Do what you love, or love what you do: Exploring the effects of vocational interest fit on job satisfaction

B226788

10,402 words

MSc by Research in Psychology

Abstract

Holland's (1997) theory of vocational interests suggests that the fit between one's interests and those of their work environment predicts work outcomes. Early meta-analytic findings suggest that interest fit is a weak predictor of job satisfaction. However, researchers have acknowledged that the typical usage of congruence indices to operationalise fit has well-known conceptual and statistical limitations. Recent studies have instead used polynomial regression to model the relationships between interest fit and work outcomes more precisely, indicating that associations may be more nuanced than previously reasoned. The present study utilised principal component analysis to reduce the dimensionality of 24 job satisfaction items, and polynomial regression to model the relationships between two types of interest fit (objective, subjective) and four retained job satisfaction principal components in a sample of workers from 32 professional fields. Results broadly indicate that subjective interest fit significantly affects these job satisfaction outcomes, surpassing the predictive power of objective interest fit. Positive associations emerged between subjective interest fit and overall job satisfaction, but certain vocational interests showed negative links with satisfaction towards other job aspects. This study offers a more comprehensive understanding of the fit-satisfaction relationship, bearing theoretical and practical implications for individuals, organisations, and policymakers.

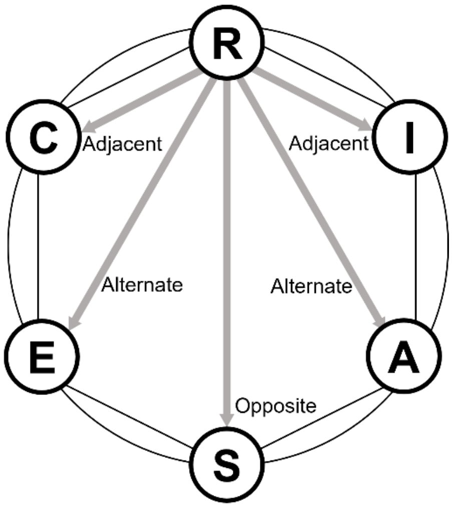
1. Introduction

Individuals' perceptions of an occupation are often different from reality. Such late discoveries upon self-selection and entry into a professional field have negative repercussions on work outcomes such as satisfaction and performance (Nye et al., 2021). These perceptions stem from vocational interests, personality traits that characterise activities required by the work environment that individuals prefer and are interested in (Holland, 1997). While vocational interests can impact numerous aspects of life such as health and relationship outcomes (Stoll et al., 2017), they have been most often studied within professional work settings. Initial studies have mostly yielded minute relationships between vocational interest fit and both job satisfaction (Kristof-Brown et al., 2005) and performance (Tett et al., 1991), making some researchers doubt the predictive validity of vocational interests (Tinsley, 2000). However, career counsellors and organisations continue to use vocational interest questionnaires as a central component in informing career selection, development, and promotion (Brown & Lent, 2004). Given the propensity for vocational interests to affect a wide range of outcomes within and beyond work, the present study aims to examine whether the type of interest fit (objective, subjective) differentially affects job satisfaction. Subsequent findings will enrich the expanding literature that illuminate the significance of vocational interests in shaping key attitudinal and behavioural outcomes in the workplace. The background surrounding vocational interests and the methods for calculating interest fit will first be discussed.

1.1. Holland's (1997) theory of vocational interests

Holland's (1997) theory of vocational interests is the prevailing and most validated perspective for studying vocational interests and their outcomes. It posits that individuals generally seek environments that align with their interests and enable them to exercise their proficiencies, expertise, and attitudes in relevant roles and activities. The theory conceptualises six primary vocational interests which reflect preferences for specific types of work-required activities: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. Realistic interests entail working outdoors, or with machinery, devices, animals, or hands-on tasks. Investigative interests involve scientific exploration in fields such as medical, social, or physical sciences. Artistic interests encompass creative expressions including performance arts, visual arts, or writing. Social interests involve interacting with, developing, and helping others. Enterprising interests consist of influencing, persuading, and leading others, or the pursuit of economic benefits like sales or entrepreneurship. Conventional interests entail an inclination towards well-structured activities, data organisation, record-keeping, or systematic tasks. These six vocational interests have been subsumed and described collectively under their acronym as the RIASEC model (Holland, 1997). The interrelations between the RIASEC interests are depicted by the distances between them within a hexagonal circumplex (refer to Figure 1). For example, Realistic interests (R) are more closely related to the adjacent interests of Conventional (C) and Investigative (I) than to the alternate interests of Enterprising (E) and Artistic (A). Realistic interests are also least related to the opposite interest of Social (S). The organisation, content and cross-cultural universality of Holland's (1997) RIASEC model has been extensively supported. Tracey and Rounds (1993) conducted three structural meta-analyses which indicated the existence of six distinct vocational interests, supporting the validity of the RIASEC model's hexagonal circumplex structure in categorising individuals' preferences for specific work activities. This structure was maintained throughout various racial and ethnic demographics (Day & Rounds, 1998), suggesting that the model is not limited to particular cultural backgrounds.

Figure 1. Holland's RIASEC model and degrees of interest congruence



The RIASEC model has been used to establish profiles of vocational interests for individuals and work environments such as occupations and academic programmes (e.g., Swaney, 1995). Person and environment interest profiles entail the strength of individuals' inclinations towards specific types of vocational activities, and the behaviours required by the work setting respectively. Rating individuals and work environments based on RIASEC profiles enables a direct estimation of interest fit (or congruence), which refers to the compatibility of the interest profiles between an individual and their work environment. Holland (1997) initially proposed that the greatest fit occurs when an individual's strongest RIASEC interest aligns with their work environment, with congruence decreasing from matching interests to adjacent, alternate, and opposite interrelations as depicted by the RIASEC model.

While interest fit according to Holland's (1997) RIASEC model was originally developed and has been widely used in the workplace to understand work-related outcomes, it has also been used in career counselling and development in school (Brown & Lent, 2005). For the workplace, non-incumbent raters have been trained to assign RIASEC interest scores to work activities associated with specific occupations, achieving inter-rater reliability exceeding .75 (Rounds et al., 2008). These occupational RIASEC profiles have also been linked to academic programmes using a crosswalk offered by The National Center for O*NET Development. Notably, many academic programmes have been linked to several occupations in this crosswalk. To address this issue, studies averaged the RIASEC scores across all related occupations to create an interest profile for each academic programme (Nye et al., 2018, 2021). Overall, the RIASEC model has extensive practical usage in work and school. While conceptually sound, meta-analytic evidence has provided mixed support for the validity of interest fit in predicting job satisfaction.

1.2. Relationship between interest fit and satisfaction

The fit-satisfaction relationship stems from the needs-supply fit perspective (Dawis & Lofquist, 1984). It views an individual's vocational interests as their interest needs, while the characteristics of the work environment in providing work that appeals to these interests are considered interest supplies. Vocational interest studies describe needs-supply fit as the cognitive comparisons individuals make between their interest needs and their environment's interest supplies (Edwards & Shipp, 2007). When the work environment provides opportunities to fulfil individuals' interests, allowing them to exercise preferred expertise and skills, higher work satisfaction is likely. Conversely, when the environment fails to meet these needs (interest misfit), dissatisfaction is more likely. In short, work satisfaction should be positively associated with the degree of interest fit. Despite this sound theoretical basis, early meta-analytic findings suggested that the relationship between interest fit and work satisfaction may be minute or negligible. Independent meta-analyses conducted by Assouline and Meir (1987) and Tsabari et al. (2005) reported moderate correlations between 0.17 and 0.21. However, both studies' 95% confidence interval ranges included zero, suggesting that the coefficient for the effects of interest fit on work satisfaction was not significant at the 5% level. In contrast, more recent empirical evidence provided by Hoff et al.'s (2020) meta-analysis yielded a similarly moderate correlation of 0.19. Notably, this association was significant, such that the 95% confidence interval range excluded zero. This suggests that the true effect of interest fit on work satisfaction was unlikely to be nil as concluded prior. Acknowledging such disparate results in the literature, the present study hypothesises that interest fit will be correlated with job satisfaction, refraining from making any definitive assertions regarding the direction of this relationship. While these studies focused on the overall fit-satisfaction relationship, others examined the methodologies more closely. The vocational interest literature has highlighted two potential limitations affecting the generalisability of previous findings: (1) the method of operationalising interest fit, and (2) the implicit focus on specific types of interest fit. The rationale behind these assertions will be elaborated sequentially.

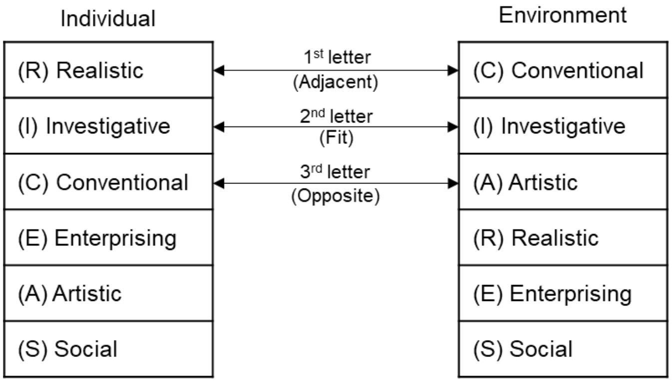
1.3. Operationalisations of interest fit

Holland (1997) originally conceptualised vocational interest fit by matching the most highly rated (or strongest) vocational interests that characterise the individual and their work environment (i.e., first-letter code). Interest fit was reflected as dichotomous congruence by coding a match between primary interests as 1, and a mismatch as 0. However, first-letter code matching was posited to be an inadequate representation of the nature of interests. Jobs generally entail various tasks which may not adhere to any single interest (Cronbach, 1984). Consequently, Holland (1997) revised his conceptualisation of interest fit as the comparison between an individual's diverse interests and the various work-related activities required by their environment. Congruence indices have been the primary method of operationalising fit in initial vocational interest studies.

1.3.1. Congruence indices

Broadly, congruence is a form of similarity construct which involves comparisons between an individual and their environment (Wood & Furr, 2016). Congruence indices quantify this degree of fit into a single estimate by comparing the interest profiles for the individual and their work environment according to the strength of multiple interests (Camp & Chartrand, 1992). This typically involves comparing the rank-order of each interest between the individual and environment according to the interrelations within Holland's (1997) RIASEC model (Nye et al., 2018). A higher congruence index is associated with greater fit, descending accordingly from fit, adjacent, alternate, then opposite interrelations. There are numerous congruence indices which calculate interest fit differently, such as assigning different predetermined weights according to the rank order (refer to Figure 2 for an example). However, an extensive review is beyond the scope of the present study and will not be discussed further here (for such reviews, read: Brown & Gore, 1994; Camp & Chartrand, 1992). Generally, congruence indices compare at least two of the top rank-ordered interests for the individual and environment to calculate a single estimate.

Figure 2. Three-letter code example of comparisons of congruence



Note. The three-letter code for the interest profiles are RIC and CIA for the individual and environment, respectively. The interrelation between each letter is stated within the brackets.

Nye et al.'s (2017) meta-analysis which subsumed the studies from Van Iddekinge et al. (2011) and Nye et al. (2012) compared the predictive validities of interest scores alone, first-letter code matching, and several congruence indices. Congruence indices exhibited the highest validity in predicting job performance, followed by first-letter code matching and interest scores alone. These findings support Holland's (1997) assertion that operationalisations of interest fit which capture more information about the degree of similarity between individuals and their environment interest profiles are associated with greater predictive validity. However, in terms of conclusions about the nuances of this relationship and predictions surrounding specific interests, congruence indices have been criticised to remain mired by conceptual and statistical limitations.

Congruence indices primarily focus on comparing the overall interest profiles of the individual and environment, rather than examining the fit between specific corresponding interests. As such, while these limitations do not affect the validity of congruence indices as a person-centred approach per se, extrapolating implications about the predictive validity of fit across specific interests cannot be gleaned from congruence indices results alone, such as whether misfit is attributable to a mismatch within a certain vocational interest, and the source, magnitude, and direction of overall fit and misfit (Edwards, 1993). Using congruence indices alone, it is thus unclear whether excess and deficiency of environment interests relative to an individual's have the same implications, as congruence indices will code a mismatch between the interest profiles as a misfit regardless of the strength of the component interest scores. This ambiguity is pronounced in congruence indices that solely rely on rank-ordered comparisons. An individual's interests may only slightly vary from one another, but even slight variance can determine different rank-orders, which in turn significantly affects the calculation of interest fit. This limitation may be mitigated by conducting profile correlations, such as the intraclass correlation coefficient which incorporates the agreement between individual and environment interest scores. This way, congruence index studies can capture a more comprehensive overview of the similarity between individuals and their work environment than rank-order comparisons alone. However, using congruence indices alone, a match between the primary interests of an individual and their work environment may not necessarily contribute to greater job satisfaction.

