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# Work-Value Profile and Career Success

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Work-Value Profile and Career Success

by

Chee Wee Koh

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy  
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College of Arts and Sciences  
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## **Dedication**

To my wife Kathlyn and daughter Caeia, who have shared every step of this journey with me.

To our family members for their unconditional love, support, and trust.

To the Singapore Public Service, for a meaningful and satisfying career.

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## Glossary

ABF: American Bar Foundation

AIC: Akaike information criterion

AJD: After the Juris Doctorate study

BCH: LPA module in Mplus which models both antecedents and outcomes

BIC: Bayesian information criterion

BLRT: Bootstrap likelihood ratio test

BTL: Business, trade association, or labor union

EFA: Exploratory factor analysis

GPI: Government or public interest (firm)

HE[I]: The “highly extrinsic, also intrinsic” work-value profile

HI: The “highly intrinsic” work-value profile

HI[E]: The “highly intrinsic, also extrinsic” work-value profile

JD: Juris doctorate

LCA: Latent class analysis

LL: Log-likelihood

LMR: Lo-Mendell-Rubin likelihood ratio test

LPA: Latent profile analysis

LOC: Locus of control

MI: Measurement invariance

MIE: The “moderately intrinsic and extrinsic” work-value profile

MLR: Robust maximum likelihood (estimates)

NALP: National Association for Law Placement

NIE: The “neither intrinsic nor extrinsic” work-value profile

OCS: Objective career success

P-O fit: Person-organization fit

R3STEP: LPA module in Mplus which is computationally equivalent to BCH; it only models antecedents but provides most-likely profile information in its output

SCCT: Social cognitive career theory

SCS: Subjective career success

SDT: Self-determination theory

SEM: Structural equation modeling

SSA-BIC: Sample-size-adjusted BIC

TWA: Theory of work adjustment

UGPA: Undergraduate grade point average

WLB: Work-life balance

## Abstract

Work values, defined as the end states people desire and expect to realize through work, appear to play a role in career success, but the small number of past studies have reported conflicting results, some of which may be attributed to research methodology. Using a person-centered approach to model the conjoint effects of intrinsic and extrinsic work values, the present study inductively investigated the association between work-value profile and career success using a three-panel longitudinal dataset consisting of 905 lawyers from the After the Juris Doctorate (AJD) study. Latent profile analysis identified five work-value profiles: (i) Neither Intrinsic nor Extrinsic (*NIE*); (ii) Moderately Intrinsic and Extrinsic (*MIE*); (iii) Highly Intrinsic (*HI*); (iv) Highly Intrinsic, also Extrinsic (*HI[E]*); and (v) Highly Extrinsic, also Intrinsic (*HE[I]*). Measurement invariance was established across gender, but gender was an antecedent to profile assignment, with males being more likely to belong to the *NIE*, *MIE*, or *HE[I]* profiles compared to the *HI* profile. The work-value profile construct displayed intuitive and meaningful relationships with objective and subjective career success indicators over time. The results exposed the inadequacies of methods that examine the effects of intrinsic and extrinsic work values separately. The two sets of values appeared to interact in a non-linear fashion in their associations with career variables, such that modelling them simultaneously, but only linearly, might also be misleading. Contrary to claims made by studies based on the self-determination theory, the *HI* profile was not positively associated with subjective career success. Generally, the more successful lawyers from early to mid-career also tended to report high intrinsic *and* high

extrinsic work values i.e., those with the *HI[E]* and *HE[I]* profiles; the former enjoyed higher subjective career success while the latter exhibited the highest objective career success. The absence of the highly extrinsic profile among this sample of lawyers reinforced past calls to restructure the transactional rewards systems in large law firms.

## Chapter One

### Introduction

A career used to be conceived as a sequence of positions held by a person during the course of a lifetime (Super, 1957). It often evolved within a single organization as secured, committed, and motivated employees advanced in the hierarchy (Kanter, 1989). Economic and social vicissitudes along with major industrial transformations in the past few decades have decoupled career from organizations and given rise to new career constructs that reside within the individual e.g., the protean career (Hall, 1976), the boundaryless career (Arthur, 1994), and psychological success (Mirvis & Hall, 1994). While the traditional organizational career still exists (e.g., Chudzikowski, 2012), and job mobility is not universally beneficial (e.g., Verbruggen, 2012), the preponderance of evidence does show that individuals - at least those with higher human capital<sup>1</sup> - have been experiencing greater variety in career trajectories as they become more proactive in charting their own careers (e.g., Colakoglu, 2011; Stumpf, 2014).

Echoing this trend, career success has been defined as ‘accomplishment of desirable work-related outcomes *at any point* in a person’s work experience over time’ (Arthur, Khapova, & Wilderom, 2005, p. 179; italics added). Among the constructs that have shaped career scholarship in the past 25 years, ‘career success’ has registered the highest citation rate, trumping terms like ‘career stage’ and ‘employability’ (Baruch, Szucs, & Gunz, 2015). This is not unexpected. Career success influences individuals’ living standards, the sense of satisfaction they derive from their work, and their overall well-being; organizations also benefit because

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<sup>1</sup> The participants in most career success studies were professionals, managers, or MBA students (Hennequin, 2007).

employees' personal successes ultimately accrue to organizational success (Judge, Higgins, Thoresen, & Barrick, 1999).

As more individuals assume stewardship of their own careers, individual differences naturally emerged as one key theme in career success research. The individual differences predictors in career research have closely mirrored those in job performance studies i.e., cognitive ability and personality (Ng, Eby, Sorensen, & Feldman, 2005; Ng & Feldman, 2014), likely because jobs are building blocks of careers. The current study aims to extend career success research beyond these familiar clusters of individual differences predictors. Specifically, it examines the association between work values and career success.

Work values are the end states people desire and expect to realize through work (Nord, Brief, Atieh, & Doherty, 1990). Work value research originated in vocational guidance and career counselling (Zytowski, 1994); it was integral to the life-span, life-space theory (Super, 1980), the theory of work adjustment (Dawis & Lofquist, 1984), Holland's (1997) vocational interest theory, and social cognitive career theory (Lent, Brown, & Hackett, 1994). The overarching idea is that people are more motivated, satisfied, and committed when the values emphasized in the organization or job are congruent with their own. This concept of "fit" has spawned much I/O psychology research focusing on person-job and person-organizational fit (Murdoch & Rounds, 2014). However, the impact of work values is seldom investigated beyond this contingency approach. Only a small number of studies have examined the direct relationship between work values and career outcomes.

Two meta-analytic findings suggest that this line of inquiry can be productive. First, although personality may influence personal values (e.g., Olver & Mooradian, 2003; Roberts & Robins, 2000), values and personality are distinct constructs (Parks-Leduc, Feldman, & Bardi,



2015). Second, work values may be even more stable than personality; they crystallize in early adulthood and individuals generally maintain their rank-order in a group across the life span (Jin & Rounds, 2012). Work values measured in early adulthood have been shown to endure rapid social changes to predict later career outcomes, and this effect has been attributed to their focus on general job features instead of specific job characteristics (Johnson & Mortimer, 2011).

Because work values are relatively stable across time and situations, and because individuals differ in their work values, people will differentially perceive their work situations, resulting in varied career consequences (Hofman, De Gieter, & Pepermans, 2013). Yet, compared to vocational interests, abilities, and personality traits, values have not gained as much attention from career researchers (Bouwkamp-Memmer, Whiston, & Hartung, 2013).

There exist numerous work value measures, which have led to different work value taxonomies with significant overlaps (Leuty & Hansen, 2011). The higher order extrinsic-intrinsic distinction has dominated studies on work values as antecedents of work outcomes (Johnson, Mortimer, Lee, & Stern, 2007; Wang, 1992). Intrinsic work values reflect the importance attached to the rewarding nature of the work tasks themselves, including autonomy, learning, or helping others, whereas extrinsic work values capture the degree of importance bestowed on job features that are means to other ends, such as pay, security or prestige (Johnson, Sage, & Mortimer, 2012).

The two sets of values are not opposite ends of a continuum because most people would likely value some degree of material success as well as fulfilling work (e.g., Johnson & Mortimer, 2011; Judge, Cable, Boudreau, & Bretz, 1995; Mortimer, Pimentel, Ryu, Nash, & Lee, 1996). This suggests that it may be illuminating to examine the conjoint effects of intrinsic and extrinsic

values within persons. The relative importance of extrinsic versus intrinsic values, or work-value orientation, is expected to vary across individuals (Malka & Chatman, 2003).

Consequently, the current study adopts a *person-centered* approach (e.g., Owens & Schoenfeldt, 1979) to explore career outcomes in various subgroups that comprise individuals who share similar work-value orientations. Specifically, latent profile analysis (LPA; Hagnaars & McCutcheon, 2002) was applied to identify latent work-value profiles in an archival dataset and to relate profile membership to various career variables over time. This approach may help explain discrepant results from previous, *variable-centered*, studies that treated intrinsic and extrinsic work values as separate antecedents (e.g., Frieze, Olson, Murrell, & Selvan, 2006; Mortimer & Lorence, 1979). More consistent findings have already emerged from studies that investigated job outcomes associated with an extrinsic work-value orientation (e.g., Kasser & Ryan, 1993; Vansteenkiste, Neyrinck, Niemiec, Soenens, De Witte, & Van den Broeck, 2007); other profiles likely exist and they may impact career variables in different but systematic ways.

The sample for the current study was drawn from the After the Juris Doctorate (AJD) study, whose purpose was to understand the nature and complexities of legal careers as they unfold over time (Dinovitzer, Garth, Sander, Sterling, & Wilder, 2004). Legal career research based on AJD and other data have consistently found that more well-paid lawyers also tended to report lower career satisfaction and subjective well-being (e.g., Dinovitzer & Garth, 2007; Sheldon & Krieger, 2014). This contrasts with meta-analytic findings (Ng et al., 2005) as well as results from cross-lagged panel studies involving professional samples (Abele & Spurk, 2009a; Spurk & Abele, 2014), which have shown that salary and affective evaluation of career were positively correlated. Some of these apparent contradictions may be resolved using a person-centered approach i.e., population heterogeneity likely exists in the form of work-value profiles,

and the relationship between salary and career satisfaction may be quantitatively and/or qualitatively different across these profiles.

### **Career Success**

Individuals can experience career success in the material (objective) and psychological (subjective) realms (London & Stumpf, 1982). Objective career success (OCS) refers to externally verifiable accomplishments like salary, promotion, and job level (Judge & Kammeyer-Mueller, 2007). It also reflects the shared social understanding of success by a referent group (Arthur et al., 2005).

The importance of OCS has never been challenged, but OCS is only one aspect of career success. For instance, a series of studies in the 1970s found that managers were often dissatisfied with their career, despite their income and position (see Korman, 1980; Korman, Wittig-Berman, & Lang, 1981). Concurrently, the erosion of traditional career elements like vertical mobility and job security in the post-industrial economic landscape has inspired career theories that emphasize the need for individual career self-management (Briscoe & Hall, 2006), alongside the recognition that individuals show considerable variation in what they value in a career and the factors they use to evaluate their own career success (Greenhaus & Callanan, 2013).

These cognitive and affective evaluations constitute a person's subjective career success (SCS), which reflect the individual's interpretation of his or her career accomplishments (e.g., Gattiker & Larwood, 1986). Despite earlier claims about (objective) career success leading to personal failure (e.g., Korman, 1980), a meta-analysis has found that the key dimensions of OCS (salary and promotion) and SCS (career satisfaction) are positively correlated ( $r_c = .30$  and  $.18$ , respectively; Ng et al., 2005).

Career success exhibits high stability over time. Among university graduates, correlations between salary over time were in the .55 to .60 range when measurements were taken 2 years apart; the corresponding SCS measures have displayed even greater stability, in the .70 to .80 range (Spurk & Abele, 2014). One interesting empirical question would be whether there exist population subgroups where individuals share similar patterns of career changes over time.

While conceptually well-defined, when used as a criterion, the operationalization of OCS often requires compromises, leading to criterion deficiency and contamination (Heslin, 2005). For instance, when OCS is examined in the general population, salary and promotions are likely contaminated by labor market differences across occupations. This source of contamination can either be statistically controlled if sample size is large (e.g., Abele & Spurk, 2009b) or by sampling only individuals from the same profession. The present study used the latter strategy.

The OCS criterion is often deficient in studies that use confirmatory analytic techniques like structural equation modeling (SEM). For instance, salary and promotion are conceptually distinct; although they are positively related, the size of the correlation is quite small (meta-analytic effect size  $r_c = .18$ ; Ng et al., 2005). In other words, if they were to be modeled as separate indicators of a latent OCS construct, the measurement model may not converge. This may account for why, in many studies, OCS has been indexed either by salary only (e.g., Judge et al., 1995; Spurk & Abele, 2014; Wolff & Moser, 2009) or by position in the corporate hierarchy only (e.g., Bozionelos, 2004; Gattiker & Larwood, 1990). A small number of studies have tried to alleviate criterion deficiency through measures based on a linear combination of OCS indicators (e.g., Abele, 2003; Abele & Spurk, 2009a; Judge & Bretz, 1994); however the psychometric properties of these ad-hoc scales were often not reported. Alternatively, one can

include multiple OCS indicators as separate observed variables in a study (e.g., Abele & Spurk, 2009b). This approach is particularly well-suited for exploratory research like the present study.

In contrast to OCS, there has not been a strong consensus on the dimensions of SCS. The following operationalization have emerged from a quick, non-exhaustive survey of the literature: perceived career success (e.g., Forret & Doherty, 2004; Kirchmeyer, 1998), career satisfaction only (e.g., De Vos, Dewettinck, & Buyens, 2009; Wolff & Moser, 2009), career and job satisfaction (e.g., Verbruggen, 2012), job and life satisfaction (e.g., Judge & Bretz, 1994), career, job and life satisfaction (Russo, Guo, & Baruch, 2014), job satisfaction only (Judge et al., 1999), career satisfaction, perceived internal marketability, and perceived external marketability (Eby, Butts, & Lockwood, 2003) and even core self-evaluations (Stumpf and Tymon, 2012). Shockley, Ureksoy, Rodopman, Poteat, and Dullaghan (2016) estimated that about half of all SCS studies to date have used unidimensional operationalization, either as career satisfaction (e.g., Greenhaus, Parasuraman, & Wormley, 1990) or perceived career success (Turban & Dougherty, 1994). This has naturally created some unease relating to criterion deficiency (e.g., Arthur et al., 2005; Heslin, 2005).

As part of their efforts to develop more comprehensive SCS scales, three recent studies (Pan & Zhou, 2015; Shockley et al., 2016; Zhou, Su, Guan, Li, & Pan, 2013) have clarified the structure of SCS. Zhou et al. (2013) used the grounded theory approach to develop a theory of SCS through a bottom-up process in China. Structured interviews were first conducted to determine the criteria of SCS. This generated a set of preliminary items. A group of participants then rated how much they thought each item could be a criterion for career success. The data underwent exploratory factor analysis and some items were dropped. Finally, another group of

participants performed the same task for a confirmatory factor analysis. The process resulted in three categories of items - intrinsic fulfilment, external compensation, and work-life balance.

Using the items from Zhou et al. (2013) as their starting point, Pan and Zhou (2015) replicated the factor structure, derived a shorter scale, and established the convergent, discriminant, and incremental validity of the new scale in China. Shockley et al. (2016) used similar strategies as Zhou and colleagues to create a scale for the western context. The final scale consists of eight dimensions<sup>2</sup>, one of which is positive affect or feelings toward one's career in general i.e., career satisfaction.

Collectively, the three studies provided at least three insights. First, there were similarities in qualitative and quantitative findings from the oriental and western samples, suggesting overlaps in SCS dimensions across the cultures. Second, all three studies identified work-life balance (WLB) as a dimension of career success, affirming the finding of several earlier studies (e.g., Afiouni & Karam, 2014; Dyke & Murphy, 2006; Kim, 2004; McDonald & Hite, 2008). To date, SCS studies seldom include WLB as a criterion. Third, in Shockley et al. (2016), the career satisfaction dimension and the overall SCS index were highly correlated ( $r = .82$  in one of the validation studies,  $r = .80$  in the other), showing that career satisfaction is indeed an adequate indicator of SCS. Furthermore, correlation between the career satisfaction and WLB dimensions was in the low to moderate range ( $r = .22$  in one study;  $r = .37$  in the other), suggesting that a study including measures of career and WLB satisfaction may capture much of the variance in SCS. Both SCS indicators are examined in the present study.

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<sup>2</sup> A ninth dimension, financial stability and advancement (similar to the external compensation dimension from the Chinese studies), was dropped from the scale based on theoretical consideration (Shockley et al., 2016).

## **Antecedents of Career Success**

Despite operationalization challenges, a large body of work on the antecedents of OCS and SCS has been accumulated. Ng et al. (2015) conducted a comprehensive quantitative review on the antecedents of OCS (salary and promotion) and SCS (career satisfaction). Another meta-analysis has focused on the hurdles to SCS in which SCS was operationalized more broadly (affect-based or cognition-based; Ng & Feldman, 2014).

Ng et al. (2005) classified career success antecedents into four categories: human capital, organizational sponsorship, socio-demographic, and stable individual differences. Human capital includes an individual's education, work experience, and social capital. Organizational sponsorship involves career support from senior executives and training/development opportunities. Socio-demographic predictors include variables such as gender, age and marital status. Stable individual differences variables include cognitive ability, the Big Five personality factors, proactive personality, and locus of control.

Several results from Ng et al. (2015) have implications for the current study, specifically those relating to the socio-demographic and stable individual differences variables. First, among socio-demographics, age ( $r_c = .26$ ), gender (coded as male = 1, female = 0;  $r_c = .18$ ), and marital status (married = 1, unmarried = 0;  $r_c = .16$ ) have small meta-analytic associations with salary. Second, among the individual differences predictors of salary, cognitive ability stood out with an  $r_c$  of .27 (the next highest  $r_c$  was  $-.12$ , for neuroticism). Third, with regard to career satisfaction, none of the effect sizes associated with the socio-demographic variables was greater than .10, and the best individual differences predictor was locus of control (LOC;  $r_c = .47$ ; internal LOC associated with higher satisfaction).

Ng and Feldman (2014) have likewise reported a meta-analytic correlation of .40 between external LOC and SCS (operationalized as career satisfaction). At least two meta-analyses have found moderate association between LOC and job satisfaction ( $r_c = .32$  in Judge & Bono, 2001;  $r_c = .33$  in Ng, Sorensen, & Eby, 2006), another popular SCS indicator. With regard to cognitive ability, it has been shown that the higher the occupational complexity, the greater its effect on salary (e.g., Ganzach, Gotlibowski, Greenberg, & Pazy, 2013). Therefore, we would expect cognitive ability to have a significant impact on lawyers' salary.

The first implication of these results for the present study is that we may have to control for the effects of age, sex, marital status, cognitive ability, and LOC during data analysis. The second implication is that there is a gap in the literature with regard to whether and how work values relates to career success - despite their extensive lists of antecedents, both Ng et al. (2005) and Ng and Feldman (2014) do not feature work values, which suggests the paucity of primary studies. The following section explains why this particular individual differences attribute may be important to career success.

## **Work Values**

Values can be defined as 'desirable end states or behaviors that transcend specific situations, guide selection or evaluation of behavior and events, and are ordered by relative importance' (Schwartz & Bilsky, 1987, p. 551). Like need, value is a motivational construct. Although 'needs' and 'values' are sometimes used interchangeably, most scholars would perceive needs as a more basic entity linked to biological necessity (e.g., Rokeach, 1973). Values, on the other hand, are often seen as a higher-order psychological construct emerging from the interactions among needs, culture, and experience, and thus capable of explaining a wider range of phenomena (Murdoch & Rounds, 2014).



Work values are expressions of basic values in the work setting (Ros, Schwartz, & Surkiss, 1999). By definition, they capture the general goals or satisfactions sought by people at work (Savickas, 2014). Work values have been an important individual differences variable explaining career choice, adjustment, and satisfaction. What follows is a brief review of four influential career theories that illustrate the integral role of work values in career research, and more importantly, show how they have been typecast in such research.

Super (1953, 1962) conceived of an occupational selection model where work values constituted a critical aspect of vocational identity. In this model, self-concept was a joint product of vocational identity (e.g., work values, interests, and abilities), objective feedback (e.g., job performance) and subjective sense of self (e.g., whether one is creative). People are drawn to work that would enable them to foster their ideal self-concepts because that would result in the greatest satisfaction. According to Super, career decisions are driven by one's belief in the potential of various occupations to facilitate this desired end state. In this regard, choosing a career is a lifelong developmental process of which work values are an integral part.

Holland's theory of vocational choice (1959, 1997) proposed that both people and their working environments can be categorized into one of the six types: realistic, investigative, artistic, social, enterprising, and conventional (RIASEC). Each personality type exhibits distinctive preferences, values, and self-evaluations. Individuals resemble the six model personalities to varying degrees, and a person may be described in terms his or her dominant personality types. Each of the six model environments is expected to make different demands, provide different rewards and opportunities, and encourage the expression of different values. Again, actual work environments can be classified according to this typology. People seek work environments that will let them express their competencies, preferences, and values. Similarly,

any work environment would reward the characteristic attitudes, competencies, and interests associated with its corresponding personality type and not support development of personalities incompatible with it.

The theory of work adjustment (TWA; Dawis & Lofquist, 1984) is also based on person-environment fit (or “correspondence”). However it focuses on work-related abilities and work values rather than interests. TWA posits a reciprocal relationship between person (job-holder) and environment (e.g., job) that together determines job tenure. Jobs require employees to have certain abilities, and employees expect jobs to provide “reinforcers” of key values like status, safety, and autonomy. If a person’s abilities (e.g., knowledge and skills) meet or exceed the requirements of the job role or the organization, s/he would likely perform well and be perceived as “satisfactory” by the employer. Similarly, when the reinforcers correspond to the person’s work values, s/he will likely perceive the job as “satisfying”. Even a good correspondence can change over time, and the tolerance for less than ideal correspondence depends on flexibility of the person or the environment. Otherwise, poor fit must be addressed by active or reactive adjustments (i.e., either changing to meet expectations or lowering expectations to meet reality). Where adjustments fail, unsatisfactory employees may be fired, transferred, or laid off, while dissatisfied employees may engage in counterproductive behaviors or quit the job.

In social cognitive career theory (SCCT; Lent & Brown, 2013; Lent et al., 1994), adaptive career behaviors (e.g., engaging in career exploration) are conceived as a function of an individual’s self-efficacy, outcome expectations, goals, and support or barriers in the environment. Outcome expectations are beliefs about the consequences of courses of actions in a particular environment. The desirability of an outcome depends on how much it is valued i.e., work values are incorporated as part of outcome expectations in SCCT (Hartung, 2014). The

main contribution of SCCT lies in the explication of self-efficacy's role in career development, but the role of work values is also acknowledged - they are thought to influence adaptive career behaviors through self-regulatory processes that interact with social-contextual factors to initiate career attainment behaviors (Huttges & Fay, 2015).

It is clear that person-environment fit is a key theme in all of the above theories. Together, they have placed work values in a contingency role and inspired a large body of work on how “fit” relates to important work consequences such as job satisfaction, organizational commitment, intent to quit, job performance, and organizational citizenship behavior (e.g., Boon, Den Hartog, Boselie, & Paauwe, 2011; Oh, Guay, Kim, Harold, Lee, Heo, & Shin, 2014; Vilela, Gonzales, & Ferrin, 2008).

A few studies have also examined the effects of fit on career success (e.g., Bretz & Judge, 1994; Y. Haines, Hamouche, & Saba, 2014). For instance, Bretz and Judge (1994) created two parallel 15-item lists, one on “individual preferences” (i.e., work values; e.g., “I place a high emphasis on helping others.”) and the other on “job and organization perception” (i.e., reinforcer; e.g., “There is an emphasis on helping others.”). Person-organization (P-O) fit was determined by the extent to which participants endorsed corresponding items on both lists. Controlling for demographics, human capital, and contextual factors, the authors did find a sizeable effect of P-O fit on job satisfaction, and smaller effects on salary, promotion, and tenure. Interestingly, work values also showed independent effects on tenure, job satisfaction, and job level, but it was difficult to interpret the results because the work value items were not theoretically-derived.

The fit approach is consistent with current knowledge that value expressions are moderated by situational strength (Weick, 1996) and social norms (Bardi & Schwartz, 2003). The same constraints apply to the expression of personality (e.g., Funder, 2008; Judge & Zapata,

2015) but they have not hindered research on effects of personality. A key prerequisite appears to be a consensus on taxonomy i.e., the dominant Big-Five model (McCrae & Costa, 1989) has facilitated the accumulation of personality research. In a similar vein, some studies have adopted the extrinsic-intrinsic framework (Brief & Aldag, 1977) to examine the impact of work values on career success indicators (e.g., Huttges & Fay, 2015; Mortimer & Lorence, 1979; Vansteenkiste et al., 2007). As elaborated earlier, intrinsic work values refer to end states that can be attained through work itself, whereas extrinsic work values relate to end states which arise irrespective of the content of the work (Nord et al., 1990). The distinction between intrinsic and extrinsic work values has received ample support in the literature (e.g., Dagenais, 1998; Johnson et al., 2007; Kalleberg, 1977).

