissatisfaction with career progress as original goals have been compromised. Finally, as assimilation and accommodation were expected to be related to both self-perceptions and satisfaction outcomes, and self-perceptions were expected to be related to satisfaction, we also assessed these self-perceptions as mediators between assimilative and accommodative resources and well-being.

Current Study

The current study contributes to the existing literature by applying a theoretically-based, goal management model to examine the relationships between person-based resources (assimilation and accommodation) and context-specific well-being (satisfaction with career

progress) and context-free well-being (life satisfaction), and testing two career-related self-perceptions (career goal attainability and career optimism) as mediators in these relationships. While most previous studies using the dual-process framework have been conducted using older samples and have been cross-sectional, we assessed these relationships in a sample of young adults, using a 2-wave cross-lagged panel design, where data were collected six months apart. While cross-lagged designs, which allow for the control of autoregressive effects, cannot “prove” causality, they allow the relative assessment of possible causal relationships (Burkholder & Harlow, 2003). A 6-month time lag was chosen as it was considered sufficient for changes to occur and has been used in other, similar, cross-lagged studies of career outcomes (Creed & Rogers, 2011). In addition, whereas previous dual-process studies have focused on context-free well-being, we assessed both context-free and career context-specific well-being.

Based on the dual-process framework (Brandtstädter & Renner, 1990), our general expectations were that changes in assimilation and accommodation from T1 to T2 would be associated with changes in general well-being (i.e., life satisfaction) from T1 to T2; specifically, that increases in assimilation (goal pursuit) and accommodation (goal adjustment) would be associated with increases in life satisfaction, although the positive associations would result from different underlying processes associated with goal discrepancy reduction. We also expected that increases in assimilative resources would be associated with increases in context-specific well-being (i.e., satisfaction with career progress), but that increases in accommodative resources would be associated with reduced satisfaction with career progress.

Regarding the mediators, we expected that assimilation would be associated positively with the self-perceptions of career goal attainability and career optimism, which would then enhance context-specific and general satisfaction; whereas, increases in accommodative resources would be associated with decreases in self-perceptions, which would lead to less

satisfaction with career progress but improved well-being (i.e., improved life satisfaction). The latter hypotheses are more speculative because of the lack of prior research and contradictory findings regarding the relationship between accommodative resources and self-perceptions. See Figure 1.

Method

Participants

Participants were 204 young adults who responded to an online survey at two times, approximately six months apart. At Time 1, 609 young adults completed the survey, and of these, 216 completed the survey at Time 2 (35% retention rate). Twelve surveys were removed from the dataset as they were unusable due to extensive missing data, leaving a final sample of 204. The sample was predominantly female (79%) and had a mean age of 26 years ($SD = 5.9$). The majority identified as Australian (88%), with others indicating European (3%), Asian (3%), British (2%), North American and Canadian (2%), New Zealander (1%), and African (1%) backgrounds. Most participants (92%) had tertiary education, 4% had completed high school with additional vocational training, 3% had completed high school with no further training, and 1% had not completed high school. The majority of participants were university students (58%), 31% were working full-time, 9% indicated a range of other activities (e.g., homemaker, stay-at-home parent), and 2% were unemployed.

Materials

An online survey was developed using SurveyMonkey (web based software). This contained the demographic questions (age, gender, cultural background, education, and employment status) and study scales. Participants responded to all scale items using a 6-point, Likert-type format with endpoints of *Strongly disagree* and *Strongly agree*, with higher scores indicating stronger endorsement of the construct.

Assimilation and accommodation. We used the 10-item Assimilation Scale and 10-item Accommodation Scale, which were devised for use with young adults (AUTHORS,

2014). 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). The two-factor structure was supported by confirmatory factor analysis, and construct validity was established by finding associations with related constructs (goal engagement, re-engagement, and disengagement) in the expected directions (AUTHORS, 2014). Kjoelaas (2013) found good reliability for the assimilation and accommodation scales (.93 and .90, respectively) with a sample of young adults. Alphas in the current study were .88 (T1) and .91 (T2) for assimilation and .93 (T1) and .94 (T2) for accommodation.