More broadly, developers of congruence indices often assign different weights to the degree of similarity between individual and environment interest profiles. Nye et al. (2018) exemplified this issue by comparing the weights assigned to two congruence indices. Iachan's M index (Iachan, 1984) assigns twice the weight to first-letter matches compared to second-letter matches. On the other hand, the Self-Directed Search (Holland & Rayman, 1986) treats the three-letter code component scores with equivalent weights. As such, the weights assigned to interests across congruence indices may not accurately reflect the importance of each component in predicting work outcomes. Due to these statistical and conceptual limitations, congruence indices may not fully capture the intricacies of vocational interest fit. Thus, using congruence indices alone, the finer underpinnings of the relationships between interest fit and work outcomes may not be fully understood.

Rather than deriving a single score superseding component interest scores, regression models may be more statistically appropriate as they allow the weights to vary according to the data. Van Iddekinge et al. (2011) conducted a meta-analysis on vocational interests and job performance using weighted least squares regression analysis. They compared two types of linear regression models, one using all six RIASEC interest scores together (composite-level) and others using each interest score separately (scale-level). The overall findings showed that linear regressions with composite-level validity estimates had higher validity in predicting job performance than models with scale-level validity estimates, which yielded observed validity estimates of 0.28 and 0.11 respectively. This suggests that considering all interests concurrently in regression models yields more accurate predictions of work outcomes than analysing them individually. While these results provide encouraging initial results for the utility of linear regression models of interests, Van Iddekinge et al. (2011) included only individuals' interest scores in their analyses, which does not accurately follow the concept of congruence which requires a comparison between an individual's interest scores with those of their environment (Edwards, 1993). Nonetheless, regression models mitigate the statistical limitations of congruence indices by imposing fewer constraints on component values of individual and environment interests. For example, regression models calculate coefficients of interest scores in a data-driven manner based on observed data rather than imposing fixed or predefined values. Further, Edwards (1993) and Nye et al. (2017) proposed that second-order polynomials should be included as the relationships between interest fit and work outcomes are not necessarily linear. Recent research has supported polynomial regression as a more precise, and conceptually and statistically valid method for operationalising interest fit.

1.3.2. Polynomial regression

While congruence indices are a person-centred approach which calculates overall interest fit using matches on two to three strongest interests for the individual and work environment, polynomial regression is a variable-centred approach which instead utilises all six RIASEC interests to evaluate fit. Much like how congruence indices surpass first-letter code matching by leveraging on a wider range of interest-related data (Nye et al., 2017), polynomial regression provides a more thorough understanding of the nature of vocational interests than congruence indices. Considering these constraints, congruence indices remain valid predictors of overall job fit, yet their ability to discern the unique influence of individual interests is limited. Given the focus on the present study on understanding these distinct contributions, an alternative approach was sought. In this context, polynomial regression emerged as an advanced and comprehensive method to operationalise interest fit which mitigates both conceptual and statistical concerns and will be utilised by the present study to examine the fit-satisfaction relationship.

Polynomial regression entails the inclusion of both individual and environment interest scores yet enables the estimation of their independent main effects (Edwards, 2002). Doing so rather than summarily collapsing them into a single score retains their conceptual differences, enabling closer examination of similarities and interests across specific RIASEC interests and their varying contributions to overall fit (Edwards & Parry, 1993). In vocational interest studies, polynomial regression models include second-order polynomials, and interaction terms between each corresponding interest score for the individual and environment captures interest fit. These inclusions are essential to address potential nonlinearity and acknowledge the interrelations depicted within Holland's (1997) RIASEC model. Overall, polynomial regression has conceptual and statistical advantages for examining the specificity of interest fit and should provide a more comprehensive representation of interest fit than congruence indices and first-letter codes.

Nye et al. (2018) seminal study was the first to employ polynomial regression to examine the relationships between vocational interest fit and job satisfaction. Notably, they compared the validities in predicting job satisfaction across different operationalisations of interest fit: first-letter code matching (Holland, 1997), several congruence indices, and polynomial regression. Their study yielded four key findings which will be discussed sequentially: (1) statistical advantages for polynomial regression over congruence indices and first-letter code-matching, (2) differential regression weights for individual and environment interest scores, (3) unequal implications along the spectrum of fit (e.g., match between low to high individual and environment interest scores), and (4) misfit asymmetry which highlights disparities between two types of misfit: environmental excess and deficiency.

In Nye et al.'s (2018) study, operationalising interest fit using polynomial regression yielded significantly stronger relationships with job satisfaction (r = 0.23) than congruence indices (0.01 ≤ r ≤ 0.05) and first-letter code matching (r = 0.01). In other words, the polynomial regression approach had predictive validities up to four times those of congruence indices. This finding is pivotal, as it provides empirical evidence that polynomial regression is the superior method in capturing the complex interplay between vocational interest fit and its impact on job satisfaction. The heightened predictive accuracy provided by polynomial regression attests to its ability to comprehensively account for the multifaceted nature of vocational interest dynamics, ultimately yielding more robust and informative insights. Furthermore, the study unveiled notable variations in regression weights between individual and environment interest scores. It was observed that environment interest scores exhibited higher regression weights compared to individual scores. This disparity in regression weights underscores the presence of unequal contributions in forecasting work outcomes attributed to these distinct interest dimensions. This finding necessitates the accounting of the differential impact of individual and environment interests on work outcomes. In contrast to congruence indices with predetermined weights, polynomial regression possesses the distinctive capability to adapt weights based on empirical data. This adaptive nature allows polynomial regression to provide a more nuanced representation of the dynamics between fit and work outcomes.

Nye et al. (2018) also observed a distinct pattern evident in their response surface plots. They observed that a decrease in misfit, indicating reduced discrepancies between corresponding differences, was associated with an increase in job satisfaction across several vocational interests. This finding further supports a nuanced relationship between interest fit and job satisfaction, surpassing a simplistic dichotomy of overall fit or misfit. Instead, the relationship is influenced by the interplay between the reduction of misfit and magnitude of component interest scores. The study thus highlights the significance of both the extent of overall fit and the inherent strength of individual interest dimensions when assessing their collective effect on job satisfaction. The fourth principal finding revolves around the concept of misfit asymmetry, wherein significant discrepancies between individual and environmental interest scores result in discernible outcomes. When individual scores surpass environmental scores, lower satisfaction ensues (environmental deficiency). Conversely, higher job satisfaction corresponds to elevated environmental interest scores relative to individual scores (environmental excess). This indicates that individuals are less satisfied when a work environment lacks ample opportunities for engaging tasks compared to when it offers abundant prospects for uninteresting tasks. Nye et al.'s (2018) study thus indicates an asymmetric association between interest misfit and job satisfaction, manifesting in decreased satisfaction in cases of environmental deficiency compared to excess.

Building upon the groundwork laid by Nye et al. (2018), a closer investigation into the fit-satisfaction relationship was conducted by Wiegand et al. (2021). Employing polynomial regression and response surface methodology, their research not only corroborated previous findings, but also delved deeper into the nuances of this relationship. The study revealed the presence of misfit asymmetry in four of the six RIASEC interests and highlighted the diverse effects of fit across them. Of particular significance is the observation that job satisfaction differs along the fit continuum for three out of the six RIASEC interests. This underscores the criticality of assessing the influence of interest fit for each vocational interest on work outcomes across varying levels of individual and environment interests. Collectively, the studies by Nye et al. (2018) and Wiegand et al. (2021) advocate for a shift away from a person-centred approach when calculating fit, as it offers a limited perspective on the dynamics within the fit-satisfaction relationship. Instead, these studies provide empirical evidence in favour of adopting a variable-centred approach, particularly through the utilisation of polynomial regression. Given these insights, the present study will adopt polynomial regression to obtain a deeper understanding of the intricacies of the fit-satisfaction relationship. In a similar vein, scholars have emphasised the importance for researchers to explicitly specify the type of interest fit they are investigating, as this specification carries discernible implications for the interpretation of findings.

1.4. Types of interest fit: Objective and subjective

Objective interest fit, also referred to as the accuracy of self-assessment (Caplan, 1983), entails a comparison between an individual's interest scores with those of their environment. These interest profiles are obtained through different sources. Individuals rate their interests, while environment interests are determined independently. Objective fit mitigates deviations in self-assessment, including distortions in perceptions, biases in evaluating peers, and access limitations to organisational information (Harrison, 1978; Weick, 1979). In the vocational interest literature, objective fit is primarily assessed using the incumbent approach. This involves comparing an individual's RIASEC interest self-ratings with the average scores of others in the same occupation (e.g., Nye et al., 2018). This is considered objective because it evaluates fit using an environmental interest profile that is derived without the respondent's explicit input. Conversely, subjective (or perceived) fit entails a comparison between an individual and their environment obtained from the same source. This can involve explicitly asking participants to rate their overall fit with their work environment (e.g., Nye et al., 2021), or by deriving interest-specific fit from participants' ratings of their interests and the tasks of their work environment (e.g., Wiegand et al., 2021). Conceptually, both types of interest fit can be captured by the interaction term between the individual's interest score and the corresponding score of the work environment. In essence, the convergence of an individual's vocational interests with either those of their peers within the same professional field (as seen in objective interest fit) or the alignment of their own interest preferences with their perceived job-related tasks and expectations (as embodied in subjective interest fit) should be positively correlated with work outcomes. The present study will thus focus on the interaction term as the primary variable of investigation.

Wessel et al. (2008) compared the effects of objective and subjective fit on academic performance and satisfaction. To assess objective fit, participants were assigned a three-letter code based on their strongest three RIASEC interests. A measure of objective fit used to compare this individual profile to that of their major area is the World-of-Work Map (Swaney, 1995). This approach calculates objective interest fit by converting the three-letter codes for the individual and major area onto two dimensions: Data-Things and Things-People (Prediger, 1981). These scores are projected onto the RIASEC model, whereby the distance between them is mathematically compared to derive a fit score. To assess subjective fit, participants rated their fit with 22 academic major areas, and subjective fit was derived from the ratings of the major area which matched their current university major. Wessel et al. (2008) found that objective and subjective fit measures showed weak correlation and were associated with different outcomes. Specifically, objective fit as derived from the World-of-Work Map approach was positively correlated with grades, while subjective fit was not correlated with this outcome. On the other hand, subjective fit added a 4.2% incremental validity to the prediction of affective outcomes such as academic major commitment. While these findings suggest that objective and subjective types of fit measure different outcomes, the researchers did not address the limitations of common method variance between measures of subjective fit and affective outcomes. This bias may have contributed to an overestimation of this relationship, relative to the association between objective fit and affectivity. Intricate information regarding this possibility could not be gleaned from Wessel et al.'s (2008) correlational study. Instead, Nye et al. (2021) used polynomial regression, and structural equation modelling which mitigated the limitations of common method variance. The latter method allows inspection of strong correlations between items to inform model revision. These two studies found that subjective fit was more closely associated with satisfaction than objective fit. Notably, Nye et al. (2021) found that even after controlling for cognitive ability and conscientiousness, subjective fit was more strongly associated with satisfaction than objective fit, yielding coefficient estimates of 0.43 and 0.24, respectively. Conversely, objective fit was a consistently stronger predictor of all examined performance outcomes (grades, citizenship behaviour, counterproductive behaviour) than subjective fit. These results collectively support Wessel et al.'s (2008) position, such that objective and subjective fit are distinct types of fit that have different effects on unique work outcomes and should thus be examined separately. These findings may partially explain prior research on the stronger fit-performance relationship relative to the fit-satisfaction relationship, as earlier studies may have unintentionally placed emphasis on assessing interest fit using solely objective fit measures.

Taken together, Wiegand et al.'s (2021) and Nye et al.'s (2021) results suggest that interest misfit was not always associated with lower work satisfaction. The type of interest fit examined has different connotations for individuals' awareness of misfit. For example, examining self-ratings of individual and environment interests (subjective fit) seems more likely to make explicit the potential individual-environment misfit than objective fit measures. In this case, an overt cognitive comparison is made between one's interest needs and supplies. Due to this heightened cognizance, Wiegand et al. (2021) suggested that individuals under subjective fit measures should process environmental excess similarly to deficiency and are more likely to report dissatisfaction when any misfit is perceived. Nye et al. (2021) proposed further explanations for the different effects of objective and subjective fit measures on work satisfaction and performance. Subjective fit broadly entails assessment of individuals' affectivity related to their work environment, which may not have been captured as well using objective fit measures. Due to this different focus, subjective fit measures are more likely to be associated with affective outcomes such as satisfaction than behavioural outcomes such as performance. However, apart from Wiegand et al. (2021), there appears to be a dearth of research examining subjective fit with respect to vocational interests specifically, as subjective fit was mostly operationalised by asking participants to explicitly rate their overall fit with their work environment. The present study will thus adapt the tool developed by Wiegand et al. (2021) which specifically assesses individuals' ratings of their interests or those of their work environment. Through multidimensional scaling, it successfully retained structure of the RIASEC model. Using this tool enables closer examination of interest-specific differences between the effects of objective and subjective fit measures on job satisfaction. Further details of this adaptation are provided in the Methods. To summarise the aims and potential contributions of the present research, the current study will utilise polynomial regression to examine the effects of objective and subjective vocational interest fit on job satisfaction in a sample of workers from diverse professional fields, and contextualise the value of polynomial regression as an operationalisation of interest fit in the workplace.