### **Career Outcomes**

Although the body of work that examines the relationship between extrinsic/intrinsic work values and career outcomes is not large, studies seemed to have approached it from different theoretical perspectives. For discussion purpose, the studies can be loosely classified into three categories based on their theoretical underpinning (and methodology). This is done solely to facilitate sense-making, and no attempt is being made to reify the categories.

The first category of studies are grounded on the premise that extrinsic and intrinsic work values influence work activities and thus impact career outcomes (e.g., Roe & Ester, 1999). The samples in these studies were usually working adults, or those who were workforce-ready. At least two longitudinal studies have found that individuals with high extrinsic work values exhibited greater OCS compared to peers lower in extrinsic work values (Abele & Spurk, 2009b; Frieze et al., 2006), although another longitudinal study did not replicate such results (Konrad, Yang, Goldberg, & Sullivan, 2005). The relationship between extrinsic work values and SCS

was infrequently examined; at least one reported a positive association (Huttges & Fay, 2015) but another found a negative correlation (Abele & Spurk, 2009b). Finally, at least one longitudinal study had investigated how intrinsic work values predicted career outcomes. In the study, graduating students were classified into two groups (“primarily intrinsic” vs. “others”) using an open-ended work value question; two years later, both OCS and SCS were found to be higher in the primarily intrinsic group (Bridgstock, 2011).

The second category of studies examines the relationship between work values and perceived job rewards over time. Mortimer and Lorence (1979) hypothesized that work values would be associated with their corresponding job rewards through two processes - selection and socialization. Selection refers to how people choose jobs and socialization refers to the mutual influence between work values and job rewards. In these studies, work values were typically measured while the participants were still in school, and their perception of extrinsic and intrinsic job rewards were collected years later. Research generally supported the hypotheses. First, numerous studies have established the selection effect of work values i.e., individuals are more likely to choose jobs where content matches their values (e.g., Judge & Bretz, 1992). Second, Mortimer and Lorence (1979) showed that initial value differences during the senior year of college, which constituted the basis for job selection, were amplified by subsequent processes of occupational socialization i.e., values reinforced by current job rewards influenced future career moves to maximize the same fulfilling work experiences. Third, these results were replicated in subsequent longitudinal studies (Johnson, 2001; Johnson & Monserud, 2010; Johnson & Mortimer, 2011; Lindsay & Knox, 1984). In particular, Johnson and Mortimer (2011) found that intrinsic and extrinsic work values reported by respondents in their early twenties

were predictive of occupational outcomes like salary and intrinsic rewards when they were in their early thirties.

For skilled workers with multiple job options (e.g., lawyers), the selection and socialization processes may be manifestations of the gravitational influence of work values i.e., over the course of their careers, the extrinsic and intrinsic rewards they seek and perceive in their jobs may generally correspond to their work values. Higher SCS is expected when work values and perceived job rewards are congruent (e.g., Gattiker & Larwood, 1988), and goal-setting theory also posits that fulfilled values promote job satisfaction (Locke & Latham, 2004). Therefore, high extrinsic and high intrinsic work values are *both* expected to lead to higher SCS.

Several of the studies in this category also collected salary data (Johnson & Monserud, 2010; Johnson & Mortimer, 2011; Lindsay & Knox, 1984; Mortimer & Lorence, 1979) and they all reported a positive relationship between extrinsic work values and salary. Together with two other studies reviewed earlier (Abele & Spurk, 2009b; Frieze et al., 2006), these studies have made a case for the predictive validity of extrinsic work values on OCS.

The third category of studies echoed themes of the self-determination theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000). According to SDT, extrinsic work values are neither positive nor negative by themselves; however, an overwhelming emphasis on external rewards can distract people from intrinsic endeavors. A key distinction between SDT and other motivational theories is that it does not posit that attainment of voluntary goals will always lead to positive psychological outcomes; instead, the nature of the goal matters (Ryan, Sheldon, Kasser, & Deci, 1996). Most of the studies in this category used cross-sectional designs. Consistent with predictions of the SDT, some studies have shown that higher extrinsic, relative to intrinsic, work values were associated with negative outcomes such as high negative affect,

low positive affect, low vitality, psychological distress, and poor health (e.g., Kasser & Ryan, 1993, 1996; Sheldon & Krieger, 2014). Furthermore, in a post-college sample, those who valued and attained intrinsic rewards reported significantly higher well-being compared to those who valued and attained extrinsic rewards (Niemi, Ryan, & Deci, 2009).

Results pertaining to job satisfaction have been mixed. For instance, one study found a negative relationship between job satisfaction and need for financial success only among lower-income participants (Nickerson, Schwartz, Diener, & Kahneman, 2003); in another study extrinsic work values were positively related to job satisfaction, but only among higher-income individuals (Malka & Chatman, 2003); and a third study found no relationship between money orientation and various aspects of job satisfaction (Froese & Xiao, 2012). Several studies reported positive associations between intrinsic work values and job satisfaction (e.g., Amabile, Hill, Hennessey, & Tighe, 1994; Moniarou-Papaconstantinou & Triantafyllou, 2015); but there were also some exceptions (e.g., Drummond & Stoddard, 1994; Knoop, 2004).

According to SDT, the most optimal outcomes are expected when people's intrinsic values are relatively stronger than their extrinsic values because intrinsic values are theorized to allow for greater satisfaction of the basic psychological needs (e.g., Kasser & Ryan, 1996). Vansteenkiste et al. (2007) argued that inconsistent findings in the literature could be due to differences in operationalization and advocated for an index of relative importance between extrinsic and intrinsic values, in place of the absolute importance of each set of values. Specifically, Vansteenkiste et al. (2007) hypothesized that an extrinsic work-value orientation (i.e., higher extrinsic, relative to intrinsic, work values) was detrimental to job satisfaction.

Using a Belgian cross-sectional dataset, Vansteenkiste et al. (2007) first regressed job satisfaction on the control variables and total work values, followed by regressing the residual on

extrinsic work values. The results supported their hypothesis; furthermore, contrary to Nickerson et al. (2003), higher income did not buffer the negative effect of an extrinsic work-value orientation. Two subsequent cross-sectional studies (Caricati et al., 2015; Sheldon & Krieger, 2014) computed *intrinsic* work-value orientation by subtracting extrinsic ratings from the intrinsic ratings. Consistent with the results of Vansteenkiste et al. (2007), intrinsic work-value orientation and job satisfaction were positively related (Caricati et al., 2015) and income was not a moderator (Sheldon & Kreiger, 2014). In addition, an intrinsic work-value orientation was negatively associated with income (Sheldon & Kreiger, 2014).

### **Synthesis of Literature**

On the whole, studies across all three categories generally suggest that intrinsic work values are positively associated with SCS, whereas extrinsic work values have a positive impact on OCS. Such consistency is quite encouraging because the studies were quite diverse – they were motivated by different research questions, recruited different samples, and used different research methodologies.

However there were also some inconsistent findings. Studies supporting the gravitational hypothesis suggest that high extrinsic values should contribute positively to SCS, but this was contradicted by studies supporting SDT. Even studies that took relative importance of extrinsic and intrinsic values into account have reported conflicting findings e.g., one found a positive relationship between intrinsic work-value orientation and salary (Bridgstock, 2011) whereas another found a negative relationship (Sheldon & Kreiger, 2014).

The work-value orientation approach recognizes the possible trade-offs between extrinsic and intrinsic work values when individuals make career decisions. However it also assumes that individuals high in extrinsic and intrinsic work values will experience similar outcomes as those



with low extrinsic and intrinsic values. This is probably not true across a broader range of outcomes e.g., the preponderance of evidence reviewed here suggests that the high-extrinsic group is likely to attain greater OCS than the low-extrinsic group. Moreover, there is evidence that OCS (Spurk & Abele, 2014) and satisfaction with OCS (Pan & Zhou, 2015; Shockley et al., 2016; Zhou et al., 2013) are positively associated with SCS. On the other hand, when someone possesses high extrinsic work values but lower intrinsic work values, the overall relationship with job satisfaction (an SCS indicator) appears to be negative (Sheldon & Krieger, 2014; Vansteenkiste et al., 2007).

It is plausible that high extrinsic work values would positively predict SCS *if and only if* intrinsic work values are also high. A recent meta-analysis has shown that intrinsic motivation and extrinsic incentives jointly predict performance (Cerasoli, Nicklin, & Ford, 2014). Because performance should contribute to career success (Dries, Pepermans, & Carlier, 2008), individuals with a high-extrinsic, high-intrinsic profile should have higher levels of both OCS and SCS.

On the other hand, high-extrinsic, low-intrinsic (i.e., extrinsic work-value orientation) individuals may experience OCS to the detriment of SCS. This profile may correspond to the “(objective) career success, personal failures” label coined by Korman and colleagues (Korman, 1980; Korman et al., 1981). Contrary to the implicit assumption of Vansteenkiste et al. (2007), a majority of studies suggest that workers with a low-extrinsic, low-intrinsic profile would likely experience worse career outcomes (i.e., lower OCS and SCS) than those with a high-extrinsic, high-intrinsic profile. Finally, although one study found that an intrinsic work-value orientation was negatively associated with OCS (Sheldon & Krieger, 2014), other studies have suggested that intrinsic work values may, over time, show a positive cross-over effect on extrinsic rewards like salary (Bridgstock, 2011) and job security (Johnson & Mortimer, 2011). In other words, the

high-intrinsic, low-extrinsic profile individuals may eventually attain higher levels of OCS than those with low-intrinsic, low-extrinsic profiles.

More generally, the studies suggest that extrinsic and intrinsic work values, along with their interaction, are associated with some important career outcomes. However they provide little information on the possible forms of the relationships e.g., it is not known if nonlinear effects are involved. A person-centered approach is suitable for exploring this phenomenon for two reasons (Bauer & Shanahan, 2007). First, unlike variable-centered methods like polynomial regression, a person-centered approach does not require nonlinear effects to be specified a priori. Second, in a regression analysis, ad-hoc decisions are still needed on which configurations of variables to consider when examining interaction effects and the analysis can get unwieldy when there are multiple variables and interactions; in a person-centered approach, the identified profiles would already embody these interactions.

### **Structure of Present Study**

The key premise of the present study is that there may be subgroups of individuals within the working population who can be stratified according to their work-value profiles, specifically, the absolute as well as relative levels of their extrinsic and intrinsic work values (i.e., both quantitative and qualitative differences; Lubke & Muthén, 2005). Furthermore, across the subgroups, there may be meaningful variation in career success. Therefore, an in-depth and systematic exploration of these research questions may be well-served by a person-centered, instead of variable-centered, approach (Pastor, Barron, Miller, & Davis, 2007).

The person-centered approach is not novel to career research. For instance, there have been several studies on how interest profiles along Holland's RIASEC dimensions relate to occupational outcomes (e.g., Rounds, Smith, Hubert, Lewis, & Rivkin, 1999; Wille, Tracey,

Feys, & De Fruyt, 2014). In the work value domain, a recent study has identified two “person types” with distinct job reward - job satisfaction relationships; person type 1 values both financial security and recognition, whereas person type 2 values only recognition, and the two types differ in turnover and organizational commitment (Hofmans et al., 2013). However, the present study appears to be the first to establish distinct intrinsic-extrinsic work-value profiles, and to relate them to career variables.

Among the existing studies on work values, some of the conflicting results were also associated with different analytical approaches. When a finding can be replicated across methods, its validity is greatly enhanced; on the other hand, there is uncertainty when different results arise from different methods. The variable-centered studies cast the absolute levels of extrinsic and intrinsic work values as separate predictors and seldom explore their interaction. The work-value orientation method focuses on relative work values and disregards the absolute levels of work values. The present study uses a third approach i.e. a person-centered analysis. In order to compare findings from this study to those from past research, the same dataset was re-analyzed using the work-value orientation method of Vansteenkiste et al. (2007). This design also allowed a direct comparison of the pros and cons of both analytic methods.

### **Hypotheses and Research Questions**

The current study uses an inductive approach because there has been no prior research on work-value profiles. The purpose is to explore the existence of quantitatively and qualitatively distinct profiles, as indicated by combinations of different levels of intrinsic and extrinsic work values. Based on literature review, four hypothetical profiles are presented in Table 1.

Because there is no *a priori* information on the actual number of distinct work-value profiles (they are *latent*); the present study is guided by the following general research question:

Research Question 1 (RQ1): Are there quantitatively and qualitatively distinct profiles of work values?

Table 1

*Hypothetical Profiles of Intrinsic and Extrinsic Work Values*

Intrinsic work values	Extrinsic work values	
	Low	High
Low	Neither intrinsic nor extrinsic	Extrinsic
High	Intrinsic	Both intrinsic and extrinsic

One way to establish the construct validity of a latent profile variable is to develop a nomological network with antecedents and outcomes (Wang & Hanges, 2011). Unlike profile indicators, antecedents and outcomes are auxiliary variables i.e., they are specified in the analytical model but do not define the profiles (e.g., Asparouhov & Muthén, 2014). Instead, antecedents can influence the profile indicators and/or the likelihood of individuals being classified into particular profiles, whereas outcomes are dependent variables associated with profile membership (Lubke & Muthén, 2005).

In the current study, one category of potential antecedents is socio-demographic factors, because research has shown that levels of intrinsic and extrinsic work values can vary according to age, education level, gender, and employment status (e.g., Warr, 2008). There was little variation in education level within the AJD study sample. With regard to employment status, lawyers who reported working part-time were excluded because it was difficult to interpret their salary data. Exclusion of part-timers' data has been a common practice in career success studies (e.g., Abele & Spurk, 2009b). Even though lawyers in the AJD study obtained their law degrees

and were admitted to the bar at around the same time period, there were significant age variations. AJD1 lawyers who were more than 36 years old were somewhat different from those who were younger e.g., they began their legal careers later in life, likely at a time when they already had a family to support, and they tended to report a higher career satisfaction (Dinovitzer & Garth, 2007). Furthermore, it is unclear how age interacts with gender to influence work values (Warr, 2008). Given that age was not a variable of interest in the study, and there was no straightforward way to statistically control for its effect, only data from lawyers who were under 37 years old at AJD1 were included in the present study.

Gender, on the other hand, is a demographic antecedent of interest. First, two large studies with representative samples have reported consistent gender differences in work values; specifically, they found higher intrinsic work values among females, and no gender difference in extrinsic work values (Marini, Fan, Finley, & Beutel, 1996; Mortimer et al., 1996)<sup>3</sup>. Second, the gender by legal practice setting distribution is well-known to be skewed i.e., female lawyers tend to be employed by the government and smaller law firms that focus on servicing the community or individuals (jobs with higher intrinsic rewards), whereas male lawyers tend to practice in large corporate law firms that offer attractive remunerations (e.g., Dinovitzer & Hagan, 2014; Reichman & Stirling, 2002). Furthermore, male and female lawyers do not have drastically different career starting points; instead, their career paths just diverge over the life course (Kay & Hagan, 1995). In addition, practice settings appear to be associated with different job rewards - lawyers who work in large private law firms have higher income but reported lower career satisfaction, and the converse was true for lawyers in government jobs (Dinovitzer & Garth, 2007). Also, lawyers with intrinsic work values tend to work in government and public interest

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<sup>3</sup> Older studies (e.g., Lindsay & Knox, 1984) had reported higher extrinsic work values among males. The change could have been a result of reduced gender inequality and women's advancement in occupational status since the 1960s (Marini et al., 1996).

organizations (McGill, 2006). Together, these findings are consistent with what the gravitational hypothesis would suggest i.e., the gender effect on choice of practice setting (and associated job rewards) are related to gender differences in work values.

The findings above lead to a hypothesis and two further research questions. The hypothesis and first research question concern whether gender is an antecedent to work-value profile. The second research question relates to whether work-value profile is associated with practice setting, and if so, whether this association strengthens over time.

Hypothesis 1 (H1): Females have higher intrinsic work values than males.

RQ2a: Is gender associated with extrinsic work values?

RQ2b: Is gender a covariate of work-value profile membership?

RQ3a: Is work-value profile associated with the practice setting of JDs?

RQ3b: Does the association between work-value profile and practice setting strengthen over time?

If H1 is supported, and the answer to RQ2a is negative, then these results would be consistent with those of Marini et al. (1996) and Mortimer et al. (1996), as well as provide some support for the construct validity of the work value scales in the present study.

Another key objective of this study is to explore the association between work-value profile and career success. Specifically, the study explores the pattern of relationships between work-value profile and a range of OCS and SCS indicators over three time points. The OCS indicators include salary, the dominant variable in the OCS literature, and two less prominent indicators i.e., current position in the organization and supervisory authority.

RQ4: Is work-value profile associated with salary?

RQ5: Is work-value profile associated with position in the organization?

RQ6: Is work-value profile associated with supervisory authority?

SCS has frequently been operationalized as career satisfaction. Despite previous concerns (e.g., Heslin, 2005), the relationship between career satisfaction and SCS appears to be quite strong (Shockley et al., 2016). Job satisfaction has been another oft-used SCS indicator (e.g., Judge et al., 1999). A recent trio of scale construction studies (Pan & Zhou, 2015; Shockley et al., 2016; Zhou et al., 2013) have identified satisfaction with WLB as yet another key dimension of SCS. To ensure good coverage of the SCS domain, the present study examines the relationship between work-value profile and all three SCS indicators.

RQ7: Is work-value profile associated with career satisfaction?

RQ8: Is work-value profile associated with job satisfaction?

RQ9: Is work-value profile associated with WLB satisfaction?

While accumulated work accomplishments can be measured at any point in a person's career (Arthur et al., 2005), greater understanding of career success is gained by taking multiple career snapshots (e.g., Spurk & Abele, 2014). This study uses a dataset from three waves of data collection over 11 years although some career variables were only measured in two waves. Therefore, the study also explores the extent to which findings on RQ4 to RQ9 would replicate over the three waves. Intuitively, there can be quantitative and/or qualitative changes over time. A quantitative change occurs when work-value profile differences on a career variable observed at wave 1 increased or decreased without any change in rank order of the profiles at waves 2 and 3. A qualitative change involves either change in rank order or in the overall relationship e.g., the association between work-value profile and position in the organization may be significant in mid-career but not in early career.

In addition, the present study also explores the potential career advantages and disadvantages associated with each profile e.g., the extrinsic work-value profile may consistently

exhibit higher salary and lower career satisfaction compared to most other profiles. Recently, Ganzach and Pazy (2015) argued that temporal changes in validity should be considered when evaluating the impact of career success antecedents; for instance, they found that whereas the predictive validity of cognitive ability on salary increased significantly over time, core self-evaluations only displayed very weak incremental validity. If significant relationships between work-value profile and career success are identified along with some evidence of incremental validity, then there is even stronger support for the construct validity of work-value profile.

RQ10: Do the associations between work-value profile and career success indicators change quantitatively and qualitatively over the course of a career?

RQ11: Do certain work-value profiles consistently display stronger associations with particular career success indicators?

To summarize, the present study explores if work-value profiles derived using a person-centered approach would have theoretically important relationships with career variables. The approach of exploring each career variable separately, instead of trying to model them as indicators of latent constructs, allows the study to side-step a major constraint in many other career studies i.e., the trade-off between measurement model fit and coverage of the career success content domain.

### **Supplementary Hypotheses and Research Questions**

As explained earlier, the same dataset was re-analyzed using the work-value orientation approach (Vansteenkiste et al., 2007). Overall, studies using this method have consistently found that an extrinsic, relative to an intrinsic, work-value orientation is negatively associated with SCS, but its relationship with OCS is unclear, because studies that used the work-value



orientation method were mostly SDT-based, where the typical outcomes of interest were well-being and affective variables (e.g., job satisfaction).

RQ12: What is the relationship between an extrinsic work-value orientation and (a) salary; (b) position in the organization; and (c) supervisory authority?

H2: An extrinsic work-value orientation is negatively associated with (a) career satisfaction; (b) job satisfaction; and (c) satisfaction with WLB.

## Chapter Two

### Method

#### Archival Dataset

This study used an archival dataset from the AJD study (Dinovitzer et al., 2004) which was conducted by the National Association for Law Placement (NALP) and the American Bar Foundation (ABF). Because the public access version of the dataset<sup>4</sup> does not contain all the required data, the researcher gained access to the restricted dataset through the ABF (ABF, 2015). AJD was a longitudinal study designed to follow a sample of all lawyers who were admitted to a state bar in 2000 and graduated from law school between June 1998 and July 2000 (Dinovitzer et al., 2004). Data collection via mailed surveys or interviews took place over three waves between 2002 and 2013. The comprehensive surveys covered a range of career and personal details (e.g., salary, position, supervisory authority, career satisfaction, job satisfaction, and work-life balance). Work values were measured only in the first wave of the study.

Administration details and summary results of each AJD survey have been documented elsewhere (Dinovitzer et al., 2004; Dinovitzer, Nelson, Plichert, Sandefur, & Stirling, 2009; Garth, Nelson, Dinovitzer, & Sandefur, 2014); therefore its methodology will only be briefly described here. In 2002, a stratified sampling strategy was used to identify an initial pool of 9,192 lawyers. This initial sample was nationally representative, with oversampling of minority groups. The first wave of data collection (AJD1) started in May 2002 and received valid responses from 4,538 lawyers. The results provided a snapshot of the early careers and personal

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<sup>4</sup> The public access version of the dataset, along with the survey codebooks, can be obtained from either ABF or the Inter-university Consortium for Political Science and Social Research (ICPSR).

lives of this cohort about three years after they began practicing law. AJD2 was initiated in May 2007; everyone in the initial pool was invited to participate regardless of whether one had responded to AJD1. This wave received 3,705 valid responses which served to elucidate the career progression of lawyers through about seven years in practice. The seventh year marks a significant milestone in many lawyers' careers e.g., some lawyers could be made partners in private law firms at around this time (e.g., Hull & Nelson, 2000). Finally, between May 2012 and early 2013, participants in AJD1 and/or AJD2 were invited to participate in AJD3. At this point, the majority of the lawyers were in mid-career, with more than a decade of professional experience behind them. AJD3 had 2,984 respondents. All in all, a total number of 5,399 lawyers responded to at least one wave of the AJD study.

The results from the three waves were provided in separate SPSS data files and each AJD participant was assigned a unique ID to enable linkage of data across time. To date, there have been about 40 publications based on the AJD dataset. A majority of the studies have focused on the relationship between gender, race, and SES on practice setting, pay, and job satisfaction. The researcher was unaware of any published work that investigated work values using the AJD data.

The use of a single-profession, single-cohort sample in the current study conferred at least three advantages. First, it responded to appeals from scholars to study career preferences within specific occupational contexts (e.g., Rodrigues, Guest, & Budjanovcanin, 2013). Second, it added to the diversity of the literature, because oft-cited career success studies tend to involve managerial samples (e.g., Gattiker & Larwood, 1988, 1989; Greenhaus et al., 1990; Judge et al., 1995; Kirchmeyer, 1998). Finally, because past studies have shown that both work values and career outcomes are associated with numerous demographic factors like age, education, and labor market differences (Ng et al., 2005; Warr, 2008), having a more demographically

homogenous sample eases the demand on statistical control, thus boosting power. There are some inevitable trade-offs. Some of the findings may not generalize to all employees, or even to lawyers in other cohorts; in addition, range restriction may also be encountered in some measured variables.

### **Sample for Present Study**

From the total pool of 5,399 lawyers, the researcher selected only cases that responded to all three waves of the survey and excluded cases who reported working part-time at any wave. These criteria resulted in a sample of 1,587 lawyers. Next, all cases with missing values on any of the six work value items were deleted because there was no good way to handle missing data in LPA (e.g., see Gabriel, Daniels, Diefendorff, & Greguras, 2015; VanKim, Erickson, & Laska, 2015). Standard imputation algorithms are inappropriate for mixture models because there is no way to preserve profile-specific parameters during the imputation process (Enders, 2013). A visual inspection of the 533 cases which were excluded as a result of this decision revealed that the majority of them had multiple missing values on the work value questions. Finally, as explained earlier, lawyers who reported that they were born prior to 1966 (i.e., age 37 or older in 2002) were excluded, leaving a sample of 905 JDs who were 24 to 36 years old in 2002.

The AJD1 technical addendum (Plickert & Dinovitzer, 2007) provided selected demographic information (gender, race, and parental education) for all eligible lawyers in the AJD1 sampling frame ( $N=32,889$ ), which were compared to those for the sample in the present study (see Table 2). The gender distribution in the latter was lower than that in the national eligibility sample. There could be several possible reasons for this difference; one is the well-established fact that women are more likely to leave legal practice than are men (e.g., Stirling & Reichman, 2013). The percentage of non-whites in the present sample was higher than that in the

national eligibility sample. As stated earlier, the AJD study oversampled minorities. In terms of parental education, the percentages of mothers and fathers with some postgraduate work or graduate/professional degree in the present sample were quite comparable to those in the national eligibility sample.

Table 2

*Comparisons between Current Sample and Population in AJD's Sampling Frame*

Demographics	JD Population ( <i>N</i> = 32,889)	Sample in Study ( <i>n</i> = 905)
Sex (female %)	46.8	42.9
Race (non-white %)	20.5	27.4
Father with postgrad education (%)	41.6	44.0
Mother with postgrad education (%)	25.7	28.7

*Note.* "JD Population" refers to the entire cohort of new JDs who met the sampling criteria for the AJD study in 2002.

