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A career with a heart: exploring occupational regret

Purpose: This paper explores the concept of career regret. It examines processes that give rise to it including social comparison, social influences on career choice and career satisfaction and explores its association with occupational commitment and intention to quit the profession.

Design/Methodology/Approach: Hypotheses were tested among 559 British cardiac physiologists, using an online survey and structural equation modeling.

Findings: Research propositions were supported; social influences and social comparison are both associated with career regret. Direct and indirect pathways were found between career regret, occupational commitment and intention to quit the profession.

Originality/Value: This paper is one of the first to investigate career choice regret and its associated psychological mechanisms.

Research limitations/implications: The paper provides a starting point for future career regret research using a range of methods.

Practical implications:

Careers advisers both at the point of career choice and within organizations should encourage realistic occupation previews. Managers should become aware of career regret and help to mitigate its effects – for example, facilitating job crafting or reframing of experiences.

Key words: Emotions; commitment; careers; career satisfaction; regret.

Article classification: Research paper

Introduction

The career has been defined as “the evolving sequence of a person’s work experiences over time” (Arthur, Hall and Lawrence, 1989:8). A satisfying career is integral to well-being, particularly if work is a key source of identity (Judge and Klinger, 2007). However, research has also found that the career is a life domain about which individuals have the greatest regret (Lecci, Okun and Karoly, 1994). A meta-analytic review based largely on American college samples (Roese and Summerville, 2005) found that career choices were second to educational choices as a source of regret; and for many occupations education is a key factor in shaping career choices. Subsequent more representative research confirmed the career as a key source of life regret (Morrison and Roese, 2011).

Nowadays, the explosion of knowledge is extending the time it takes to gain professional qualifications but rapid technological change and organizational restructuring can quickly render much of that knowledge obsolete (Susskind and Susskind, 2015), increasing the likely risk of career choice regret. Despite considerable individual and organisational costs of career regret, it has received limited research attention. The first contribution of this paper is therefore to draw together the literature on regret and occupational choice within an analytic framework that explores how career regret affects relevant career outcomes.

The second contribution is to incorporate social influences and social comparisons into the analysis. Regret theorising focuses on past decisions and research has shown that decision-making more generally (Chang and Sanfey, 2013), and specifically in the career domain (Grote and Hall, 2013), is influenced by the social context in which decisions are made. Furthermore, Duffy and Dik (2009) have argued that context has been under-examined in career decision-making. We therefore explore social influences on initial occupational choice and contemporary social comparisons with career choices of significant others on career regret.

Given rapidly changing work contexts, it is plausible to assume a degree of career regret, especially among those in professional occupations who have invested in education and training following their initial career choice and often feel under pressure to enter the relevant career to recoup sunk costs. However, we know little about consequences of regret for individuals with respect to their occupational commitment and intention to remain in the profession. The third contribution is therefore to explore the consequences of career regret.

The emotion of regret

Regret is “the emotion that we experience when realizing or imagining that our current situation would have been better, if only we had decided differently. It is an unpleasant feeling coupled with a clear sense of self-blame concerning its causes and strong wishes to undo the current situation” (Zeelenberg and Pieters, 2007:3). At its core is counterfactual thinking, reflecting mental representations of alternatives in the past and it therefore relies strongly on comparison processes.

Regret is distinct from other emotions such as disappointment and dissatisfaction. Tsiros and Mittal explain, “both regret and satisfaction represent a response to a comparison. For satisfaction, the comparison is between expected and actual performance, whereas for regret the comparison is between the performance of the chosen and forgone alternatives...regret is specifically related to choice, whereas satisfaction is related to outcomes” (2000:402). Evidence supports regret’s discriminant validity compared with other negative emotions and demonstrates its distinctive antecedents, experiential qualities and behavioural associations (Tsiros, 1998).

Career regret

Regret has been studied across disciplines including medicine, psychology, economics and marketing (Sullivan, Forret and Mainiero, 2007). However, research in work and

organisational studies is sparse. If the study of work-related regret is to flourish, it requires an appropriate analytic framework. With this in mind, we focus on occupational regret, a choice justified below.

The limited research on career-related regret has focussed on its antecedents. Sullivan et al. (2007) studied individuals facing redundancy who regretted neglecting networking and time invested in work. In a conceptual paper, Verbruggen and De Vos (2016:2) consider career inaction – ‘the failure to act on a desired change in work-related positions’ - as a precursor to regret. Similarly, Lee and Sturm (2017) propose that a negative appraisal of an employment decision (whether a job offer is taken or turned down) could lead employees to experience post-decision regret, shaping decisions about future job offers. Experimental studies consider whether regret precedes behaviour by focusing on the *anticipation* of regret; Reb, Li and Bagger’s (2016) study found that anticipation of regret mediates preferences for jobs in organisations with family friendly policies while Li, Hou and Jia (2015) found that regret mediated the link between social comparison and career-choice certainty among students.