2. Method

2.1. Participants and procedure

Participants completed the Employees' Labour Market and Salary Survey conducted in Spring 2023 in Estonia (Palgainfo Agentuur, 2023). It consists of 92 questions which examine various aspects of the workforce in Estonia encompassing employment trends, remuneration, job perks, and satisfaction. Individuals were incentivised to participate for numerous benefits, including access to wage-related information across different occupations and an opportunity to enter a lucky draw. The present study is concerned with how vocational interest fit affects several aspects of job satisfaction, and will thus only analyse data regarding overall job satisfaction, satisfaction with salary, engaging work and development opportunities, work equipment and environment, work organisation, and relations and leadership.

The sample included 7,675 employed workers who belonged to one of 32 professional fields. The comprehensive breakdown of participant counts for each professional field is presented in Table 1A in the Appendix. Participants belonged to one of seven age groups: 16-24 (*n* = 211), 25-34 (*n* = 1,508), 35-44 (*n* = 2,153), 45-54 (*n* = 1,921), 55-64 (*n* = 1,546), 65-74 (*n* = 297), and 75 or older (*n* = 19). The sample included 4,322 females, 2,688 males, and 665 individuals with unspecified gender information.

2.2. Measures

2.2.1. Person interests and subjective environment interests

Person interests were measured using a tool adapted from the 6-item tool developed by Wiegand et al. (2021) in their second study (refer to Table 2A in the Appendix). Several work activities were listed for each RIASEC interest. The names of the RIASEC interests were omitted to mitigate response biases based on naming conventions. Participants rated how well they believed each of the six RIASEC interests matched, first, their current and, second, their dream (ideal) job on a 6-point Likert scale (1 = Not at all, 6 = Completely). The ratings for the dream job represented an individual's interests, while those for the current job represented one's subjective ratings of their work environment's interests.

2.2.2. Incumbent-averaged environment interests

Aligning with Holland's (1997) view of work environments as the context shaped by the individuals within them, the incumbent approach was used to compute each respondent's professional field interest scores. The scale-centred interest ratings for the current job were averaged for each RIASEC interest for all other participants in the same occupation, excluding the respondent's own ratings. These interest scores were designated as "objective environment interests" for calculating objective interest fit.

2.2.3. Job satisfaction

Participants rated their satisfaction on 24 total items across five aspects of their job: engaging work and development opportunities (4 items), work organisation (4 items), work equipment and environment (6 items), relations and leadership (6 items), and salary (4 items). Only satisfaction with salary was evaluated using a 6-point Likert scale (0 = Don't know, 5 = Very satisfied), while the other four aspects were measured on a 5-point Likert scale (1 = Very dissatisfied, 5 = Very satisfied). The specific items corresponding to each measured aspect of job satisfaction are detailed in Tables 3A and 4A in the Appendix.

2.3. Data analytic strategy

All data analyses were conducted using R. Principal component analysis was performed on the correlation matrix for the 24 job satisfaction items to reduce dimensionality. Missing values were handled using a pairwise deletion approach. The retained principal components were used as outcome variables for further analysis. Multilevel polynomial regression was then employed to examine whether these job satisfaction principal components were related to objective interest fit and/or subjective interest fit. In specifying the initial model, fixed effects were added for person interests (P), environment interests (objective/subjective; E), the P-E interaction, second-order person interests (P^2), and second-order environment interests (objective/subjective; E^2). The key element in the equation is the interaction term, which serves as the central variable that captures the specific type of fit for a given RIASEC interest. Random effects for the random intercept of person interests grouped by professional field were specified. Models were estimated for both types of interest fit for each RIASEC interest, across all retained job satisfaction principal components (Z). As a result, the overarching equation for fixed effects used was: $Z = b_0 + b_1E + b_2P + b_3E^2 + b_4(E*P) + b_5P^2 + e$

The person interest scores were scale-centred before calculating the incumbent-averaged objective environment interests. The subjective ratings of environment interests were also scale-centred prior to data analysis. Scale-centring mitigates multicollinearity from the second-order polynomials and retains the coefficients of the analyses while enhancing the interpretability of the results (Edwards, 2001). All models were fitted with maximum likelihood estimation and the optimisation method was set to Bound Optimisation BY Quadratic Approximation (BOBYQA). When the initial model did not converge, the random effects were simplified by removing the random intercept for person interests. These reduced, intercept-only models converged without further issue. Models were then refitted to exclude outliers, defined as observations with standardised residuals beyond the range between -3 and 3. Residual checks were conducted for level 1 residuals to examine constant variance, and for level 2 residuals to examine normality for the random effects for person interests within professional field. These checks are illustrated in Figures 1A to 16A in the Appendix and indicated no violations of these assumptions. A Bonferroni correction was applied with respect to the six predictors within each model, resulting in an adjusted significance level of .008.

3. Results

Preliminary analysis was first conducted on the correlation matrix of the job satisfaction items, which suggested the existence of approximately four groups of highly correlated items (refer to Figure 17A in the Appendix for a visualisation). Principal component analysis was then conducted on all 24 job satisfaction items without rotation. This resulted in the retainment of four principal components (PC1 to PC4) as suggested by multiple selection criteria, the results of which are described further in Section 1A and illustrated in Figures 18A and 19A in the Appendix. For conciseness, a subset of results for the first eight of the 24 total principal components is also detailed in Table 5A in the Appendix.

PC1 appeared to be a general job satisfaction score which covers satisfaction with all measured aspects of the job, accounting for 43.52% of total variability. PC2 accounted for 8.12% of total variability. Broadly, positive loadings distinguished satisfaction with salary and engaging work and development opportunities from negative loadings on satisfaction with work organisation, work equipment and environment, and relations and leadership. PC2 may thus be associated with satisfaction with career progression/growth. PC3 accounted for 6.64% of total variability. Positive loadings seemed to distinguish satisfaction with salary, and work equipment and environment from the negative loadings for satisfaction with engaging work and development opportunities, work organisation, and relations and leadership. PC3 seemed to encapsulate satisfaction with more intrinsic, nonsocial aspects of the job. PC4 accounted for 4.90% of total variability. Positive loadings largely distinguished satisfaction with salary, work organisation, three items for work equipment and environment (work equipment, work clothes, work health and safety), and relations and leadership from negative loadings on satisfaction with engaging work and development opportunities, three items for work equipment and environment (work location, work spaces, non-work spaces). PC4 appeared to capture satisfaction with the broader organisational structure.

Multilevel polynomial regression was then used to investigate whether objective interest fit and/or subjective interest fit, as represented by the interaction term, affected the four retained principal components of job satisfaction across each of the six RIASEC interests. This resulted in the estimation of 48 models in total. The 95% Confidence for fixed effects estimates were constructed using Satterthwaite approximation. For interpretative clarity, only statistically significant interaction terms, based on the adjusted significance level of .008, will be elaborated upon. Full, comprehensive results for all final models are appropriately presented in Tables 1 to 12. To orientate readers to these tables, the asterisk (*) beside the job satisfaction principal component outcomes (PC1 to PC4) denotes intercept-only models. Poly refers to either first- (poly1) or second-order (poly2) polynomials. Est. is the Satterthwaite approximation estimate for fixed effects. CI indicates lower and upper 95% confidence intervals. Bolded values in the *p* column are statistically significant after multiple comparison correction. Units are reported in standard deviations.

Results indicated that objective interest fit for only Realistic interests was predictive of PC1, the general job satisfaction score ($p < .001$, 95% CIs [0.40, 0.81]). Every one-unit increase in objective interest fit for Realistic interests was associated with a 0.60-unit increase in PC1 score. The remaining relationships between objective interest fit and each job satisfaction principal component did not reach statistical significance.

Results also indicated that subjective interest fit for Realistic ($p < .001$, 95% CIs [0.23, 0.32]), Investigative ($p < .001$, 95% CIs [0.20, 0.28]), Artistic ($p < .001$, 95% CIs [0.13, 0.20]), Social ($p < .001$, 95% CIs [0.15, 0.22]), Enterprising ($p < .001$, 95% CIs [0.19, 0.26]), and Conventional interests ($p < .001$, 95% CIs [0.18, 0.25)] were predictive of PC1, the general job satisfaction score. A one-unit increase in subjective interest fit for Realistic, Investigative, Artistic, Social, Enterprising, and Conventional interests corresponded to 0.27, 0.24, 0.16, 0.19, 0.22, or 0.21-unit increases in PC1 scores, respectively.

Subjective interest fit for Realistic ($p = .008$, 95% CIs [0.02, 0.11]) was predictive of PC2, satisfaction with career progression/growth. A one-unit increase in subjective interest fit for Realistic interests corresponded to a 0.06-unit increase in PC2 scores. Subjective interest fit for Enterprising ($p = .004$, 95% CIs [-0.10, -0.02]) and Conventional interests ($p = .002$, 95% CIs [-0.09, -0.02]) were predictive of PC3, satisfaction with intrinsic, nonsocial aspects of the job. A one-unit increase in subjective interest fit for Enterprising, and Conventional interests was associated with a 0.06-unit decrease in PC3 scores.

Subjective interest fit for Realistic ($p <.001$, 95% CIs [-0.16, -0.07]), Investigative ($p < .001$, 95% CIs [-0.11, -0.03]), and Conventional interests ($p < .001$, 95% CIs [-0.12, -0.05]) were predictive of PC4, satisfaction with the broader organisational structure. A one-unit increase in subjective interest fit for Realistic, Investigative, or Conventional interests was associated with 0.11, 0.07, or 0.08-unit decreases in PC4 scores, respectively.

Table 1. Full model results for objective interest fit (Realistic) across job satisfaction principal components

	PC 1			**PC 2***			**PC 3***			**PC 4***		
Predictors	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*
(Intercept)	-0.14	-0.26 – -0.03	0.017	0.05	-0.04 – 0.14	0.284	-0.01	-0.09 – 0.06	0.684	-0.07	-0.21 – 0.07	0.346
obj env R poly1	-0.93	-1.29 – -0.57	**<0.001**	0.07	-0.21 – 0.35	0.618	-0.27	-0.49 – -0.04	0.020	0.15	-0.28 – 0.57	0.487
Person R poly1	0.13	0.09 – 0.18	**<0.001**	0.04	0.00 – 0.07	0.026	-0.03	-0.06 – 0.00	0.057	-0.09	-0.12 – -0.05	**<0.001**
obj env R poly2	2.28	0.78 – 3.79	**0.004**	0.96	-0.32 – 2.23	0.137	0.93	-0.09 – 1.95	0.072	0.29	-1.59 – 2.16	0.759
Person R poly2	0.04	0.01 – 0.07	0.009	-0.07	-0.10 – -0.05	**<0.001**	-0.01	-0.04 – 0.01	0.329	-0.02	-0.05 – 0.01	0.154
obj env R poly1 × Person R poly1	0.60	0.40 – 0.81	**<0.001**	-0.03	-0.20 – 0.13	0.712	0.10	-0.06 – 0.27	0.231	-0.07	-0.23 – 0.10	0.422
Random Effects												
σ^2	0.94			0.93			0.92			0.89		
τ_{00}	0.03 professional_field			0.01 professional_field			0.01 professional_field			0.05 professional_field		
τ_{11}	0.00 professional_field.Person_R_poly1											
ρ_{01}	-0.78 professional_field											
ICC	0.04			0.02			0.01			0.05		
N	32 professional_field			32 professional_field			32 professional_field			32 professional_field		
Observations	3828			3813			3805			3813		
Marginal R^2 / Conditional R^2	0.061 / 0.095			0.010 / 0.026			0.006 / 0.012			0.009 / 0.062		

Table 2. Full model results for objective interest fit (Investigative) across job satisfaction principal components

	PC 1			PC 2			PC 3*			PC 4		
Predictors	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*
(Intercept)	0.05	-0.04 – 0.14	0.243	0.07	-0.01 – 0.14	0.088	0.03	-0.04 – 0.10	0.444	-0.08	-0.18 – 0.02	0.104
obj env I poly1	0.79	0.47 – 1.12	**<0.001**	0.26	-0.03 – 0.55	0.079	0.20	-0.05 – 0.45	0.120	-0.51	-0.88 – -0.15	**0.007**
Person I poly1	0.17	0.12 – 0.22	**<0.001**	-0.01	-0.05 – 0.03	0.634	0.03	-0.00 – 0.07	0.057	-0.10	-0.14 – -0.05	**<0.001**
obj env I poly2	-0.58	-1.51 – 0.35	0.215	0.06	-0.74 – 0.86	0.889	-0.20	-0.94 – 0.54	0.593	0.82	-0.20 – 1.84	0.113
Person I poly2	-0.00	-0.03 – 0.02	0.744	-0.06	-0.08 – -0.03	**<0.001**	0.00	-0.02 – 0.03	0.848	-0.02	-0.04 – 0.01	0.191
obj env I poly1 × Person I poly1	-0.16	-0.39 – 0.06	0.146	0.06	-0.11 – 0.24	0.466	-0.09	-0.25 – 0.06	0.243	-0.10	-0.30 – 0.10	0.315
Random Effects												
σ^2	0.94			0.92			0.92			0.89		
τ_{00}	0.02 professional_field			0.01 professional_field			0.01 professional_field			0.03 professional_field		
τ_{11}	0.00 professional_field.Person_I_poly1			0.00 professional_field.Person_I_poly1						0.00 professional_field.Person_I_poly1		
ρ_{01}	0.24 professional_field			-0.94 professional_field						0.15 professional_field		
ICC	0.03			0.02			0.01			0.04		
N	32 professional_field			32 professional_field			32 professional_field			32 professional_field		
Observations	3801			3791			3782			3788		
Marginal R^2 / Conditional R^2	0.074 / 0.099			0.009 / 0.026			0.004 / 0.014			0.026 / 0.063		