Taking into account the duration of the study (11 years) and the dynamism of careers, it would appear that in terms of available demographic information, the sample was quite representative of the cohort of lawyers from which they were drawn from.

## Measures

### *Antecedent and work values*

**Gender.** Question (Q) 75 of AJD1 asked the participants to indicate their gender (0 = female; 1 = male). The question was repeated in AJD2 (Q76) and AJD3 (Q63). There were no missing data on gender, and females made up 42.9 percent of the sample.

**Work values.** Measures for extrinsic and intrinsic work values were obtained from Q38 of AJD1. The stem of the question was: “Thinking about the principal types of settings in which lawyers work (e.g., government, large law firms, business), how important was each of the following factors in determining the sector in which you began your professional career?” Participants responded to each factor on a scale of 1 (“Not at all important”) to 7 (“Extremely important”). Q38 was clearly about what lawyers valued in their work. Nine factors were listed, two of which concerned debt repayment; contrary to the AJD researchers’ anticipation, these were rated among the least valued factors (Wilder, 2007). Of the remaining factors, three reflected extrinsic work rewards (“medium-to-long-term earning potential”; “prestige of the sector” and “opportunities for future career mobility”), three mirrored intrinsic rewards (“substantive interest in a specific field of law”, “opportunity to develop specific skills”, and “opportunity to do socially responsible work”), and one (“potential to balance work and personal life”) was neither clearly intrinsic nor extrinsic (see Huttges & Fay, 2015).

SPSS Version 22.0 (IBM Corp., 2013) was used to explore scale properties. First, the six intrinsic and extrinsic work value items were subject to an exploratory factor analysis using the principal component extraction method with varimax rotation. The number of factors to be extracted was not pre-specified. Nonetheless, two factors emerged and all six items loaded significantly (i.e., factor loading larger than .4; Hair, Anderson, Tatham, Black, 1998) on only the factor that they were anticipated to load on (see Table 3). Factor 1 was labelled “Extrinsic Work Values” and Factor 2, “Intrinsic Work Values”.

Table 3

*Factor Loadings from Exploratory Factor Analysis with Varimax Rotation of Intrinsic and Extrinsic Work Value Items*

Item	Extrinsic	Intrinsic
Substantive interest in a specific field of law	.23	.70
Opportunity to develop specific skills	.30	.76
Opportunity to do socially responsible work	-.21	.80
Medium-to-long-term earning potential	.77	-.16
Prestige of the sector	.70	.26
Opportunities for future career mobility	.78	.23

Next, scale reliability analyses were conducted. The extrinsic and intrinsic work value scales have coefficient alpha of .65 and .64, respectively. Studies that used brief intrinsic and extrinsic work value scales have often reported similar alpha values (e.g., Huttges & Fay, 2015; Malka & Chatman, 2003). In particular, Hirschi (2010) has argued that alphas of brief intrinsic and extrinsic work value scales would not be high because they measure higher level constructs. A brief scale can achieve a good alpha by including items that are similar, but it would likely be a deficient measure of the construct domain (Schmitt, 1996). Such views have been reiterated by other researchers (e.g., Choi, Kim, Jang, Jung, Ahn, Lee, & Gysbers, 2013).

The extrinsic and intrinsic work value scales in the current study were brief, and yet they also comprised items tapping on different aspects of the respective constructs; therefore the lower alpha coefficients might not be a major concern. As expected, there was a small correlation between extrinsic work values and intrinsic work values ( $r = .23, p < .01$ ).

A pilot study was conducted to examine the construct-related validity of the extrinsic and intrinsic work value scales (USF IRB# Pro00025095; see Appendix A). Forty-seven current graduate students in I/O psychology and individuals with Ph.D. in I/O Psychology or a related

discipline were invited to sort the six items, along with the WLB satisfaction item, into either the “extrinsic” or “intrinsic” category (see Appendix B). It was anticipated that the six extrinsic and intrinsic work value items would be sorted correctly by a majority of the participants, and that consensus on the WLB item would be lower.

There were 30 responses (overall response rate of 63.8 percent), consisting of 19 females and 11 males. The response rates by gender were 79.2 percent and 47.8 percent for females and males, respectively. Twenty were current Ph.D. students in I/O psychology and 10 have a graduate degree in I/O psychology or a related discipline. The results are presented in Table 4.

Table 4

*Percentage of Respondents who Categorized Each Work Value Statement Correctly*

	Value statement	No. of correct categorizations (percentage)
AQ38A	Medium-to-long-term earning potential (E)	30 (100%)
AQ38B	Substantial interest in a specific field of work (I)	30 (100%)
AQ38E	Opportunity to develop specific skills (I)	25 (83%)
AQ38H	Prestige of the sector (E)	22 (73%)
AQ38G	Opportunity to do socially responsible work (I)	29 (97%)
AQ38I	Opportunities for future career mobility (E)	29 (97%)
AQ38F	Potential to balance work and family life (Neither)	(E) 18 (60%); (I) 12 (40%)

*Note.* Total number of respondents was 30 (10 with graduate degree in I/O psychology or a related discipline, 20 graduate students in I/O psychology).

These findings provided further support for the construct-related validity of the ad-hoc work value scales used in the present study.



### *Career variables*

**Practice setting.** Responses from relevant questions in AJD (AJD1 Q4 and Q5a, AJD2 Q4 and Q9a, and AJD3 Q4 and Q12a) were used to classify the practice setting of lawyers into one of the following categories proposed by McGill (2006): (i) large private law firms (more than 100 lawyers; Dinovitzer & Garth, 2007); (ii) businesses/trade associations/labor unions (BTLs); (iii) smaller private law firms (100 or fewer lawyers); (iv) government or public interest (GPI) firms<sup>5</sup>. It was expected that as one moves from setting (i) to (iv), the job focus shifts from making profits to providing service to individuals or the society. Consequently, the mix of job rewards would also differ across settings (McGill, 2006; Sheldon & Krieger, 2014).

**Salary.** AJD1 Q24 asked about total annual salary including *estimated* bonus before taxes in *current* job. Given that AJD1 began in May 2002, lawyers most likely reported their anticipated income for calendar year 2002. AJD2 Q95 and AJD3 Q71 asked for a breakdown on total annual salary components in calendar years 2006 and 2011, respectively. For each year, the total salary was obtained by summing the component salaries. The AJD1 technical addendum (Plickert & Dinovitzer, 2007) recoded total annual salary of less than \$10,000 to missing<sup>6</sup>; the same convention was used when cleaning AJD2 and AJD3 data. As expected, the salary distributions deviated significantly from normality (positively skewed and leptokurtic).

**Current position.** At all three waves, lawyers reported their current position with their employer (AJD1 Q10, AJD2 Q16, and AJD3 Q5). There were numerous response options, and the options changed over the three waves. There was also an “other (specify)” option which responses were coded for AJD3 but not for AJD1 and AJD2. In consultation with two JDs, the

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<sup>5</sup> Among the 4,248 respondents to AJD1 whose practice settings could be inferred, 28.9%, 8.9%, 40.0%, and 22.1% worked in large law firms, businesses, smaller law firms, and GPI firms, respectively. The corresponding figures in the current sample were quite similar at 30.3%, 7.9%, 36.1%, and 25.7%, suggesting that the sample was a reasonably representative subset of the AJD1 respondents.

<sup>6</sup> The rationale was that it was unlikely for full-time lawyers to have an annual salary lower than \$10k.

researcher classified the positions into either “senior position”, “non-senior position” or “cannot be categorized” (see Table 5). This variable was examined as a binary categorical variable i.e., “Not in senior position” (0) vs. “In senior position” (1). Positions that could not be categorized were recoded as missing data.

Table 5

*List of “Current Position” in AJD Sorted into Non-senior Position, Senior Position, and Positions which Cannot be Categorized*

Position category	Position
Non-senior	Analyst/Advisor Associate Contract attorney Entry-level manager/consultant Law clerk/senior law clerk/clerk of court/permanent judicial clerk Law professor (non-tenure track) Mid-level manager/consultant Of counsel/counsel Prosecutor (assistant/deputy) Public defender (Deputy) Solo practitioner Staff attorney State’s attorney Student/Fellow U.S. attorney (Assistant)
Senior	Assistant VP/VP/senior VP/executive VP Attorney general (deputy) Business owner/operator Counsel and officer/director/president/VP Director (deputy/executive/managing) Elected official (other than judge) Equity partner/shareholder Inside/general counsel Judge Law professor (tenure track) Non-equity partner President/CEO or other official position

Table 5 (Continued)

Position category	Position
Senior	Senior counsel Senior level manager/consultant Supervising/managing attorney
Cannot be categorized	Analyst/Advisor Associate general counsel/Associate counsel City attorney/County attorney (Deputy) Corporate counsel District attorney (Deputy/Counsel) Law professor (unclear if tenure-tracked) Law school/academic administrator Legal counsel (Assistant/Senior) Lobbyist/Governmental affairs Non-elected public official Other (than law) teacher/lecturer/professor State's attorney (assistant) Senior attorney/Attorney advisor Senior IP or patent counsel/Patent attorney/IP attorney Trial attorney/Litigator/Litigation counsel

**Supervisory authority.** Questions relating to supervisory authority were asked in AJD2 (Q10 and Q11) and AJD3 (Q13 and Q14). Following Dinovitzer (2011), the responses were coded into an ordinal variable: “No supervisory authority” (1); “Supervisor with limited power” (2); “Supervisor with full power” (3); and “Supervisor with at least 2 levels below” (4).

**Career satisfaction.** All three waves of the study included the career satisfaction item “How satisfied are you with your decision to become a lawyer?” (AJD1 Q30, AJD2 Q46, and AJD3 Q49a), to which responses could range from *extremely dissatisfied* (coded as 1) to *extremely satisfied* (coded as 5). A single-item overall career satisfaction measure has been used in several other studies (e.g. Abele, 2003; Abele & Spurr, 2009a; Dubrin, 2001; Valcour & Tolbert, 2003). Elsewhere, single-item overall job satisfaction measures have been shown to possess acceptable reliability and convergent validity (Scarpello & Campbell, 1983; Wanous,

Reichers, & Hudy, 1997). Furthermore, investigations on measurement invariance of the Greenhaus et al. (1990) five-item career satisfaction scale have revealed that only the overall satisfaction item was gender invariant (Hofmans, Dries, & Pepermans, 2008; Spurk, Meinecke, Kauffeld, & Volmer, 2015).

**Job satisfaction.** AJD used an ad-hoc job satisfaction scale tailored to legal practice (AJD1 Q26, AJD2 Q43, and AJD3 Q47). The items varied slightly over the three waves of the study. One item on compensation was excluded from further analysis because its substantive content changed over the three waves (from satisfaction with compensation to satisfaction with method which determined compensation). Participants based their responses on a seven-point scale (1 = *highly dissatisfied*; 7 = *highly satisfied*). Sixteen items were consistently used in all three surveys. EFAs specified to extract a single factor from responses on the items showed that only one item (“Opportunities for doing pro-bono work”) had a factor loading that was lower than .40, and this happened only in AJD1. The item was retained because pro-bono work is a key aspect of some legal careers (Dinovitzer & Garth, 2009a). The reliability of the scale ( $\alpha$ ) was around .90 in all three waves. Some of the items were more relevant to certain practice settings (e.g., the item on pro-bono work), resulting in numerous “NA” responses or missing data. It was decided that if a participant provided valid responses to at least ten (i.e., around two-thirds) of the sixteen items (see Appendix C), the job satisfaction score would be the mean score based on the items responded to; otherwise it would be coded as missing.

**WLB satisfaction.** The WLB satisfaction item was actually part of the original job satisfaction scale in AJD2 (Q43s) and AJD3 (Q47s). Given that WLB has recently been identified as a key dimension of SCS, the response to this item was analyzed separately. The

item (“Balance between personal life and work”) used the same question stem and response format as those presented in Appendix C.

### *Control variables*

The earlier review on Ng et al., (2005) highlighted four socio-demographic (gender, race – white vs. non-white, marital status – married vs. unmarried, and age) and two individual differences variables (cognitive ability, LOC) that have significant meta-analytic relationships with career success. Specifically, all four socio-demographic variables are related to salary and career satisfaction, cognitive ability has a significant effect on salary, and LOC influences career satisfaction. The gender data have been described earlier; descriptions of the other variables are provided below.

**Race.** Q76 of AJD1 asked the participants to indicate their race. The question was repeated in AJD2 (Q77) and AJD3 (Q64). There were no missing data. The responses were recoded as White (1) vs. non-White (0). Whites made up 72.6 percent of the sample.

**Marital status.** Participants indicated their marital status through AJD1 Q85, AJD2 Q86, and AJD3 Q67. There were some missing data - around 1 percent in AJD1 and AJD2, 3 percent in AJD3. Responses that indicated “married, first time” or “remarried” were code as “1”; all other responses (excluding missing data) were coded as “0”. The percentages of married lawyers were 47.3, 70.5, and 76.8 percent in AJD1, AJD2, and AJD3, respectively.

**UGPA.** Cognitive ability was not measured in AJD. However there was an item on undergraduate grade point average (UGPA; AJD1 Q48 and AJD2 Q56). A recent study with a large, representative sample established that the relationship between cognitive ability and self-reported first-year UGPA was linear (i.e., no support for a curvilinear relationship) and  $r = .26$  (Coyle, 2015). Some studies have also reported a positive effect of UGPA on OCS (e.g., Abele

& Spurk, 2009a). Thus, UGPA was used as a control variable. AJD lawyers reported their UGPA according to eight categories ( $1 = 3.75-4.00$ ;  $2 = 3.50-3.74$ ;  $3 = 3.25-3.49$ ;  $4 = 3.00-3.24$ ;  $5 = 2.75-2.99$ ;  $6 = 2.50 - 2.74$ ;  $7 = 2.25 - 2.49$ ;  $8 = \text{under } 2.25$ ). The scores were reverse coded such that a higher score would correspond to a better GPA. Three percent of the data were missing.

**LOC.** LOC was measured in AJD2 (Q100) with the scale created by Mirowsky and Ross (1991; see Appendix D). Sample items are “I am responsible for my own successes” (internal LOC item) and “Most of my problems are due to bad breaks” (external LOC item). Responses were made on a seven-point scale ( $1 = \text{strongly disagree}$ ;  $7 = \text{strongly agree}$ ). The overall LOC score was computed by first summing the responses to the internal LOC items and subtracting the responses to the external LOC items, followed by adding 24 to avoid a negative score. The possible range of score was 0 (extreme external) to 48 (extreme internal). There were 122 missing values (13.5 percent).

## **Analytic Strategy**

### *Establishing measurement invariance*

The potential association between gender and one of the profile indicators (i.e., intrinsic work values) implied that measurement invariance (MI) might not hold across gender in this study (Clogg & Goodman, 1985, 1986). Conceptually, MI has been defined as equivalence at three increasingly stringent levels: configural, metric, and scalar (e.g., Steenkamp & Baumgartner, 1998). Generally, there is MI in the best-fit model if a LPA covariate (gender in this study) is not directly related to any of the profile indicators after accounting for profile membership (e.g., Lubke & Muthén, 2005; McCutcheon & Hagedaars, 1997).

In LPA, MI is usually investigated through the extent to which the dataset satisfies four conditions (McCutcheon & Hagedaars, 1997). First, the data from the groups are separately

analyzed to see if the same number of profiles would emerge from both analyses; if so, the profiles are further examined for qualitative similarity. These two conditions constitute configural equivalence.

The next steps are to establish metric and structural equivalence. In factor analysis, latent factors are often assumed to be on a continuous measurement scale, and metric equivalence is determined by comparing the factor loadings across groups (e.g., Byrne, 2008). In LPA, there is no factor loading because the latent profile variable is categorical, but structural equivalence can be tested directly after imposing metric equivalence through constraining the interaction between the grouping and latent profile variable to zero (Kankaras & Moors, 2011). Specifically, one specifies a model where the measurement parameters (i.e., within-profile indicator means, covariance, and variances) are identical across groups, and compare its log-likelihood (LL) value to that of a model where the indicator means are freely-estimated (e.g., Collins & Lanza, 2010; McCutcheon & Hagnaars, 1997). If the LL difference chi-square<sup>7</sup> (which degrees of freedom is determined by the difference in the number of parameters estimated in each model) is not statistically significant, then there is structural and metric equivalence (third condition); where the LL difference test yields a significant result, one can attempt to identify the indicators responsible for non-equivalence (e.g., Kankaras, Moors, & Vermunt, 2010) and determine if MI exists in a subset of the profiles (partial MI; Collins & Lanza, 2010). Structural and metric equivalences imply that group membership has no direct effect on any profile indicator.

Finally, one examines whether group membership is a covariate of the latent profile (i.e., if membership is related to profile assignment); if it is not, then there is also distributional homogeneity (fourth condition; McCutcheon & Hagnaars, 1997) and the latent profile variable would be totally independent of group membership.

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<sup>7</sup> LL difference chi-sqaure =  $-2(LL_{\text{Nested model}} - LL_{\text{Baseline model}})$

### *Description of LPA*

To recap, the main purpose of the current study were: (i) to explore if there were unobserved subgroups within the JD sample that exhibited quantitatively or qualitatively distinct work-value profiles (RQ1); (ii) to evaluate if gender plays a role in assignment to work-value profile (RQ2); (iii) to assess if individuals with particular work-value profiles would gravitate toward certain practice settings (RQ3a-b); (iv) to explore the relationships between work-value profile and various OCS and SCS indicators (RQ4-9); and (v) to appraise if there were consistency in the patterns of relationships over time (RQ10-11). Two popular exploratory analytic tools met the needs of the study - cluster analysis and LPA. As stated earlier, LPA was used, because cluster analysis presents a number of challenges (Speece, 1994). First, they provide no clear guideline on how to identify the correct number of clusters in the data; (b) their results are sensitive to measurement scales and distributions, and even to the ordering of cases in the data; and (c) they involve rigid assumptions (i.e., conditional independence, class-invariant variances, etc.) which real-life data may not conform to. LPA offers ways to circumvent those limits while achieving the same goal of cluster analysis (e.g., Fonseca, 2013).

LPA is a latent class analysis (LCA) with continuous (rather than categorical) indicators of the latent variable. The key objective of LPA is to uncover profiles within a distribution with unobserved heterogeneity, and to assign each individual in the sample to a profile. The case for a LPA can be made when  $M$  continuous variables observed on  $n$  participants are assumed to be the indicators of an underlying unordered categorical latent profile indicator  $c$ , the unobserved group membership with a finite number ( $K$ ) of profiles (Muthén, 2001). Within each profile, the  $M$  indicators are assumed to have a multivariate normal distribution; because the overall joint distribution of the  $M$  indicators (i.e., the manifest joint distribution) is a consequence of mixing



the  $K$  profile distributions, no distributional assumption is made about the manifest distribution (Masyn, 2013). Conceptually, the  $K$  profiles are exhaustive and mutually exclusive such that any individual in the population inherently belongs to only one of the  $K$  profiles (Masyn, 2013).

Like other latent variable models, a LPA model has two components. The measurement model consists of parameters that describe profile-specific probability distributions of the indicator variables (means, variances, and covariance); whereas the structural component specifies the distribution of the latent profile variable in the population (i.e., profile proportions), as well as the relationships between the latent profile variable and its antecedent and outcome variables (e.g., Collins & Lanza, 2010).

Unlike cluster analysis, LPA is a model-based approach. It starts with the assumption that a mixture of population probabilities underlies the observed data; alternative models can then be specified and compared using various fit statistics (Vermunt & Magidson, 2002). In addition, the probability of an individual's membership in a profile can be estimated in the same step as profile estimation; thereafter, each individual may be classified into a most likely profile but the classification uncertainty can still be accounted for when relating the latent profiles to other variables (Hill, Degnan, Calkins, & Keane, 2006). The latter feature is a major improvement over traditional cluster analysis which only classifies individuals into mutually exclusive types.

In the present study, profile formation (assignment of cases into profiles based on extrinsic and intrinsic work values; concerns RQ1) was managed independently from the evaluation of relationships between profile and antecedent/outcome (Bolck, Croon, & Hagnaars, 2004). The researcher first derives the latent profile and obtains parameter estimates of the measurement model (e.g., mean of indicators in each profile). Individuals are then assigned to the latent profiles according to their posterior class membership probabilities, which are based on

the parameter estimates as well as their patterns of observed responses. Assignment can be made simultaneously to several profiles with “weights” that reflect the posterior membership probabilities, or simply to the most likely profile (proportional vs. modal assignment; Vermunt, 2010). The assigned profile is subsequently treated as an observed variable that can be related to other variables.

#### *Considerations in model specification and evaluation*

There are at least four key considerations in LPA model specification and evaluation. First, in LCA, the correlations between class indicators are assumed to exist because of the underlying latent classes; once the classes are explicitly modeled, there should no longer be any relationship between indicators *within* each class (i.e., local independence; Collins & Lanza, 2010). However, when the profile indicators are continuous, it is unrealistic to expect local independence, and indicators can be allowed to correlate within profiles. In the present study, the local independence restriction was relaxed in all analyses.

Second, additional decisions relating to the measurement parameters are required. By default, LPA allows indicator means to vary across profiles (such variations define the uniqueness of profiles). However, one can choose to freely estimate or fix the residual covariances and variances among indicators within each profile to be equal across profiles (Vermunt & Magidson, 2002). As per the recommendations of Berlin, Williams, & Parra (2014), the present study first fixed these parameters to be equal across profiles because restrictive models would converge more readily; the initial solution was then modified by freeing the parameters one at a time to see how model fit was affected.

Third, LPA is an exploratory method i.e., there is no closed-form solution (Masyn, 2013). The algorithm searches for the maximum value along a particular LL function in an iterative

process. Local optima are often encountered along the LL function and it is necessary to use several different sets of starting values to help achieve the optimal maximum likelihood solution (Muthén, 2004). Contemporary LPA softwares do this automatically.

Besides LL, six other fit statistics are typically used to evaluate models: Akaike information criterion (AIC), Bayesian information criterion (BIC), sample-size-adjusted BIC (SSA–BIC), Lo-Mendell-Rubin likelihood ratio test (LMR; Lo, Mendell, & Rubin, 2001), bootstrap likelihood ratio test (BLRT), and entropy. The IC statistics take into account both the goodness-of-fit and the complexity of a model; LMR and BLRT evaluate whether the current model significantly improves data fit over the model with one fewer profile, and entropy (which takes on values between 0 and 1) indicates the extent of separation between profiles. These indices do not have cut-off scores. According to Foti, Bray, Thompson, and Allgood (2012), the best model would tend to have the following fit statistics: LL, AIC, BIC, and SSA–BIC values should be lower in comparison to other profile solutions; LMR and BLRT should be significant ( $p < .05$ ); and entropy should be larger in comparison to other profile solutions. The current study allocated a greater weight to BIC, as this was recommended by several studies (e.g., Nylund, Asparouhov, & Muthén, 2007; Roeder & Wasserman, 1997).

Finally, there has been no prior research on the potential number of distinct work-value profiles. As such, the study started with specifying two latent profiles and increased the number of profiles until the improvement in model fit could not justify the reduction in parsimony caused by specifying another latent profile. This inductive approach has been widely utilized in LPA (Gabriel et al., 2015). The theoretical meaning of solutions should also be considered when selecting the best profile structure.

### *Treatment of career variables*

There were two possible analytic approaches for the career variables. First, a growth model could be fitted to the continuous career variables to see if the work-value profiles display distinct career trajectories (e.g., diverse salary trends over time), especially if the trajectories were known to be linear. However career trajectories are not always linear e.g., salary of U.S. teachers over time was better described by a curvilinear model (Eubank & Spiegelman, 1990). Although variables measured at three different occasions could technically be fitted with a quadratic growth curve (Collins, 2006), the modeling should be supported by theory (Burke, Shrout, & Bolger, 2007), which was contrary to the exploratory nature of the present study.

The present study thus used a mixture of cross-sectional and longitudinal data exploration techniques. Specifically, to address RQ3-9, the study treated the dataset as three cross-sectional blocs. The fact that the timing of AJD1, AJD2, and AJD3 corresponded to significant career milestones further bolstered the case for this approach.

### **Analyses**

LPA was conducted using Mplus Version 7.4 (Muthén & Muthén, 1998–2015). Specifically, the R3STEP (Asparahov & Muthén, 2014) and BCH (Bakk, Tekle, & Vermunt, 2013; Bakk & Vermunt, 2016; Vermunt, 2010) modules were used with robust maximum likelihood (MLR) estimates to cope with non-normal distributions among variables. The two modules were computationally equivalent and produced exactly the same number of profiles and classification of individuals. They were used in different analyses because each of them imposed unique constraints on inputs and outputs.

When exploring the antecedent effect of gender, R3STEP ran a series of multinomial logistic regressions to assess whether a change in the antecedent would result in a higher

probability that a person belonged to one profile over another. R3STEP's output also contained information on most-likely profile, which was used in modal assignment.