While regrets during a career can be distressing, they arguably have less impact than regret concerning occupational choice, particularly about professional careers, with their considerable sunk costs in education. Occupational choice typically occurs either at late adolescence or early adulthood (Brockman, 2003) because training requirements to enter a professional or vocational occupation (e.g. medicine or engineering) necessitate a decision about further education or specialist occupational/skills training (e.g. an apprenticeship). Some, however, make a career choice that they later regret. Reasons include a misconception about the nature of the work; a failure to attain the educational criteria for a preferred occupation; a lack of vocational maturity, defined as “a readiness for accomplishing relevant vocational tasks at appropriate life stages” (Whiston and Keller, 2004:526); and low

awareness of one's career values, goals and interests, or 'vocational identity' (Feldman and Bolino, 1996).

False starts may lead to abandoning a particular occupation for something more suited. However, for those on a professional path this may be less viable due to the sunk costs of money, time and effort (Irving, *Coleman and Cooper*, 1997) and emotional costs associated with diminished social recognition (Carson, Carson and Bedeian, 1995). But it will not prevent regret about the initial choice. Thus, regret about the decision to embark on a professional career, a decision that over time becomes increasingly hard to retract, is the focus of this study.

The definition of occupational regret by Wrzesniewski, Tosti and Landman (2006:3): "an enduring state of wishing that one had never entered one's current occupation" is used in this study. The word 'enduring' alludes to the continuing nature of the regret, potentially because of an inability or unwillingness to undo the situation. This chronic regret, or sentiment, persists as the career unfolds, unlike short-term regret about a decision, the consequences of which can be undone (e.g. by moving organisation).

Gardner (2016) highlights the diminishing esteem in which professions are held, current challenges to professional autonomy and the impact of technological innovation, as driving changes in professional work. These potentially increase occupational regret and reinforce the case for understanding the processes leading to this emotion. In the absence of existing theory, we present and test a conceptual model of occupational regret drawing on theory and concepts within the fields of vocational, occupational and social psychology, organisational behaviour and decision theory.

A model of occupational regret

While there are several important individual, social and contextual determinants of career regret and regret may generate a range of work-related outcomes, our model focuses on social influences on career choice, social comparison and career satisfaction, as well as the impact of occupational regret on commitment towards the profession. Specifically, we argue that external social influences on occupational choice and a positive comparison with other professional groups are associated with less occupational regret. However, those who believe they compare unfavourably with other occupational groups also report lower career satisfaction (Eddleston, 2009). We therefore explore the association between social comparisons and occupational regret via career satisfaction. Our model additionally considers whether regretful individuals report lower affective occupational commitment and greater intention to quit the profession. Finally, we investigate the mediating role of occupational regret in the link between social comparison and social influence on career choice and occupational commitment and intention to quit the profession. Figure 1 depicts our model. We discuss our hypotheses next.

Regret stems from an unfavourable comparison of what is with what might have been. Social comparison theory (Festinger, 1954) suggests that in the pursuit of self-knowledge, we compare ourselves with others. In doing so, individuals evaluate their current situation against that of others (Buunk and Gibbons, 2007), including specific reference groups. In this context, other professionals provide a particularly apposite reference group against which to evaluate features of their work situation. Hadley, Cantor, Willke, Feder and Cohen's (1992) study of American physicians found that lower income, longer hours, not being in their 'first choice' position, and concern with professional autonomy, all contributed to physicians regretting choosing medicine. Similarly, a small study of regretful HR professionals cited low pay and lack of respect from colleagues as important factors (IRS, 2006). Regret may

therefore arise for many reasons but is likely to gain greater salience when those in occupations, that might have been credible alternatives, appear to be enjoying more satisfactory careers. Whether or not objectively true, individuals may perceive that other occupations fare better on salient characteristics and this social comparison may foster regret. Thus,

H1. Unfavourable social comparison, where the comparator is perceived to be better off with respect to relevant career outcomes, will be associated with greater occupational regret.