Table 3. Full model results for objective interest fit (Artistic) across job satisfaction principal components

	PC 1			**PC 2***			**PC 3***			**PC 4***		
Predictors	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*
(Intercept)	0.08	-0.04 – 0.19	0.198	0.07	-0.01 – 0.15	0.070	0.01	-0.07 – 0.08	0.841	-0.06	-0.17 – 0.05	0.255
obj env A poly1	0.48	-0.01 – 0.97	0.055	0.23	-0.10 – 0.56	0.173	-0.02	-0.32 – 0.28	0.892	-0.42	-0.86 – 0.02	0.060
Person A poly1	0.09	0.03 – 0.16	**0.005**	0.00	-0.03 – 0.04	0.931	0.01	-0.02 – 0.05	0.466	-0.07	-0.11 – -0.04	**<0.001**
obj env A poly2	-0.27	-1.67 – 1.14	0.705	-0.10	-1.12 – 0.91	0.841	0.02	-0.92 – 0.96	0.963	0.02	-1.29 – 1.33	0.977
Person A poly2	-0.03	-0.05 – 0.00	0.051	-0.05	-0.08 – -0.03	**<0.001**	0.01	-0.02 – 0.03	0.466	0.00	-0.02 – 0.03	0.711
obj env A poly1 × Person A poly1	-0.11	-0.40 – 0.18	0.430	0.02	-0.15 – 0.20	0.818	0.01	-0.16 – 0.19	0.874	-0.12	-0.29 – 0.05	0.176
Random Effects												
σ^2	0.95			0.93			0.93			0.89		
τ_{00}	0.05 professional_field			0.01 professional_field			0.01 professional_field			0.04 professional_field		
τ_{11}	0.01 professional_field.Person_A_poly1											
ρ_{01}	-0.34 professional_field											
ICC	0.06			0.02			0.01			0.04		
N	32 professional_field			32 professional_field			32 professional_field			32 professional_field		
Observations	3780			3771			3760			3766		
Marginal R^2 / Conditional R^2	0.023 / 0.083			0.007 / 0.022			0.000 / 0.011			0.016 / 0.056		

Table 4. Full model results for objective interest fit (Social) across job satisfaction principal components

	PC 1*			PC 2*			PC 3*			PC 4*		
Predictors	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*
(Intercept)	0.13	0.00 – 0.26	0.043	0.06	-0.03 – 0.15	0.181	0.09	0.02 – 0.16	0.011	-0.07	-0.18 – 0.03	0.150
obj env S poly1	0.21	-0.19 – 0.62	0.294	0.16	-0.13 – 0.44	0.267	0.01	-0.21 – 0.23	0.932	-0.45	-0.78 – -0.12	0.009
Person S poly1	0.13	0.10 – 0.16	**<0.001**	-0.06	-0.10 – -0.03	**<0.001**	-0.00	-0.03 – 0.03	0.973	-0.09	-0.12 – -0.06	**<0.001**
obj env S poly2	-0.96	-2.12 – 0.20	0.103	0.16	-0.65 – 0.98	0.689	-0.74	-1.37 – -0.10	0.024	0.04	-0.90 – 0.98	0.930
Person S poly2	-0.02	-0.04 – 0.01	0.250	-0.04	-0.06 – -0.01	**0.003**	-0.02	-0.04 – 0.01	0.166	0.00	-0.02 – 0.03	0.944
obj env S poly1 × Person S poly1	-0.06	-0.21 – 0.08	0.390	-0.08	-0.22 – 0.07	0.298	-0.02	-0.17 – 0.12	0.772	-0.04	-0.18 – 0.10	0.558
Random Effects												
σ^2	0.95			0.92			0.93			0.90		
τ_{00}	$0.06_{\text{professional\_field}}$			$0.02_{\text{professional\_field}}$			$0.01_{\text{professional\_field}}$			$0.03_{\text{professional\_field}}$		
ICC	0.06			0.02			0.01			0.03		
N	$32_{\text{professional\_field}}$			$32_{\text{professional\_field}}$			$32_{\text{professional\_field}}$			$32_{\text{professional\_field}}$		
Observations	3778			3767			3759			3765		
Marginal R^2 / Conditional R^2	0.025 / 0.079			0.006 / 0.026			0.005 / 0.011			0.027 / 0.058		

Table 5. Full model results for objective interest fit (Enterprising) across job satisfaction principal components

	PC 1			**PC 2***			**PC 3***			**PC 4***		
Predictors	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*
(Intercept)	0.01	-0.10 – 0.12	0.829	0.05	-0.03 – 0.12	0.210	0.01	-0.05 – 0.08	0.693	-0.07	-0.18 – 0.03	0.159
obj env E poly1	0.51	-0.04 – 1.05	0.067	0.41	0.06 – 0.77	0.023	0.06	-0.27 – 0.39	0.715	-0.30	-0.80 – 0.20	0.235
Person E poly1	0.12	0.06 – 0.17	**0.001**	-0.01	-0.04 – 0.03	0.750	0.03	-0.00 – 0.06	0.074	-0.04	-0.07 – -0.01	0.012
obj env E poly2	0.38	-1.12 – 1.88	0.610	0.13	-0.94 – 1.20	0.810	-0.03	-1.02 – 0.97	0.959	-0.10	-1.62 – 1.41	0.890
Person E poly2	0.02	-0.01 – 0.05	0.186	-0.03	-0.06 – -0.00	0.031	0.01	-0.02 – 0.04	0.479	0.00	-0.02 – 0.03	0.848
obj env E poly1 × Person E poly1	-0.05	-0.38 – 0.28	0.749	-0.09	-0.32 – 0.15	0.476	-0.17	-0.41 – 0.06	0.153	0.04	-0.19 – 0.27	0.744
Random Effects												
σ^2	0.94			0.92			0.93			0.91		
τ_{00}	0.05 professional_field			0.01 professional_field			0.01 professional_field			0.04 professional_field		
τ_{11}	0.01 professional_field.Person_E_poly1											
ρ_{01}	-0.67 professional_field											
ICC	0.06			0.02			0.01			0.05		
N	32 professional_field			32 professional_field			32 professional_field			32 professional_field		
Observations	3756			3745			3739			3745		
Marginal R^2 / Conditional R^2	0.021 / 0.081			0.005 / 0.021			0.002 / 0.013			0.004 / 0.051		

Table 6. Full model results for objective interest fit (Conventional) across job satisfaction principal components

	PC 1			**PC 2**			**PC 3***			**PC 4***		
Predictors	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*
(Intercept)	0.03	-0.08 – 0.15	0.562	0.11	0.02 – 0.19	0.012	0.02	-0.04 – 0.08	0.443	-0.05	-0.16 – 0.07	0.416
obj env C poly1	0.55	0.06 – 1.04	0.030	0.00	-0.35 – 0.36	0.981	0.41	0.13 – 0.68	**0.004**	0.38	-0.11 – 0.87	0.125
Person C poly1	0.13	0.08 – 0.18	**<0.001**	-0.02	-0.06 – 0.02	0.231	0.02	-0.01 – 0.05	0.217	-0.06	-0.10 – -0.03	**<0.001**
obj env C poly2	0.33	-1.38 – 2.05	0.696	-1.15	-2.45 – 0.14	0.079	-0.14	-1.15 – 0.86	0.775	-0.41	-2.24 – 1.42	0.650
Person C poly2	0.00	-0.02 – 0.03	0.893	-0.04	-0.07 – -0.02	**0.002**	0.00	-0.02 – 0.03	0.778	-0.01	-0.03 – 0.02	0.555
obj env C poly1 × Person C poly1	0.13	-0.17 – 0.42	0.385	0.05	-0.18 – 0.28	0.652	-0.09	-0.31 – 0.13	0.422	-0.23	-0.45 – -0.02	0.033
Random Effects												
σ^2	0.95			0.93			0.93			0.90		
τ_{00}	0.05 professional_field			0.02 professional_field			0.00 professional_field			0.05 professional_field		
τ_{11}	0.01 professional_field.Person_C_poly1			0.00 professional_field.Person_C_poly1								
ρ_{01}	-0.55 professional_field			-0.78 professional_field								
ICC	0.05			0.02			0.00			0.05		
N	32 professional_field			32 professional_field			32 professional_field			32 professional_field		
Observations	3765			3750			3742			3746		
Marginal R^2 / Conditional R^2	0.028 / 0.080			0.005 / 0.024			0.005 / 0.009			0.007 / 0.058		

Table 7. Full model results for subjective interest fit (Realistic) across job satisfaction principal components

	PC 1			**PC 2***			**PC 3***			**PC 4***		
Predictors	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*
(Intercept)	-0.06	-0.17 – 0.05	0.277	0.15	0.08 – 0.23	**<0.001**	0.04	-0.03 – 0.10	0.233	-0.05	-0.15 – 0.05	0.283
subj int env R poly1	0.02	-0.02 – 0.06	0.393	0.02	-0.02 – 0.06	0.358	-0.09	-0.13 – -0.04	**<0.001**	-0.01	-0.05 – 0.04	0.810
Person R poly1	0.11	0.06 – 0.16	**<0.001**	0.02	-0.02 – 0.06	0.356	0.02	-0.02 – 0.06	0.366	-0.08	-0.12 – -0.04	**<0.001**
subj int env R poly2	0.03	-0.01 – 0.07	0.156	-0.08	-0.12 – -0.03	**<0.001**	-0.02	-0.06 – 0.03	0.444	0.03	-0.01 – 0.07	0.193
Person R poly2	-0.12	-0.16 – -0.08	**<0.001**	-0.08	-0.12 – -0.04	**<0.001**	-0.01	-0.05 – 0.03	0.725	0.03	-0.00 – 0.07	0.089
subj int env R poly1 × Person R poly1	0.27	0.23 – 0.32	**<0.001**	0.06	0.02 – 0.11	**0.008**	-0.00	-0.05 – 0.05	0.999	-0.11	-0.16 – -0.07	**<0.001**
Random Effects												
σ^2	0.89			0.92			0.91			0.88		
τ_{00}	0.06 $_{professional\_field}$			0.02 $_{professional\_field}$			0.01 $_{professional\_field}$			0.05 $_{professional\_field}$		
τ_{11}	0.00 $_{professional\_field.Person\_R\_poly1}$											
ρ_{01}	-0.63 $_{professional\_field}$											
ICC	0.07			0.02			0.01			0.05		
N	32 $_{professional\_field}$			32 $_{professional\_field}$			32 $_{professional\_field}$			32 $_{professional\_field}$		
Observations	3754			3743			3736			3742		
Marginal R^2 / Conditional R^2	0.069 / 0.131			0.011 / 0.030			0.007 / 0.017			0.015 / 0.067		

Table 8. Full model results for subjective interest fit (Investigative) across job satisfaction principal components

	PC 1			PC 2			PC 3*			PC 4		
Predictors	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*
(Intercept)	0.07	-0.01 – 0.16	0.099	0.10	0.03 – 0.17	**0.007**	0.02	-0.04 – 0.09	0.463	-0.07	-0.16 – 0.02	0.116
subj int env I poly1	0.26	0.22 – 0.30	**<0.001**	0.09	0.05 – 0.13	**<0.001**	-0.06	-0.10 – -0.01	0.010	-0.12	-0.16 – -0.08	**<0.001**
Person I poly1	0.02	-0.05 – 0.09	0.556	-0.05	-0.10 – -0.00	0.035	0.07	0.03 – 0.11	**0.001**	-0.04	-0.09 – 0.01	0.135
subj int env I poly2	-0.08	-0.12 – -0.04	**<0.001**	-0.05	-0.08 – -0.01	0.011	-0.00	-0.04 – 0.04	0.940	0.05	0.01 – 0.08	0.009
Person I poly2	-0.10	-0.13 – -0.07	**<0.001**	-0.03	-0.07 – -0.00	0.038	0.01	-0.03 – 0.04	0.733	0.00	-0.03 – 0.03	0.981
subj int env I poly1 × Person I poly1	0.24	0.20 – 0.28	**<0.001**	0.02	-0.02 – 0.05	0.423	-0.02	-0.05 – 0.02	0.435	-0.07	-0.11 – -0.03	**<0.001**
Random Effects												
σ^2	0.85			0.91			0.92			0.88		
τ_{00}	0.04 professional_field			0.02 professional_field			0.01 professional_field			0.04 professional_field		
τ_{11}	0.02 professional_field.Person_I_poly1			0.00 professional_field.Person_I_poly1						0.00 professional_field.Person_I_poly1		
ρ_{01}	-0.35 professional_field			-0.49 professional_field						0.08 professional_field		
ICC	0.06			0.02			0.01			0.05		
N	32 professional_field			32 professional_field			32 professional_field			32 professional_field		
Observations	3747			3735			3725			3733		
Marginal R^2 / Conditional R^2	0.120 / 0.172			0.014 / 0.033			0.004 / 0.016			0.027 / 0.072		