The relationships between work-value profiles and career variables were examined using BCH, which avoids latent profile shift through a weighted multiple profile analysis. Specifically, the measurement errors of the latent profile variable (i.e., classification uncertainty) were saved as weights and used in subsequent analyses with auxiliary variables i.e., everyone in the sample contributed a weighted observation to each profile, and the same set of weights was used for all auxiliary variables (Asparouhov & Muthén, 2015). This was critical for the present study because it would otherwise not be possible to make valid comparisons across multiple measurement occasions. Within each cross-sectional bloc, the weighted profile means of each continuous or binary career variable were compared in a pairwise fashion using Wald tests (Asparouhov & Muthén, 2014)<sup>8</sup>, and Bonferroni correction was used to control inflation in Type 1 error. Given that missing data were handled by listwise deletion, different analyses involved slightly different sample sizes.

Two sets of BCH analyses were used to address RQs concerning the continuous or binary career variables i.e., RQs 4, 5, 7-9, and they were repeated for each cross-sectional bloc. First, the profile means were compared. Then, the career variables were regressed on the relevant control variables (e.g., UGPA for salary; LOC for career satisfaction) and the resulting intercept values were compared to see if the relationships changed with the inclusion of covariates.

BCH was not used for exploring RQs 3 and 6 (which concerned practice setting and supervisory authority) because it was not recommended for nominal and ordinal outcome variables (Bakk & Vermunt, 2016). Therefore, lawyers were assigned to subgroups based on their most likely profile (i.e., modal assignment), after which classical multi-group statistical

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<sup>8</sup> Due to how they are computed, these means cannot be compared using normal parametric methods like ANOVA.

techniques were used to address RQs 3 and 6. While modal assignment sacrifices a key advantage of LPA over cluster analysis, it is acceptable if entropy is high (.80 or higher; Clark and Muthén, 2009). In practice, modal assignment has occasionally been used in studies where entropy was between .60-.70 (e.g., Wang, Liu, Chatzisarantis, & Lim, 2010).

Variations in practice setting and supervisory authority across work-value profiles were explored within each cross-sectional bloc; in addition, effect sizes were computed. To address RQ3a-b, cross-tab analyses were used to explore the dependency between work-value profile and practice setting. Because supervisory authority (concerns RQ6) was ordinal, the Kruskal-Wallis test was performed, and the Mann-Whitney *U* test was used in post-hoc analyses.

The associations between work-value profile and career variables over time were examined for quantitative and qualitative changes (RQ10). RQ11 was evaluated through whether certain profiles were consistently related to particular career variables; where significant inter-profile differences on a career variable showed up on more than one measurement occasion, regression on the prior measure of the career variable (auto-regression) was used to explore the incremental validity of the work-value profile construct.

### **Supplementary Analyses**

In the supplementary analyses, the associations between holding an extrinsic, relative to an intrinsic, work-value orientation and career variables were examined through a series of multiple linear regression analyses (see Kasser & Ryan, 1993, 1996; Vansteenkiste et al., 2007). Although this method is more sophisticated than the typical variable-centered approach because it takes relative work value strengths into account, it still sidesteps the possibility of non-linear interactions between intrinsic and extrinsic work values. In addition, it disregards the possible effects of absolute levels of work values.

As mentioned earlier, in this method, the control variables (e.g., gender) were entered into the equation, followed by overall work values (i.e., sum of intrinsic and extrinsic work value scores); finally, the residual was regressed on extrinsic work values. The overall work values variable was construed as a control for the possible effect of acquiescence (Vansteenkiste et al., 2007). These steps would yield an estimate of the effect of an extrinsic, relative to an intrinsic, work-value orientation on a career variable. They addressed H2 and RQ12.

## Chapter Three

### Results

#### Descriptive Statistics

The means, standard deviations, and correlations between all study variables (with the exception of practice setting) are presented in Table 6. All the continuous variables were approximately normally distributed, with the exception of salary. The salary data distributions were positively-skewed and leptokurtic and were therefore log-transformed for computations in this table (untransformed data were used in LPA). The median salaries (not shown in Table 6) were USD70,500 in 2002, USD109,425 in 2006, and USD140,000 in 2011. The median of supervisory authority, an ordinal variable, were 2.00 in 2007 and 3.00 in 2012 (not shown in Table 6); its relationships with other variables were indexed either by Spearman's  $\rho$  (where the other variable was continuous) or  $r$  derived from the Mann-Whitney  $U$  test (where the other variable was binary). Only 3 percent of the JDs were in senior position in 2002; this increased to 24 and 63 percent in 2007 and 2012, respectively. The mean career satisfaction was quite high in 2002, and was even higher in 2012. Job satisfaction appeared to increase from 2002 to 2007, and remained stable thereafter. WLB satisfaction also seemed to rise marginally from 2007 to 2012.



Table 6

*Means, SDs and Correlations of Study Variables (n = 905)*

Variables	1	2	3	4	5	6	7
1. Intrinsic work value	-						
2. Extrinsic work value	.23**	-					
3. Gender	-.12**	.04	-				
4. Race	-.02	-.01	.15**	-			
5. Age 2002	.01	-.02	.09**	.03	-		
6. Age 2007	.01	-.02	.09**	.03	1.00	-	
7. Age 2012	.01	-.02	.09**	.03	1.00	1.00	-
8. Marital status 2002	-.05	.01	.18**	.19**	.14**	.14**	.14**
9. Marital status 2007	-.05	.02	.17**	.17**	.04	.04	.04
10. Marital status 2012	-.06	.00	.17**	.16**	.01	.01	.01
11. UGPA	.01	.05	-.09**	.07	-.16**	-.16**	-.16**
12. LOC	.00	.03	-.01	-.00	-.01	-.01	-.01
13. Salary 2002 <sup>a</sup>	-.22**	.37**	.12**	-.08*	.08*	.08*	.08*
14. Salary 2006 <sup>a</sup>	-.09**	.37**	.15**	-.00	-.02	-.02	-.02
15. Salary 2011 <sup>a</sup>	-.09**	.25**	.17**	.04	-.01	-.01	-.01
16. Position 2002	-.03	-.03	.05	.03	-.04	-.04	-.04
17. Position 2007	-.02	.09*	.13**	.15**	.02	.02	.02
18. Position 2012	.02	.17**	.05	.08*	-.01	-.01	-.01
19. Sup Auth 2007 <sup>b</sup>	-.05	.14**	.12**	.06	.02	.02	.02
20. Sup Auth 2012 <sup>b</sup>	-.08*	.06	.13**	.05	-.04	-.04	-.04
21. Career SAT 2002	.23**	.07*	.03	-.01	.04	.04	.04
22. Career SAT 2007	.13**	.03	.05	.01	.08*	.08*	.08*
23. Career SAT 2012	.09**	.01	.04	.01	.07*	.07*	.07*
24. Job SAT 2002	.24**	-.00	.07*	.10**	.01	.01	.01
25. Job SAT 2007	.06	-.02	.06	.07*	-.01	-.01	-.01
26. Job SAT 2012	.05	.03	.06	.03	-.03	-.03	-.03
27. WLB SAT 2007	.01	-.08*	-.03	-.02	.01	.01	.01
28. WLB SAT 2012	-.03	-.07*	-.03	-.01	.02	.02	.02
<i>M</i>	14.68	14.30	.57	.73	29.68	34.68	39.68
<i>SD</i>	4.08	4.24	.50	.45	2.49	2.49	2.49

*Note.* Gender (1 = male; 0 = female); race (1 = white; 0 = non-white); marital status (1 = married; 0 = not married); UGPA = undergraduate GPA; LOC = locus of control; position (1 = senior; 0 = not senior); Sup Auth = supervisory authority (1 = no supervisory authority; 4 = supervisor with at least 2 levels below); SAT = satisfaction; WLB = work-life balance.

<sup>a</sup>Log-transformed salary data. <sup>b</sup>Spearman's  $\rho$  or  $r$  derived from Mann-Whitney  $U$  test presented instead of Pearson's correlation.

\* $p < .05$ , two-tailed. \*\* $p < .01$ , two-tailed.

Table 6 (Continued)

Variables	8	9	10	11	12	13	14
1. Intrinsic work value							
2. Extrinsic work value							
3. Gender							
4. Race							
5. Age 2002							
6. Age 2007							
7. Age 2012							
8. Marital status 2002	-						
9. Marital status 2007	.49**	-					
10. Marital status 2012	.33**	.61**	-				
11. UGPA	.01	.03	-.02	-			
12. LOC	.08*	.06	.04	.01	-		
13. Salary 2002 <sup>a</sup>	.05	.06	.07*	.16**	-.02	-	
14. Salary 2006 <sup>a</sup>	.07*	.12**	.07*	.15**	.01	.68**	-
15. Salary 2011 <sup>a</sup>	.11**	.12**	.15**	.15**	.01	.54**	.72**
16. Position 2002	.06	.07*	.05	.02	.03	-.12**	-.09*
17. Position 2007	.11**	.08*	.06	-.02	.09*	.07	.15**
18. Position 2012	.09*	.07	.08*	.10**	-.01	.23**	.32**
19. Sup Auth 2007 <sup>b</sup>	.04	.04	.02	.06	-.02	.16**	.27**
20. Sup Auth 2012 <sup>b</sup>	.11**	.08*	.09**	.09**	.03	.15**	.22**
21. Career SAT 2002	.02	.06	.08*	-.09**	.14**	-.02	.06
22. Career SAT 2007	.02	.01	.06	-.01	.12**	.03	.10**
23. Career SAT 2012	.07	.06	.10**	-.01	.12**	.04	.08*
24. Job SAT 2002	.11**	.10**	.13**	-.02	.06	-.16**	-.04
25. Job SAT 2007	.06	.03	.10**	.03	.15**	-.08*	-.03
26. Job SAT 2012	.04	.05	.09**	-.02	.15**	.03	.02
27. WLB SAT 2007	.01	.00	.04	-.05	.06	-.11**	-.16**
28. WLB SAT 2012	.04	.01	.02	-.08*	.00	-.05	-.14**
<i>M</i>	.48	.71	.79	-	36.56	11.20	11.63
<i>SD</i>	.50	.45	.41	-	5.95	.50	.53

Table 6 (Continued)

Variables	15	16	17	18	19	20	21
1. Intrinsic work value							
2. Extrinsic work value							
3. Gender							
4. Race							
5. Age 2002							
6. Age 2007							
7. Age 2012							
8. Marital status 2002							
9. Marital status 2007							
10. Marital status 2012							
11. UGPA							
12. LOC							
13. Salary 2002 <sup>a</sup>							
14. Salary 2006 <sup>a</sup>							
15. Salary 2011 <sup>a</sup>	-						
16. Position 2002	-.11**	-					
17. Position 2007	.17**	.16**	-				
18. Position 2012	.41**	-.02	.30**	-			
19. Sup Auth 2007 <sup>b</sup>	.21**	.10**	.26**	.17**	-		
20. Sup Auth 2012 <sup>b</sup>	.31**	.02	.19**	.33**	.41**	-	
21. Career SAT 2002	.09*	.09*	.03	-.03	.09*	.05	-
22. Career SAT 2007	.13**	.04	.06	.08*	.08*	.02	.50**
23. Career SAT 2012	.16**	-.04	.10**	.10**	.08*	.09**	.45**
24. Job SAT 2002	.00	.20**	.09*	.01	.04	.06	.43**
25. Job SAT 2007	.03	.05	.15**	.04	.09**	.11**	.21**
26. Job SAT 2012	.06	.02	.14**	.11**	.08*	.14**	.21**
27. WLB SAT 2007	-.11**	.02	-.02	-.13**	-.23**	-.13**	.09*
28. WLB SAT 2012	-.16**	-.03	-.02	-.07	-.13**	-.12**	.07
<i>M</i>	11.87	.03	.24	.63	-	-	3.89
<i>SD</i>	.67	.16	.43	.48	-	-	1.08

Table 6 (Continued)

Variables	22	23	24	25	26	27	28
1. Intrinsic work value							
2. Extrinsic work value							
3. Gender							
4. Race							
5. Age 2002							
6. Age 2007							
7. Age 2012							
8. Marital status 2002							
9. Marital status 2007							
10. Marital status 2012							
11. UGPA							
12. LOC							
13. Salary 2002 <sup>a</sup>							
14. Salary 2006 <sup>a</sup>							
15. Salary 2011 <sup>a</sup>							
16. Position 2002							
17. Position 2007							
18. Position 2012							
19. Sup Auth 2007 <sup>b</sup>							
20. Sup Auth 2012 <sup>b</sup>							
21. Career SAT 2002							
22. Career SAT 2007	-						
23. Career SAT 2012	.57**	-					
24. Job SAT 2002	.23**	.19**	-				
25. Job SAT 2007	.44**	.27**	.28**	-			
26. Job SAT 2012	.24**	.43**	.27**	.34**	-		
27. WLB SAT 2007	.27**	.16**	.12**	.39**	.13*	-	
28. WLB SAT 2012	.07*	.21**	.06	.11**	.42**	.34**	-
<i>M</i>	3.97	4.01	4.81	5.27	5.23	5.11	5.35
<i>SD</i>	1.02	1.02	1.04	1.00	1.01	1.69	1.65

The median UGPA category (not shown in Table 6) was 3.25-3.49 - quite high but not surprising for a sample that subsequently continued their education in law school. There was a significant relationship between gender and intrinsic work values,  $r = -.12, p < .01$ , which showed that female lawyers reported higher intrinsic work values than males. Therefore H1 was

supported. With regard to RQ2a, the correlation between gender and extrinsic work values was not statistically significant,  $r = .04$ ,  $p > .05$ . No other socio-demographic variables in the study were associated with either extrinsic or intrinsic work values.

Consistent with past findings, salaries at all three waves of the study were negatively associated with intrinsic work values and positively associated with extrinsic work values. Position in the organization hierarchy and supervisory authority - OCS indicators infrequently used in other studies - showed a trend of being positively related to extrinsic work values. Intrinsic work values were consistently and positively related to career satisfaction. Besides showing a small positive relationship with career satisfaction in 2002, extrinsic work values also displayed a small negative association with WLB satisfaction in 2007 and 2012, suggesting that the relationship between extrinsic work values and SCS may be complex. Gender (being male) has a notable positive effect on OCS indicators; so did UGPA. As expected, LOC was positively correlated with career and job satisfaction.

The rank-order stability of salary was moderate to high,  $r = .68$  between 2002 and 2006,  $r = .72$  between 2006 and 2011, and  $r = .54$  between 2002 and 2011; so was the rank-order stability in career satisfaction,  $r = .50$  between 2002 and 2007,  $r = .57$  between 2007 and 2012, and  $r = .45$  between 2002 and 2012. Comparatively, the rank-order stability of job satisfaction was lower, with correlations ranging from  $.27$  to  $.34$ . The  $p$ -values for all of the above correlations were lower than  $.01$ . The correlation between career satisfaction and WLB satisfaction was small,  $r = .27$ ,  $p < .01$  and  $r = .21$ ,  $p < .01$  in 2007 and 2012 respectively; Shockley et al. (2016) also reported a small to moderate relationship between career satisfaction and personal life satisfaction.

In the first seven years of a lawyer's career, the relationship between salary and senior position was quite weak and inconsistent ( $r = -.12, p < .01$  in 2002;  $r = .15, p < .01$  in 2007), although the linkage strengthened significantly in mid-career ( $r = .41$  in 2012). The relationship between salary and supervisory authority was moderate,  $r = .27, p < .01$  in 2007 and  $r = .31, p < .01$  in 2012. These results reaffirmed the approach to examine these variables separately instead of modeling them as indicators of a latent OCS construct. The positive correlations among the SCS indicators were stronger and consistent, ranging from  $r = .21$  to  $.44$ , all  $p$ -values  $< .01$ , at all three waves of the study.

A higher salary was associated with a lower job satisfaction ( $r = -.16, p < .01$ ) in 2002; in 2007 higher salary was associated with higher career satisfaction ( $r = .10, p < .01$ ) but lower WLB satisfaction ( $r = -.16, p < .01$ ) and similar results emerged in 2012 ( $r = .16, p < .01$  with career satisfaction and  $r = -.16, p < .01$  with WLB satisfaction). Senior position has a significant though small relationship with career satisfaction in 2002 ( $r = .09, p < .05$ ) and 2012 ( $r = .10, p < .01$ ); it also has a significant association with job satisfaction at all three waves of the study ( $r = .20, p < .01$ ;  $r = .15, p < .01$ ; and  $r = .11, p < .01$  in 2002, 2007, and 2012, respectively). Supervisory authority, which was only measured in 2007 and 2012, was positively associated with both career satisfaction ( $r = .08, p < .05$  in 2007 and  $r = .09, p < .01$  in 2012) and job satisfaction ( $r = .09, p < .01$  in 2007 and  $r = .14, p < .01$  in 2012); however it also has a negative relationship with WLB satisfaction ( $r = -.23, p < .01$  in 2007 and  $r = -.12, p < .01$  in 2012). Collectively, these results showed that with a more comprehensive set of career success indicators, particularly the inclusion of WLB satisfaction, the relationship between OCS and SCS might be weaker than Ng et al.'s (2005) meta-analytic estimate ( $\rho = .3$ ) which was based on studies measuring salary and career satisfaction only.

## Measurement Invariance

To investigate MI across gender, separate series of LPA were first carried out on female and male respondent data. Specifically, intrinsic and extrinsic work values were modelled as indicators of the latent work-value profile variable. The local independence restriction was relaxed to accommodate covariance within profiles, and this relaxation did not lead to convergence problems at any time. In the initial specification of each *g*-profiles model, the variance and covariance within each profile were constrained to equality across profiles; this restriction was then relaxed one parameter at a time to check for significant improvement in model fit indices<sup>9</sup>. The best-fit statistics for each *g*-profiles model for female lawyers are presented in Table 7, and the corresponding statistics for males are presented in Table 8.

Table 7

*Fit Statistics for Profile Structure among Female Lawyers (n = 388)*

No. of profiles	LL	FP	AIC	BIC	SSA-BIC	LMR ( <i>p</i> )	BLRT ( <i>p</i> )	Entropy
2	-2169.15	9	4356.31	4391.96	4363.40	.00	.00	.81
3	-2155.02	12	4334.04	4381.57	4343.50	.01	.00	.78
4	-2143.15	15	4316.30	4375.71	4328.12	.01	.00	.78
5	-2140.39	18	4316.56	4388.09	4330.97	.01	.10	.81
6	-2135.04	20	4310.07	4389.29	4325.84	.49	.00	.77

*Note.* LL = log-likelihood; FP = free parameters; AIC = Akaike information criteria; BIC = Bayesian information criteria; SSA-BIC = sample-size adjusted BIC; LMR = Lo, Mendell, and Rubin (2001) test; BLRT = bootstrapped log-likelihood ratio test.

<sup>9</sup> In almost all instances, the model fit improved slightly when restriction was relaxed on one or two parameters; further relaxation either had a detrimental effect on fit or led to model convergence issues.

Among female lawyers, there were progressive and consistent improvements in fit from the two-profile to four-profile model; BIC was lowest for the four-profile model, and both the LMR ( $p < .05$ ) and BLRT ( $p < .01$ ) statistics also showed that it was a significant improvement over the three-profile model. The BLRT statistic indicated that the five-profile model was not better than the four-profile one ( $p > .05$ ); its BIC was also higher. The LMR statistic for the six-profile model clearly indicated that it offered no improvement over the five-profile model ( $p > .05$ ). Therefore, a four-profile model appeared to provide the best fit for data from female lawyers.

Table 8

*Fit Statistics for Profile Structure among Male Lawyers (n = 517)*

No. of profiles	LL	FP	AIC	BIC	SSA-BIC	LMR ( $p$ )	BLRT ( $p$ )	Entropy
2	-2850.38	10	5720.75	5763.23	5731.49	.00	.00	.80
3	-2834.02	13	5694.04	5749.27	5708.00	.03	.00	.82
4	-2827.41	15	5684.83	5748.55	5700.94	.01	.00	.78
5	-2822.36	18	5680.72	5757.19	5700.05	.04	.00	.74
6	-2819.17	21	5680.34	5769.55	5702.89	.28	.20	.77

*Note.* LL = log-likelihood; FP = free parameters; AIC = Akaike information criteria; BIC = Bayesian information criteria; SSA-BIC = sample-size adjusted BIC; LMR = Lo, Mendell, and Rubin (2001) test; BLRT = bootstrapped log-likelihood ratio test.

Similar to results from the female lawyers, the four-profile model was clearly better than the three-profile one among the male lawyers (lower BIC, statistically significant LMR and BLRT), and the six-profile model was evidently worse than the five-model one. Although the LMR ( $p < .05$ ) and BLRT ( $p < .01$ ) statistics suggested that the five-profile model might offer



improvement over the four-profile one, BIC implied otherwise. When two models are both plausible and there is no strong theoretical justification for either, the analyst should choose the more parsimonious model (Masyn, 2013). Therefore the four-profile model was selected.

In summary, the results showed that a four-profile model fitted both groups i.e., there was no compelling evidence of different configurations of profiles existing within male and female lawyers. This satisfied the first condition for MI. Next, the indicator means within each profile were plotted for each gender (see Figure 1).

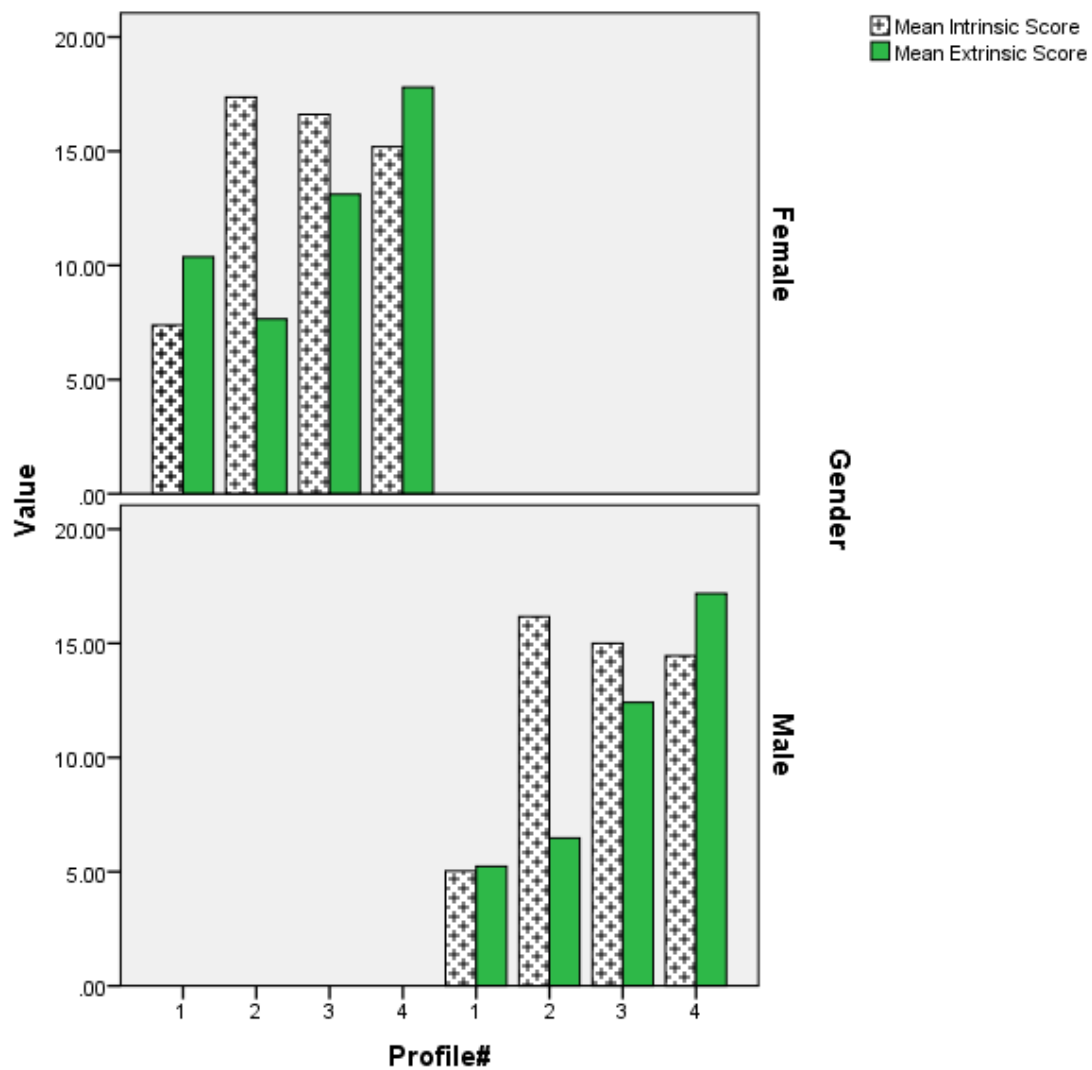


Figure 1. Work-Value Profiles among Female and Male Lawyers

The work-value profiles were highly similar across gender, except for a small disparity in Profile #1, where the mean extrinsic work values was visibly higher than the mean intrinsic work values among female lawyers, whereas they were about the same among male lawyers. On the whole, the second condition for MI was met and configural MI was established.

