The Relationship between Career Success and Sense of Purpose:

Examining Linkages and Changes

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Abstract

Objectives: Although researchers have linked sense of purpose to working status, there are few studies examining how specific characteristics of work may correlate with sense of purpose. The aim of the current study is to extend prior research by assessing the degree to which objective and subjective forms of career success—occupational prestige and work satisfaction—are associated with levels of and changes in sense of purpose. **Method:** Participants were part of the Rochester Adult Longitudinal Study (RALS; N = 307), which contains multiple cohorts of participants each assessed at multiple waves (full age range: 42 to 71). We used cross-lagged modeling to test the relationships in our model. **Results:** Occupational prestige was not associated with sense of purpose levels and change. However, work satisfaction was positively associated with higher levels of sense of purpose initially, and there was evidence that changes in the two constructs were positively correlated. **Discussion:** These findings suggest that subjective career success may be more important for sense of purpose than more objective indicators. Findings are discussed with respect to study limitations and guidance for future researchers using secondary data.

Keywords: sense of purpose, occupational prestige, work satisfaction, career success, change

For many individuals, work roles can infuse lives with a sense of purpose (Kosine, Steger, & Duncan, 2008). People who report a greater sense of purpose tend to have broader life objectives that motivate their daily activities (Ryff, 1989; Scheier et al., 2006). Viewing work through this lens gives it broader psychological meaning as a context that holds significant influence on daily life and an individual's sense of direction. In support, when people lose their work roles, they are more vulnerable to declines in sense of purpose (Hill & Weston, 2019; Piquart, 2002). However, individuals differ in the nature of their occupational involvement, as well as the environments in which they work, which can, in turn, influence their feelings of connectedness to work (e.g. Olafsen, Niemiec, Halvari, Deci, & Williams, 2017). Subsequently, more nuanced investigations are needed into the specific characteristics of work that explain whether and why people experience a sense of purpose in life.

Accordingly, the aim of this research is to test the relations between two indicators of work success—occupational prestige and work satisfaction—on sense of purpose over time. Occupational prestige and work satisfaction capture more objective and subjective markers of career success, respectively, and have been identified as two important outcomes reflective of one's career (Judge, et al., 1995; Seibert, Crant & Kramer, 1999). The present study uses longitudinal data from the Rochester Adult Longitudinal Study (RALS) available on three cohorts, each studied approximately 11 years apart to examine the lagged relationships between the forms of career success (occupational prestige and work satisfaction) and sense of purpose.

Career Success and Sense of Purpose

Career success refers to accumulated positive work and attitudinal outcomes resulting from one's work experiences (Seibert & Kraimer, 2001). Occupational prestige, the indicator of objective career success in this study, is defined as the level of esteem granted to an occupational role (Goode, 1978), and is associated with authority and power to direct others, greater control over one's own work, and cognitive sophistication (Sandefur, 2001). Alternatively, work satisfaction was the indicator of subjective career success for this study and reflects the degree to which individuals are satisfied with several critical aspects of work including their job, employer, present employment, career progress, and prospects (Super, Thompson, Lindeman, Jordaan, & Meyers, 1988). Both objective and subjective career success variables indicate the extent to which individuals are progressing in their occupations, and thus may influence their perceptions that their life activities are purposeful.

Occupational Prestige and Sense of Purpose. Because occupational prestige provides individuals with greater opportunity for ownership, responsibility, and control over work, prestige should provide greater opportunity for progression towards one's purpose. Similarly, prestige, as an indication of greater success, may encourage individuals to continue their goal pursuit, relative to individuals who are thwarted in their efforts toward promotion. Moreover, because objective career success requires autonomy, competence, motivation, and proactivity over time (Judge, Cable, Boudreau, & Bretz, Jr., 1995; Seibert, Crant, & Kraimer, 1999), perceiving the ability to use one's abilities, talents, and strengths should enhance one's sense of purpose in life. Though there is less evidence that sense of purpose predicts occupational prestige, it is possible that there is a reciprocal