The model proposes that career satisfaction mediates the relationship between social comparison and regret. Grote and Hall (2013) highlight the importance of reference groups in shaping career satisfaction outlining their normative, comparative and evaluative functions. In relation to their comparative function, Eddleston (2009) found that unfavourable comparisons are linked to greater career dissatisfaction, a negative feeling likely to contribute to wishing one had chosen differently – i.e. occupational regret. Therefore, we propose:

H2. Career satisfaction mediates the relationship between social comparison and occupational regret

The model also explores the role of social influences on occupational choice. Duffy and Dik (2009:37) argue, “researchers should attempt to quantitatively measure external influences and their effects on important career-related and psychological variables”. They define ‘external’ as originating outside the individual. With respect to occupational regret, this may be important because research has shown that “being absolved from blame is a great way to reduce regret” (Connolly and Zeelenberg, 2002:213). Therefore, the perception that others affected occupational choice may reduce the level of regret. Social influence may also take

the form of support for one's occupational decision – also potentially reducing the level of occupational regret. There are many different 'shapers' of a career (Bosley, Arnold and Cohen, 2009), but since the initial occupational decision typically occurs in early adulthood, relevant influencers may include parents, friends, schoolteachers and university lecturers. We recognise that social influences on occupational choice can often be positive, helping to ensure an appropriate occupational decision. However when, for whatever reason, regret about occupational choice occurs, being able to cite the influence of others passes the 'blame' on to them leading to the following hypothesis:

H3. Greater social influence on the occupational decision will be associated with lower occupational regret.

Research shows a strong link between positive views of work (such as engagement and calling) and occupational commitment (Duffy and Sedlacek, 2007). Building on this evidence, a negative emotion like career regret is hypothesised to lead to reduced commitment. This is in line with Landman et al. (1995), who found that experiencing regret leads to negative mental states. Thus:

H4. Occupational regret is associated with lower affective occupational commitment.

We also explore occupational regret's impact on professional turnover. Although reversing an occupational decision may be costly, this does not preclude the possibility of regretful individuals considering remedial action, referred to by Gilovich and Medvec (1994) as 'behavioural repair work'. The more extreme form of action is leaving the occupation for an alternative career path. We therefore propose:

H5. Occupational regret is associated with higher intention to quit one's profession.

Finally, we investigate occupational regret's mediation role. An extensive literature focuses on fairness at work revealing that negative social comparisons between the way individuals compare their experience with that of others leads to reduced organizational commitment and increased intention to quit (Aquino, Griffeth, Allen and Hom, 1997). We might expect this to extend to negative social comparisons of careers and the associated impact on occupational commitment and intention to quit the profession. When these negative social comparisons are associated with occupational regret, we expect the effect to be stronger. We therefore propose:

H6. Occupational regret mediates the relationship between social comparison and affective occupational commitment and intention to quit the profession.

Research using attribution theory shows that accepting personal responsibility for a poor or regretted decision has a stronger negative impact on outcomes than an externally imposed decision (Weiner, 1982). Therefore, while social influences on occupational choice may influence occupational commitment and turnover intentions, we argue that regret, as a powerful emotion, will mediate this relationship. We therefore propose:

H7. Occupational regret mediates the relationship between social influences on the occupational decision and affective occupational commitment and intention to quit the profession.

Figure 1 presents our model.

Figure 1

Methods

Procedure and participants

The sample occupation, cardiac physiology, has a highly selective entry process in Great Britain requiring high investment prior to full qualification. In addition to a university degree, cardiac physiologists must complete a three-year NHS Scientist Training Programme (British Cardiovascular Society, 2015). This reflects great temporal and financial investment - important when considering chronic occupational regret because of the relative cost of reversing this decision. Like all professions, cardiac physiology provides its members with a distinct professional identity, reinforced by membership of professional bodies. Like several healthcare professions, cardiac physiology has undergone significant change caused by advances in technology, reconfiguration of organisational structures and changes to qualifications for entry (British Cardiovascular Society, 2015). These developments open up career opportunities for some but close them off for others, notably in mid-career.

An online questionnaire was emailed to 2377 cardiac physiologists with information about the study. NHS England facilitated access to respondents. 559 usable responses were received (23.5% response rate). The mean age of participants was 41 years (SD = 10.7), 70.8% were women (representative of the profession) and 63.9% were partnered. Mean job tenure was 11.7 years (SD = 9.6), 89.6% were permanent workers and 74.1% were full-time.

Measures

Unless stated otherwise, all measures were scored on a 5-point rating scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”) using established measures with previously demonstrated validity and reliability. Where this was not the case, details are provided.

Occupational regret. We used a 9-item scale (see Appendix), drawing principally on Wrzesniewski et al. (2006). Positive items were reverse scored - a higher score reflects greater regret. Items were adapted to ensure the scale was focused on the occupation. An example is: “I wish I had chosen a different occupation back when I was starting my career”.