Career attainability. We used the 5-item Goal Achievement Subscale of the Work-Related Goal Appraisal Scale (Nurmi et al., 2002). The items assess beliefs about the likelihood of attaining one’s occupational goals; for example, “I am likely to achieve my current career goals”. The scale developers reported an internal reliability coefficient of .74 and demonstrated construct validity by showing moderate correlations with goal importance and positive emotions. In the current study, alpha was .84 at T1 and .86 at T2.

Career optimism. We used the 5-item Career Optimism Scale (Hennessey, Rumrill, Fitzgerald, & Roessler, 2008), which assesses confidence to choose, maintain, and advance a meaningful career direction. A sample item is: “I will be able to maintain employment in my chosen career field”. The scale developers reported good internal reliability (.89) and construct validity evidenced by negative associations with items asking about the effect of having a disability. Alphas for the current sample were .85 (T1) and .84 (T2).

Satisfaction with career progress. We used the 5-item Career Satisfaction Scale (Greenhaus, Parasuraman, & Wormley, 1990), which we modified to be suitable for young adults. For example, the item “I am satisfied with the progress I have made toward meeting my overall career goals” was changed to “I am satisfied with the progress I am making toward

my career”. Greenhaus et al. (1990) supported validity by finding positive associations with related scales (e.g., level of sponsorship on job, job discretion) and reported an internal reliability coefficient of .88 for the scale. Alphas were .90 (T1) and .92 (T2).

Life satisfaction. We used the 5-item Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). A sample item is: “In most ways, my life is close to my ideal”. Previous reliability has been good ($\alpha = .87$), and validity has been demonstrated by testing the associations with other life satisfaction measures and interviewer estimates of life satisfaction (Diener et al., 1985). Alphas were .89 (T1) and .90 (T2) in our study.

Procedure

The study is part of an ongoing project investigating the assessment and correlates of person-based resources in the career domain (AUTHORS, 2014). It was approved by the authors’ university ethics committee. Participants for the first wave of the study (T1) were recruited by advertising the study on university web pages and by posting the survey on Facebook. Six months later, consenting participants ($N = 609$) were emailed an invitation to participate in the second wave of the Study (T2). Each survey took approximately 15 minutes to complete. All participants were eligible to enter a prize draw to win a \$100 voucher for each survey. The attrition rate from T1 to T2 was 65%.

Results

Attrition Analysis

Using chi-square analysis, *t*-tests, we found no differences between those who participated in both waves and those who only participated in wave 1 (Bonferroni corrected $\alpha = .005$; i.e., $\alpha = .05 \div 11$ analyses = .005). There were no differences on gender, age, education, cultural identity, employment status, or any of the study scales, suggesting little attrition bias in the sample available for analysis.

Steps in Model Testing

To meet the recommended ratio of participants to parameters for latent variable analysis (cf. Bentler & Chou, 1987), we followed the recommendations of Landis, Beal, and Tesluck (2000) and created multi-item parcels to represent the six latent variables at T1 and T2. First, each scale was subjected to an exploratory factor analysis where a single-factor solution was specified. We then rank-ordered the items based on their factor loadings, and used an item-to-construct balance approach to distribute the items into parcels (i.e., allocated a mixture of high and low loading items to each parcel; Little, Cunningham, Shahar, & Widaman, 2002). Parcels were formed by summing the items allocated to them. There were between two and four parcels per variable depending on the number of items in the scale.

First, we tested a measurement model to ensure that all latent variables were independent of one another and could be represented by their parcels. Then we assessed the hypothesized structural model and tested for mediation. All analyses were conducted using maximum likelihood estimation available within AMOS software (Arbuckle & Wothke, 1995). Model fit was assessed using the χ^2 statistic, the normed χ^2 (χ^2/df), Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA). For a sample of < 250 with > 12 observed variables, a significant χ^2 is expected, and a $\chi^2/df \leq 3$, CFI $> .95$, and an RMSEA $< .08$ reflect a good model fit (Hair, Black, Babin, & Anderson, 2010).