relationship such that sense of purpose may drive individuals to pursue the type of autonomy, ownership, and high-level career goals associated with objective career success. Support comes from research on callings. Defined as having a sense of clarity of purpose, direction, and personal mission, calling is typically tied to the work domain (Bellah et al., 1996; Duffy et al., 2019; Dik & Duffy, 2009; Duffy & Sedlacek, 2007; Hall & Chandler, 2005; Wrzesniewski, 2003). Having a calling should increase commitment to career, occupational, and organizational goals (Cardador, Dane, & Pratt, 2011; Dobrow, 2004; Duffy, Dik, & Steger, 2011), and enhance levels of occupational prestige.

Work Satisfaction and Sense of Purpose. There are also several reasons to believe work satisfaction should be associated with sense of purpose. Past research has shown that life satisfaction, in general, is positively associated with sense of purpose (e.g., Bronk, Hill, Lapsley, Talib, & Finch, 2009). Moreover, previous research has shown that there is a positive relationship between work satisfaction and factors such as self-directedness and self-clarity (Duffy & Sedlacek, 2007, 2010; Steger, Pickering, Shin, & Dik, 2010). This literature, though, is fairly agnostic regarding the direction of the findings, and there are reasons to believe it could be reciprocal in nature (Judge & Watanabe, 1993). For example, several researchers have found that those employees with callings report higher levels of subjective career success (Hall & Chandler, 2005; Heslin, 2005), which suggests that a strong sense of purpose may lead a person to be more satisfied with their work lives. Additional studies find that those with callings report higher levels of work satisfaction due to higher levels of intrinsic satisfaction (Dik & Duffy, 2009; Wrzesniewski et al., 1997). Based on this theory and evidence, we expect that occupational prestige, a more objective form of career success, and work satisfaction, a more subjective form of career success,

should both be positively associated with a sense of purpose across the two timepoints investigated in the present study.

Current Study

The current study investigates the association between career success, both occupational prestige and work satisfaction, and sense of purpose. We expected the two forms of career success would be positively associated, cross-sectionally and longitudinally, with sense of purpose. Using cross-lagged models, we estimated initial correlations between sense of purpose and the career success indicators of interest, correlated changes between those variables, and cross-lagged correlations, where each variable predicted changes in the other over time. In doing so, we allowed for dual-causality as several arguments raised above suggest both that forms of career success may imbue sense of purpose, and that purposeful employees may hold abilities that promote career success.

Methods

Participants

Participants in the present research were part of the Rochester Adult Longitudinal Study (RALS), University of Rochester alumni who graduated in 1965-68 (Cohort 1), 1976-77 (Cohort 2), and 1988-89 (Cohort 3). The inclusion criteria for participation in the study was that participants were undergraduates at the University of Rochester at the time of the initial data collection for that cohort. The inclusion criteria for participation in subsequent waves was participation in the initial assessment and the availability of contact information from the participants. RALS participants were included in the current analyses

if they responded to the measures described below. The analyses described below were conducted on that subset of RALS participants who completed assessments in 2000 and/or 2012. All data collection efforts were conducted with the approval of the University of Rochester Institutional Review Boards. The Canisius College Institutional Review Board protocol 2017-18#23 covers archival analysis of RALS data. Data from the 2000-02 cohort were excluded in the current manuscript as they did not provide information about purpose in life or work characteristics in their first wave of assessment.

From these criteria, 307 RALS participants were included in the present analyses, representing 33% of the 937 participants from Cohorts 1, 2, and 3. Of the 348 original participants of the first cohort, 113 are included in the present analyses. For the 298 members of Cohort 2, 104 are included in these analyses. Ninety (90) of the original 291 participants from Cohort 3 are included in the present analyses.