Social comparison. Respondents were asked to identify another profession with which they compare themselves, then to compare themselves to that professional group with respect to pay, prestige, autonomy, career progression, job security and job satisfaction on a 5-point scale (1 = much worse off; 5 = much better off). Items were combined to make a composite scale of social comparison. A low score indicates an unfavourable social comparison.

Social influences on occupational choice. This was measured using four items, combined into a composite measure, each referring to a different career shaper (parents; friends; schoolteacher(s); university lecturer(s)): e.g. ‘my parents were influential in my choice to study cardiac physiology’ – on a 5-point Likert scale from 1 (no influence) to 5 (strong influence).

Career satisfaction. We used a 3-item version of the five-item measure by Greenhaus, Parasuraman and Wormley (1990), adapted to reflect a more general evaluation of a career, rather than specific facets. An example item is: “Overall, I am satisfied with my career so far”.

Affective occupational commitment. We used 4 items of the scale by Meyer, et al. (1993). An example is: “I strongly identify with cardiac physiology”.

Intention to quit profession. We used 3 items from Price (1972). An example item is: “I often think about leaving cardiac physiology”.

Findings

All variables were inspected for distribution characteristics, missing values and outliers. Hypotheses were tested using structural equation models. Mplus, version 7, was used to analyse data. To test for direct and indirect effects, we calculated 95% confidence intervals and applied a bootstrapping technique with 5000 bootstrapping samples as recommended (Preacher, Zyphur and Zhang, 2010).

Model fit and common method variance analysis

Before testing structural paths between variables we assessed the fit of the model and tested for common method variance. We compared the fit of the hypothesised model ($\chi^2 = 353.19$; $df = 183$; $CFI = .96$; $TLI = .96$; $RMSEA = .04$; $SRMR = .04$) against the measurement (CFA) model ($\chi^2 = 424.11$; $df = 185$; $CFI = .94$; $TLI = .94$; $RMSEA = .06$; $SRMR = .08$). The hypothesized model presents better fit as confirmed by a chi-square difference test [$\Delta\chi^2 = 70.92(2)$, $p=.000$] (Satorra & Bentler, 2010).

As a cross-sectional study relying on self-report data, it may suffer from common method bias inflating or deflating the relationship between the constructs in the model (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). To assess common method variance (CMV) we followed the procedure recommended by Williams and McGonagle (2016). We re-estimated the measurement model adding an orthogonal unmeasured latent common factor to set a baseline model to assess the effect of CMV. In this model, observed items were allowed to simultaneously load on their theoretical constructs as well as on the common

method factor. The loadings on the common method factor were constrained to be constant. We first assessed the presence and equality of method effects. We compared this model against a nested model where the loadings on the common method factor were allowed to vary. A chi-square difference test indicated that the baseline ($\chi^2 = 333.52$; $df = 174$) and the re-estimated constrained model ($\chi^2 = 248.05$; $df = 155$) were significantly different [$\Delta\chi^2 = 85.47(19)$, $p=.000$] suggesting that the method factor loadings are different from zero and that CMV potentially affects our results. Next, we analysed a model where the method factor loadings were allowed to vary between substantive factors but were constrained to be equal within these factors. A chi-square difference test indicated that this model ($\chi^2 = 319.10$; $df = 169$) was significantly different from the previous model [$\Delta\chi^2 = 71.04(14)$, $p=.000$] suggesting that CMV does not affect all substantive latent variables equally. Finally, we tested for CMV in the substantive relations by comparing the baseline model against a nested model where the correlations between substantive factors were fixed. This model ($\chi^2 = 413.40$; $df = 181$) was also significantly different from the baseline model [$\Delta\chi^2 = 79.88(7)$, $p=.000$] leading us to conclude that there is bias in the substantive relations between the model variables. We therefore retained the common method factor in our analysis. The model estimates with and without the common method factor are reported in Table 2. Overall, both models produce similar results with the model controlling for CMV presenting slightly higher coefficients and significant indirect effects. Given the preceding analysis we give more credence to the results of the model controlling for CMV.

Descriptive statistics

Table 1 presents the means, standard deviations, reliabilities and correlations of the study variables. All variables have good internal consistency with alphas above .70. Overall, participants report low levels of occupational regret (Mean = 2.19; SD = .64). Occupational

regret is negatively correlated with career satisfaction ($r = -.41$; $p < .01$), social comparison ($r = -.25$; $p < .01$), social influences on the occupational choice ($r = -.10$; $p < .01$) and affective occupational commitment ($r = -.63$; $p < .01$). Occupational regret is also positively correlated with intention to quit the profession ($r = .44$; $p < .01$). Social influences on occupational choice are negatively associated with intention to quit ($r = -.12$; $p < .01$) and more weakly with affective occupational commitment ($r = .07$ ns).