Measurement Model

The measurement model consisted of 12 latent variables representing the predictors (assimilation and accommodation), mediators (career goal attainability, career optimism), and outcome variables (satisfaction with career progress, life satisfaction) at T1 and T2. All latent variables were allowed to covary freely, and, as it is assumed that measurement error in longitudinal panel models covaries across time, we allowed error terms for the same variables to correlate over time where indicated (Little, Preacher, Selig, & Card, 2007). The fit statistics were good: $\chi^2(270) = 427.15$, $p < .001$, $\chi^2/df = 1.58$, CFI = .97, RMSEA = .05. All

standardized regression weights, which ranged from .79 to .96, were significant ($p < .001$), and the zero-order scale correlations paralleled the correlations among the latent variables. See Table 1.

Predicting Outcomes

To assess the relationship between T1 and T2 variables, we tested four structural models: (a) a baseline model, which included auto-regressive pathways from T1 to T2 with no cross-lagged associations; (b) a standard causality model, which added cross-lagged paths from T1 predictors to T2 outcome variables; (c) a reverse-causality model, which added cross-lagged paths to the baseline model from T1 outcome variables to T2 predictors; and (d) a reciprocal-causality model, which added cross-lagged paths to the baseline model from T1 predictors to T2 outcome variables and from T1 outcome variables to T2 predictor variables. We then assessed differences among the competing models using the chi-square difference test. If two competing nested models did not differ, we accepted the most parsimonious model indicated by a lower Akaike Information Criterion (AIC) statistic (Kline, 1998). The fit statistics for all models are reported in Table 2.

The standard causality model ($p = .001$) and the reciprocal causality model ($p = .001$), but not the reversed causality model ($p > .05$), were significantly different from the baseline model. The reciprocal causality model was not significantly different from the standard causality model ($\Delta\chi^2 = 5.79$, $\Delta df = 8$, $p > .05$). We accepted the standard causality model as the most parsimonious model as the AIC for this was smaller than the AIC for the reciprocal causal model. This model is reported in Figure 2. From this model, an increase in assimilation from T1 to T2 was associated with increases in career goal attainability ($\beta = .32$, $p < .001$), career optimism ($\beta = .26$, $p < .001$), life satisfaction ($\beta = .17$, $p < .01$), and satisfaction with career progress ($\beta = .33$, $p < .001$) from T1 to T2, after controlling for the auto-regressive effects. An increase in accommodation from T1 to T2 was associated with an increase in satisfaction with

life ($\beta = .11, p < .05$) from T1 to T2, but was not associated with changes in career goal attainability, career optimism, or satisfaction with career progress, over time.

Mediation Analyses

To assess whether attainability and optimism mediated between the predictors (assimilation and accommodation) and the outcome variables (life and career satisfaction), we followed the 3-step recommendation by Taris and Kompier (2006) for a 2-wave design, which permits assessment of partial mediation. In the first step, we assessed the direct effects of T1 assimilation and accommodation on T2 career and life satisfaction (excluding the paths to the mediators; see Table 2 for fit statistics). This model indicated that assimilation at T1 was associated with career satisfaction ($\beta = .27, p < .001$) and life satisfaction ($\beta = .15, p = .004$) at T2, and that accommodation at T1 was associated with life satisfaction ($\beta = .11, p = .02$), but not career satisfaction, at T2. This indicated that the relationship between accommodation and career satisfaction did not meet the criteria for mediation (Baron & Kenny, 1986).

For the second step, we tested if assimilation and accommodation at T1 predicted the career attainability and career optimism mediators at T2. In this model, assimilation at T1 was associated with attainability ($\beta = .25, p = .002$) and optimism ($\beta = .23, p < .001$) at T2, but accommodation at T1 was unrelated to both T2 variables. This indicated that neither of the self-perceptions could be considered as mediators of the accommodation - life satisfaction relationship. We, therefore, only tested whether the relationships between assimilation and the outcome variables were mediated by self-perceptions. In the last step, we assessed whether the mediators (attainability and optimism) at T1 predicted the outcome variables (career and life satisfaction) at T2. T1 attainability was associated with T2 career satisfaction ($\beta = .39, p < .001$) and life satisfaction ($\beta = .30, p = .004$), but T1 career optimism was unrelated to both T2 outcomes (fit indices in Table 2), indicating that career attainability partial mediated the relationship between assimilation and the two outcome variables.