For all cohorts, the first wave of assessment was completed between 2000 and 2002. The most recent wave of assessment was completed between 2012 and 2014 when Cohort 1 participants were in their 60s ($M = 67.61$, $SD = 1.33$, range = 64 - 71), Cohort 2 participants were in their 50s ($M = 56.73$, $SD = 1.25$, range = 54 - 60), and Cohort 3 participants were in their 40s ($M = 45.18$, $SD = 2.16$, range = 42 - 58). The present sample is 47% female ($N = 145$) and primarily Caucasian (93%, $N = 288$). These demographic characteristics are comparable to the general demographics for the RALS available at <https://osf.io/ya4ph/>. Compared to the RALS participants not included in our study, this sample was no different in age ($t(591) = -0.36$, $p = .718$) or gender proportions ($\chi^2(1) = 0.05$, $p = .821$). Age was self-reported. Our data exposure is disclosed in Table 1.

Measures

Table 2 contains the descriptive statistics, zero-order correlations and scale alphas for the following measures:

Sense of purpose. All participants completed the 9-item Purpose in Life subscale of the Ryff Psychological Well-being Scale (Ryff, 1989) at both waves of assessment. Participants responded to four positively scored items including “I am an active person in carrying out the plans I set for myself” and five reverse-scored items such as “I live life one day at a time and don’t really think about the future.” Each item was rated on a six-point scale from strongly disagree (1) to strongly agree (6) in Wave 1 and scored on a five-point scale in Wave 2. To adjust for this discrepancy, we used POMP-scoring such that all scales have a minimum possible score of 0 and a maximum of 100. Purpose was correlated across time at $r = .52$.

Occupational prestige. Participants reported their job titles held since college at both waves of assessment. This job description was coded using Nakao-Treas (1992) occupational prestige coding where higher prestige jobs get a higher numerical value. Occupational prestige was scored for 239 participants in Wave 1 and 249 participants in Wave 2. Occupational prestige was correlated across waves at $r = .60$.

Work satisfaction. Participants completed a single item measure of work satisfaction, “Overall, how satisfied are you with your current work situation?”, rated on a 1 (very dissatisfied) to 5 (very satisfied) scale at both waves of assessment (Vandewater, Ostrove, & Steward, 1997). Of our sample, 218 participants have work satisfaction scores in Wave 1, and 306 have work satisfaction scores in Wave 2. Work satisfaction was correlated across waves at $r = .22$.

Analysis

Our original analyses and hypotheses were preregistered at <https://osf.io/wcmj8>. These analyses centered around multilevel models with purpose regressed onto the career success indicators. Results in line with those previous efforts have been made available at that OSF project page. However, following peer review, we have employed a different strategy which allowed for bi-directional associations over time. We employed two-wave models for testing changes over time, run separately for work satisfaction and occupational prestige. We note that the new models led to significant convergence issues for testing differences by cohort, and therefore we did not examine the exploratory analyses and hypotheses originally described in the preregistration. These exploratory analyses included potential moderation by work engagement, burnout, and age; however, given the use of CLPM here and the relatively low power to test for moderation, we have omitted these. Analyses based on the previous models are available online. Additional deviations are noted with timestamps on the pre-registration page.

Results

We conducted analyses for this study in R [version 3.6.1] (R core team, 2015). Analytic scripts are available at <https://osf.io/td3xa/>, the RALS codebook is available at <https://osf.io/ygfm9/>, and data for the present study are available by request. Full Information Maximum Likelihood was used to estimate models in the presence of missing data¹. For ease of interpretation, we present both unstandardized and standardized coefficient estimates.

Purpose in life was not concurrently associated with occupational prestige at Wave 1 ($r = .05$, 95% CI $[-.08, .17]$, $p = .487$) or Wave 2 ($r = -.07$, $[-.19, .06]$, $p = .297$). However, purpose was significantly associated with work satisfaction at Wave 1 ($r = .36$, $[.24, .47]$, $p < .001$) and Wave 2 ($r = .24$, $[.13, .34]$, $p < .001$). Purpose in life significantly decreased over time ($M_D = -4.18$, $t(306) = -6.00$, $p < .001$). Occupational prestige significantly increased over time ($M_D = -2.33$, $t(195) = -2.47$, $p = .014$). There were no significant changes in work satisfaction over time ($M_D = 0.05$, $t(216) = 0.55$, $p = .581$).