Next, to assess structural equivalence, a series of four-profile models was specified for both male and female lawyers in a multiple group analysis. Specifically, the fit of a restricted (nested) model where indicator means of corresponding profiles were specified to be equal across gender was compared to that of a baseline model where all means were freely-estimated in males and females (Muthén & Muthén, 1998-2015). The LL difference test statistic was not significant,  $\chi^2(8, N = 905) = 13.85, p > .05$ , and therefore provided no support for non-MI across gender. Thus, structural equivalence (and metric equivalence) was established, and the data from male and female respondents were pooled for further analyses.

### **Profile Configuration**

To investigate the profile configuration in the entire sample of 905 lawyers and to determine whether gender was associated with profile assignment, a series of LPA was performed using the R3STEP module in Mplus. Briefly, in Step 1, the best-fit  $k$ -profile model was determined (unconditional LPA; Masyn, 2013); in Step 2, each respondent was assigned to a profile and the classification uncertainty (posterior membership probabilities) for each assignment was computed; in Step 3, the effect of gender was estimated using the information from Steps 1 and 2.

The results are presented in Table 9. Almost all the fit indices (with the exception of LL which does not take model parsimony into account) supported a five-profile model; in particular, it has the lowest BIC and both the LMR and BLRT statistics were significant ( $p < .01$ ), implying

that it was an improvement over the four-profile model. The six-profile model had a higher BIC and did not offer significant improvement over the five-profile model (the  $p$ -values of both the LMR and BLRT statistics were greater than .05), and the seven-profile model was clearly worse than the six-profile one.

Table 9

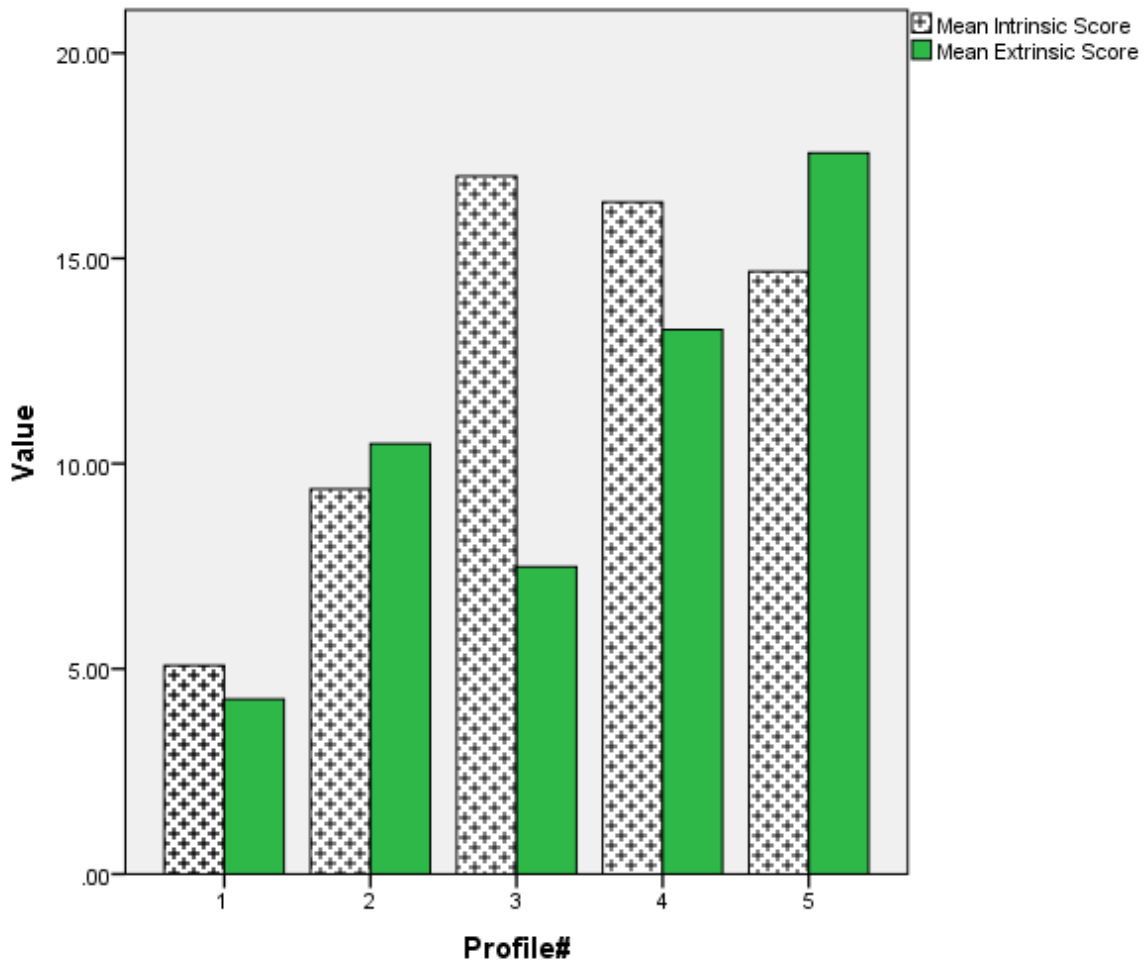
*Fit Statistics for Profile Structure with Gender Modelled as Covariate (n = 905)*

No. of profiles	LL	FP	AIC	BIC	SSA-BIC	LMR ( $p$ )	BLRT ( $p$ )	Entropy
2	-5034.45	10	10088.90	10136.98	10105.22	.00	.00	.75
3	-5010.09	12	10044.18	10101.87	10063.76	.00	.00	.81
4	-4993.60	15	10017.21	10089.33	10041.69	.00	.00	.69
5	-4984.64	17	10003.28	10085.01	10031.02	.00	.00	.77
6	-4976.74	20	9993.77	10089.64	10026.12	.06	.05	.75
7	-4973.76	23	9992.95	10103.54	10030.49	.49	.50	.72

*Note.* LL = log-likelihood; FP = free parameters; AIC = Akaike information criteria; BIC = Bayesian information criteria; SSA-BIC = sample-size adjusted BIC; LMR = Lo, Mendell, and Rubin (2001) test; BLRT = bootstrapped log-likelihood ratio test.

The emergence of an additional profile over earlier results where a four-profile model was the best fit for both the male and female data was not necessarily an anomaly. First, in those analyses, the five-profile model also appeared plausible, especially among male lawyers. Second, it was possible that a small distinct subgroup in the population had been detected due to higher power of the combined sample (Lubke, 2010). To examine if the five-profile model was indeed an extension of the four-profile model, the indicator means within each profile were plotted (Figure 2). Profiles 2-5 were very similar to the male and female profile configurations in Figure

1. Furthermore, the first profile, comprising of lawyers who reported low extrinsic as well as low intrinsic work values, was also the smallest group (see Table 10).



*Figure 2.* Work-Value Profiles in Entire Sample

In addition, the first profile was theoretically relevant as it was expected to display the lowest level of OCS and SCS relative to the other profiles. These observations strongly implied that the series of LPA (i.e., first by gender, then overall) have yielded consistent results and the five-profile solution was indeed a highly similar but more detailed description of the overall dataset compared to those derived from gender-based analyses.

Table 10

*Means, Standard Errors, and Profile Proportions in Final Latent Profile Model*

Latent profile	Mean intrinsic work value (SE)	Mean extrinsic work value (SE)	Number (percentage of sample)
1. Neither Intrinsic nor Extrinsic ( <i>NIE</i> )	5.08 (.52)	4.26 (.45)	26 (2.9%)
2. Moderately Intrinsic and Extrinsic ( <i>MIE</i> )	9.38 (.77)	10.49 (.62)	67 (7.4%)
3. Highly Intrinsic ( <i>HI</i> )	17.00 (.36)	7.49 (.37)	83 (9.2%)
4. Highly Intrinsic, also Extrinsic ( <i>HI[E]</i> )	16.37 (.40)	13.26 (.29)	274 (30.3%)
5. Highly Extrinsic, also Intrinsic ( <i>HE[I]</i> )	14.68 (.19)	17.57 (.17)	455 (50.3%)

*Note.* Both the intrinsic and extrinsic work value scores ranged from 3 to 21.

The answer to RQ1 was therefore affirmative - quantitatively and qualitatively distinct work-value profiles did exist. The following is a brief description of each profile:

**Profile 1.** This profile consisted of lawyers who reported low intrinsic and extrinsic work values ( $\bar{x}_{\text{intrinsic}} = 5.08$ ;  $\bar{x}_{\text{extrinsic}} = 4.26$ ) and shall be labeled “neither intrinsic nor extrinsic” (*NIE*). Twenty-six of the 905 lawyers (2.9 percent) were assigned to this profile.

**Profile 2.** Sixty-seven lawyers (7.4 percent of sample) who reported a moderate level of intrinsic and extrinsic work values ( $\bar{x}_{\text{intrinsic}} = 9.38$ ;  $\bar{x}_{\text{extrinsic}} = 10.49$ ) were assigned to this profile. It shall be labeled “moderately intrinsic and extrinsic” (*MIE*).

**Profile 3.** This profile comprised eighty-three lawyers (9.2 percent of sample) with high intrinsic work values and low to moderate levels of extrinsic work values ( $\bar{x}_{\text{intrinsic}} = 17.00$ ;  $\bar{x}_{\text{extrinsic}} = 7.49$ ). It shall be labeled “highly intrinsic” (*HI*).

**Profile 4.** This profile has a similar level of intrinsic values as the highly intrinsic profile; however it also exhibited moderately high extrinsic values ( $\bar{x}_{\text{intrinsic}} = 16.37$ ;  $\bar{x}_{\text{extrinsic}} = 13.26$ ), and shall be labeled “highly intrinsic, also extrinsic” (*HI[E]*). Two hundred and seventy-four lawyers (30.3 percent of sample) were assigned to this profile.

**Profile 5.** About half of the total sample (455 lawyers; 50.3 percent) belonged to this profile, which was characterized by a high level of extrinsic work values and moderately high intrinsic work values ( $\bar{x}_{\text{intrinsic}} = 14.68$ ;  $\bar{x}_{\text{extrinsic}} = 17.57$ ). It was essentially the inverse of Profile 4 and shall be labeled “highly extrinsic, also intrinsic” (*HE[I]*).

The entropy of the five-profile solution was .77, indicating that good separation existed between the profiles. To investigate some of the RQs in the present study, the sample needed to be partitioned according to their most likely profiles, without regard for classification uncertainty (i.e., modal assignment). Good entropy is a necessary condition for modal assignment (Clark & Muthén, 2009).

LPA assigned each individual to a most likely profile based on his/her posterior membership probabilities (i.e., to the profile with the highest posterior probability). As explained earlier, posterior membership probabilities provided information on classification uncertainty. The average posterior membership probabilities for each profile are presented in Table 11. For instance, the first row in Table 11 shows that among lawyers assigned to the *NIE* profile, the average posterior probability for *NIE* was .94, and their probability of belonging to either *HI[E]* or *HE[I]* was zero. The diagonals in Table 11 inform us about the homogeneity within profiles e.g., *NIE* (average probability of .94) was the most homogenous, followed by *HE[I]* (average probability of .89); *MIE* (average probability of .74) was, relatively, the least homogenous.

Table 11

*Average Latent Profile Probabilities for Most Likely Latent Profile Membership (Row) by Latent Profile (Column)*

	<i>NIE</i>	<i>MIE</i>	<i>HI</i>	<i>HI[E]</i>	<i>HE[I]</i>
<i>NIE</i>	<b>.94</b>	.05	.01	.00	.00
<i>MIE</i>	.05	<b>.74</b>	.04	.15	.02
<i>HI</i>	.01	.03	<b>.86</b>	.09	.00
<i>HI[E]</i>	.00	.06	.04	<b>.79</b>	.11
<i>HE[I]</i>	.00	.01	.00	.10	<b>.89</b>

*Note.* *NIE* = Neither Intrinsic nor Extrinsic; *MIE* = Moderately Intrinsic and Extrinsic; *HI* = Highly Intrinsic; *HI[E]* = Highly Intrinsic, also Extrinsic; *HE[I]* = Highly Extrinsic, also Intrinsic. Bold figures are the average posterior membership probabilities associated with each profile.

### Association between Gender and Profile Assignment

Multinomial logistic regression analyses (implemented in R3STEP) showed that gender was significantly associated with profile assignment: (i) given membership in either *NIE* or *HI*, male lawyers were more likely to be in *NIE* than were female lawyers ( $z = 2.63, p = .009$ ); (ii) given membership in either *MIE* or *HI*, male lawyers were more likely to be in *MIE* than were female lawyers ( $z = 2.26, p = .024$ ); (iii) given membership in either *HE[I]* or *HI*, male lawyers were more likely to be in *HE[I]* than were female lawyers ( $z = 3.03, p = .002$ ). These findings addressed RQ2b i.e., gender was a covariate of the latent work-value profile. Specifically, it was associated with how lawyers were assigned to the profiles.

### Preparation of Data for Further Analyses

Because entropy was quite good, a modally-assigned dataset was derived to explore RQs involving categorical or ordinal variables i.e., RQ3 (practice setting) and RQ6 (supervisory authority). The number of lawyers within each profile is shown in the fourth column of Table 10.

The proportionally-assigned dataset (which took classification uncertainty into account) were used for RQs involving binary or continuous variables i.e., RQs 4, 5, 7-9. In these analyses, the Mplus BCH module was first used to classify the respondents into profiles and generate the weights associated with the classification; these weights were then used to explore the above RQs and the relationships across measurement occasions (RQ10 and RQ11). The weights were invariant across analyses because they were generated using the same input (i.e., intrinsic and extrinsic work value scores measured in AJD1). For each career variable, two sets of results are presented: one without, and the other with, the covariates.

### **Practice Setting**

The modally-assigned dataset was used to address RQ3, which concerned whether work-value profile was associated with practice setting. The distributions of lawyers in each practice setting by profile in 2002, 2007, and 2012 are presented in Table 12.

The bottom of the table shows the total number of lawyers in each setting for each year. Although there were some missing data in each wave of the study, their proportions were quite small and should therefore not invalidate longitudinal comparisons. Between 2002 and 2007, a large number of lawyers departed large law firms, and a similarly large number joined BTLs. There was also a noticeable outflow from smaller law firms and inflow to GPI firms, but not at the same scale. These trends continued between 2007 and 2012, although the switches in practice settings were more moderate.



Table 12

*Distribution of Lawyers - Profile by Practice Setting in 2002, 2007, and 2012*

Year	Profile	Number in practice setting (proportion of profile)				Total
		GPI firm	Smaller law firm (≤100 lawyers)	BTL	Large law firm (>100 lawyers)	
2002	<i>NIE</i>	5 (.20)	18 (.72)	1 (.04)	1 (.04)	25
	<i>MIE</i>	11 (.16)	31 (.46)	6 (.09)	19 (.28)	67
	<i>HI</i>	49 (.59)	24 (.29)	4 (.05)	6 (.07)	83
	<i>HI[E]</i>	116 (.43)	97 (.36)	19 (.07)	40 (.15)	272
	<i>HE[I]</i>	51 (.11)	155 (.34)	41 (.09)	207 (.46)	454
2007	<i>NIE</i>	6 (.23)	16 (.62)	3 (.12)	1 (.04)	26
	<i>MIE</i>	21 (.32)	19 (.29)	15 (.23)	10 (.15)	65
	<i>HI</i>	48 (.61)	21 (.27)	4 (.05)	6 (.08)	79
	<i>HI[E]</i>	111 (.41)	92 (.34)	37 (.14)	28 (.10)	268
	<i>HE[I]</i>	68 (.15)	135 (.31)	114 (.26)	125 (.28)	442
2012	<i>NIE</i>	7 (.29)	13 (.54)	4 (.14)	0 (.00)	24
	<i>MIE</i>	23 (.36)	19 (.30)	13 (.20)	9 (.14)	64
	<i>HI</i>	51 (.61)	21 (.25)	5 (.06)	6 (.07)	83
	<i>HI[E]</i>	112 (.41)	86 (.33)	43 (.16)	23 (.09)	264
	<i>HE[I]</i>	82 (.19)	143 (.32)	135 (.30)	84 (.19)	444
Total (2002)		232 (.26)	325 (.36)	71 (.08)	273 (.30)	901
Total (2007)		254 (.29)	283 (.32)	173 (.20)	170 (.19)	880
Total (2012)		275 (.31)	282 (.32)	200 (.23)	122 (.14)	879

*Note.* *NIE* = Neither Intrinsic nor Extrinsic; *MIE* = Moderately Intrinsic and Extrinsic; *HI* = Highly Intrinsic; *HI[E]* = Highly Intrinsic, also Extrinsic; *HE[I]* = Highly Extrinsic, also Intrinsic; GPI = Government or Public Interest firm; BTL = Business, Trade Association, or Labor Union.

To address RQ3a, a crosstab analysis was performed to explore if practice setting was independent of work-value profile. Because the expected frequencies in some cells were fewer than 5, Pearson chi-square test would be inappropriate; instead, a Fisher's exact test using Monte Carlo approximation involving 10,000 draws was used to estimate the exact significance level.

Results showed that practice setting was not independent of work-value profile in 2002 ( $p < 0.001$ ), although the effect size was moderate<sup>10</sup>,  $\lambda = .17$ . The finding was replicated in 2007 ( $p < 0.001$ ;  $\lambda = .08$ ) and 2012 ( $p < 0.001$ ;  $\lambda = .10$ ). The reduction in the value of  $\lambda$  from 2002 to 2007 suggested that in early career, there was a greater concentration of lawyers with certain profiles in particular practice settings, but subsequent career movements have resulted in a relatively more even distribution of lawyers with different profiles. However lawyers with certain profiles still tended to be employed in particular settings in mid-career, because  $\lambda$  was still significant then; in fact the effect was greater at 2012 than at 2007.

The practice setting by profile plots are presented in Figures 3.1 (2002), 3.2 (2007), and 3.3 (2012). These figures were based on data in Table 12.

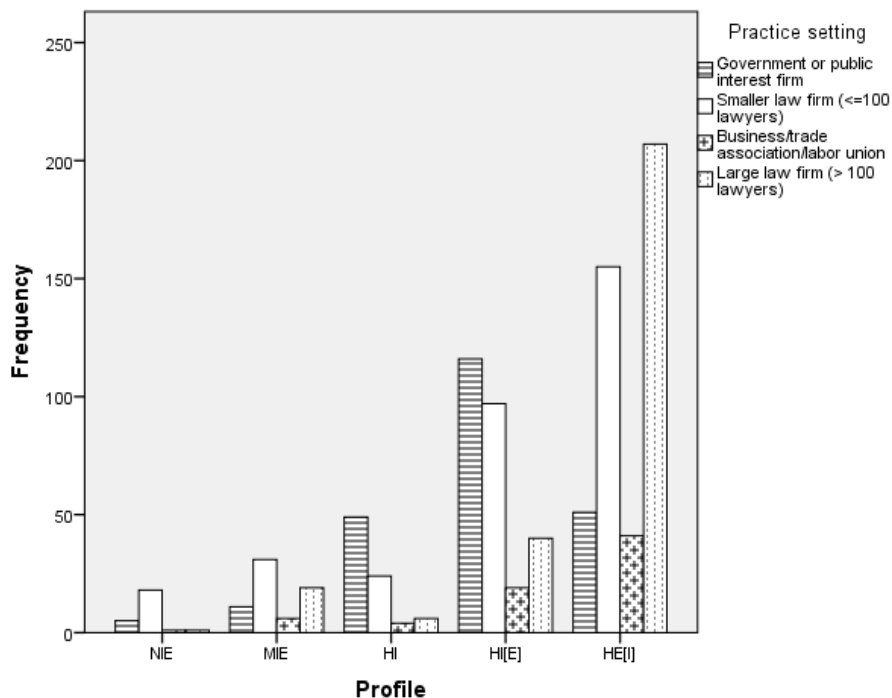


Figure 3.1. Plot of Practice Setting by Profile Distribution in 2002

<sup>10</sup> Lambda is a conservative effect size estimate (e.g., Folz, 1996), so the actual effect sizes were probably higher.

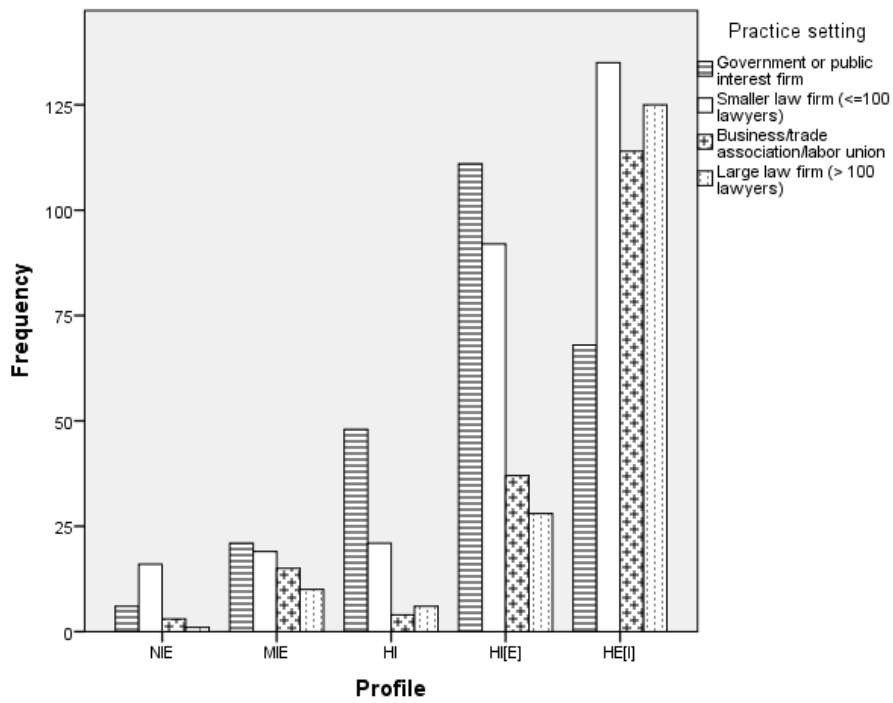


Figure 3.2. Plot of Practice Setting by Profile Distribution in 2007

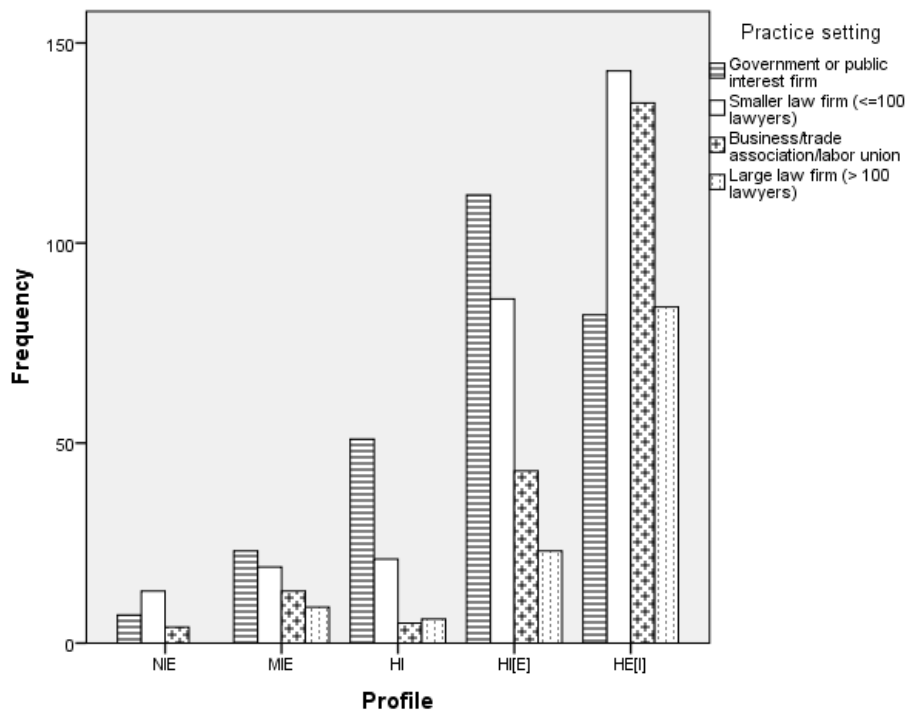


Figure 3.3. Plot of Practice Setting by Profile Distribution in 2012

The association between work-value profile and practice setting evolved over time, and the changes were more pronounced between 2002 and 2007. In the *NIE* profile, the major change over time appeared to be a switch from smaller law firms to BTLs. In 2002, the mode in the *MIE* profile was smaller law firm, followed by large law firm; in 2007, the largest number was in the GPI setting. The *HI* profile exhibited the greatest stability in terms of the relative number of lawyers in each setting - the rank order of the four settings did not change from 2002 to 2012. Within the *HI[E]* profile, the smallest number of lawyers worked in BTLs in 2002; however by 2007 the smallest number was in large law firms. Setting switches were most numerous in the *HE[I]* profile; in 2002 the mode was large law firm with the smallest number of lawyers in BTLs; by 2007, a quarter were in the latter setting and by 2012, lawyers in BTLs and smaller law firms dominated the *HE[I]* profile.

In summary, although there were some common trends across profiles, each of the profiles has also displayed a unique pattern of practice setting changes over time. The exodus of the *HE[I]* lawyers from large law firms between 2002 and 2007 probably played a significant role in the decrease in value of  $\lambda$  during the same period.