Table 1

Results

We first discuss the direct pathways in our model. These are presented in Table 2 and Figure 2.

Hypotheses 1 and 3 explore the association between unfavourable social comparison and social influence and occupational regret. Results show that a positive social comparison ($\beta = -.18$; $p < .00$) and greater social influence on career choice ($\beta = -.09$; $p < .05$) are associated with lower occupational regret, supporting hypotheses 1 and 3.

Hypothesis 2 proposes that career satisfaction mediates the link between social comparison and occupational regret. Results in Table 2 confirm that unfavourable social comparison is associated with higher occupational regret via its negative impact on career satisfaction ($\beta = -.16$; LLCI = $-.22$, ULCI = $-.11$).

Hypotheses 4 and 5 explore the link between occupational regret, affective occupational commitment and intention to quit the profession. Results confirm our hypotheses that occupational regret is associated with lower affective occupational commitment ($\beta = -.74$; $p < .00$) and with higher intention to quit the profession ($\beta = .48$; $p < .00$).

Figure 2

Hypothesis 6 explores the mediating role of occupational regret in the link between social comparison and both occupational commitment and intention to quit the profession. Results in Table 2 confirm our hypothesis showing that unfavourable social comparison is associated with lower affective occupational commitment ($\beta=.13$; LLCI = .06, ULCI = .20) and higher intention to quit the profession ($\beta=-.09$; LLCI = -.14, ULCI = -.04) via its positive impact on occupational regret. Finally, hypothesis 7 proposes the existence of an indirect effect between social influences on the occupational decision and affective occupational commitment and intention to quit the profession via career regret. Results confirm our hypothesis indicating that social influences on occupational choice are associated with higher affective occupational commitment ($\beta=.07$; LLCI = .01, ULCI = .12) and lower intention to quit the profession ($\beta=-.04$; LLCI = -.08, ULCI = -.01) via occupational regret.

Table 2

Discussion

This study developed and tested a model of occupational regret, drawing on theory from various disciplines. An individual's occupation is usually key to their identity and given the ubiquity of career-related regret and its potentially negative implications, understanding more about regret and how managers can help to mitigate its effects, is important. Professional careers are in flux, with some commentators (e.g. Susskind and Susskind, 2015) pessimistic about their future, raising the possibility of more prevalent occupational regret.

The findings support our model. Results showed that unfavourable social comparison is associated with occupational regret, highlighting the importance of making an informed occupational choice and emphasising the centrality of vocational maturity. Findings confirm

that career satisfaction mediates the relationship between social comparisons and career regret. Unfavourable comparisons are more likely to affect regret if there is lower career satisfaction. In demonstrating the mediating role of career satisfaction, we extend our understanding of the process linking social comparisons and occupational regret.

The hypothesis that greater social influence on occupational choice would be associated with reduced regret was also supported. However, the way in which social influences were measured limits full understanding of its underlying mechanisms. The proposed mechanism was the absolving of blame, which emphasises the importance of framing in influencing emotions. We speculate, in line with attribution theory (Weiner, 1982), that external attributions can act as helpful psychological mechanisms to limit a sense of personal failure. While some scholars have considered the role of ‘others’ in career development theory (Grote and Hall, 2013), they have omitted exploring this blame-assuaging role in individuals’ future adjustment to careers. Suggesting that external influences mitigate the strength and consequences of occupational regret is not a criticism of such influences; they can be very helpful. Our argument is that retrospectively they can serve to limit personal responsibility for a regretted decision and the negative consequences that can sometimes flow from such responsibility.

The finding that occupational regret was negatively associated with occupational commitment has implications for work performance. Discretionary effort diminishes with lower affective commitment (Meyer, Becker and Vandenberghe, 2004), thus those ‘trapped’ in an occupation with which they have low identification may find enacting it every day an uphill struggle. Future research might consider how occupational regret affects performance.

Regret was also associated with intention to quit the profession supporting Zeelenberg and Pieters’ (2007:3) finding that regret “clearly induces decision reversal or undoing behaviours”. However, they qualify this by suggesting that the strategies chosen are those

most “instrumental for the current overarching goal”, which will often be maintaining an income or protecting earlier career investments. Thus, understanding which factors affect the permeability of occupational boundaries may be worth investigating in future research.