For our primary analyses, we examined the extent to which occupational prestige and work satisfaction were associated with sense of purpose by estimating two cross-lagged panel models. In these models, we estimated the extent to which sense of purpose was stable across the two measurement occasions as well as how strongly it predicted change in the career success indicator of interest at Time 2. Simultaneously, we estimated stability in the career success indicator at Time 1 and how strongly it predicted change in sense of purpose at Time 2. We also examined associations between sense of purpose and the two career success indicators at baseline, and we allowed the residuals at Time 2 to correlate, providing an estimate of correlated change. We visualize these models in Figure 1. These results are presented in Table 3.

We found that, at baseline, occupational prestige was not associated with sense of purpose ($r = 0.04$, 95% CI $[-0.07, 0.15]$). However, we did find a strong positive association between work satisfaction and sense of purpose ($r = 0.31$, 95% CI $[0.18, 0.43]$). Across time, we found relatively high levels of stability for purpose ($b = .58$, 95% CI $[.47, .67]$) and occupational prestige ($b = .71$, 95% CI $[.55, .86]$), although only modest stability for work satisfaction ($b = .20$, 95% CI $[.04, .37]$). We then examined the extent to which the two forms of career success were associated with change in sense of purpose across the

study period. For occupational prestige, no evidence was found for either cross-lag association. Specifically, prestige did not predict change in purpose ($b = .00$, 95% CI [-0.14, 0.13]) nor did purpose predict change in prestige ($b = -0.05$, 95% CI [-0.15, 0.07]). Furthermore, changes between the constructs were unassociated ($r = -0.06$, 95% CI [-0.16, 0.06]). Second, for work satisfaction, we found no evidence for significant cross-lagged paths: work satisfaction did not predict change in purpose ($b = 0.00$ 95% CI [-0.01, 0.01]) and purpose did not predict change in work satisfaction ($b = -1.04$, 95% CI [-2.75, 0.81]). However, the Wave 2 residuals between the constructs were positively correlated ($r = 0.22$, 95% CI [0.09, 0.36]). This may indicate that people who increased relative to their peers in purpose in life over the 12-year period also tended to increase relative to their peers in work satisfaction. However, analyses with repeated assessments are better able to estimate the nature of this co-developmental association.

General Discussion

The current study investigated how sense of purpose in adulthood was associated with objective (occupational prestige) and subjective (work satisfaction) forms of career success. Three primary findings resulted from this investigation. First, subjective but not objective career success was associated with a higher sense of purpose. Second, and similarly, there may be evidence that changes in work satisfaction, but not occupational prestige, were associated with changes in sense of purpose over time. Third, we found no evidence for cross-lagged pathways between sense of purpose and the career success indicators. We discuss below the extent to which these data were strong tests of these hypotheses, and later expand our discussion to the broader challenges of secondary data analysis with longitudinal research.

The current findings extend previous research by investigating how career success may influence sense of purpose over time in adulthood. First, they provide evidence that researchers can benefit by considering specific subjective perceptions of career success, such as work satisfaction, to predict which individuals may feel more purposeful. Second, we provide evidence for the link between sense of purpose and subjective, but not objective, forms of career success. This finding resonates with the literature on meaningful work, whereby individuals are more likely to experience fulfillment stemming from the intrinsic enjoyment of work rather than from extrinsic rewards attached to work (see Rosso, Dekas & Wrzesniewski, 2010 for a review). Third, the lack of direct associations between occupational prestige and sense of purpose provides evidence that the potential benefits of work on sense of purpose are not only reserved for workers doing professional work, or work that is perceived to be more “valuable” by society. This point also resonates with the meaningful work literature which suggests that all work has the potential to be meaningful (e.g., Rosso, et al., 2010; Wrzesniewski, 2003).