From these analyses, it can be concluded that career attainability partially mediated the effect of assimilation on career satisfaction and life satisfaction over time (Taris & Kompier, 2006). That is, changes in assimilation from T1 to T2 were associated with changes in career attainability from T1 to T2, which, in turn, were associated with changes in career satisfaction and life satisfaction from T1 to T2; thus, supporting our expectations. Multiplying the regression coefficient at Step 2 (assimilation to attainability) with the regression coefficients at Step 3 (attainability to career satisfaction and life satisfaction) indicated that the indirect assimilation → attainability → career satisfaction pathway accounted for 10% of the variance, whilst the indirect assimilation → attainability → life satisfaction pathway accounted for 7.5%. We added the significant Step 3 pathways to Figure 2 (indicated by dashed lines).

Discussion

We used a cross-lagged, panel design that assessed all variables at two times to test a mediation model of career goal management. The model predicted that person-based resources (assimilation and accommodation) would be associated with self-perceptions (career goal attainability and career optimism), which, in turn, would be associated with context-specific and context-free well-being (satisfaction with career progress and life satisfaction). We found that assimilative resources at T1 were associated positively with perceived career goal attainability, career optimism, satisfaction with career progress, and satisfaction with life at T2, and accommodative resources at T1 were associated positively with life satisfaction at T2. We also identified that career goal attainability partially mediated the relationships between assimilation and satisfaction with career progress and assimilation and life satisfaction. We have contributed to the literature by assessing these personal resources and outcomes, which were proposed in the dual-process framework (Brandtstädter & Rothermund, 2002), in one comprehensive study using a sample of young adults. Previous studies have focused on either older adults (e.g., Bailly et al., 2012; Frazier et al., 2007; Kelly et al., 2013; Leipold & Greve, 2009) or specific populations of young adults (Sheldon &

Elliot, 1999; Singley et al., 2010), high school students (Haase et al., 2008), and young professionals (Wiese & Freund, 2005), where the focus was not specifically on outcomes in the career domain.

Our model proposed direct associations between assimilative and accommodative resources and the two distal outcomes of satisfaction with career progress and life satisfaction. For assimilation, our results were largely consistent with the dual-process framework, and consistent with the existing empirical evidence from that model (e.g., Bailly et al., 2011; Wrosch, Scheier, Miller, et al., 2003). As expected, assimilation (or goal pursuit), when measured at T1, was associated with higher levels of both context-specific well-being (satisfaction with career progress) and context-free well-being (life satisfaction) at T2. These results suggest that young adults who use assimilative resources more, also report more satisfaction with the progress towards their career and report more satisfaction with their life in general.

Regarding accommodative resources, greater use of these was associated positively with life satisfaction at T2. Again, this is predicted by the dual-process framework and has been found in other research (e.g., Kelly et al., 2013). This supports the proposition that goal adjustment and disengagement strategies can facilitate well-being. The finding that both assimilation and accommodation at T1 were associated with better life satisfaction at T2 is consistent with the dual-process assertion that the two orientations play an important role in well-being, although well-being benefits result from different underlying processes (Brandtstädter & Renner, 1990; Brandtstädter & Rothermund, 2002). As the associations between assimilation and accommodation and life satisfaction were similar ($\beta = .17$ vs $.11$, respectively), this suggests that both orientations are equally beneficial for young people's general well-being.

Accommodation at T1 was not associated negatively with satisfaction with career progress at T2, as we expected. This suggests that accommodation, while associated with

increases in well-being, might not be linked to dissatisfaction with the current (i.e., career) situation. When accommodating, individuals adjust their goals to suit their resources, and when doing so, re-appraise original goals as less attractive and appraise new goals as more attractive, which could account for this null relationship (Brandtstädter & Rothermund, 2002). Future research needs to assess goal re-appraisal in accommodators and test its association with well-being.