Practical implications

Those who enter the medical professions generally report high occupational commitment and cardiac physiologists are no exception. Across the sample, occupational commitment and career satisfaction are fairly high and occupational regret generally low. But there are exceptions and it is important that steps are taken to minimise their regret and sustain commitment. A realistic occupation preview (Earnest, Allen and Landis, 2011), more comprehensive careers advice and time to explore career opportunities prior to making choices about education and training, may ensure fuller knowledge lessening the likelihood of subsequent career regret. This suggests a greater role for career counsellors who could encourage individuals to reframe their experiences (Cochran, 1997) through narrative methods of counselling, reshaping regretful feelings into something more constructive (e.g. appreciating the skills gained from their regretted occupation or engaging in more positive social comparisons). King and Hicks (2007) suggest that regret could aid the maturing process in life. Career coaching can assist individuals in understanding how past regrets can help to avoid regret in future decision-making and help to improve vocational identity or facilitate mobility across occupations. In summary, career counselling can help to minimise occupational regret.

Wishing to quit has important implications for the occupation. Workforce planning for cardiac physiology in Great Britain suggests future supply problems; therefore regret poses a risk for the effective functioning of the profession. Even where individuals remain in an occupation despite wishing to leave, their discontent may manifest itself through

withdrawal behaviours, absence of organisational citizenship behaviour (Lee et al., 2000) or in personal costs, including burnout. If sunk costs mean that reversal of the occupational decision is unrealistic, making changes within occupational boundaries may be a viable alternative. Thus, professional bodies and health sector management might consider how to create varied opportunities within the occupation.

Limitations and further research

Research design

Despite support for the research model, data are cross-sectional, limiting the ability to demonstrate causality. Longitudinal research should therefore explore the temporal nature of processes leading to occupational regret and its relation to key outcomes. The reliance on self-report data leaves results vulnerable to common method bias. However, statistical remedies were used in this study and, arguably, self-report data is appropriate for measuring the key variables, given that individuals are best placed to understand their own emotions and attitudes. The measure of social influence in this study has limitations; it does not fully capture both the perceived positive and negative social influences on occupational choice. Notwithstanding these limitations, the study provides a starting point from which to expand research with alternative designs perhaps using independent or multiple data sources.

The Sample

The sample may have under-estimated the level of occupational regret since regret is associated with intention to quit and regretful individuals may already have left the profession. Future research could target regretful individuals, perhaps collaborating with organisations supporting individuals seeking career change or individuals receiving career counselling. Different occupational samples within the working population should also be studied. Occupational regret could be a function of the extent to which regretted decisions are

easily reversed, which may vary across occupations (e.g. occupations with different entry barriers). Comparing cultural contexts could also enhance understanding, given the different ways in which careers (and by extension, occupational regret) are viewed across national cultures.

Conceptual and theoretical development

Future research should develop the concept of occupational regret, using longitudinal studies and qualitative methods to identify its cognitive, affective and behavioural dimensions. It could also explore whether occupational regret is dynamic and ebbs and flows in response to changes in individuals' work, life or career stages as well as its reversibility.

Establishing a nomological network for career regret is an important foundational step for future research. In identifying further antecedents research could draw on the career choice literature, which highlights the different motives shaping initial career decisions that may affect the occurrence of regret. Personality factors including optimism/pessimism might underlie individuals' propensity for regret, while risk aversion, for example, may explain whether individuals act on regret.

Felt regret may also be dependent on how individuals perceive their career experiences. For example, we noted technological/structural changes in cardiac physiology that may lead to regret only after several years in the profession, which could be surfaced through interpretive methods. Additionally, disappointment with one's career trajectory (e.g. career plateauing) might also fuel regret about career choice. A career stage approach, incorporating concepts such as continuance commitment and entrapment, could help to understand regret's behavioural consequences.

Scholars may explore other types of work-related regret, including organisational regret, potentially affecting graduates taking on their first role, or action-specific regrets about particular steps taken within a career. Conversely, Davidai and Gilovich (2017) discuss regret

about inaction in one's life, which when applied to the career domain, and foregone career opportunities, could improve our understanding of regret.

Conclusion

For many reasons, individuals regret their occupational choice and with rapid change in occupations, occupational regret seems likely to increase. The centrality of work in many lives makes occupational regret a particularly important emotion to understand. Unlike regrets about past events, the effects of which have come and gone, and hypothetical regrets for something *not done*, regret about the decision to enter a profession remains current and has to be 'lived' (Wrzesniewski et al., 2006). This study has explored the antecedents of occupational regret and its implications for individuals, organisations and the profession.