However, we note the relative stability of both sense of purpose and occupational prestige, which has important theoretical and statistical implications. Regarding the latter, limited variability in change limits the possibility for other variables to influence a construct; in other words, if relatively few individuals in the study experience a change in sense of purpose, then we cannot examine how other variables contribute to change. In addition, prior work suggests the psychometric structure of assessments of purpose differs post-retirement (Hill & Weston, 2019), pointing to the potential value of instead focusing on life stages as key moments for change in purpose. Alternatively, researchers should consider that larger sample sizes may be necessary to detect predictors of change in sense

of purpose, which would provide more well-powered investigations for predicting change during developmental periods marked by relative stability.

Lessons Learned

Putting aside the results of the current study, there is much to be learned from the process used in this study of preregistering secondary data analysis of longitudinal datasets. Secondary data analysis, or the analysis of preexisting datasets, is an important study design in aging research. These datasets often feature large sample sizes that allow researchers to study events with low base-rates. Similarly, these datasets often track participants over many years, providing a rare opportunity to address key research questions that center on the development of experiences of aging adults, such as declines in health, changes in social networks as roles change, and the ability to maintain (i.e., stop change) in well-being. Unfortunately, these methods -- especially secondary data analysis -- are rife with researcher degrees of freedom. Yet, open science practices must be implemented in aging research if the field wishes to produce credible results (Isaacowitz & Lind, 2019). The current special issue aims to address this issue through preregistration of secondary data analysis. We reflect here on the challenges unique to both analysis of pre-existing data and the design and implementation of longitudinal research, in the hopes of generating awareness and discussion of the strengths and weaknesses of the current open science tools.

Secondary data analysis. The unique challenge of prior knowledge influencing analysis of pre-existing datasets has been identified (Weston, Ritchie, Rohrer, & Przybylski, 2019) and the current issue seeks to address this directly with explicit reporting of prior knowledge by authors (see Table 1). This is the first attempt, to our knowledge, of

a journal-based method to improve transparency. The table provides some useful information -- e.g., the use of hold-out samples, the knowledge of the primary analyst, etc. -- and we believe this table could be expanded to include additional, more specific questions. For example, the current table queries knowledge of the variables used in the analysis; this could be expanded with specific questions about the dataset as a whole, including author awareness of attrition, demographic distributions, or historical events that may impact data systematically.

Importantly, there may be good reasons to be aware of dataset characteristics prior to preregistration. Perhaps the biggest challenge for our research team was determining whether the dataset provided an appropriate test of the research question of interest. Among the biggest concerns was the 12-year gap in assessments: is this an appropriate time lag over which to study the co-development of sense of purpose and career success? In any scientific study, the data should follow the research question, not the other way around. But in the case of secondary data analysis, researchers are constrained by available data. The question changes from “How do we design data collection to test a hypothesis” to “Is this particular study design *close enough* to our ideal design to work?” As with many aspects of research, the answer is subjective -- there are certainly cases that all would agree meet the mark and others cases that all would agree do not. But the challenge for research teams, reviewers, and readers lies in the middle space.

The justification for applying a dataset to a research can be adjudicated by third parties, as is the case for other subjective decisions like which analytic model to apply to a dataset. In some instances, this decision can be handled by those providing the data. The UKBiobank, for example, requires researchers to preregister hypotheses and analysis plans before being granted access to the data. This approach may be problematic, if data

gatekeepers are incentivized to increase the citation counts of their dataset or if they only grant access to ideas that support their theories. Registered reports were originally designed with the evaluation of whether a data collection method and analysis plan was an appropriate test for a specific hypothesis; similarly, registered reports of secondary data analysis can include evaluation of whether the dataset in question is appropriate. Registered reports have the benefit of putting evaluation in the hands of someone who, presumably, will not have personal interest in the dataset.

A third, low-cost approach would be to put adjudication in the hands of readers. Currently, psychologists who collect their own data must justify the collection process and materials used in the manuscript -- readers implicitly evaluate this information when forming an impression of the manuscript and deciding whether to cite it. An easy adaptation to this format would be the addition of a *dataset justification* paragraph to the methods sections of articles including secondary data analysis. Authors should be required to explicitly address the degree to which a dataset is appropriate, and it should be a central tenet of review that readers evaluate this justification. We propose that authors should include a justification paragraph in their manuscripts, that reviewers ask for justification when none exists, and that journals consider mandating this justification for all secondary data analysis submissions.