Table 9. Full model results for subjective interest fit (Artistic) across job satisfaction principal components

	PC 1			**PC 2***			**PC 3***			**PC 4***		
Predictors	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*
(Intercept)	0.08	-0.02 – 0.18	0.112	0.09	0.02 – 0.15	0.015	0.03	-0.03 – 0.09	0.374	-0.07	-0.16 – 0.02	0.143
subj int env A poly1	0.27	0.23 – 0.31	**<0.001**	0.10	0.05 – 0.14	**<0.001**	-0.09	-0.13 – -0.05	**<0.001**	-0.16	-0.20 – -0.12	**<0.001**
Person A poly1	-0.03	-0.11 – 0.04	0.350	-0.04	-0.08 – 0.01	0.086	0.07	0.03 – 0.11	**0.002**	-0.00	-0.04 – 0.04	0.993
subj int env A poly2	-0.07	-0.11 – -0.04	**<0.001**	-0.03	-0.07 – 0.01	0.108	-0.03	-0.07 – 0.00	0.061	0.04	0.00 – 0.08	0.026
Person A poly2	-0.06	-0.10 – -0.03	**<0.001**	-0.03	-0.06 – 0.01	0.118	0.03	0.00 – 0.07	0.043	-0.01	-0.04 – 0.02	0.644
subj int env A poly1 × Person A poly1	0.16	0.13 – 0.20	**<0.001**	-0.00	-0.04 – 0.03	0.814	-0.02	-0.05 – 0.02	0.406	-0.03	-0.07 – 0.01	0.104
Random Effects												
σ^2	0.86			0.92			0.93			0.88		
τ_{00}	0.05 $_{professional\_field}$			0.01 $_{professional\_field}$			0.01 $_{professional\_field}$			0.04 $_{professional\_field}$		
τ_{11}	0.02 $_{professional\_field.Person\_A\_poly1}$											
ρ_{01}	-0.48 $_{professional\_field}$											
ICC	0.08			0.02			0.01			0.05		
N	32 $_{professional\_field}$			32 $_{professional\_field}$			32 $_{professional\_field}$			32 $_{professional\_field}$		
Observations	3729			3719			3712			3719		
Marginal R^2 / Conditional R^2	0.098 / 0.167			0.013 / 0.029			0.007 / 0.017			0.029 / 0.075		

Table 10. Full model results for subjective interest fit (Social) across job satisfaction principal components

	PC 1			PC 2*			PC 3			PC 4*		
Predictors	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*
(Intercept)	0.09	-0.02 – 0.20	0.112	0.10	0.03 – 0.17	0.009	0.06	0.00 – 0.12	0.046	-0.08	-0.17 – 0.01	0.086
subj int env S poly1	0.26	0.22 – 0.30	**<0.001**	0.02	-0.03 – 0.06	0.494	-0.11	-0.16 – -0.07	**<0.001**	-0.10	-0.14 – -0.05	**<0.001**
Person S poly1	-0.01	-0.07 – 0.05	0.706	-0.06	-0.10 – -0.02	**0.004**	0.07	0.01 – 0.12	0.017	-0.04	-0.09 – -0.00	0.040
subj int env S poly2	-0.06	-0.09 – -0.02	**0.001**	-0.04	-0.07 – -0.00	0.035	-0.03	-0.07 – 0.00	0.073	0.02	-0.02 – 0.05	0.300
Person S poly2	-0.09	-0.12 – -0.05	**<0.001**	-0.03	-0.07 – 0.00	0.054	0.02	-0.01 – 0.06	0.216	0.00	-0.03 – 0.03	0.976
subj int env S poly1 × Person S poly1	0.19	0.15 – 0.22	**<0.001**	0.01	-0.02 – 0.05	0.406	-0.04	-0.08 – -0.01	0.018	-0.03	-0.06 – 0.01	0.122
Random Effects												
σ^2	0.87			0.92			0.92			0.89		
τ_{00}	0.07 professional_field			0.02 professional_field			0.01 professional_field			0.04 professional_field		
τ_{11}	0.01 professional_field.Person_S_poly1						0.00 professional_field.Person_S_poly1					
ρ_{01}	-0.41 professional_field						0.38 professional_field					
ICC	0.08			0.02			0.01			0.05		
N	32 professional_field			32 professional_field			32 professional_field			32 professional_field		
Observations	3726			3716			3709			3714		
Marginal R^2 / Conditional R^2	0.099 / 0.171			0.007 / 0.026			0.011 / 0.022			0.018 / 0.063		

Table 11. *Full model results for subjective interest fit (Enterprising) across job satisfaction principal components*

	PC 1			**PC 2***			**PC 3**			**PC 4***		
Predictors	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*
(Intercept)	0.04	-0.06 – 0.15	0.421	0.06	-0.01 – 0.13	0.092	0.00	-0.06 – 0.07	0.893	-0.07	-0.16 – 0.03	0.156
subj int env E poly1	0.22	0.18 – 0.26	**<0.001**	0.17	0.13 – 0.21	**<0.001**	-0.07	-0.11 – -0.03	**0.002**	-0.12	-0.17 – -0.08	**<0.001**
Person E poly1	-0.01	-0.08 – 0.06	0.675	-0.10	-0.14 – -0.05	**<0.001**	0.07	0.02 – 0.12	**0.008**	0.03	-0.01 – 0.07	0.175
subj int env E poly2	-0.06	-0.10 – -0.02	**0.003**	-0.02	-0.06 – 0.02	0.258	0.02	-0.02 – 0.06	0.248	0.01	-0.03 – 0.05	0.714
Person E poly2	-0.08	-0.12 – -0.04	**<0.001**	-0.02	-0.05 – 0.02	0.353	0.03	-0.01 – 0.06	0.141	0.02	-0.02 – 0.06	0.276
subj int env E poly1 × Person E poly1	0.22	0.19 – 0.26	**<0.001**	0.01	-0.03 – 0.05	0.623	-0.06	-0.10 – -0.02	**0.004**	-0.05	-0.09 – -0.01	0.019
Random Effects												
σ^2	0.87			0.91			0.92			0.89		
τ_{00}	0.06 professional_field			0.01 professional_field			0.01 professional_field			0.04 professional_field		
τ_{11}	0.02 professional_field.Person_E_poly1						0.00 professional_field.Person_E_poly1					
ρ_{01}	-0.56 professional_field						0.97 professional_field					
ICC	0.08			0.02			0.01			0.05		
N	32 professional_field			32 professional_field			32 professional_field			32 professional_field		
Observations	3710			3698			3690			3697		
Marginal R^2 / Conditional R^2	0.090 / 0.163			0.021 / 0.037			0.008 / 0.019			0.016 / 0.061		

Table 12. *Full model results for subjective interest fit (Conventional) across job satisfaction principal components*

	PC 1			PC 2			PC 3*			PC 4*		
Predictors	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*	*Est.*	*CI*	*p*
(Intercept)	0.09	-0.01 – 0.18	0.069	0.11	0.04 – 0.18	**0.003**	0.02	-0.04 – 0.09	0.458	-0.07	-0.17 – 0.03	0.179
subj int env C poly1	0.13	0.09 – 0.18	**<0.001**	-0.01	-0.06 – 0.03	0.529	-0.01	-0.05 – 0.04	0.790	-0.08	-0.12 – -0.04	**<0.001**
Person C poly1	0.06	-0.00 – 0.12	0.060	-0.02	-0.07 – 0.02	0.319	0.01	-0.03 – 0.05	0.587	-0.02	-0.06 – 0.01	0.226
subj int env C poly2	-0.10	-0.13 – -0.06	**<0.001**	-0.08	-0.11 – -0.05	**<0.001**	-0.00	-0.03 – 0.03	0.980	0.01	-0.02 – 0.04	0.612
Person C poly2	-0.06	-0.09 – -0.03	**0.001**	-0.03	-0.06 – 0.01	0.103	0.03	-0.00 – 0.07	0.072	0.03	-0.00 – 0.06	0.077
subj int env C poly1 × Person C poly1	0.21	0.18 – 0.25	**<0.001**	0.05	0.01 – 0.08	0.009	-0.06	-0.09 – -0.02	**0.002**	-0.08	-0.12 – -0.05	**<0.001**
Random Effects												
σ^2	0.90			0.92			0.93			0.89		
τ_{00}	$0.05_{professional\_field}$			$0.02_{professional\_field}$			$0.01_{professional\_field}$			$0.05_{professional\_field}$		
τ_{11}	$0.01_{professional\_field.Person\_C\_poly1}$			$0.00_{professional\_field.Person\_C\_poly1}$								
ρ_{01}	$-0.55_{professional\_field}$			$-0.19_{professional\_field}$								
ICC	0.06			0.02			0.01			0.06		
N	$32_{professional\_field}$			$32_{professional\_field}$			$32_{professional\_field}$			$32_{professional\_field}$		
Observations	3711			3700			3691			3694		
Marginal R^2 / Conditional R^2	0.066 / 0.122			0.009 / 0.028			0.003 / 0.014			0.013 / 0.068		

4. Discussion

The present study investigated whether two types of interest fit (objective, subjective) could predict job satisfaction. The findings highlighted the differential effects of specific types of interest fit on various dimensions of job satisfaction. For objective interest fit, only one of the six RIASEC interests were significantly associated with job satisfaction outcomes. Objective interest fit for Realistic interests was positively associated with overall job satisfaction (PC1). In a stark contrast, for subjective interest fit, each of the six RIASEC interests were significantly associated with at least one of the four job satisfaction principal components. Subjective interest fit for each RIASEC interest was positively associated with overall job satisfaction. This contrast aligns with prior research, such that the type of interest fit examined has different implications on the outcome measured. Specifically, this finding corroborates the findings of Wessel et al. (2008) and Nye et al. (2021) that subjective interest fit is more strongly related to affective outcomes like job satisfaction than objective interest fit. When considering the overarching pattern of results across all RIASEC interests, subjective interest fit was a significantly better predictor of overall job satisfaction than objective interest fit. Further, subjective interest fit for Realistic interests was positively associated with satisfaction with career progression/growth (PC2). This finding could potentially be attributed to specific characteristics of Realistic interests in particular. Realistic interests are typically associated with practical, hands-on skills. The perceived development of such expertise and mastery may be especially valued for individuals with high Realistic interests, particularly in professional fields that prioritise Realistic-type work activities.

Subjective interest fit for Enterprising interests was negatively related to satisfaction with intrinsic, nonsocial aspects of the job (PC3). Enterprising-type activities typically involve demonstrating leadership qualities or engaging in interactions aimed at generating sales. Individuals with high Enterprising interests within similar professional fields may be more sensitive to a dearth of opportunities for such interactions. At first glance, the negative association between subjective interest fit for Conventional interests and satisfaction with intrinsic, nonsocial aspects of the job appears counterintuitive. Conventional interests often revolve around systematic, well-structured activities which can require greater autonomy and independence, and should instead be positively associated with this outcome. However, it seems that individuals within professional fields with high Conventional interests are more attuned to, and are more dissatisfied by, less predictable, ambiguous aspects of the job. Intrinsic, nonsocial aspects of the job may encapsulate such aspects, which may explain this negative association.

Subjective interest fit for Realistic, Investigative, and Conventional interests was negatively associated with satisfaction with the broader organisational structure (PC4). The work style of individuals with high interests in these categories within similarly profiled professional fields may be significantly influenced by the organisational structure. In a professional field where such interests are prominent, the organisational structure plays a pivotal role in shaping the work environment. An organisational structure perceived by workers as leaning towards micromanagement with tightly controlled processes and limited autonomy may be incongruent with these RIASEC interests. Workers within professional fields with such high interests may thus perceive and experience this disconnect more heavily, which may explain the negative association with satisfaction with the broader organisational structure.

Overall, the present findings provide evidence that subjective interest fit was a more consistent predictor of job satisfaction outcomes than objective interest fit. These findings echo prior emphasis on specifying the exact type of interest fit being investigated, as this specification has significant implications on interpretation of results. The effects of fit or misfit seem to have differing impacts on the specific outcome under examination depending on the RIASEC interest. While the present findings also support Holland's (1997) initial assertion that individuals whose interests fit with their work environment are more likely to have higher overall job satisfaction, the results add further nuances to this claim. More broadly, the negative associations pertaining to satisfaction with intrinsic, nonsocial aspects of the job and satisfaction with the broader organisational structure collectively suggest that interest fit and misfit are not simple dichotomies that universally apply to all RIASEC interests, in support of prior studies (e.g., Wiegand et al., 2021). Such intricacies have been illuminated using variable-centred approaches such as polynomial regression (e.g., Nye et al., 2018), and the present findings support the use of this methodology in better understanding the relationship between interest fit and work outcomes.