Although there were changes over time, there was also evidence of stability. An overwhelming majority of lawyers with the *NIE* profile had stayed within smaller law firms or GPI firms from early to mid-career; by 2012, none was in a large law firm. A similar trend was observed in the *HI* profile; however, unlike the *NIE* profile, its biggest group was in GPI firms (consistently around 60 percent). Furthermore, on all three measurement occasions, the proportion of *HI* lawyers in BTLs and large law firms (the “money jobs”; Sheldon & Krieger, 2014; also see Dinovitzer & Hagan, 2014) never exceeded 13%, although those who were already in these jobs had stayed on.

The *MIE* profile also had a sizeable proportion of its lawyers in smaller law firms or GPI firms, with 2 caveats: (i) the proportion in GPI firms grew from 16 percent to 36 percent from 2002 to 2012; (ii) they were quite well-represented in all four settings e.g., 14 percent of the lawyers continued to work in large law firms in 2012. Overall, slightly more than one-third of the *MIE* lawyers were always in money jobs, and it was second only to the *HE[I]* profile in this respect.

In terms of proportion of lawyers serving in GPI firms, the *HI[E]* profile (consistently above 40 percent) trailed only the *HI* profile; however about one-quarter of the *HI[E]* lawyers were in money jobs on all three measurement occasions. Lawyers in GPI firms were always the minority within the *HE[I]* profile; strikingly, between 49-55 percent of the *HE[I]* lawyers were always in money jobs. In 2002, 46 percent of them were in large law firms, considerably larger than the other profiles; even in 2012, a sizeable group had remained in this setting. Therefore, whereas lawyers with the *HI* profile were least likely to be in money jobs, about half of the *HE[I]* lawyers were always in money jobs.

In terms of the absolute levels of intrinsic and extrinsic work values, the *HI[E]* profile was quite similar to the *HE[I]* profile, yet three-quarters of the *HI[E]* lawyers were consistently in service jobs. The *MIE* lawyers, who likely did not have a strong preference for any practice setting because of their moderate work values, consistently constituted the second largest proportion of lawyers in large law firms (after the *HE[I]* profile).

With regard to RQ3b, these results showed that the association between work-value profile and practice setting was not linear i.e., it did not strengthen (or weaken) monotonously over time. Instead, the relationship was strongest in early career, weakened after that, and strengthened again during mid-career.

## Salary

RQ4 concerned whether work-value profile was associated with salary. In the analyses, the mean salary in each year associated with each profile was computed. The profile means were first compared pairwise using Wald test; next, the means were regressed on their covariates (identified through bivariate correlations in Table 6) and the resulting intercepts were again compared. Bonferroni correction was used to compensate for Type 1 error inflation arising from multiple comparisons. The same general approach was also applied to later analyses involving seniority, career satisfaction, job satisfaction, and WLB satisfaction.

In 2002, the mean salaries of *HE[I]* and *MIE* lawyers were not significantly different, but they were both significantly higher than those of *NIE*, *HI*, and *HI[E]* lawyers (see Table 13.1). Next, the covariates (gender, race, age, and UGPA) were added to the analyses one at a time. The significant relationships remained even after controlling for the effects of all these covariates (see Table 13.2).

Table 13.1

*Mean Salaries in 2002, Standard Errors, and Pairwise Comparisons (n = 873)*

Profile	Results of pairwise mean comparisons <sup>a</sup>				
	1	2	3	4	5
1. <i>NIE</i>	-				
2. <i>MIE</i>	<b>10.82*</b>	-			
3. <i>HI</i>	.70	<b>18.18**</b>	-		
4. <i>HI[E]</i>	.13	<b>11.21**</b>	2.23	-	
5. <i>HE[I]</i>	<b>68.76**</b>	4.90	<b>136.88**</b>	<b>95.92**</b>	-
Mean	57,987.00	87,184.00	53,200.00	59,896.00	104,102.00
SE	4,681.00	7,062.00	3,211.00	2,790.00	3,002.00
<i>N</i>	23	64	81	260	445

*Note.* *NIE* = Neither Intrinsic nor Extrinsic; *MIE* = Moderately Intrinsic and Extrinsic; *HI* = Highly Intrinsic; *HI[E]* = Highly Intrinsic, also Extrinsic; *HE[I]* = Highly Extrinsic, also Intrinsic.

<sup>a</sup> Chi-square values (*df* = 1) are presented; significant differences are in bold; \**p* < .05; \*\**p* < .01 (with Bonferroni correction).

Table 13.2

*Mean Salaries in 2002 (controlling for gender, race, age and UGPA), Standard Errors, and Pairwise Comparisons (n = 852)*

Profile	Results of pairwise intercept comparisons <sup>a</sup>				
	1	2	3	4	5
1. <i>NIE</i>	-				
2. <i>MIE</i>	<b>9.53*</b>	-			
3. <i>HI</i>	.57	<b>15.64**</b>	-		
4. <i>HI[E]</i>	.17	<b>9.53*</b>	1.81	-	
5. <i>HE[I]</i>	<b>61.56**</b>	5.35	<b>117.57**</b>	<b>80.44**</b>	-
Intercept	3,662.00	31,162.00	-748.00	5,729.00	48,838.00
SE	28,301.00	30,963.00	29,205.00	27,445.00	30,030.00
<i>N</i>	23	63	75	255	436

*Note.* *NIE* = Neither Intrinsic nor Extrinsic; *MIE* = Moderately Intrinsic and Extrinsic; *HI* = Highly Intrinsic; *HI[E]* = Highly Intrinsic, also Extrinsic; *HE[I]* = Highly Extrinsic, also Intrinsic.

<sup>a</sup> Chi-square values (*df* = 1) are presented; significant differences are in bold; \**p* < .05; \*\**p* < .01 (with Bonferroni correction).

The *HE[I]* lawyers had the highest mean salary in 2006, significantly higher than the mean salaries of all other profiles (see Table 14.1). In addition, the mean salaries of the *MIE* and *HI[E]* profiles were significantly higher than the mean salary of the *HI* profile. After controlling for the effects of gender and marital status, *MIE* no longer has a significantly higher salary than *HI*,  $\chi^2(1, N = 138) = 6.91, p = .086$ , but the difference between the *HI[E]* and *HI* profiles remained significant,  $\chi^2(1, N = 321) = 12.16, p < .001$ . The pattern of results remained the same after UGPA was next added as a covariate (see Table 14.2).

Table 14.1

*Mean Salaries in 2006, Standard Errors, and Pairwise Comparisons (n = 820)*

Profile	Results of pairwise mean comparisons <sup>a</sup>				
	1	2	3	4	5
1. <i>NIE</i>	-				
2. <i>MIE</i>	2.96	-			
3. <i>HI</i>	2.78	<b>10.15*</b>	-		
4. <i>HI[E]</i>	4.73	0.00	<b>13.70**</b>	-	
5. <i>HE[I]</i>	<b>82.43**</b>	<b>26.85**</b>	<b>169.64**</b>	<b>29.70**</b>	-
Mean	89,135.00	108,242.00	76,777.00	108,724.00	159,324.00
SE	6,010.00	8,682.00	4,236.00	6,834.00	4,858.00
<i>N</i>	23	60	78	244	415

*Note.* *NIE* = Neither Intrinsic nor Extrinsic; *MIE* = Moderately Intrinsic and Extrinsic; *HI* = Highly Intrinsic; *HI[E]* = Highly Intrinsic, also Extrinsic; *HE[I]* = Highly Extrinsic, also Intrinsic.

<sup>a</sup> Chi-square values (*df* = 1) are presented; significant differences are in bold; \**p* < .05; \*\**p* < .01 (with Bonferroni correction).

Table 14.2

*Mean Salaries in 2006 (controlling for gender, marital status and UGPA), Standard Errors, and Pairwise Comparisons (n = 796)*

Profile	Results of pairwise intercept comparisons <sup>a</sup>				
	1	2	3	4	5
1. <i>NIE</i>	-				
2. <i>MIE</i>	2.15	-			
3. <i>HI</i>	1.81	6.25	-		
4. <i>HI[E]</i>	5.98	0.16	<b>12.72**</b>	-	
5. <i>HE[I]</i>	<b>76.15**</b>	<b>28.32**</b>	<b>100.22**</b>	<b>31.58**</b>	-
Intercept	63,642.00	80,016.00	51,976.00	84,760.00	132,272.00
SE	32,383.00	34,626.00	28,864.00	35,387.00	33,411.00
<i>N</i>	23	59	72	238	404

*Note.* *NIE* = Neither Intrinsic nor Extrinsic; *MIE* = Moderately Intrinsic and Extrinsic; *HI* = Highly Intrinsic; *HI[E]* = Highly Intrinsic, also Extrinsic; *HE[I]* = Highly Extrinsic, also Intrinsic.

<sup>a</sup> Chi-square values (*df* = 1) are presented; significant differences are in bold; \**p* < .05; \*\**p* < .01 (with Bonferroni correction).

In 2011, the *HE[I]* profile was again associated with a significantly higher mean salary relative to all the other profiles (see Table 15.1). The pattern of results did not change after controlling for the effects of gender and marital status; however, after UGPA was added, the difference between the *HI[E]* and *HE[I]* profiles became insignificant (see Table 15.2).



Table 15.1

*Mean Salaries in 2011, Standard Errors, and Pairwise Comparisons (n = 812)*

Profile	Results of pairwise mean comparisons <sup>a</sup>				
	1	2	3	4	5
1. <i>NIE</i>	-				
2. <i>MIE</i>	1.70	-			
3. <i>HI</i>	0.56	4.95	-		
4. <i>HI[E]</i>	2.47	0.00	6.02	-	
5. <i>HE[I]</i>	<b>31.23**</b>	<b>11.77**</b>	<b>75.72**</b>	<b>11.18**</b>	-
Mean	122,690.00	154,340.00	109,934.00	155,641.00	224,402.00
SE	14,759.00	17,710.00	8,254.00	15,142.00	10,635.00
<i>N</i>	22	62	75	250	403

*Note.* *NIE* = Neither Intrinsic nor Extrinsic; *MIE* = Moderately Intrinsic and Extrinsic; *HI* = Highly Intrinsic; *HI[E]* = Highly Intrinsic, also Extrinsic; *HE[I]* = Highly Extrinsic, also Intrinsic.

<sup>a</sup> Chi-square values (*df* = 1) are presented; significant differences are in bold; \**p* < .05; \*\**p* < .01 (with Bonferroni correction).

Table 15.2

*Mean Salaries in 2011 (controlling for gender, marital status, and UGPA), Standard Errors, and Pairwise Comparisons (n = 779)*

Profile	Results of pairwise intercept comparisons <sup>a</sup>				
	1	2	3	4	5
1. <i>NIE</i>	-				
2. <i>MIE</i>	1.18	-			
3. <i>HI</i>	.00	1.78	-		
4. <i>HI[E]</i>	2.92	0.27	5.26	-	
5. <i>HE[I]</i>	<b>22.90**</b>	<b>12.03**</b>	<b>48.20**</b>	7.23	-
Intercept	-1,019.00	26,926.00	-1,694.00	40,953.00	98,437.00
SE	36,222.00	36,860.00	33,977.00	37,086.00	36,195.00
<i>N</i>	22	60	69	241	387

*Note.* *NIE* = Neither Intrinsic nor Extrinsic; *MIE* = Moderately Intrinsic and Extrinsic; *HI* = Highly Intrinsic; *HI[E]* = Highly Intrinsic, also Extrinsic; *HE[I]* = Highly Extrinsic, also Intrinsic.

<sup>a</sup> Chi-square values (*df* = 1) are presented; significant differences are in bold; \**p* < .05; \*\**p* < .01 (with Bonferroni correction).

These results showed that work-value profile was associated with salary (concerned RQ4), although there were qualitative as well as quantitative changes in the relationship over time (concerned RQ10). In early career, lawyers with the *MIE* profile enjoyed similar levels of financial success as the *HE[I]* lawyers. By 2011, they were no longer earning significantly more

than lawyers with the other profiles. In 2006, the *HI* lawyers were near the bottom of the pack in terms of mean salary, but they caught up with the rest (i.e., except the *HE[I]* group) in 2011. The relative financial performance of the *HI[E]* profile improved over time; by 2011, it was on par with the *HE[I]* group, once the effects of gender, marital status and UGPA were accounted for. The findings relating to *HI* and *HI[E]* were somewhat consistent with studies that reported a cross-over effect of high intrinsic work values on OCS over time (e.g., Bridgstock, 2011; Johnson & Mortimer, 2011); however results from the present study also showed that the extent of cross-over ultimately still depended on the corresponding level of extrinsic work values.

To examine if work-value profile has incremental validity in predicting salary beyond AJD1, the analysis with salary in 2006 as the dependent variable was repeated with salary in 2002 added as a covariate (i.e., auto-regression). One of the differences outlined earlier remained significant: the intercept of the *HE[I]* profile was still higher than that of the *MIE* profile,  $\chi^2(1, N = 463) = 14.36, p < .001$ , and two other differences were marginally significant i.e., that between *HE[I]* and *NIE*,  $\chi^2(1, N = 419) = 7.66, p = .057$  and that between *HI[E]* and *NIE*,  $\chi^2(1, N = 250) = 7.63, p = .058$ . The auto-regression analysis was repeated with salary in 2011, and none of the differences was statistically significant after salary in 2006 was added as a covariate.

The auto-regression results addressed RQ11. Specifically, work-value profile has not only shown static association with salary from early to mid-career, it also displayed some incremental validity in the first seven years of the legal career, when the *HE[I]* and, to a lesser extent, *HI[E]* profiles made continuous relative gains in salary compared to some other profiles.

## **Position**

RQ5 concerned the relationship between work-value profile and position at work. Analyses showed that work-value profile was not associated with seniority in 2002, but there

was a floor effect - out of 778 lawyers whose seniority could be inferred, only 21 were in a senior position (2.7 percent). This was because the lawyers were generally in the early career stage. In 2007, 190 out of 797 lawyers had reached senior positions (23.8 percent). There was only one significant result from the pairwise comparisons; a greater proportion of *HE[I]* lawyers were in senior positions compared to *HI[E]* lawyers ( $OR = 1.29$   $p < .001$ ). In 2012, 468 out of 746 lawyers were in senior positions (62.7 percent), and lawyers with the *HE[I]* profile have higher odds of being in senior positions than the *HI* ( $OR = 2.94$ ,  $p = .01$ ) and *HI[E]* ( $OR = 2.21$ ,  $p < .001$ ) lawyers. Because seniority was a binary variable, covariates could not be factored into this particular analysis.

This set of results further illustrated the distinct advantage associated with the *HE[I]* profile with regard to OCS indicators (concerned RQ11). In terms of the absolute levels of extrinsic and intrinsic work values, the *HE[I]* and *HI[E]* profiles would appear more similar to each other than to the *NIE* and *MIE* profiles (see Figure 2), yet they were associated with contrasting odds of being in a senior position. The results suggested that high intrinsic work values could be detrimental to attainment of senior positions, except when the level of extrinsic work values was even higher. A variable-centered approach would have missed this insight.

### **Supervisory Authority**

To address RQ6, the Kruskal-Wallis test was conducted on the modally-assigned dataset to compare the five work-value profiles using their mean ranks on four levels of supervisory authority (1 = no supervisory authority; 2 = limited supervisory authority; 3 = full supervisory authority; 4 = has at least 2 levels below). In 2007, the test results were significant,  $\chi^2(4, N = 801) = 17.48$ ,  $p = .002$ ; with a mean rank supervisory score of 390.79 for *NIE*, 344.31 for *MIE*, 346.72 for *HI*, 383.04 for *HI[E]*, and 431.71 for *HE[I]*. Post-hoc Mann-Whitney *U* tests with Bonferroni correction indicated that supervisory authority was significantly higher for *HE[I]* ( $mean rank =$

236.22) than for *MIE* (*mean rank* = 185.77),  $U = 9441.00, p = .04$ . Supervisory authority was also significantly higher for *HE[I]* (*mean rank* = 245.15) than for *HI* (*mean rank* = 194.44),  $U = 11851.50, p = .002$ . In mid-career, there was no evidence that level of supervisory authority differed according to work-value profile,  $\chi^2(4, N = 901) = 5.12, p = .276$ .

Results showed that supervisory authority (as operationalized in the current study) was not a reliable indicator for comparing OCS across groups because it was sensitive to career stage. There appeared to be a ceiling effect by mid-career i.e., given enough time, most lawyers would take on some substantial supervisory responsibility. However, the 2007 results were still helpful as they showed that on average, *HE[I]* lawyers attained greater supervisory power sooner than lawyers with the other profiles. This complemented earlier findings related to salary and senior position, and further illustrated that the *HE[I]* profile was qualitatively different from (superior to) the other profiles in terms of its association with OCS.

### **Career Satisfaction**

RQ7 concerned the relationship between work-value profile and career satisfaction. For the 2002 data, pairwise comparisons with Bonferroni correction yielded two significant results (see Table 16.1) - the mean career satisfaction of the *HE[I]* and *HI[E]* profiles were both significantly higher than that of the *MIE* profile.

Adding UGPA as a covariate did not alter this pattern of results, but when LOC was also added to the analysis, the difference in mean career satisfaction between *HE[I]* and *MIE* became statistically insignificant,  $\chi^2(1, N = 431) = 7.70, p = .055$ , whereas the difference between *HI[E]* and *MIE* remained significant,  $\chi^2(1, N = 431) = 9.23, p = .024$  (see Table 16.2).

Table 16.1

*Mean Career Satisfaction in 2002, Standard Errors, and Pairwise Comparisons (n = 886)*

Profile	Results of pairwise mean comparisons <sup>a</sup>				
	1	2	3	4	5
1. <i>NIE</i>	-				
2. <i>MIE</i>	2.77	-			
3. <i>HI</i>	0.06	6.57	-		
4. <i>HI[E]</i>	1.19	<b>13.92**</b>	1.58	-	
5. <i>HE[I]</i>	.14	<b>10.54*</b>	.03	2.91	-
Mean	3.79	3.23	3.87	4.08	3.89
SE	.26	.20	.14	.08	.06
<i>N</i>	26	67	81	271	441

*Note.* *NIE* = Neither Intrinsic nor Extrinsic; *MIE* = Moderately Intrinsic and Extrinsic; *HI* = Highly Intrinsic; *HI[E]* = Highly Intrinsic, also Extrinsic; *HE[I]* = Highly Extrinsic, also Intrinsic.

<sup>a</sup> Chi-square values ( $df = 1$ ) are presented; significant differences are in bold; \* $p < .05$ ; \*\* $p < .01$  (with Bonferroni correction).

Table 16.2

*Mean Career Satisfaction in 2002 (controlling for UGPA and LOC), Standard Errors, and Pairwise Comparisons (n = 750)*

Profile	Results of pairwise intercept comparisons <sup>a</sup>				
	1	2	3	4	5
1. <i>NIE</i>	-				
2. <i>MIE</i>	1.85	-			
3. <i>HI</i>	.11	4.70	-		
4. <i>HI[E]</i>	.82	<b>9.23*</b>	.56	-	
5. <i>HE[I]</i>	.14	7.70	.00	1.35	-
Intercept	3.34	2.88	3.44	3.59	3.44
SE	.39	.36	.32	.30	.31
<i>N</i>	23	58	67	229	373

*Note.* *NIE* = Neither Intrinsic nor Extrinsic; *MIE* = Moderately Intrinsic and Extrinsic; *HI* = Highly Intrinsic; *HI[E]* = Highly Intrinsic, also Extrinsic; *HE[I]* = Highly Extrinsic, also Intrinsic.

<sup>a</sup> Chi-square values ( $df = 1$ ) are presented; significant differences are in bold; \* $p < .05$ ; \*\* $p < .01$  (with Bonferroni correction).

In 2007 and 2012, none of the pairwise comparisons showed a significant difference, with or without covariates. Therefore, there were qualitative changes in the relationship between work-value profile and career satisfaction over time (RQ10) and none of the profiles has demonstrated an enduring association with career satisfaction (RQ11).

### Job Satisfaction

RQ8 asked if work-value profile was associated with job satisfaction. In 2002, the mean job satisfaction of the *HI[E]* profile was significantly higher than those of the *MIE* and *HE[I]* profiles, but not the *NIE* profile (see Table 17.1).

Table 17.1

*Mean Job Satisfaction in 2002, Standard Errors, and Pairwise Comparisons (n = 897)*

Profile	Results of pairwise mean comparisons <sup>a</sup>				
	1	2	3	4	5
1. <i>NIE</i>	-				
2. <i>MIE</i>	.22	-			
3. <i>HI</i>	1.45	4.09	-		
4. <i>HI[E]</i>	4.97	<b>10.39*</b>	1.72	-	
5. <i>HE[I]</i>	.26	2.00	2.01	<b>15.11**</b>	-
Mean	4.57	4.42	4.90	5.12	4.69
SE	.23	.18	.14	.08	.06
<i>N</i>	25	67	82	270	453

*Note.* *NIE* = Neither Intrinsic nor Extrinsic; *MIE* = Moderately Intrinsic and Extrinsic; *HI* = Highly Intrinsic; *HI[E]* = Highly Intrinsic, also Extrinsic; *HE[I]* = Highly Extrinsic, also Intrinsic.

<sup>a</sup> Chi-square values (*df* = 1) are presented; significant differences are in bold; \**p* < .05; \*\**p* < .01 (with Bonferroni correction).

The pattern of results remained unchanged after accounting for the effects of gender, race, and marital status (see Table 17.2). Earlier analysis found a significant correlation between intrinsic work values and job satisfaction in 2002 (*r* = .24, *p* < .01; see Table 6) which implied

that the *NIE* profile ought to exhibit the worst job satisfaction. This was not the case; again, LPA has revealed nonlinear trends in the dataset.

Table 17.2

*Mean Job Satisfaction in 2002 (controlling for gender, race, and marital status), Standard Errors, and Pairwise Comparisons (n = 888)*

Profile	Results of pairwise intercept comparisons <sup>a</sup>				
	1	2	3	4	5
1. <i>NIE</i>	-				
2. <i>MIE</i>	.25	-			
3. <i>HI</i>	1.90	5.52	-		
4. <i>HI[E]</i>	5.62	<b>12.77**</b>	1.81	-	
5. <i>HE[I]</i>	.32	2.54	3.01	<b>19.23**</b>	-
Mean	4.24	4.07	4.63	4.86	4.38
SE	.26	.21	.16	.11	.10
<i>N</i>	24	66	82	267	449

*Note.* *NIE* = Neither Intrinsic nor Extrinsic; *MIE* = Moderately Intrinsic and Extrinsic; *HI* = Highly Intrinsic; *HI[E]* = Highly Intrinsic, also Extrinsic; *HE[I]* = Highly Extrinsic, also Intrinsic.

<sup>a</sup> Chi-square values (*df* = 1) are presented; significant differences are in bold; \**p* < .05; \*\**p* < .01 (with Bonferroni correction).

In 2007 and 2012, none of the pairwise comparisons on job satisfaction revealed any significant difference, either with or without covariates in the analyses. Therefore, similar to the results for career satisfaction, the relationship between work-value profile and job satisfaction has changed qualitatively over time (RQ10) as the advantages associated with the *HI[E]* profile apparently diminished over time (RQ11).

### WLB Satisfaction

RQ9 concerned the relationship between work-value profile and satisfaction with WLB. In 2007, lawyers with the *NIE* profile appeared to be most satisfied with their WLB, although the difference only attained statistical significance in one of the pairwise comparisons - that between *NIE* and *HE[I]*. There was no covariate in this analysis (see Table 18). This difference was no

longer significant in 2012,  $\chi^2(1, N = 466) = 5.85, p = .156$ ; in fact, none of the pairwise comparisons in mid-career yielded a significant result. Therefore, the relationship between work-value profile and WLB satisfaction diminished over time (RQ10) and the *NIE* profile did not sustain its advantage in WLB satisfaction in mid-career (RQ11).

Table 18

*Mean WLB Satisfaction in 2007, Standard Errors, and Pairwise Comparisons (n = 849)*

Profile	Results of pairwise mean comparisons <sup>a</sup>				
	1	2	3	4	5
1. <i>NIE</i>	-				
2. <i>MIE</i>	3.30	-			
3. <i>HI</i>	3.89	.05	-		
4. <i>HI[E]</i>	4.52	.11	.01	-	
5. <i>HE[I]</i>	<b>11.15**</b>	.58	2.04	3.54	-
Mean	5.93	5.15	5.23	5.26	4.92
SE	.29	.29	.20	.13	.10
<i>N</i>	25	64	80	260	420

*Note.* *NIE* = Neither Intrinsic nor Extrinsic; *MIE* = Moderately Intrinsic and Extrinsic; *HI* = Highly Intrinsic; *HI[E]* = Highly Intrinsic, also Extrinsic; *HE[I]* = Highly Extrinsic, also Intrinsic.

<sup>a</sup> Chi-square values (*df* = 1) are presented; significant differences are in bold; \**p* < .05; \*\**p* < .01 (with Bonferroni correction).