Longitudinal Data Collection. As we noted, major challenges in secondary data analysis of longitudinal data including accounting for idiosyncrasies in the data as collected and evaluating whether these idiosyncrasies hinder one's ability to address their research questions using the dataset. We provide specific examples by illustrating the story of the RALS dataset used in this study. In 1975, at the time the RALS was begun, ten-year-old data existed from a college student sample on a 60-item scale of Erikson's first six stages

of psychosocial development (Constantinople, 1969). Following up this sample presented a unique opportunity to “gain” time in a longitudinal study. The key decision to include an undergraduate sample from the same institution of similar size and composition made possible a one-time cross-lag comparison that would both examine differences within the four college years in the mid-1960s and in the mid-to-late 1970s and also examine longitudinal changes within the original sample from their early 20s to their early 30s. From a methodological point of view, this approach was not without its limitations. The exigencies of having begun the study after an 11- to 12-year period had passed meant that the period for any future time lag or sequential analysis was preset to be a similar interval.

Despite these problems, the time-lag study made a significant impact in the psychosocial development literature. Moreover, by adding new measures, the 1977 testing also established the basis for future, broader-based studies of personality in adulthood. In addition, the life events measures administered in 1977 provided data on key work and family indicators for the older cohort.

The evolution of technology also directly impacted the RALS over the years. As discussed in a 1995 chapter entitled “Don’t Throw Away Research Materials” (Whitbourne, 1995), some measures from the RALS were lost in transitioning institutions and to digital archives in the 1980s. Consequently, samples for the 1989 follow-up (at which a new college cohort was added) were limited to those who could be tracked down from the available alumni database. This was able to be rectified in 2002 and 2012, for the most part, thanks to the availability of online search tools. Recontacted participants were able to update missing demographic information that had been lost in 1984.

Similarly, item-level files were inadvertently not transferred when transitioning to cloud file storage to facilitate secure data storage and sharing. The rediscovery of item-

level data during the preparation of the manuscript allowed for additional analyses not preregistered. Thus, the anticipated sample size at preregistration based on preliminary documentation and the actual sample size varied when working on specific measures. This information could not have been known without more preexisting knowledge of the data than we had at the time of preregistration. The process of integrating the newly discovered item-level data underscored the importance of redundancy in documentation of archival data as necessary item-level transformations existed in SPSS syntax but not in a master spreadsheet of scale descriptions. When item-level analyses were conducted in R instead of SPSS, only careful checking of data caught potential errors in calculated scale scores.

Each of these examples reflect what lifespan developmentalists have described in numerous methodological contributions: longitudinal (and by extension, sequential) studies present a significant set of challenges. Data are lost, participants disappear, measures themselves can become outdated or recognized later to have limitations, the timing of follow-ups can become an issue, samples are overly homogeneous, significant historical events (such as 9/11, which occurred during data collection) can have unknown effects of the study measures of interest, and technology and best practices evolve in ways that impact study management. It is up to the researchers who embark on these projects to discover creative solutions to the unique challenges they face with their own data sets. Rigorous adherence to the principles of transparency in data documentation, scoring, and analysis are essential to ensuring these studies can make a meaningful, sustained contribution to the field. As such, we propose that it become more normative that researchers directing longitudinal studies prepare reflection papers about their studies like the “Don’t Throw Away Research Materials” chapter (Whitbourne, 1995); publish protocol papers at each wave of assessment; curate transparent resources documenting

what data is available and known challenges or limitations with the data; and provide details regarding how to obtain approval to use existing data for secondary data analysis including expectations for preregistration of secondary data analyses and how decisions for data use and publication will be administered.