The present study developed a model of occupational regret. While it is by no means complete, encouraging further conceptual and empirical development, several hypotheses derived from the model were supported in an empirical study of professional workers. We hope the directions for future conceptual and empirical development stimulate further research on the role of occupational regret in contemporary careers.

References

- Arthur, M., Hall, D., & Lawrence, B. (1989). Generating new directions in career theory: The case for a transdisciplinary approach. In M. Arthur, D. Hall, & B. Lawrence (Eds.), *Handbook of Career Theory* (pp.7-25)
- Aquino, K., Griffeth, R.W., Allen, D.G., & Hom, P.W. (1997). Integrating justice constructs into the turnover process: A test of a referent cognitions model. *Academy of management Journal*. 40(5),1208-1227.

- Bosley, S., Arnold, J., & Cohen, L. (2009). How other people shape our careers: A typology drawn from career narratives. *Human Relations*. 62(10),1487-1520.
- British Cardiovascular Society (2015). *Strategic review of cardiac physiology services in England: Final Report*.
- Brockman, D. (2013). *From late adolescence to young adulthood*. Routledge.
- Buunk, A., & Gibbons, F. (2007). Social comparison: The end of a theory and the emergence of a field. *Organizational Behavior and Human Decision Processes*. 102(1),3-21.
- Carson, K.D., Carson, P., & Bedeian, A.G. (1995). Development and construct validation of a career entrenchment measure. *Journal of Occupational and Organizational Psychology*. 68(4),301-320.
- Chang, L.J., & Sanfey, A.G. (2011). Great expectations: neural computations underlying the use of social norms in decision-making. *Social cognitive and affective neuroscience*. 8(3),277-284.
- Cochran, L. (1997). *Career counseling: A narrative approach*. Sage publications.
- Connolly, T., & Zeelenberg, M. (2002). Regret in decision making. *Current directions in psychological science*. 11(6),212-216.
- Davidai, S., & Gilovich, T. (2018). The ideal road not taken: The self-discrepancies involved in people's most enduring regrets. *Emotion*. 18(3),439.
- Duffy, R.D., & Dik, B.J. (2009). Beyond the self: External influences in the career development process. *The career development quarterly*. 58(1),29-43.
- Duffy, R.D., & Sedlacek, W.E. (2007). The presence of and search for a calling: Connections to career development. *Journal of Vocational Behavior*. 70(3),590-601.
- Earnest, D.R., Allen, D.G., & Landis, R.S. (2011). Mechanisms linking realistic job previews with turnover: A meta-analytic path analysis. *Personnel Psychology*. 64(4),865-897.

Eddleston, K.A. (2009). The effects of social comparisons on managerial career satisfaction and turnover intentions. *Career Development International*. 14(1),87-110.

Feldman, D.C., & Bolino, M.C. (1996). Careers within careers: Reconceptualizing the nature of career anchors and their consequences. *Human Resource Management Review*. 6(2),89-112.

Festinger, L. (1954). A theory of social comparison processes. *Human relations*. 7(2),117-140.

Gardner, H. (2016). Is there a future for the professions? An interim verdict. *The Hedgehog Review*. 18(01),74.

Gilovich, T., & Medvec, V.H. (1994). The temporal pattern to the experience of regret. *Journal of personality and social psychology*. 67(3),357.

Greenhaus, J., Parasuraman, S., & Wormley, W. (1990). Effects of race on organizational experiences, job performance evaluations, and career outcomes. *Academy of management Journal*. 33(1),64-86.

Grote, G., & Hall, D.T. (2013). Reference groups: A missing link in career studies. *Journal of vocational behaviour*. 83(3),265-279.

Hadley, J., Cantor, J., Willke, R., Feder, J., & Cohen, A. (1992). Young physicians most and least likely to have second thoughts about a career in medicine. *Academic Medicine*.

IRS Employment Review (2006). One in 100 chose HR for the money but many regret career choice. *Employment Trends*. 861,7.

Irving, P.G., Coleman, D.F., & Cooper, C.L. (1997). Further assessments of a three-component model of occupational commitment: Generalizability and differences across occupations. *Journal of applied psychology*. 82(3),444.

Judge, T.A., & Klinger, R., (2007). Job satisfaction: Subjective well-being at work. In M. Eid, & R. Larsen (Eds.), *The Science of Subjective Well-being* (pp.393-413).