The current study also acknowledges certain limitations that warrant discussion. Vocational interest studies have largely undertaken focused examinations into the effects of interest fit within either a student population in higher academia (e.g., Nye et al., 2021) or occupational settings (e.g., Wiegand et al., 2021), and the present study is no exception. This divergence in the study contexts raises questions about the transferability of the identified relationships between interest fit and work outcomes across different work environments. Future studies may seek to bridge this potential gap by conducting parallel investigations across school and work by employing consistent measures across these distinct work environments. Such findings will facilitate a more meaningful comparison of the identified relationships. It is also worth noting that the present study did not account for potential covariates such as cognitive ability and conscientiousness in their analysis, variables that were demonstrated by Nye et al.

(2021) to impact satisfaction and performance, at least within their sample of students in higher academia. The omission of these covariates may have introduced bias and could have contributed to an overestimation of the sole effects of vocational interest fit. Future studies may include such covariates in their investigation to uncover the specifics of the interplay between interest fit and work outcomes.

The present study also acknowledges a potential limitation to the measurement of vocational interests. The decision to use the 6-item vocational interest measure developed by Wiegand et al. (2021) was made considering its structural alignment with the RIASEC model as indicated by multidimensional scaling, and the extensive number of items encompassed by the overall Employees' Labour Market and Salary Survey. While the brevity of this tool was favoured as it facilitated efficient data collection, its single-item scales may have introduced a trade-off in terms of the comprehensiveness and depth of the captured vocational interests. Wiegand et al. (2021) also acknowledged this limitation such that future studies may employ more well-validated, mulit-item measures of vocational interests. For example, instructions for the 48-item brief RIASEC markers scale (Armstrong et al., 2008) could be adapted for participants to rate, first, the degree to which each activity represented the type of work they liked, and second, the extent to which they would be interested in engaging in those activities. Such an adaptation could not only address Wiegand et al.'s (2021) concerns for commensurate measures to assess individual and environment interests, but also the extrapolative limitation of using single-item tools that are not as well-validated. Future investigations could then explore the comparative strengths of different measurement approaches, including such instructional adaptations. A more comprehensive evaluation of the psychometric properties of these measures could provide valuable insights into the reliability and validity of the data collected.

Another noteworthy limitation of the present study relates to the subjectivity inherent in the naming convention employed in the principal component analysis. While it is a valuable technique for identifying patterns and relationships within data, the process of assigning labels to the retained principal components involves a degree of interpretation. Consequently, the chosen labels may not universally align with other potential interpretations or naming conventions. Nonetheless, the present findings underscore the importance of examining job satisfaction with finer granularity. While the results suggest that overall job satisfaction is positively influenced by subjective interest fit across each RIASEC interest, it is evident that certain aspects of job satisfaction may be overlooked by such a global measure alone. Future research could benefit from utilising validated, non-general measures of job satisfaction that delve into specific facets of work life. Subsequent findings may shed light on the distinct factors that contribute to overall job satisfaction and enhance the understanding of the intricate relationship between interest fit and job satisfaction. This more nuanced approach would enable organisations to tailor interventions and job design strategies to address the unique needs and preferences of their workforce, ultimately contributing to improved employee well-being and organisational success.

From a practical standpoint, the present study offers insights that can inform human resource practices and organisational policies. The finding that subjective interest fit exerts a stronger overall influence on job satisfaction than objective interest fit has implications for recruitment, selection, and employee development strategies. Organisations may consider incorporating tools to assess individual vocational interests and aligning them with job roles to enhance work outcomes. Further, the finding that greater interest fit does not universally imply higher job satisfaction highlights the need for tailored strategies for individuals and professional fields which emphasise different interests. Crafting job tasks, responsibilities, and development opportunities that align with specific interest profiles can foster a more satisfied workforce.

Building on the present findings, future research can delve deeper into understanding the mechanisms underlying the observed associations. Exploring mediating and moderating factors pertaining to the professional field characteristics such as career progression or growth (PC2), intrinsic, nonsocial aspects (PC3) and broader organisational structures (PC4) could provide a more comprehensive picture of the complex interplay between interest fit and the facets of job satisfaction. Longitudinal studies could investigate how changes in interest fit over time influence work outcomes, and a significant start point could be upon entry into a professional field when expectations of a professional field are most likely to be discovered to be divergent from reality (Nye et al., 2021). This would shed light on the dynamic nature of vocational interests and their implications for individuals' career trajectories.

In conclusion, this study's theoretical insights, practical implications, and potential for informing policy and future research collectively contribute to a more holistic understanding of the complex relationship between vocational interest fit and job satisfaction. Such insights can drive more effective human resource strategies, enhance employee well-being, and ultimately contribute to the success of both individuals and organisations.

References

Armstrong, P. I., Allison, W., & Rounds, J. (2008). Development and initial validation of brief public domain RIASEC marker scales. *Journal of Vocational Behavior, 73*(2), 287–299. https://doi.org/10.1016/j.jvb.2008.06.003

Assouline, M., & Meir, E. I. (1987). Meta-analysis of the relationship between congruence and well-being measures. *Journal of Vocational Behavior, 31*(3), 319–332. https://doi.org/10.1016/0001-8791(87)90046-7

Brown, S. D., & Gore, P. A. (1994). An evaluation of interest congruence indices: Distribution characteristics and measurement properties. *Journal of Vocational Behavior, 45*(3), 310–327. https://doi.org/10.1006/jvbe.1994.1038

Brown, S. D., & Lent, R. W. (2004). *Career development and counseling: Putting theory and research to work*. John Wiley & Sons.

Camp, C. C., & Chartrand, J. M. (1992). A comparison and evaluation of interest congruence indices. *Journal of Vocational Behavior, 41*(2), 162–182. https://doi.org/10.1016/0001-8791(92)90018-u

Caplan, R. D. (1983). Person-environment fit: Past, present, and future. In C. L. Cooper (Eds.), *Stress research* (pp. 35–78). Wiley.

Cronbach, L. J. (1984). *Essentials of psychological testing* (4th ed.). Harper & Row.

Dawis, R. V., & Lofquist, L. H. (1984). *A psychological theory of work adjustment: An individual differences model and its applications*. University of Minnesota.

Day, S. X., & Rounds, J. (1998). The universality of vocational interest structure among racial/ethnic minorities. *American Psychologist, 53*, 728–736. https://doi.org/10.1037/0003-066x.53.7.728

Edwards, J. R. (1993). Problems with the use of profile similarity indices in the study of congruence in organizational research. *Personnel Psychology, 46*(3), 641–665. https://doi.org/10.1111/j.1744-6570.1993.tb00889.x

Edwards, J. R. (2001). Ten difference score myths. *Organizational Research Methods, 4*(3), 265–287. https://doi.org/10.1177/109442810143005

Edwards, J. R. (2002). Alternatives to difference scores: Polynomial regression analysis and response surface methodology. In F. Drasgow & N. Schmitt (Eds.), *Measuring and analyzing behavior in organizations: Advances in measurement and data analysis* (pp. 350–400). Jossey-Bass/Wiley.

Edwards, J. R., & Parry, M. E. (1993). On the use of polynomial regression equations as an alternative to difference scores in organizational research. *Academy of Management Journal, 36*(6), 1577–1613. https://doi.org/10.5465/256822

Edwards, J. R., & Shipp, A. J. (2007). The relationship between person-environment fit and outcomes: An integrative theoretical framework. In C. Ostroff & T. A. Judge (Eds.), *Perspectives on organizational fit* (pp. 209–258). Lawrence Erlbaum Associates Publishers.

Harrison, R. V. (1978). Person-environment fit and job stress. In C. L. Cooper, & R. Payne (Eds.), *Stress at work* (pp. 175–205). Wiley.

Hoff, K. A., Song, Q. C., Wee, C. J. M., Phan, W. M. J., & Rounds, J. (2020). Interest fit and job satisfaction: A systematic review and meta-analysis. *Journal of Vocational Behavior, 123*, 103503. https://doi.org/10.1016/j.jvb.2020.103503

Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments* (3rd ed.). Psychological Assessment Resources.

Holland, J. L., & Rayman, J. R. (1986). The self-directed search. In W. B. Walsh & S. H. Osipow (Eds.), *Advances in vocational psychology, Vol. 1. The assessment of interests* (pp. 55–82). Lawrence Erlbaum Associates, Inc.

Iachan, R. (1984). A measure of agreement for use with the Holland classification system. *Journal of Vocational Behavior, 24*(2), 133–141. https://doi.org/10.1016/0001-8791(84)90001-0

Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of individuals' fit at work: A meta-analysis of person–job, person–organization, person–group, and person–supervisor fit. *Personnel Psychology*, *58*(2), 281-342. https://doi.org/10.1111/j.1744-6570.2005.00672.x

Nye, C. D., Prasad, J., Bradburn, J., & Elizondo, F. (2018). Improving the operationalization of interest congruence using polynomial regression. *Journal of Vocational Behavior, 104*, 154–169. https://doi.org/10.1016/j.jvb.2017.10.012

Nye, C. D., Prasad, J., & Rounds, J. (2021). The effects of vocational interests on motivation, satisfaction, and academic performance: Test of a mediated model. *Journal of Vocational Behavior*, *127*, 103583. https://doi.org/10.1016/j.jvb.2021.103583

Nye, C. D., Su, R., Rounds, J., & Drasgow, F. (2017). Interest congruence and performance: Revisiting recent meta-analytic findings. *Journal of Vocational Behavior, 98*, 138–151. https://doi.org/10.1016/j.jvb.2016.11.002

Palgainfo Agentuur. (2023). *Summary of the results of the survey of employees and job seekers: Spring summer 2023*. https://www.palgainfo.ee/tellimine-peamenyys/raportid-allalaadimiseks/uuringute-e-valjaanded/13583-toeoetajate-ja-toeoeotsijate-kuesitluse-tulemused-kevadel-2023

Prediger, D. J. (1981). Mapping occupations and interests: A graphic aid for vocational guidance and research. *Vocational Guidance Quarterly, 30*(1), 21–36. https://doi.org/10.1002/j.2164-585x.1981.tb01072.x

Rounds, J., Armstrong, P. I., Liao, H. Y., Lewis, P., & Rivkin, D. (2008). *Second generation occupational interest profiles for the O* NET system: Summary*. The National Center for O*NET Development. https://www.researchgate.net/profile/James-Rounds-2/publication/251406780_Second_Generation_Occupational_Value_Profiles_for_the_ONET_System_Summary/links/0a85e53724f744322a000000/Second-Generation-Occupational-Value-Profiles-for-the-ONET-System-Summary.pdf

Stoll, G., Rieger, S., Lüdtke, O., Nagengast, B., Trautwein, U., & Roberts, B. W. (2017). Vocational interests assessed at the end of high school predict life outcomes assessed 10 years later over and above IQ and Big Five personality traits. *Journal of Personality and Social Psychology, 113,* 167–184. http://dx.doi.org/10.1037/pspp0000117

Swaney, K. B. (1995). *Technical manual: Revised unisex edition of the ACT interest inventory (UNIACT)*. American College Testing.

Tett, R. P., Jackson, D. N., & Rothstein, M. (1991). Personality measures as predictors of job performance: A meta-analytic review. *Personnel Psychology*, *44*(4), 703-742. https://doi.org/10.1111/j.1744-6570.1991.tb00696.x

Tinsley, H. E. A. (2000). The congruence myth: An analysis of the efficacy of the person–environment fit Model. *Journal of Vocational Behavior, 56*(2), 147–179. https://doi.org/10.1006/jvbe.1999.1727

Tracey, T. J., & Rounds, J. B. (1993). Evaluating Holland's and Gati's vocational-interest models: A structural meta-analysis. *Psychological Bulletin, 113*(2), 229–246. https://doi.org/10.1037/0033-2909.113.2.229

Tsabari, O., Tziner, A., & Meir, E. I. (2005). Updated meta-analysis on the relationship between congruence and satisfaction. *Journal of Career Assessment, 13*(2), 216–232. https://doi.org/10.1177/1069072704273165

Van Iddekinge, C. H., Roth, P. L., Putka, D. J., & Lanivich, S. E. (2011). Are you interested? A meta-analysis of relations between vocational interests and employee performance and turnover. *Journal of Applied Psychology, 96*(6), 1167–1194. https://doi.org/10.1037/a0024343

Weick, K. E. (1979). *The social psychology of organizations* (2nd ed.). Addison-Wesley.