Limitations and Future Directions

Several limitations should be noted in order to catalyze future directions for research on work characteristics and sense of purpose. First, the sample size of the present study limited our power for investigating moderation and for investigating cohort differences. Indeed, the use of only two measurement occasions is a central limitation of the current work more generally, as it prevents us from estimating individual differences in trajectories of change . However, correlated change findings provide insight into potential bidirectionality and can be interpreted in multiple ways (Allemand & Martin, 2017). Next, the current findings are subject to self-report biases, which could be mitigated with the addition of observer-reports, such as from coworkers or managers. This addition would help counteract the possibility that the associations found were due to a shared method bias (i.e. to some extent, subjective self-reports reports of satisfaction may predict subjective self-reports of purpose because they were assessed using a similar method, whereas objective reports of prestige may be less strongly associated with subjective self-reports of purpose because they were assessed using very different methods).. Related to this point, it also would be valuable to include lengthier measures for work satisfaction that would allow the use of bi-factor modeling, or other approaches for disentangling a positivity bias. Finally, the current sample investigated a homogeneous sample of well-

educated white Americans, and thus future research should examine whether our results would generalize to other cultures and samples.

These caveats aside, we note that the RALS dataset provides a unique opportunity for assessing the longitudinal influences of work characteristics on sense of purpose, and vice versa, primarily due to the wide age range of participants. Exponential growth in technology over the past several decades has dramatically changed the landscape of work in America, including an increase in high-skill, well-paid jobs and also low-skill, low-paid jobs but declines in jobs that fall in-between (Kalleberg, 2011). A consequence of the changing nature of work is that past and current research on older adults may not generalize to currently young cohorts as they age.

Conclusion

Though work may not be the route to purpose for all adults, the current findings demonstrate that for some individuals it provides a valuable context for the development of sense of purpose across adulthood. Specifically, we showed that individuals with high work satisfaction, but not occupational prestige, reported greater sense of purpose, cross-sectionally and longitudinally. In other words, sense of purpose is not reserved for those in prestigious occupations, but rather for those who find satisfaction in the work they do. These results provide useful knowledge about the features of work most associated with sense of purpose over time and suggest novel avenues for new research.

Further, like many pre-existing longitudinal data sets, the RALS has remained strong in large part thanks to the many students, colleagues, and new researchers who have joined the project, each adding their own unique approaches to taking advantage of this rich data set. We hope the transparency we provide here will give valuable insight to future

researchers as they embark on secondary data analysis in preexisting studies or continue longitudinal studies using existing data sets. These can be rewarding and exciting endeavors but prudence and critical evaluation of the suitability of data, modifications that may need to be made, and transparency in documentation and analyses are all critical to successful management and investigation in such studies.

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Table 1. Disclosure table.

Question	Answer	Explanation
Can you document (with data contract or something similar) that all team members have never had any exposure to the data before the preregistration was created?	No	Two authors (JLS and SKW) had exposure to the data prior to creation of the preregistration.
Do you assert, even if no verifiable evidence exists, that all team members have never had any exposure to the data before the preregistration was created?	No	See above
Do you assert that the author of the preregistration document did not have any exposure to the data before the preregistration, even if some co-authors have worked with the data?	Yes	The author of the preregistration (SJW) had no exposure to the data prior to creation of the preregistration.
Do you assert that the authors of the paper have had no exposure to the primary variables (including calculating descriptive statistics) in the analyses, even if they have worked with other variables from the same sample?	No	Two authors (JLS and SKW) have been exposed to descriptive statistics of the primary variables.
Do you assert that the authors of the paper have had no exposure to one or more primary variables (including calculating descriptive statistics), even if they have worked with some of the primary variables?	No	Two authors (JLS and SKW) have been exposed to descriptive statistics of one or more primary variables.
Do you assert that the authors of the paper have had exposure to all the primary variables, but that they have never done any analyses that examined their associations?	Yes	
Does the primary analysis involve data from new waves of assessment that have never been analyzed (even if similar variables from prior waves had been examined by study authors)?	No	
Have authors had exposure to variables in the same dataset that might be expected to correlate relatively strongly with those used in the primary analysis for this paper (e.g., depression and loneliness; self-esteem and life satisfaction)?	No	

RUNNING HEAD: CAREER SUCCESS AND PURPOSE

Are you analyzing data from a subset of participants (e.g., a hold-out sample) who you have not studied before?	No	
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RUNNING HEAD: CAREER SUCCESS AND PURPOSE

Table 2. Descriptive statistics for primary variables of interest. Scale means, standard deviations, Cronbach's alpha (α) and McDonald's omega (ω) are provided, when appropriate.