Unlike the *HE[I]* profile, the *HI[E]* profile was not associated with a significantly lower level of WLB satisfaction compared to the *NIE* profile in 2007. In fact, the *HI[E]* profile has the second highest mean WLB satisfaction score, whereas the *HE[I]* profile has the lowest mean score, although the difference between these means did not attain statistical significance. While they too valued both intrinsic and extrinsic rewards, the *HI[E]* lawyers had made different career choices compared to the *HE[I]* lawyers. In 2007, 41 percent of the *HI[E]* lawyers were in GPI firms, and only 10 percent of them were in large law firms; meanwhile, 28 percent of the *HE[I]* lawyers were in large law firms, and only 14 percent of them worked at GPI firms (see Table 12). Several studies have suggested that GPI jobs were favored by lawyers who sought WLB (e.g.,



Hull & Nelson, 2000). While practice setting might have an impact on WLB satisfaction, work-value profile still played an important role. Case in point - although more than half of the *HI* lawyers were in GPI firms during all three waves of the AJD study, as a group they did not report significantly higher WLB satisfaction than any other profile at any time. This also showed that high intrinsic work values alone would not necessarily facilitate WLB.

### **Supplementary Analyses**

The supplementary analyses, done on SPSS, examined the same dataset using the multiple linear regression approach of Vansteenkiste et al. (2007). In these analyses, socio-demographic variables were entered in step 1, followed by individual differences variable(s) in the next step; the overall work-value orientation (sum of intrinsic and extrinsic work values) was entered in step 3 and extrinsic work values score was entered in the final step, to explore the effects of an extrinsic (relative to intrinsic) work-value orientation. The control variables in steps 1 and 2 were included based on significant bivariate correlations in Table 6. Salary data were log-transformed to meet the prerequisite of the multiple regression method. In addition, salary data as well as intrinsic and extrinsic work value scores were mean-centered because interaction terms were used in some analyses. There were two key differences between the analyses here and those of Vansteenkiste et al. (2007). First, the dependent variables in their study were job satisfaction, life satisfaction, and life happiness; of these, only job satisfaction was examined in the present study. Second, Vansteenkiste et al. (2007) only controlled for age and education in their study whereas the analyses here controlled for a wider range of socio-demographic and individual differences variables (which might stack the odds against replication).

*OCS indicators*

Salary was positively associated with an extrinsic work-value orientation from 2002 to 2011 (RQ12a, see Tables 19.1 – 19.3). In all three multiple-regression analyses, the amount of variance in salary account for ( $R^2$ ) increased significantly when the extrinsic work values score was added in the final step. Recall that LPA also found significant associations between work-value profile and salary at all three waves of the AJD. Specifically, the *HE[I]* profile has a salary advantage at all times, and the *HI* profile was associated with lower salary, especially in 2002 and 2006. These results were consistent with the multiple-regression results here. However, the person-centered approach also revealed other nuances in the data which the linear regression approach could not detect e.g., the relatively high salary associated with the *MIE* profile in 2002, and the salary gain of the *HI[E]* profile compared to the *HE[I]* profile over time, such that the mean salary difference between these two profiles were no longer statistically significant in 2011.

Table 19.1

*Predictors of Salary in 2002*

	Step 1 $\beta$	Step 2 $\beta$	Step 3 $\beta$	Step 4 $\beta$
Constant	-.43*	-1.07**	-1.07**	-1.05**
Gender	.13**	.15**	.15**	.09**
Race	-.11**	-.13**	-.13**	-.13**
Age	.02*	.02**	.02**	.02**
UGPA		.07**	.07**	.06**
Overall work-value orientation			.01	-.04**
Extrinsic work-value orientation				.09**
$R^2$	.03	.07	.08	.28
$F$	8.35**	14.84**	13.94**	54.02**
$\Delta R^2$	.03	.04	.01	.20
$\Delta F$	8.35**	33.36**	9.71**	235.14**

*Note.* Gender (1 = male; 0 = female); race (1 = white; 0 = non-white); UGPA = undergraduate GPA.

Table 19.2

*Predictors of Salary in 2006*

	Step 1 $\beta$	Step 2 $\beta$	Step 3 $\beta$	Step 4 $\beta$
Constant	-.09**	-.50**	-.48**	-.44**
Gender	.16**	.18**	.18**	.13**
Marital status	.00	.00	.00	.00
UGPA		.06**	.06**	.06**
Overall work-value orientation			.02**	-.02**
Extrinsic work-value orientation				.07**
$R^2$	.02	.05	.08	.20
$F$	9.49**	13.75**	17.98**	39.70**
$\Delta R^2$	.02	.03	.03	.12
$\Delta F$	9.49**	21.78**	29.22**	116.13**

Note. Gender (1 = male; 0 = female); marital status (1 = married; 0 = not married); UGPA = undergraduate GPA.

Table 19.3

*Predictors of Salary in 2011*

	Step 1 $\beta$	Step 2 $\beta$	Step 3 $\beta$	Step 4 $\beta$
Constant	-.27**	-.80**	-.79**	-.73**
Gender	.21**	.24**	.24**	.19**
Marital status	.19**	.19**	.20**	.18**
UGPA		.08**	.08**	.08**
Overall work-value orientation			.01**	-.02**
Extrinsic work-value orientation				.06**
$R^2$	.04	.07	.08	.14
$F$	17.90**	20.03**	17.05**	24.08**
$\Delta R^2$	.04	.03	.01	.05
$\Delta F$	17.90**	23.26**	7.59**	48.08**

Note. Gender (1 = male; 0 = female); marital status (1 = married; 0 = not married); UGPA = undergraduate GPA.

Logistic regression analyses with position (senior = 1; non-senior = 0) as the dependent variable showed that an extrinsic work-value orientation was not associated with position in 2002 and 2007 (RQ12b; see Tables 20.1 – 20.2). The relationship was significant in 2012, but the effect was quite small as the change in the pseudo (*Nagelkerke*)  $R^2$  was only .02 (see Table 20.3).

Table 20.1

*Predictors of Senior Position in 2002*

	Step 1 $\beta$	Step 2 $\beta$	Step 3 $\beta$
Constant	-3.62**	-3.64**	-3.64**
Marital status	.00	.00	.00
Overall work-value orientation		-.03	-.03
Extrinsic work-value orientation			-.01
<i>Nagelkerke R</i> <sup>2</sup>	.01	.01	.01
$\Delta$ <i>Nagelkerke R</i> <sup>2</sup>	.01	.00	.00

*Note.* Marital status (1 = married; 0 = not married).

Table 20.2

*Predictors of Senior Position in 2007*

	Step 1 $\beta$	Step 2 $\beta$	Step 3 $\beta$	Step 4 $\beta$
Constant	-2.17**	-3.65**	-3.62**	-3.60**
Gender	.60**	.60**	.62**	.58**
Race	.79**	.80**	.79**	.79**
Marital status	.00	.00	.00	.00
LOC		.04*	.04*	.04*
Overall work-value orientation			.02	-.01
Extrinsic work-value orientation				.06
<i>Nagelkerke R</i> <sup>2</sup>	.05	.07	.07	.08
$\Delta$ <i>Nagelkerke R</i> <sup>2</sup>	.05	.02	.02	.01

*Note.* Gender (1 = male; 0 = female); race (1 = white; 0 = non-white); marital status (1 = married; 0 = not married); LOC = locus of control.

Table 20.3

*Predictors of Senior Position in 2012*

	Step 1 $\beta$	Step 2 $\beta$	Step 3 $\beta$	Step 4 $\beta$
Constant	-.02	-.86*	-.85*	-.81
Race	.31	.29	.30	.30
Marital status	.39*	.39*	.40*	.37
UGPA		.14*	.13*	.13*
Overall work-value orientation			.03**	-.01
Extrinsic work-value orientation				.09**
<i>Nagelkerke R</i> <sup>2</sup>	.02	.03	.04	.06
$\Delta$ <i>Nagelkerke R</i> <sup>2</sup>	.02	.01	.01	.02

*Note.* Race (1 = white; 0 = non-white); marital status (1 = married; 0 = not married); UGPA = undergraduate GPA.

In the earlier LPA, there was also no significant result relating to position in 2002. However, it did find a larger proportion of the *HE[I]* lawyers in senior position compared to the *HI[E]* lawyers in 2007. In other words, the person-centered approach displayed a higher sensitivity in this case, likely due to its ability to account for non-linear interactions. It also found that in mid-career (i.e., 2012), high intrinsic work values, when coupled with lower extrinsic work values, were negatively associated with the likelihood of holding senior positions. However, the association became positive when high intrinsic work values were matched with even higher extrinsic work values. Such findings were insightful and more informative than the small linear effect size derived from the corresponding multiple-regression analysis here.

The effect of an extrinsic work-value orientation on supervisory authority was investigated through ordinal regression to address RQ12c. Significant results were obtained from the 2007 dataset,  $\beta = .09$ ,  $\chi^2 (1, N = 801) = 12.19$ ,  $p < .001$ . Between being a supervisor with 2 levels below (coded as 4) and having no supervisory responsibility (coded as 1), the odds of belonging to the former increased as extrinsic work-value orientation increased. However, between being a supervisor with 2 levels below and one with full power (coded as 3), the odds of belonging to the latter increased as extrinsic work-value orientation increased. The *Nagelkerke*  $R^2$  of the full model was .04. The effect of an extrinsic work-value orientation was again statistically significant in mid-career,  $\beta = .05$ ,  $\chi^2 (1, N = 849) = 4.53$ ,  $p = .033$ , and the *Nagelkerke*  $R^2$  of the full model was also .04. Again, between being a supervisor with 2 levels below and one just with full power, the odds of belonging to the latter increased as extrinsic work-value orientation increased. These results suggested that the relationship between work-value orientation and supervisory authority was not linear.

Earlier, LPA also found that the *HE[I]* profile was superior in terms of supervisory authority in 2007; however it failed to produce any significant result in 2012. While the person-centered approach was able to reveal nuanced relationships in a dataset, it could also possess lower power than the multiple-regression approach because LPA essentially reorganized continuous independent variables into discrete categories.

*SCS indicators*

LPA only identified a significant relationship between work-value profile and career satisfaction in 2002; specifically, the *HI[E]* profile was superior to the *MIE* profile. All pairwise comparisons yielded statistically insignificant results in 2007 and 2012. Multiple linear regression analyses, on the other hand, found a negative association between extrinsic work-value orientation and career satisfaction at all three waves of the AJD (see Tables 21.1-21.3). Therefore, H2a was supported. However, the effect size was small and also diminished over time. Moreover, the multiple-regression results implied that the *HI* profile should associate with the highest level of career satisfaction whereas LPA results have shown otherwise.

Table 21.1

*Predictors of Career Satisfaction in 2002*

	Step 1 $\beta$	Step 2 $\beta$	Step 3 $\beta$	Step 4 $\beta$
Constant	4.35**	3.47**	3.55**	3.51**
UGPA	-.07*	-.07*	-.08**	-.08**
LOC		.02**	.02**	.02**
Overall work-value orientation			.03**	.06**
Extrinsic work-value orientation				-.05**
$R^2$	.01	.03	.06	.07
$F$	6.46*	10.16**	14.88**	14.66**
$\Delta R^2$	.01	.02	.03	.02
$\Delta F$	6.46*	13.75**	23.69**	13.26**

*Note.* UGPA = undergraduate GPA; LOC = locus of control.

Table 21.2

*Predictors of Career Satisfaction in 2007*

	Step 1 $\beta$	Step 2 $\beta$	Step 3 $\beta$	Step 4 $\beta$
Constant	3.22**	2.46**	2.45**	2.47**
Age	.02	.02	.02	.02
LOC		.02**	.02**	.02**
Overall work-value orientation			.01*	.03**
Extrinsic work-value orientation				-.04**
$R^2$	.00	.02	.03	.04
$F$	2.22	6.89**	6.66*	7.10**
$\Delta R^2$	.00	.02	.01	.01
$\Delta F$	2.22	11.54**	6.10*	8.22**

Note. LOC = locus of control.

Table 21.3

*Predictors of Career Satisfaction in 2012*

	Step 1 $\beta$	Step 2 $\beta$	Step 3 $\beta$	Step 4 $\beta$
Constant	2.97**	2.18**	2.17**	2.19**
Age	.02	.02	.02	.02
Marital status	.25**	.24**	.25**	.26**
LOC		.02**	.02**	.02**
Overall work-value orientation			.01*	.03**
Extrinsic work-value orientation				-.03*
$R^2$	.01	.03	.04	.04
$F$	4.91**	7.34**	6.86**	6.44**
$\Delta R^2$	.01	.02	.01	.01
$\Delta F$	4.91**	12.04**	5.28*	4.65*

Note. Marital status (1 = married; 0 = not married); LOC = locus of control.

Besides the covariates already used in the other analyses so far, the multiple-regression analysis with job satisfaction as the dependent variable also included salary as a covariate and the interaction term between extrinsic work values and salary as a predictor to mimic the analyses of Vansteenkiste et al. (2007). Furthermore, there was no individual differences covariate in the analysis of the 2002 dataset. Therefore this particular analysis was almost a direct replication of Vansteenkiste et al. (2007), who used a cross-sectional design. The results

(see Table 22.1) showed that an extrinsic work-value orientation was negatively associated with job satisfaction. The effect of the interaction term was not statistically significant, providing no evidence that congruence between extrinsic work values and an extrinsic work reward was associated with higher job satisfaction. Thus, the findings of Vansteenkiste et al. (2007) were fully replicated. Similar results were obtained from the 2007 dataset, even after LOC was included as a covariate (see Table 22.2).

Table 22.1

*Predictors of Job Satisfaction in 2002*

	Step 1 $\beta$	Step 2 $\beta$	Step 3 $\beta$	Step 4 $\beta$	Step 5 $\beta$
Constant	4.60**	4.60**	4.58**	4.56**	4.58**
Gender	.11	.15*	.18*	.20**	.19**
Race	.21*	.17*	.17*	.19*	.18*
Marital status	.00	.00	.00	.00	.00
Salary in 2002		-.33**	-.37**	-.22**	-.21**
Overall work-value orientation			.03**	.06**	.06**
Extrinsic work-value orientation				-.06**	-.06**
Salary 2002 x Extrinsic work value					-.02
$R^2$	.01	.04	.07	.08	.08
$F$	3.94**	8.61**	12.02**	13.20**	11.46**
$\Delta R^2$	.01	.03	.03	.02	.00
$\Delta F$	3.94**	22.31**	24.73**	17.94**	.97

Note. Gender (1 = male; 0 = female); race (1 = white; 0 = non-white); marital status (1 = married; 0 = not married).

The association between extrinsic work-value orientation and job satisfaction was no longer significant in 2012; however, the effect of the interaction term was significant i.e., job satisfaction *decreased* when there was congruence between extrinsic work values and monetary reward (see Table 22.3). This result was consistent with SDT's premise that not all goal achievements would have a desired effect; for instance Niemiec et al. (2009) found a negative



relationship between attainment of extrinsic aspirations and feelings of well-being. On the whole, the results provided some support for H2b.

Table 22.2

*Predictors of Job Satisfaction in 2007*

	Step 1 $\beta$	Step 2 $\beta$	Step 3 $\beta$	Step 4 $\beta$	Step 5 $\beta$	Step 6 $\beta$
Constant	5.12**	4.22**	4.22**	4.23**	4.22**	4.24**
Race	.14	.15	.15	.15	.15	.15
LOC		.03**	.03**	.02**	.03**	.02**
Salary in 2006			-.05	-.06	.00	.01
Overall work-value orientation				.01	.02*	.02*
Extrinsic work-value orientation					-.03*	-.03*
Salary 2006 x Extrinsic work value						-.02
$R^2$	.00	.03	.03	.03	.03	.03
$F$	2.75	9.09**	6.20**	4.86**	4.78**	4.13**
$\Delta R^2$	.00	.02	.00	.00	.01	.00
$\Delta F$	2.72	15.37**	.43	.86	4.38*	.86

Note. Race (1 = white; 0 = non-white); LOC = locus of control.

Table 22.3

*Predictors of Job Satisfaction in 2012*

	Step 1 $\beta$	Step 2 $\beta$	Step 3 $\beta$	Step 4 $\beta$	Step 5 $\beta$	Step 6 $\beta$
Constant	5.01**	4.10**	4.11**	4.11**	4.10**	4.13**
Marital status 2012	.24*	.23*	.22*	.23*	.24*	.23*
LOC		.03**	.03**	.03**	.03**	.03**
Salary in 2011			.04	.03	.05	.08
Overall work-value orientation				.01*	.02*	.02*
Extrinsic work-value orientation					-.02	-.03
Salary 2011 x Extrinsic work value						-.04*
$R^2$	.01	.03	.03	.03	.03	.04
$F$	6.55	11.19	7.60	6.74	5.90	5.89
$\Delta R^2$	.01	.02	.00	.01	.00	.01
$\Delta F$	6.55*	15.68**	.43	4.06*	2.49	5.65*

Note. Marital status (1 = married; 0 = not married); LOC = locus of control.

Whereas the multiple-regression results showed that an extrinsic work-value orientation was negatively related to job satisfaction, the earlier LPA results have indicated that the relationship was not linear; specifically, in 2002, job satisfaction was higher among lawyers with the *HI[E]* profile but not higher among those with the *HI* profile. Therefore, the person-centered analysis has revealed some nuances in the relationship between work values and job satisfaction. However, LPA did not find any significant relationships relating to job satisfaction in the 2007 and 2012 data, whereas the multiple-regression approach did; the relatively lower statistical power of LPA might again be relevant here.

In 2007, an extrinsic work-value orientation was negative related to WLB satisfaction, although the effect was small (see Table 23.1). The relationship became non-significant in 2012 (see Table 23.2). Therefore, H2c was partially supported.

Table 23.1

*Predictors of WLB Satisfaction in 2007*

	Step 1 $\beta$	Step 2 $\beta$
Constant	5.11**	5.10**
Overall work-value orientation	-.01	.01
Extrinsic work-value orientation		-.05*
$R^2$	.00	.01
$F$	2.01	3.24*
$\Delta R^2$	.00	.01
$\Delta F$	2.01	4.46*

Table 23.2

*Predictors of WLB Satisfaction in 2012*

	Step 1 $\beta$	Step 2 $\beta$	Step 3 $\beta$
Constant	5.95**	5.94**	5.93**
UGPA	-.10*	-.10*	-.10*
Overall work-value orientation		-.02*	-.01
Extrinsic work-value orientation			-.02
$R^2$	.01	.01	.01
$F$	5.48*	4.76**	3.38*
$\Delta R^2$	.01	.01	.00
$\Delta F$	5.48*	4.02*	.63

Note. UGPA = undergraduate GPA

Likewise, LPA has earlier identified statistically significant relationships relating to WLB satisfaction in 2007 but not in 2012. Whereas the multiple-regression results suggested that lawyers with the *HI* profile should perceive the highest level of WLB satisfaction in 2007, the only significant difference that emerged from LPA was that between *NIE* and *HE[I]*; mean WLB satisfaction of the *HI[E]* profile appeared to be higher than that of the *HE[I]* profile, but the difference was not statistically significant. The multiple-regression results were probably driven by data from the *HI[E]* and *HE[I]* lawyers, as they were the largest subgroups in the sample; on the other hand data from the super-minority *NIE* lawyers were likely ‘drowned out’ in the analyses. Once again, the person-centered approach demonstrated a trend that eluded the multiple-regression approach.

## **Chapter Four**

### **Discussion**

The objectives of this study were to examine if work values are meaningfully associated with career success and to explore if latent profiles corresponding to various combinations of intrinsic and extrinsic work values could address some contradictory findings from past studies based on the variable-centered and work-value orientation approaches. To achieve these goals, the study first used LPA to identify latent AJD subgroups that exhibited qualitatively or quantitatively distinct work-value profiles. Attempts were then made to place these profiles in a nomological network. Specifically, gender was proposed to be an antecedent, influencing how individuals were assigned to work-value profiles; a range of career variables, including practice setting and various OCS and SCS indicators were proposed to meaningfully co-vary with work-value profile. Results from three key career stages – early career, transition into senior roles, and mid-career - were compared to evaluate if there was consistency in the patterns of relationships over time. Finally, the data were re-analyzed using the work-value orientation approach to enable direct comparisons between present and past findings, as well as to evaluate if LPA provided additional insights over the multiple linear regression method.

On the whole, this study has made four contributions to the career success literature. First, it has established work values as significant predictors of career success. Second, it distinguished between five meaningful work-value profiles, identified one of their antecedents, and traced their associations with career variables. Third, through the inclusion of a range of career success indicators, this study has reduced criterion deficiency, which was a limitation in many career

success studies (Heslin, 2005). Fourth, this study has helped to strengthen the linkage between the substantial body of legal career research and the generic career success literature.

### **Work-Value Profiles**

Five work-value profiles have been identified through LPA. The largest subgroup made up half of the sample, and consisted of lawyers who were highly extrinsic, but also intrinsic (*HE[I]*); the next largest group (30.3 percent of sample) contained highly intrinsic lawyers who were also extrinsic (*HI[E]*). After investing much personal resources in a legal education to embark on a prestigious professional career, it was not surprising that the majority of lawyers would have high extrinsic reward expectations. On the other hand, the generally high expectations of intrinsic work rewards were consistent with past findings that intrinsic work values were positively associated with educational attainment (e.g., Johnson & Mortimer, 2011; Vansteenkiste et al., 2007). The other three profiles accounted for slightly less than 20 percent of the sample. Lawyers with the highly intrinsic (*HI*) profile belonged to the third largest group (9.2 percent). This was a critical profile from the theoretical perspective because according to SDT, it ought to be associated with the best affective and well-being outcomes; results from the present study have shown otherwise. Lawyers who reported moderate levels of intrinsic and extrinsic work values (*MIE*) and those who were neither intrinsic nor extrinsic (*NIE*) were the smallest groups, making up 7.4 and 2.9 percent of the sample, respectively. From the work-value orientation perspective (e.g., Vansteenkiste et al., 2007), these two groups were anticipated to exhibit similar affective and well-being outcomes. This was not the case; the *NIE* and *MIE* profiles exhibited some distinct relationships with career variables, showing that absolute levels of work values also mattered in career success.

LPA did not identify a highly extrinsic profile within the AJD sample. Theoretically, in any population, there would be a finite number of work-value profiles (e.g., Muthén, 2001), and the subgroups corresponding to these profiles would vary in size, just as the present study has demonstrated. In LPA, sample size determines the power of the analysis i.e., the number of qualitatively or quantitatively distinct profiles which can be successfully retrieved; however sample size determination in LPA is complex because it involves estimating the true value of several parameters, most of which could not be known prior to the LPA (Lubke, 2010). The importance of power was also illustrated in the present study, where the profile with the smallest number of lawyers (*NIE*) only emerged after pooling the male and female data. Evidence suggested that the sample of lawyers in the present study was quite representative of their cohort; therefore it is probable that the hypothetical *highly extrinsic* profile, if it exists within the cohort, must be even less prevalent than the *NIE* profile.

Consistent with past studies (Marini et al., 1996; Mortimer et al., 1996), gender difference was found for intrinsic work values (females higher) but not for extrinsic work values. These results also provided further support for the construct (criterion-related) validity of the two work value scales used in this study. Although female lawyers as a group reported higher levels of intrinsic work values than male lawyers did, MI was established across gender i.e., gender did not have a direct effect on the magnitudes of intrinsic and extrinsic work values within each profile. Instead, gender acted as an antecedent in the nomological network, by influencing how lawyers were assigned to the profiles. Specifically, the results showed that male lawyers have a lower likelihood of belonging to the *HI* profile compared to the *NIE*, *MIE*, and *HE[I]* profiles.

## Practice Setting

Generally, this study found that work-value profile was associated with practice setting i.e., they may play a role in gravitating lawyers toward particular settings. The relationship held for all three measurement occasions, from early to mid-career, and was the strongest in early career, weakened slightly in 2007, and then strengthened again during mid-career. Compared to those in later career stages, fresh JDs might allocate a greater weight to work values when selecting practice settings because they had yet to experience the practical constraints in each setting. The significant movements between AJD1 and AJD2 showed that like other workers, lawyers also tended to change jobs more frequently earlier in their careers. In particular, the recent trend of new associates leaving large firms has been documented in other studies based on the AJD data (e.g., Dinovitzer, Garth, & Stirling, 2013)<sup>11</sup>.

Regression to the mean (since work values were only measured in AJD1) would not be a good explanation for the smaller effect sizes in AJD2 and AJD3 because the effect size in AJD3 was bigger than that in AJD2. One may also argue that the effects observed at AJD2 and AJD3 might simply be a function of inertia i.e., lawyers basically just stayed put in the practice setting they selected in early career, but this argument is not supported by the significant movements across practice settings over time. Moreover, the work-value profile by practice setting distribution in the present study was intuitive and demonstrated the utility of the person-centered approach in explaining choice of practice setting.

First, the differences between the *HI* and *HI[E]* profiles were not trivial and they also made theoretical sense. Among the five profiles, these two have the highest mean intrinsic work values and, as expected, they dominated the GPI and, to a lesser extent, smaller law firm settings

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<sup>11</sup> According to Dinovitzer et al. (2013), the attrition rate from large law firms between AJD 1 and AJD2 based on the sample which responded to both waves of the study was 36.9%. Within the sample of the present study, the corresponding figure was 37.7%, which again provided support for the representativeness of the current sample.