Assimilation at T1 was associated with higher levels of career goal attainability and career optimism at T2. This suggests that adopting an assimilative orientation facilitates the development of positive attitudes regarding the individual's occupational future; that is, fosters stronger perceptions that important career goals can be achieved (i.e., higher career goal attainability) and leads to developing a more positive career outlook (i.e., higher career optimism). This is an important finding, as it demonstrates positive connections between this orientation and domain-specific perceptions (i.e., career-related perceptions). In contrast, accommodation at T1 was not associated with career self-perceptions at T2, suggesting that use of this goal adjustment orientation does not facilitate the development of positive perceptions and attitudes regarding future outcomes. This could be quite limiting for the individual, for while accommodation might be healthy in terms of well-being, at least in the short term, it potentially limits the young person's development of agency supporting self-views (Bandura, 2001), which would be disadvantageous in the long run (cf. Schoon & Parsons, 2002).

As well as assimilation at T1 being associated with self-perceptions at T2, perceived career attainability and optimism at T1 were associated with career and life satisfaction at T2. This suggests at least a partial mediation role for the self-perception variables between assimilation and well-being. Thus, adopting an assimilative orientation fosters more positive and functional self-perceptions that career goals can be achieved, which, in turn, leads to satisfaction with the way career development is progressing and higher satisfaction with life

in general. This mediation suggests a potential mechanism for how assimilation facilitates more positive well-being outcomes, although, as the mediation can only be confirmed as partial with the current 2-wave design, other variables and pathways need to be assessed using a longitudinal design. Similar results were not obtained for accommodation. Accommodation at T1 was unrelated to self-perceptions at T2, suggesting that different mechanisms might be involved in how accommodation relates to well-being. One possibility is that accommodation is more proximally related to well-being and that the effects are more direct; that is, goal adjustment brings more immediate relief to distress, while assimilation operates by focusing attention on strategies required for goal achievement.

These results have implications for practitioners. First, they indicate that, for young adults, using either assimilation or accommodation should result in improved general well-being. In this way, both are adaptive and can be considered as useful goal management approaches. However, only the use of assimilation was associated with more positive career-specific outcomes (satisfaction with career progress, goal attainability, and career optimism). Young adults who are more assimilative benefit by developing more positive career perceptions, which are known to be related to better actual outcomes (Schoon & Parsons, 2002). Those who are more accommodative are at risk, and likely to need support. While accommodating might be adaptive by alleviating negative states when goals are seen as unattainable and need to be changed, it does not assist young people with their career and life progression. Therefore, helping young adults to utilise their personal resources more effectively should lead to the development of better adaptive goal management patterns. For practitioners working with young adults, assessing these resources and providing feedback could assist individuals to increase their insight regarding how they manage their goals. In addition, they could assist these young adults by helping them develop the adaptive skills involved in goal pursuit and goal adjustment, and foster their flexibility to switch between the processes in accordance with situational constraints.

This study demonstrates support for the causal relationships suggested by the dual-process framework, with increases in assimilation and accommodation across time associated with improved general well-being at T2, and assimilation being more adaptive for the context-specific, career-related outcomes, with young adults who were higher on assimilation being advantaged. Additionally, career goal attainability partially mediated the relationships between assimilation and life satisfaction and assimilation and satisfaction with career progress, indicating that assimilation is more adaptive as this facilitates a more positive self-perception, which, in turn, facilitates increased satisfaction.

We used a convenience sample of young adults, which was over-represented by young women and contained a larger proportion of tertiary educated individuals, who might assume they can more easily reach their goals because they have more resources at their disposal. Future studies need to assess the dual-process framework on other populations of young adults to permit wider generalization of the results. This should also include young adults from non-Western samples, as, for example, accommodation could be more adaptive in collectivist cultures where it might reflect a “fitting-in” with significant others, such as parents (Elliot, Chirkov, Kim, & Sheldon, 2001). Different time lags and additional waves should also be considered as this would help tease out how these goal management orientations develop over time and relate to changes in self-perceptions and well-being. Additionally, we only assessed two mediating pathways, and other routes to well-being and success need to be tested. For example, research needs to examine whether both assimilation and accommodation increase perceptions of control, as suggested by Brandtstädter and Rothermund (2002). Last, we know little about the development of assimilation and accommodation, and studies are needed to examine the antecedents to the two orientations. This study assessed the value of the dual-process framework in one important domain for young adults, that of career goal setting, but young adults deal with other important developmental demands, such as establishing families and clarifying a life philosophy

(Shulman & Nurmi, 2010), and we encourage researchers to apply the model to other areas of goal setting.