Wessel, J. L., Ryan, A. M., & Oswald, F. L. (2008). The relationship between objective and perceived fit with academic major, adaptability, and major-related outcomes. *Journal of Vocational Behavior, 72*(3), 363–376. https://doi.org/10.1016/j.jvb.2007.11.003

Wiegand, J. P., Drasgow, F., & Rounds, J. (2021). Misfit matters: A re-examination of interest fit and job satisfaction. *Journal of Vocational Behavior, 125*, 103524. https://doi.org/10.1016/j.jvb.2020.103524

Wood, D., & Furr, R. M. (2015). The correlates of similarity estimates are often misleadingly positive. *Personality and Social Psychology Review, 20*(2), 79–99. https://doi.org/10.1177/1088868315581119

Appendix

Table 1A. Participant counts by professional field

S/N	Professional field	Number of participants
1	Accommodation and catering	207
2	Agriculture, forestry and fishing	108
3	Arts, culture and humanities	104
4	Banking and insurance	142
5	Beauty treatment and personal services	30
6	Cleaning services	150
7	Clerical and administrative work	448
8	Construction and electrical engineering	362
9	Education and training	613
10	Electricity and heat production	75
11	Environmental protection and waste treatment	29
12	Finance and accounting	396
13	Health care and medical science	344
14	Human resources and employment	151
15	Industry and manufacturing	843
16	Information and data processing	104
17	Information and telecommunication technologies	591
18	Law	68
19	Law enforcement and rescue services	133
20	Management, development and business services	193

21	Marketing, advertising and public relations	183
22	Mining	24
23	Natural and engineering sciences	69
24	Property management	78
25	Quality and internal audit	75
26	Representative organisations and other non-profits	14
27	Social work and welfare	183
28	Sports and leisure	37
29	State and local administration	267
30	Trade, purchasing and sales	1052
31	Transportation, storage and logistics	577
32	Water supply and sewerage	25

Table 2A. Six-item tool for measuring vocational interests

Instructions: Below you will find descriptions for six different types of jobs. Please indicate how well each description matches your current job and how well it matches your dream job that you would like to be doing.

Please choose the appropriate response for each item

	Not at all	A little	Probably no	Probably yes	A lot	Completely
Current job	O	O	O	O	O	O
Dream job	O	O	O	O	O	O

- manual skills
- working with machinery and various tools
- working outdoors
- solving clear and concrete problems
- finding practical and actionable solutions

Please choose the appropriate response for each item

	Not at all	A little	Probably no	Probably yes	A lot	Completely
Current job	O	O	O	O	O	O
Dream job	O	O	O	O	O	O

- focusing mainly on ideas
- gathering and analysing different data
- researching and analysing
- curiosity
- working in situations where there are minimal rules
- thinking things through before acting

Please choose the appropriate response for each item

	Not at all	A little	Probably no	Probably yes	A lot	Completely
Current job	O	O	O	O	O	O
Dream job	O	O	O	O	O	O

- creativity and desire for self-expression
- searching and trying out different possibilities
- appreciating variety and choice

• solving problems independently and intuitively • working in situations where there are minimal rules

Please choose the appropriate response for each item

	Not at all	A little	Probably no	Probably yes	A lot	Completely
Current job	O	O	O	O	O	O
Dream job	O	O	O	O	O	O

• caring for other people's feelings and wellbeing • good communication skills and readiness to support others • working with others • empathy and warmth in interpersonal relations • valuing cooperation and consensus • solving problems flexibly and tactfully

Please choose the appropriate response for each item

	Not at all	A little	Probably no	Probably yes	A lot	Completely
Current job	O	O	O	O	O	O
Dream job	O	O	O	O	O	O

• working with and through people • being a leader and delegating responsibilities • being goal-oriented and results-driven • high degree of energy • keeping business goals at the heart of social events • applying leadership skills in problem solving • decision making

Please choose the appropriate response for each item

	Not at all	A little	Probably no	Probably yes	A lot	Completely
Current job	O	O	O	O	O	O
Dream job	O	O	O	O	O	O

• focusing on detail and organisation • working with data and numbers

- being highly responsible and adhering to rules
- meeting expectations
- solving problems based on clearly defined rules
- performing tasks set by others

Table 3A. Job satisfaction items measured on a 5-point Likert scale

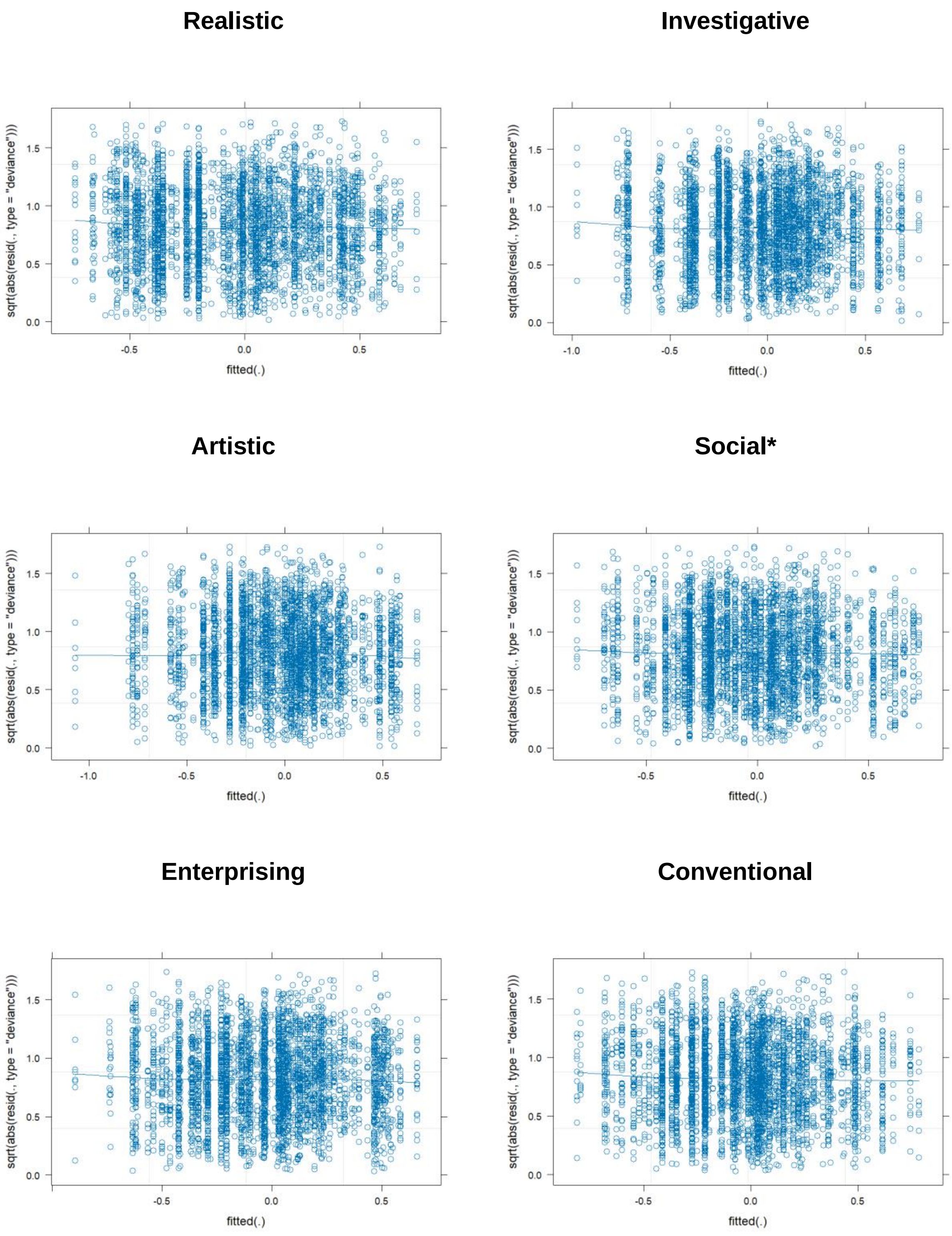
Engaging work and development opportunities					
	Very dissatisfied	Somewhat dissatisfied	So and so	Somewhat satisfied	Very satisfied
Engaging work tasks	O	O	O	O	O
Professional development opportunities	O	O	O	O	O
In-service training opportunities	O	O	O	O	O
Career opportunities within the organisation	O	O	O	O	O
Work organisation					
	Very dissatisfied	Somewhat dissatisfied	So and so	Somewhat satisfied	Very satisfied
Organisation of work processes	O	O	O	O	O
Organisation of meetings	O	O	O	O	O
Organisation of working time	O	O	O	O	O
Workload	O	O	O	O	O
Work equipment and environment					
	Very dissatisfied	Somewhat dissatisfied	So and so	Somewhat satisfied	Very satisfied
Work location	O	O	O	O	O
Work spaces	O	O	O	O	O

Non-work spaces	O	O	O	O	O
Work equipment	O	O	O	O	O
Work clothes	O	O	O	O	O
Work health and safety	O	O	O	O	O
Relations and leadership					
	Very dissatisfied	Somewhat dissatisfied	So and so	Somewhat satisfied	Very satisfied
Relations with co-workers	O	O	O	O	O
Relations with line manager	O	O	O	O	O
Readiness of information required for work	O	O	O	O	O
Receiving feedback	O	O	O	O	O
Leadership of structural unit	O	O	O	O	O
Leadership of organisation	O	O	O	O	O

Table 4A. Job satisfaction items measured on a 6-point Likert scale

Satisfaction with salary						
	Very dissatisfied	Somewhat dissatisfied	So and so	Somewhat satisfied	Very satisfied	Don’t know
Basic salary	O	O	O	O	O	O
Opportunities to earn extra	O	O	O	O	O	O
Benefits	O	O	O	O	O	O
Total pay	O	O	O	O	O	O

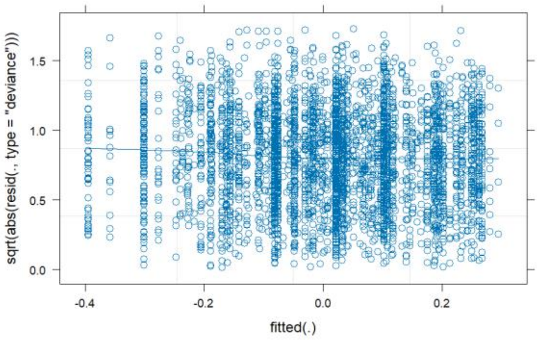
Figure 1A. Scale-location plots to examine constant variance for objective interest fit across all interests for PC1



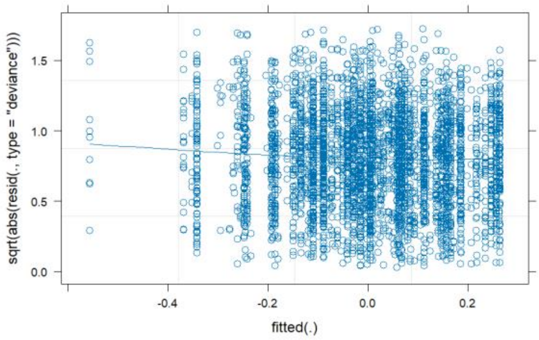
*Denotes intercept-only model.

Figure 2A. Scale-location plots to examine constant variance for objective interest fit across all interests for PC2