- King, L.A., & Hicks, J.A. (2007). Whatever happened to "What might have been"? Regrets, happiness, and maturity. *American Psychologist*. 62(7),625.
- Landman, J., Vandewater, E.A., Stewart, A.J., & Malley, J.E. (1995). Missed opportunities: Psychological ramifications of counterfactual thought in midlife women. *Journal of Adult Development*. 2(2),87-97.
- Lecci, L., Okun, M.A., & Karoly, P. (1994). Life regrets and current goals as predictors of psychological adjustment. *Journal of Personality and Social Psychology*. 66(4),731.
- Lee, H., & Sturm, R.E. (2017). A sequential choice perspective of postdecision regret and counterfactual thinking in voluntary turnover decisions. *Journal of Vocational Behavior*. 99,11-23.
- Li, X., Hou, Z.J., & Jia, Y. (2015). The influence of social comparison on career decision-making: Vocational identity as a moderator and regret as a mediator. *Journal of Vocational Behavior*. 86,10-19.
- Meyer, J.P., Allen, N.J., & Smith, C.A. (1993). Commitment to organizations and occupations: Extension and test of a three-component conceptualization. *Journal of applied psychology*. 78(4),538.
- Meyer, J.P., Becker, T.E., & Vandenberghe, C. (2004). Employee commitment and motivation: a conceptual analysis and integrative model. *Journal of applied psychology*. 89(6),991.
- Morrison, M., & Roese, N.J. (2011). Regrets of the typical American: Findings from a nationally representative sample. *Social Psychological and Personality Science*. 2(6),576-583.
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., & Podsakoff, N.P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of applied psychology*. 88(5),879.

- Preacher, K.J., Zyphur, M.J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychological methods*. 15(3),209.
- Price, J.L. (1997). Handbook of organizational measurement. *International journal of manpower*. 18(4/5/6), 305-558.
- Reb, J., Li, A., & Bagger, J. (2016). Preferences for Family-Friendly Benefits: Anticipated Regret, Work Centrality, and Decoy Options. In *Academy of Management Proceedings* (Vol.2016, No.1, p.15240). Academy of Management.
- Roese, N.J., & Summerville, A. (2005). What we regret most... and why. *Personality and Social Psychology Bulletin*. 31(9),1273-1285.
- Satorra, A., & Bentler, P.M. (2010). Ensuring positiveness of the scaled difference chi-square test statistic. *Psychometrika*, 75(2),243-248.
- Stone-Romero, E.F., & Rosopa, P.J. (2010). Research design options for testing mediation models and their implications for facets of validity. *Journal of Managerial Psychology*. 25(7),697-712.
- Sullivan, S.E., Forret, M.L., & Mainiero, L.A. (2007). No regrets? An investigation of the relationship between being laid off and experiencing career regrets. *Journal of Managerial Psychology*. 22(8),787-804.
- Susskind, R.E., & Susskind, D. (2015). *The future of the professions: How technology will transform the work of human experts*. Oxford University Press, USA.
- Tsiros, M. (1998). Effect of regret on post-choice valuation: The case of more than two alternatives. *Organizational Behavior and Human Decision Processes*. 76(1),48-69.
- Tsiros, M., & Mittal, V. (2000). Regret: A model of its antecedents and consequences in consumer decision making. *Journal of Consumer Research*. 26(4),401-417.

- Verbruggen, M., & De Vos, A. (2016). When People Don't Realize Their Career Decisions: Towards a Theory of Career Inaction. In *Academy of Management Proceedings* (Vol.2016, No.1, p.10906). Academy of Management.
- Weiner, B. (1982). An attribution theory of motivation and emotion. *Series in Clinical & Community Psychology: Achievement, Stress, & Anxiety*.
- Whiston, S.C., & Keller, B.K. (2004). The influences of the family of origin on career development: A review and analysis. *The counseling psychologist*. 32(4),493-568.
- Williams, L.J., & McGonagle, A.K. (2016). Four research designs and a comprehensive analysis strategy for investigating common method variance with self-report measures using latent variables. *Journal of Business and Psychology*. 31(3),339-359.
- Wrzesniewski, A., Tosti, J. & Landman, J., (2006). *If I could turn back time: Occupational regret and its consequences for work and life*. Working Paper.
- Zeelenberg, M., & Pieters, R. (2007). A theory of regret regulation 1.0. *Journal of Consumer psychology*. 17(1),3-18.

APPENDIX A

Occupational regret items

I wish I had chosen a different occupation back when I was starting my career

If I could turn back the clock, I would choose a career in cardiac physiology again

I feel I made a mistake going into cardiac physiology

I definitely chose the right career(R)

If it were completely up to me, I would never change my occupation(R)

I often think about changing my occupation to something else I'd prefer

I think I made an error of judgement in choosing this career path

When I chose cardiac physiology, I was confident it was the best choice of career, based on the information I had available at the time

I think I would be more satisfied now, had I chosen a different career