(where the “service jobs” were; Sheldon & Krieger, 2014). However, *HI* lawyers generally eschewed the money jobs, whereas *HI[E]* lawyers did not, and this was consistent with the difference in mean extrinsic work values between them. A variable-centered approach could have missed this insight e.g., it would have treated the two groups of lawyers as similar if the focus was solely on intrinsic work values. Second, because individuals with the *HI[E]* or *HE[I]* profiles reported high intrinsic and high extrinsic work values, they would appear homogenous to the variable-centered approach. The person-centered approach, on the other hand, not only differentiated the two groups but also revealed significant differences in practice settings between them. Third, a study that focuses on extrinsic work values would not have anticipated a larger proportion of lawyers in the *MIE* profile to be in money jobs compared to lawyers in the *HI[E]* profile, because the mean level of extrinsic work values was higher in the latter. Fourth, the work-value orientation approach (e.g., Vansteenkiste et al., 2007) would not have distinguished between the *NIE* and *MIE* groups, and would therefore not have found their differences in practice settings. On the other hand, variable-centered studies would have paid little attention to lawyers with the *MIE* profile because they were just the ‘average’ individuals.

The present study showed that collectively, lawyers with the *MIE* profile were the most versatile and a sizeable proportion of them could be found in all practice settings. In early career, a relatively large proportion of them were in large law firms, probably because these firms have been the default practice setting for capable new JDs. Besides financial perks and development opportunities, large firms also provide the widest career options in the long run (Heinz, Nelson, Sandefur, & Laumann, 2005). However, given that jobs in large law firms are highly demanding, they should have the least appeal to lawyers who have low expectations of both intrinsic and



extrinsic work rewards. This was exactly what the present study found - by mid-career, none of the *NIE* lawyers was working in large law firms.

In the last 50 years, there have been numerous studies on the gender gap in OCS among lawyers (e.g., Dinovitzer & Hagan, 2014; Dinovitzer, Reichman, & Stirling, 2009; Kay & Hagan, 1995; Pinnington & Sansberg, 2013; White, 1967). In particular, Dinovitzer et al. (2009) attempted to explain gender salary gap using a large number of demographic and work setting variables from AJD1, and concluded that 75 percent of the gap remained unexplained even after accounting for gender differences on these variables. Subsequently, using AJD1 and AJD2 data, Dinovitzer and Hagan (2014) showed that female lawyers were disproportionately allocated to the public sector, and suggested that men were hoarding jobs and financial resources in the private law firm sector. Work value was not included in these studies, and how much unique variance it may actually account for remains an empirical question. Results from the present study suggested that this line of inquiry could be productive. Specifically, lawyers belonging to the *HI* profile were least likely to be in money jobs; in addition, male lawyers were more likely to belong to the *NIE*, *MIE*, or *HE[I]* profiles than to the *HI* profile. Thus, some of the gender salary gap among lawyers may be accounted for by gender differences in work values.

### **Objective Career Success**

Among the five work-value profiles, *HE[I]* was consistently associated with the highest mean salary at all three waves of the AJD study. This result was in harmony with both the variable-centered and work-value orientation perspectives because lawyers in this group reported the highest mean level of extrinsic work values, which was higher than their already high level of mean intrinsic work values. However these perspectives were challenged by other results from the present study. For instance, in 2002, the mean salary associated with the *MIE* profile was on

par with that of the *HE[I]* profile, although this was not sustained beyond early career. A likely explanation is because their work values were moderate, some *MIE* lawyers might have just followed the money in early career but switched jobs subsequently when they realized that they were not motivated enough to persevere in highly demanding money jobs. Regardless of the validity of this explanation, the results implied a non-linear trend in the relationships between work values and salary.

The *HI[E]* profile was characterized by a higher level of extrinsic work values than the *MIE* profile but *HI[E]* lawyers actually showed a weaker preference for money jobs; this could only be rationalized if their level of intrinsic work values, which was even higher than their extrinsic work values, was simultaneously taken into account. Notably, by mid-career, even though 41 percent of the *HI[E]* lawyers were in the GPI sector, which generally offered the lowest pay, their mean salary was not statistically different from that of the *HE[I]* group (after controlling for covariate effects). It is plausible that while remaining true to their wishes of performing intrinsically-motivating work, the *HI[E]* lawyers also selected high-paying jobs. Their higher level of extrinsic work values differentiated them from the *HI* lawyers, whose strong intrinsic work-value orientation probably overshadowed extrinsic strivings. Therefore the level of intrinsic work values alone could not adequately predict salary - information on the corresponding levels of extrinsic work values was also needed.

The analyses on hierarchical position showed that high intrinsic work values could be detrimental to the attainment of senior positions, except when the level of extrinsic work values was even higher. One plausible explanation is that lawyers with an intrinsic work-value orientation may be less keen to assume senior positions because these jobs often involve taking on additional administrative responsibilities which would not necessarily make the work feel

more meaningful or fulfilling. In terms of how early one was entrusted with substantial supervisory authority, the *HE[I]* profile was again superior to the other profiles.

Therefore, work-value profile has displayed interesting, consistent, and meaningful relationships with all three OCS indicators in the present study. In contrast, a variable-centered approach examining the effects of intrinsic and extrinsic work values separately would not have detected the unique salary pattern of the *MIE* profile from 2002 to 2006. It also could not explain why the *NIE* profile, characterized by low extrinsic work values (and low intrinsic values), were not significantly worse off than most other profiles (except *HE[I]*) in terms of OCS. In particular, relative to the *NIE* profile, the *HI* profile was characterized by higher levels of both extrinsic and intrinsic work values, yet it did not perform better than the *NIE* profile in any of the direct comparisons between them. In several OCS comparisons, lawyers with the *HI* profile also fared worse than the *HE[I]*, *MIE*, and *HI[E]* lawyers. Collectively, these results suggested that in the context of a legal career, a highly intrinsic work-value orientation might be detrimental to OCS.

Studies adopting the work-value orientation approach seldom measured OCS indicators. One found a negative relationship between intrinsic work-value orientation and salary (Sheldon & Krieger, 2014) whereas another reported a positive association (Bridgstock, 2011). Consistent with the former, the present study found that the *HE[I]* profile was generally associated with the best, whereas the *HI* profile typically showed the worst, OCS outcomes. However, the present study also found that by mid-career, the mean salary of *HI[E]* lawyers were on par with that of the *HE[I]* lawyers. It is hard to explain this finding within the work-value orientation framework.

### **Subjective Career Success**

In early career, lawyers with the *MIE* profile reported lower career and job satisfaction than lawyers with the *HI[E]* profile (and *HE[I]* profile as well, although the relationship became

statistically insignificant after covariate effects were accounted for). This finding appeared to support the variable-centered approach; however the rest of the results were at odds with it. First, the *HI* profile, which was characterized by an even higher level of intrinsic work values than the *HI[E]* profile, did not display higher career or job satisfaction than the *MIE* (or any other) profile. Second, the mean career and job satisfaction associated with the *NIE* profile were not significantly lower than those associated with the *HI[E]* or *HI* profiles. Third, although the *HI[E]* and *HE[I]* profiles were both characterized by a high level of intrinsic work values, the latter was associated with significantly lower job satisfaction than the former in early career. The last finding clearly illustrated the importance of considering the conjoint effects of intrinsic and extrinsic work values; it was also consistent with SDT. However SDT was not able to explain why a highly intrinsic, relative to extrinsic, work-value orientation (represented by the *HI* profile) was associated with neither higher career satisfaction (cf. Bridgstock, 2011) nor higher job satisfaction (cf. Sheldon & Krieger, 2014) at any time of the AJD study. With regard to why the *NIE* profile did not report the lowest mean career or job satisfaction, one plausible explanation is that since they did not have high expectations in the first place, they were more easily satisfied.

Earlier analyses on salary showed that the *MIE* profile was associated with greater financial success in 2002. The results on career and job satisfaction suggested that while some lawyers in the *MIE* profile were well-paid in 2002, they were not particularly satisfied with their jobs and careers (i.e., relatively high OCS, but relatively low SCS). The salary advantage of the *MIE* profile diminished in 2006, especially after covariates were accounted for in the analysis, and remained as such in 2011. Meanwhile, the *MIE* lawyers were also reporting levels of career and job satisfaction comparable to those of all other profiles in 2007 and 2012.

The results on practice settings (Table 12) provided some clues on what might have happened: within the *MIE* profile, there were net movements out of large and smaller law firms into BTLs and GPI firms between 2002 and 2007. It was probable that a significant number of *MIE* lawyers opted for higher-salary jobs in early career because that appeared to be the conventional path to career success, and because their moderate extrinsic and intrinsic work values did not predispose them toward (or turn them away from) any practice setting. With experience, they probably gained greater insights of their preferences and made corresponding career moves - thus the relative increase in mean career and job satisfaction in 2007. Some of the moves probably involved financial sacrifices (thus the relative reduction in mean salary) which they probably accepted because their extrinsic work values were not very high.

WLB satisfaction was seldom investigated as a career success indicator. In the present study, the bivariate relationship between intrinsic work values and WLB satisfaction was not significant, whereas the correlation between extrinsic work values and WLB satisfaction was negative but quite small. Consistent with previous results (Shockley et al., 2016), WLB satisfaction and career satisfaction was not strongly correlated, indicating that the inclusion of WLB satisfaction could significantly expand the domain of the SCS criterion.

In 2007, *NIE* lawyers reported higher WLB satisfaction than *HE[I]* lawyers. Because the *NIE* lawyers have low expectations of intrinsic and extrinsic job rewards, they were probably more ready to trade job rewards for a balanced lifestyle. The *HE[I]* lawyers, on the other hand, probably prioritized career achievements over other personal goals, especially at this critical juncture of their career, when milestone achievements were attained or within reach. To recap, in 2007, more than one quarter of the *HE[I]* lawyers were still in large law firms (see Table 12), where the pressure to make partner was likely peaking (e.g., Hull & Nelson, 2000).

Among the five work-value profiles, the *HE[I]* and *NIE* profiles were characterized by the highest and lowest level of extrinsic work values, respectively. Ostensibly, the difference in WLB satisfaction between these two profiles could be explained by extrinsic work values alone (i.e., variable-centered approach). However such explanation would be inadequate because there were also nonlinear trends e.g., the mean WLB satisfaction of the *HI[E]* profile was closer to that of the *NIE* rather than the *HE[I]* profile.

Given that WLB satisfaction was an affective variable, one could also interpret the results as being consistent with SDT, because the results showed a negative association between extrinsic work-value orientation (represented by the *HE[I]* profile) and an affective outcome. However, for the results to be fully consistent with SDT, *HI*, rather than *NIE*, should be associated with the highest mean WLB satisfaction. Therefore, neither the variable-centered nor the work-value orientation approach could fully account for the various associations between work values and WLB satisfaction found in this study.

On the whole, the results illustrated that high intrinsic work values alone could not predict SCS. Furthermore, contrary to what SDT would imply, a highly intrinsic, relative to extrinsic, work-value orientation (i.e., the *HI* profile) was also not systematically associated with any of the SCS indicators in this study. In other words, the person-centered approach has yielded insights that eluded the variable-centered and work-value orientation approaches.

### **Validity and Utility of Work-Value Profile Approach**

The current study has not only identified five work-value profiles through LPA, it has also placed the work-value profile construct in a nomological network consisting of an antecedent (gender) and career variables (practice setting, OCS and SCS indicators). So far, studies that were variable-centered and/or assumed linear relationships have generally reported

that extrinsic work values or an extrinsic work-value orientation would be positively associated with OCS, whereas intrinsic work values or an intrinsic work-value orientation would be positively associated with SCS. The present study employed a person-centered approach and revealed some nuances in the relationships which should prompt rethinking on how the effects of work values should be studied.

Specifically, although work values exhibited weak linear associations with career success indicators, some interesting and meaningful results were obtained when the effects of intrinsic and extrinsic work values were modelled jointly using LPA. As explained earlier, a key strength of LPA is that both linear and nonlinear effects in a dataset can be captured without explicitly modelling those effects (Bauer & Shanahan, 2007). Results from the supplementary analyses showed that the person-centered approach could provide additional insights over linear regression methods. First, when job satisfaction data were analyzed using the work-value orientation approach, the results of Vansteenkiste (2007) were fully replicated. Furthermore, when the other career variables were subjected to the same analysis, results which generally conformed to the predictions of SDT were obtained i.e., OCS indicators were positively associated with, and SCS indicators negatively related to, an extrinsic work-value orientation. Therefore, had the current study not used a person-centered approach, it would simply have replicated past findings. On the other hand, the decision to use LPA has produced some intriguing results that have opened new opportunities for future research.

Although career success studies using conventional linear analytical approaches (e.g., multiple linear regression) do not use discrete profiles as predictors, many have nevertheless communicated their results using typology language e.g., the main conclusion from the SDT-based studies has been that a highly extrinsic, relative to intrinsic, work-value orientation would

be detrimental to subjective well-being. Although the present study found similar results when it used the same method as these studies, the use of LPA has revealed a more complex picture. First, the highly extrinsic, relative to intrinsic, work-value profile did not emerge; if it existed at all in the AJD population, its prevalence would likely be lower than 3 percent (because the *NIE* profile which corresponded to the smallest subgroup in this study made up 2.9 percent of the sample). There was, however, a highly extrinsic, but also intrinsic, profile, which happened to be the largest subgroup (i.e., *HE[I]* profile; 50.3 percent of the sample). Second, although a highly intrinsic, relative to extrinsic, profile did emerge, it only made up 9.2 percent of the sample; more critically, it did not display the most positive relationships with SCS indicators, as SDT would have predicted, although it did exhibit negative associations with OCS indicators (but OCS has typically not been the focus of SDT-based studies). Third, the weak linear relationships between an extrinsic work-value orientation and career success indicators in the present study were likely driven by data from lawyers belonging to either the *HE[I]* or the *HI[E]* profiles, who collectively made up four-fifths of the sample. Fourth, two small subgroups (*NIE* and *MIE*) constituted slightly more than 10 percent of the sample and each has displayed some unique relationships with career success variables; however the work-value orientation approach would have omitted both groups because they were characterized by similar levels of intrinsic and extrinsic work values.

A longitudinal analysis in the present study showed that work-value profile was associated with salary in 2006 even after controlling for salary in 2002 (i.e., auto-regression) and a number of other socio-demographic and individual differences variables. This result is notable because bivariate correlations between salaries in this study, as well as results from past studies (e.g., Spurk & Abele, 2014), have consistently shown that about 30 to 60 percent of the variance



in salary is predicted by past salary. In other words, any variable that can account for additional variance would be of theoretical and applied relevance (Abele & Spurk, 2009b). The significant auto-regression result also implied that work-value profile has passed the ‘stricter test’ (Ganzach & Pazy, 2015, p. 717) for an OCS antecedent, at least in the first seven years of a lawyer’s career.

### **Practical Implications**

One key finding of the present study is that the highly extrinsic, relative to intrinsic, profile did not emerge from the LPA. Paradoxically, reward systems in the large law firms, which generally targeted and employed the top law graduates, were designed to attract JDs with this almost non-existent profile i.e., high emphasis on salary and statuses, to the detriment of intrinsic rewards like good work relationships, professional development, and interesting work (e.g., Forstenlechner & Lettice; 2008; Stirling & Reichman, 2010). In other words, the supposed most desirable jobs for new lawyers are also those that, by nature, appeal to very few of them. This disconnect may help to explain why large law firms have the highest attrition rates of new associates (Dinovitzer & Garth, 2009b; also see the analysis on practice setting in this study), and why one quarter of lawyers quit legal practice within 12 years of being admitted to the Bar (Weiss, 2014). The present study therefore reinforced the calls of previous studies on the need to recalibrate the incentive structure and redesign the jobs in large law firms (e.g., Dinovitzer & Garth, 2009b; Krieger & Sheldon, 2015).

Four-fifths of the lawyers in the AJD cohort valued both extrinsic and intrinsic rewards quite highly. From early to mid-career, *HE[I]* lawyers displayed the best OCS outcomes, whereas *HI[E]* lawyers generally experienced higher levels of SCS. By mid-career, the *HI[E]* lawyers were also enjoying moderately high salaries; although the *HE[I]* lawyers experienced lower SCS in the earlier part of their career, these effects dissipated by mid-career. Therefore, the choice between ‘career’ and ‘lifestyle’ in a legal career (see Reichman & Stirling, 2013) appears

to be a false choice. Over time, the most successful lawyers (in terms of both OCS and SCS) are those who aspire to high levels of intrinsic *and* extrinsic job rewards in early career. Because work values remain malleable while individuals are still in school (Johnson & Mortimer, 2011), these results imply that law schools may contribute to future career success of their students by inspiring them to set challenging intrinsic and extrinsic career goals.

### **Limitations**

One limitation of this study (and work values study in general) was the use of ad-hoc work value scales. Because extrinsic and intrinsic work values are higher level constructs, it is challenging to ensure good content validity and reliability, especially when using an archival dataset. However, the work value scales in the present study have acceptable psychometric properties, and their construct validity has further been established through a field study. The relationships between work values and other variables (e.g., gender, salary, job satisfaction) in the present study were also consistent with those in the literature. Furthermore, results of the Vansteenkiste et al. (2007) study were replicated, even though its work value scales did not resemble those used in the present study.

Work values were measured only at AJD1. This limitation should not compromise the validity of findings from the present study because there is meta-analytic evidence that work values are even more stable than personality (Jin & Rounds, 2012), and studies examining the antecedent role of personality have often used data collected in early adulthood to predict outcomes in middle or even late adulthood (e.g., Judge et al., 1999). In the supplementary analyses, the relationship between work-value orientation and career success was replicated across all measurement occasions for four out of the six career success indicators, providing further support for the premise that there were probably no significant shifts in work values over the course of the AJD study.

Survey research, by its nature, is associated with some limitations like the common method bias. The design of this study, however, was more robust than a typical survey study. First, data were collected over three time periods, and key predictors (i.e., work values) and outcomes (i.e., career variables) were not necessarily from the same time period. Second, the AJD designers were not simply guided by a few specific or transparent hypotheses; the surveys were quite comprehensive and touched on many aspects of a lawyer's professional and personal life. Third, the current study only used a small percentage of the AJD items, and these items were found in different sections of the survey. For instance, in AJD2, the job satisfaction items were on page 7, the career satisfaction item on page 9, whereas the LOC items were on page 22. This reduced the likelihood of response on one item being contaminated by responses to earlier items.

Finally, the sample of this study was a group of highly educated professionals and therefore its results may not generalize to the entire working population. Because generational shifts in work values cannot be ruled out (e.g., Warr, 2008), not all the results from the present study may generalize to other cohorts of lawyers; for instance, the profile proportions may be different among lawyers in the millennial generation. However, the specific relationships between work-value profile and career success indicators may be more generalizable.

### **Future Directions**

While the present study has broken some new grounds, it also raises further questions. For instance, to assess the generalizability of the findings, one could investigate if the work-value profiles here would emerge among other professionals like accountants and engineers. If they do, then the follow-up questions would be whether the profile proportions differ and if the profiles display similar relationships with career success. Blue-collar workers should also be studied. Specifically, given the differences in education between white-collar professionals and

blue-collar workers, and the finding that level of intrinsic work values increases with education level (e.g., Johnson & Mortimer, 2011), a highly extrinsic profile, which was not identified in the present study, may emerge among blue collar workers. This profile will facilitate further evaluation of SDT's key premises e.g., whether workers who are highly extrinsic would show the worst affective and well-being outcomes.

The present study demonstrated how five work-value profiles were differentially associated with seven career variables. To gain a deeper understanding of the relationship between work-value profile and career success, future studies may examine whether and how each profile is also associated with a distinct configuration of work behaviors that can more directly account for the variance in career success.

At a more micro level, it is critical to probe the reasons for the apparent career disadvantages associated with the *HI* profile, because this gets to the heart of SDT. For instance, studies could examine if workers with this profile fare better in some other careers. The *NIE* profile comprised the smallest number of lawyers in the present study; it will be useful to establish if they are more prevalent in other occupations.

In summary, more studies on the relationships between work values and career success are needed. As the present study has shown, it may be more productive if future research can model the conjoint effects of intrinsic and extrinsic work values within persons than to adopt the more conventional variable-centered approach. To facilitate the accumulation of empirical results, where feasible, studies should use measures of work values (e.g., Ye, 2015) and SCS (e.g., Shockley et al., 2016) that are rigorously developed based on sound psychometric principles.

## **Conclusion**

Work value can be productively investigated as an antecedent of career success without taking a contingency approach i.e., it is not always necessary to consider “fit”. In addition, instead of using variable-centered methods, it may be more appropriate to adopt a person-centered approach that models the conjoint effects of intrinsic and extrinsic work values. Using LPA, the present study identified five work-value profiles among a cohort of U.S. lawyers based on self-reported intrinsic and extrinsic work values during early career; furthermore, results from this study also embedded the work-value profile construct in a nomological network consisting of gender and multiple variables relating to career success. Some of the key premises of SDT (or at least how they have been operationalized in some studies) were challenged by the present findings. Through adopting a person-centered approach, the present study may have created a new and potentially fruitful path for research on work values and career success.

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## Appendices

## Appendix A: IRB Exemption Letter



RESEARCH INTEGRITY AND COMPLIANCE  
Institutional Review Boards, FWA No. 00001669  
12901 Bruce B. Downs Blvd., MDC035 • Tampa, FL 33612-4795  
(813) 974-5638 • FAX (813) 974-7091

February 5, 2016

Chee Wee Koh  
Psychology  
Tampa, FL 33647

RE: **Not Human Subjects Research Determination**  
IRB#: Pro00025095  
Title: Properties of extrinsic and intrinsic work values scale items

Dear Mr. Koh:

The Institutional Review Board (IRB) has reviewed your application and determined the activities do not meet the definition of human subjects research. Therefore, this project is not under the purview of the USF IRB and approval is not required. If the scope of your project changes in the future, please contact the IRB for further guidance.

All research activities, regardless of the level of IRB oversight, must be conducted in a manner that is consistent with the ethical principles of your profession. Please note that there may be requirements under the HIPAA Privacy Rule that apply to the information/data you will utilize. For further information, please contact a HIPAA Program administrator at 813-974-5638.

We appreciate your dedication to the ethical conduct of research at the University of South Florida. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

A handwritten signature in black ink that reads "John A. Schinka, Ph.D." in a cursive script.

John Schinka, Ph.D., Chairperson  
USF Institutional Review Board

## Appendix B: Work Value Items

Note: The following survey was conducted online, through the *Qualtrics* survey tool.

### Demographic items

Age, gender, whether enrolled in an educational institution

### Instructions

The following items are survey questions intended to reflect either an extrinsic or intrinsic work value. Extrinsic work values reflect the importance attached to job features that are means to other ends or that provide more or less desirable conditions of work, such as a job's pay or security. Intrinsic work values capture the degree of importance attached to the rewarding nature of the work tasks themselves, including opportunities for self-expression, learning, or helping others.

Please classify the following seven statements according to whether you think each reflects an **extrinsic (E)** or **intrinsic (I)** work value.

	Value statement	E or I
AQ38A	Medium-to-long-term earning potential	<b>E</b>
AQ38B	Substantial interest in a specific field of work	<b>I</b>
AQ38E	Opportunity to develop specific skills	<b>I</b>
AQ38H	Prestige of the sector	<b>E</b>
AQ38G	Opportunity to do socially responsible work	<b>I</b>
AQ38I	Opportunities for future career mobility	<b>E</b>
AQ38F	Potential to balance work and family life	

Please indicate below whether you felt any of the items were ambiguous or difficult to categorize and why.

## Appendix C: Job Satisfaction Items

How satisfied are you with each of the following aspects of your current position?

<b>1</b> <b>Highly</b> <b>dissatisfied</b>	<b>2</b>	<b>3</b>	<b>4</b> <b>Neither</b> <b>satisfied</b> <b>nor</b> <b>dissatisfied</b>	<b>5</b>	<b>6</b>	<b>7</b> <b>Highly</b> <b>satisfied</b>	<b>N/A</b>
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1. Level of responsibility you have
2. Recognition you receive for your work
3. Substantive area of your work
4. Tasks you perform
5. Opportunities for advancement
6. Control you have over the amount of work you do
7. Control you have over how you do your work
8. Relationships with colleagues
9. Opportunities for doing pro bono work
10. Intellectual challenge of your work
11. Opportunities for building skills
12. Amount of travel required
13. Diversity of the workplace
14. Performance evaluation process
15. Value of your work to society
16. Job security

## Appendix D: Locus of Control Items\*

How strongly do you agree or disagree with each of the following statements?

1	2	3	4	5	6	7
Strongly disagree						Strongly agree

1. I am responsible for my own successes. **(I)**
2. I can do just about anything I really set my mind to. **(I)**
3. My misfortunes are the result of mistakes I have made. **(I)**
4. I am responsible for my failures. **(I)**
5. The really good things that happen to me are mostly luck. **(E)**
6. There's no sense planning a lot, if something good is going to happen, it will. **(E)**
7. Most of my problems are due to bad breaks. **(E)**
8. I have little control over the bad things that happen to me. **(E)**

*\*Items denoted by letters "I" and "E" address internal LOC and external LOC, respectively.*