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Figure 1. The individual's orientation (assimilation, accommodation) is related to appraisals of career attainability and optimism, which in turn are related to career and life satisfaction.

Figure 2. Simplified, final, best fit model with standardized regression weights. Dot-and-dash lines are autoregressive pathways; solid lines are standard causation model pathways; dashed lines indicate significant mediation pathways identified in Step 3 of the mediation analysis. Non-significant pathways have been removed for clarity. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 1

Means, Standard Deviations, Zero-Order Correlations (above diagonal), and Correlations among Latent Variables (below diagonal); N = 204

Scale	<i>M</i>	<i>SD</i>	Range	α	1	2	3	4	5	6	7	8	9	10	11	12
1. Assimilation T1	47.37	6.04	31-60	.88	-	-.08	.42***	.53***	.36***	.29***	.62***	-.07	.49***	.55***	.37***	.32***
2. Accommodation T1	37.48	9.10	10-60	.93	-.06	-	-.09	-.07	-.02	.08	.03	.56***	-.04	-.04	.05	.16*
3. Career optimism T1	22.00	4.22	9-30	.90	.47***	-.11	-	.66***	.60***	.43***	.33***	-.08	.74***	.61***	.49***	.40***
4. Career goal attainability T1	23.22	3.99	6-30	.92	.61***	-.07	.72***	-	.58***	.49***	.41***	-.11	.60***	.69***	.51***	.47***
5. Satisfaction with career progress T1	21.62	4.44	5-30	.89	.40***	-.02	.65***	.66***	-	.53***	.27***	-.06	.57***	.56***	.64***	.41***
6. Life satisfaction T1	19.68	5.66	5-30	.91	.35***	.08	.47***	.54***	.59***	-	.27***	.07	.49***	.47***	.46***	.77***
7. Assimilation T2	46.67	6.58	28-60	.94	.68***	.05	.38***	.47***	.31***	.32***	-	.01	.49***	.55***	.45***	.39***
8. Accommodation T2	37.27	9.10	10-55	.92	-.08	.60***	-.09	-.14*	-.06	.07	.01	-	-.04	-.03	.07	.18**
9. Career optimism T2	22.51	4.05	9-30	.85	.55***	-.04	.79***	.65***	.63***	.53***	.56***	-.04	-	.81***	.62***	.53***
10. Career goal attainability T2	23.08	3.95	9-30	.84	.65***	-.04	.69***	.80***	.65***	.54***	.65***	-.05	.92***	-	.68***	.56***
11. Satisfaction with career progress T2	21.49	4.70	5-30	.93	.43***	.06	.54***	.55***	.69***	.52***	.51***	.08	.67***	.76***	-	.58***
12. Life satisfaction T2	20.08	5.50	5-30	.90	.37***	.16*	.44***	.53***	.46***	.82***	.45***	.19*	.58***	.65***	.63***	-

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

Table 2

Model Fit, χ^2 Difference Tests, and Akaike (AIC) statistics for Baseline, Standard Causality, Reversed Causality, and Reciprocal Causality Models, and Fit Statistics for Mediation Models; N = 204

Model	χ^2	df	χ^2/df	CFI	RMSEA	$\Delta\chi^2$	Δdf	AIC
Baseline ^a	717.92***	315	2.28	.92	.08	-	-	899.92
Baseline ^b	586.34***	312	1.88	.95	.07	-	-	774.34
Standard causality	535.95***	304	1.76	.96	.06	26.08**	12	739.95
Reversed causality	578.30***	304	1.90	.95	.07	10.52 ^{ns}	6	782.30
Reciprocal causality	530.16***	296	1.79	.96	.06	35.60**	12	750.16
Mediation – Step 1	561.06***	308	1.82	.95	.06	-	-	-
Mediation – Step 2	568.60***	308	1.85	.95	.07	-	-	-
Mediation – Step 3	564.01***	308	1.83	.95	.06	-	-	-

^a Initial baseline model. ^b Accepted baseline model with three pairs of within-wave, error terms allowed to correlate. ** $p < .01$; *** $p < .001$