Variable	<i>N</i> <i>Valid</i>	<i>M</i>	<i>SD</i>	α	ω	1	2	3	4	5	6
1. Age	304	57.47	9.19								
2. Occ. Prestige (W1)	239	23.10	13.18			-.04					
						[-.17, .08]					
3. Occ. Prestige (W2)	249	24.74	15.64			.15*	.60**				
						[.03, .27]	[.50, .68]				
4. Purpose (W1)	307	81.25	11.70	.81	.85	.00	.05	.03			
						[-.11, .12]	[-.08, .17]	[-.10, .15]			
5. Purpose (W2)	307	77.06	13.10	.79	.85	.11*	.01	-.07	.52**		
						[.00, .22]	[-.12, .14]	[-.19, .06]	[.43, .60]		
6. Work Satisfaction (W1)	218	4.07	0.98			.14*	.09	.02	.36**	.18**	
						[.01, .27]	[-.05, .22]	[-.13, .17]	[.24, .47]	[.05, .31]	
7. Work Satisfaction (W2)	306	4.15	0.99			.12*	-.17**	-.08	.10	.24**	.22**
						[.00, .23]	[-.29, -.05]	[-.20, .05]	[-.01, .21]	[.13, .34]	[.09, .34]

* $p < .05$, ** $p < .01$, *** $p < .001$; W refers to Wave (1 or 2); Occupational is abbreviated Occ.

Table 3. Results of cross-lag panel models.

	Unstandardized Estimates		Standardized Estimates		<i>p</i>
<hr/>					
Occupational Prestige (N = 307)					
Purpose stability	0.58	[0.48, 0.68]	.58	[.47, .67]	< .001
Prestige stability	0.71	[0.55, 0.86]	.71	[.55, .86]	< .001
Correlated intercepts	5.64	[-11.02, 22.77]	.04	[-.07, .15]	.496
Residual correlation at T2	-8.82	[-26.95, 9.41]	-.06	[-.16, .06]	.304
T1 purpose predicts T2 prestige	-0.05	[-0.15, 0.07]	-.06	[-.18, .07]	.358
T1 prestige predicts T2 purpose	0.00	[-0.14, 0.12]	-.00	[-.12, .11]	.976
Work Satisfaction (N = 307)					
Purpose stability	0.61	[0.50, 0.71]	.61	[.49, .72]	< .001
Satisfaction stability	0.20	[0.07, 0.36]	.20	[.04, .37]	.014
Correlated intercepts	3.54	[1.91, 5.29]	.31	[.18, .43]	< .001
Residual correlation at T2	2.53	[1.07, 4.00]	.22	[.09, .36]	.001
T1 purpose predicts T2 satisfaction	-1.04	[-2.75, 0.81]	-.09	[-.22, .07]	.249
T1 satisfaction predicts T2 purpose	0.03	[-0.01, 0.01]	.04	[-.08, .18]	.533

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Coefficient estimates and 95% confidence intervals are presented.

Figure 1. Path diagrams and standardized parameter estimates for cross-lagged panel models

Note. W1 = Wave 1. W2 = Wave 2. Dashed associations were not significant at $p < .05$. Not depicted: parameter estimates for autoregressive stability of each variable.

1. We repeated analyses using a Maximum Likelihood estimator with complete cases only, to determine whether estimates were biased by data missing not at random. The change in effect size was small ($\sim .04$ units or less for standardized estimates) and patterns of statistical significance did not change.