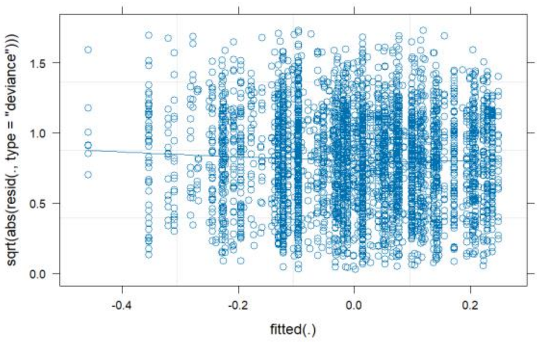
Realistic*



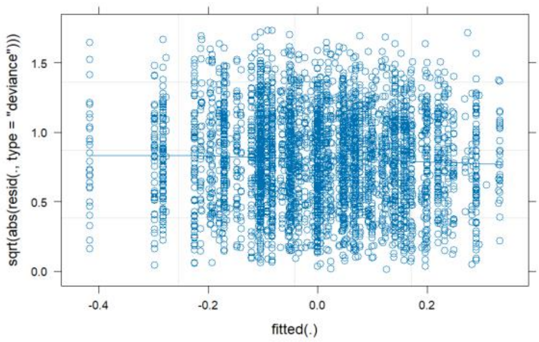
Investigative



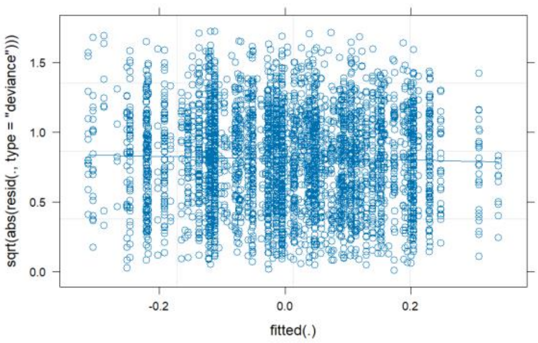
Artistic*



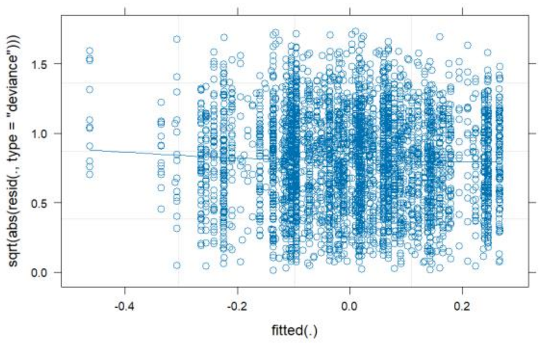
Social*



Enterprising*



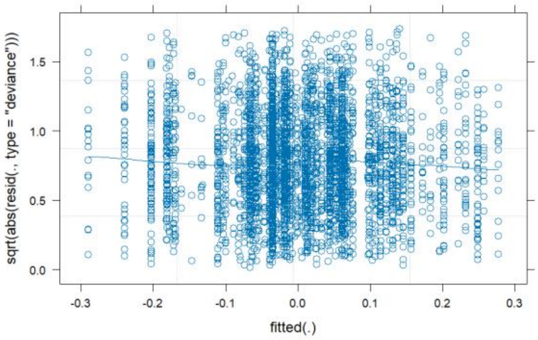
Conventional



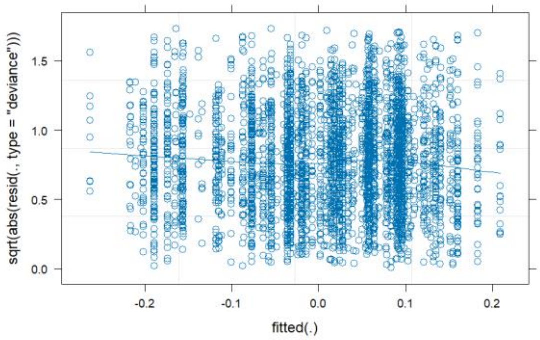
*Denotes intercept-only model.

Figure 3A. Scale-location plots to examine constant variance for objective interest fit across all interests for PC3

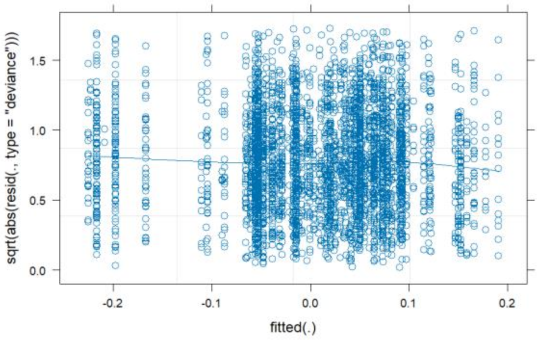
Realistic*



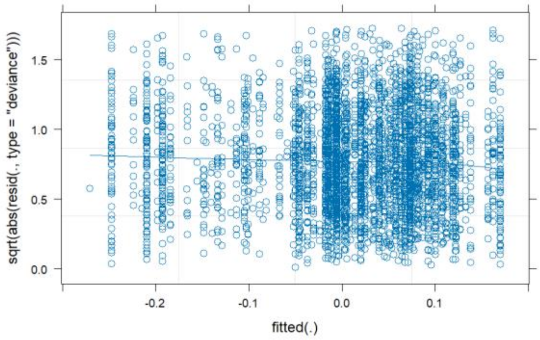
Investigative*



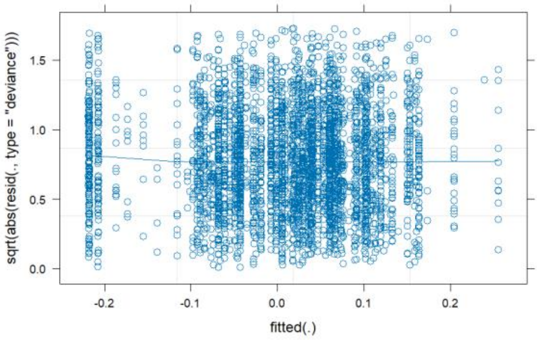
Artistic*



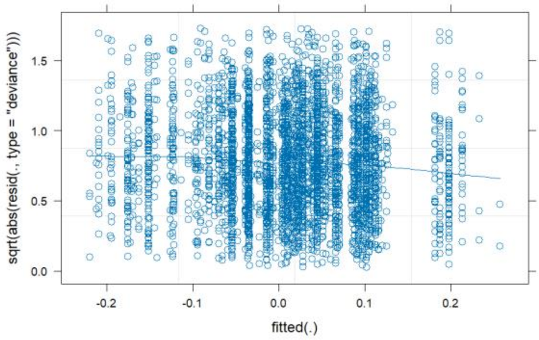
Social*



Enterprising*



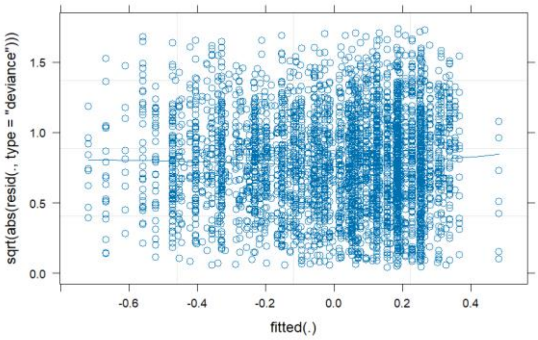
Conventional*



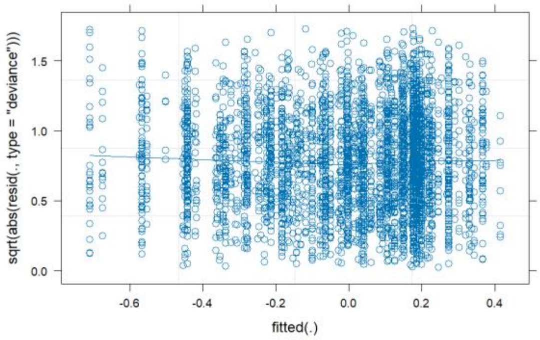
*Denotes intercept-only model.

Figure 4A. Scale-location plots to examine constant variance for objective interest fit across all interests for PC4

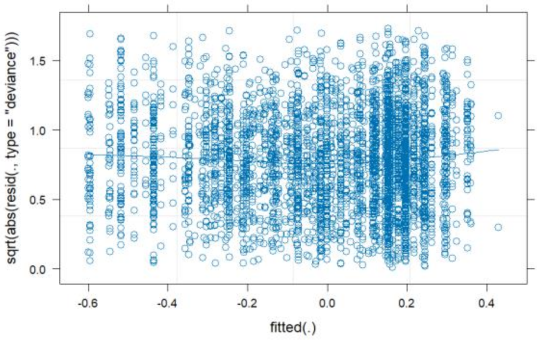
Realistic*



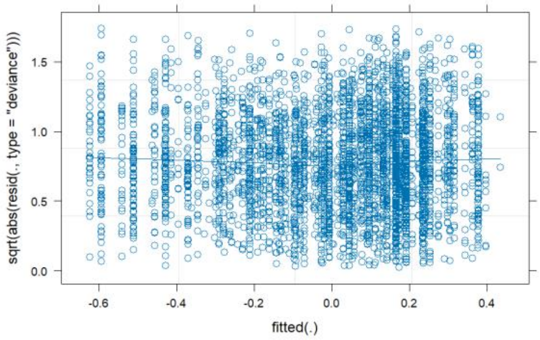
Investigative



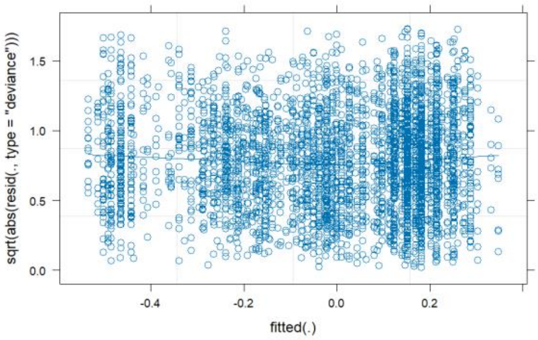
Artistic*



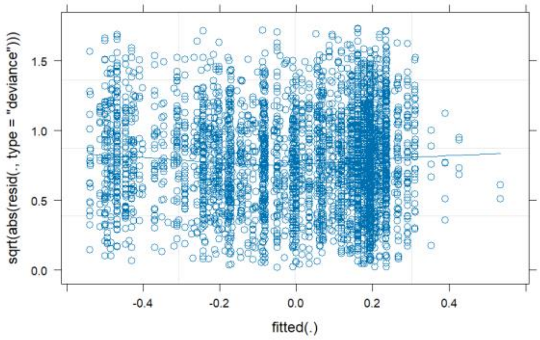
Social*



Enterprising*



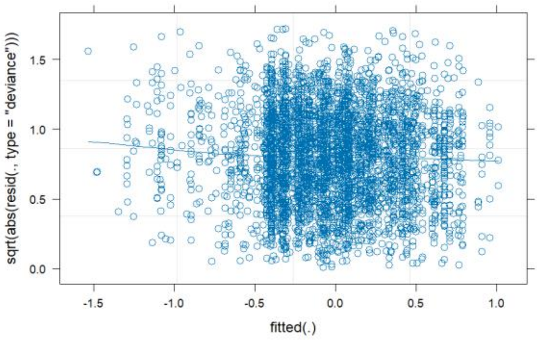
Conventional*



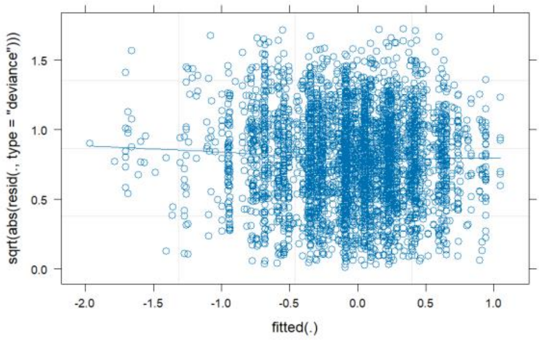
*Denotes intercept-only model.

Figure 5A. Scale-location plots to examine constant variance for subjective interest fit across all interests for PC1

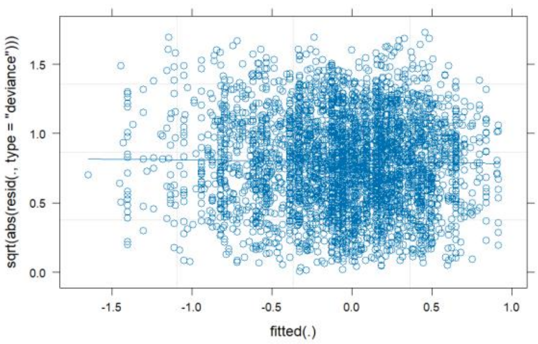
Realistic



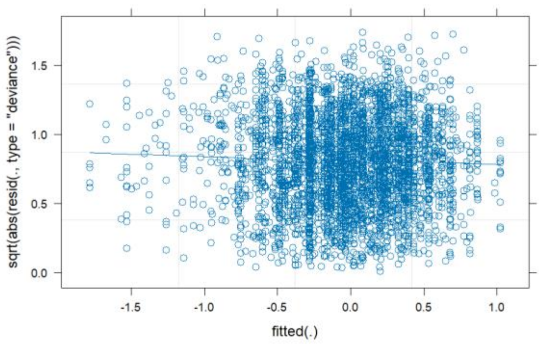
Investigative



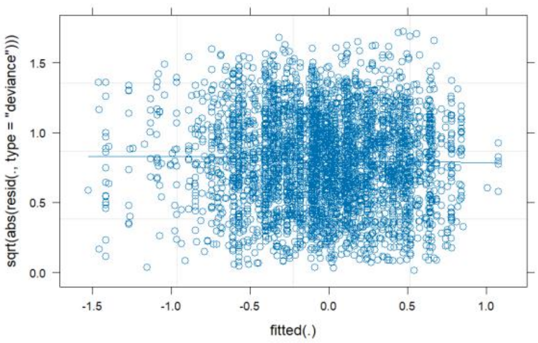
Artistic



Social



Enterprising



Conventional

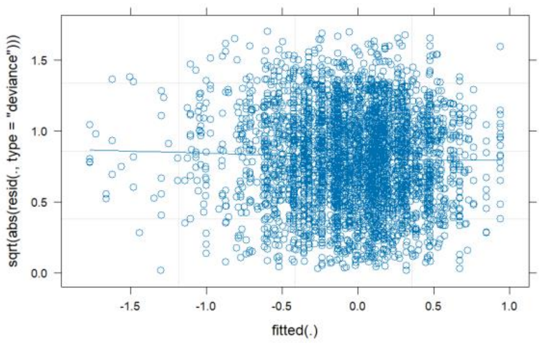
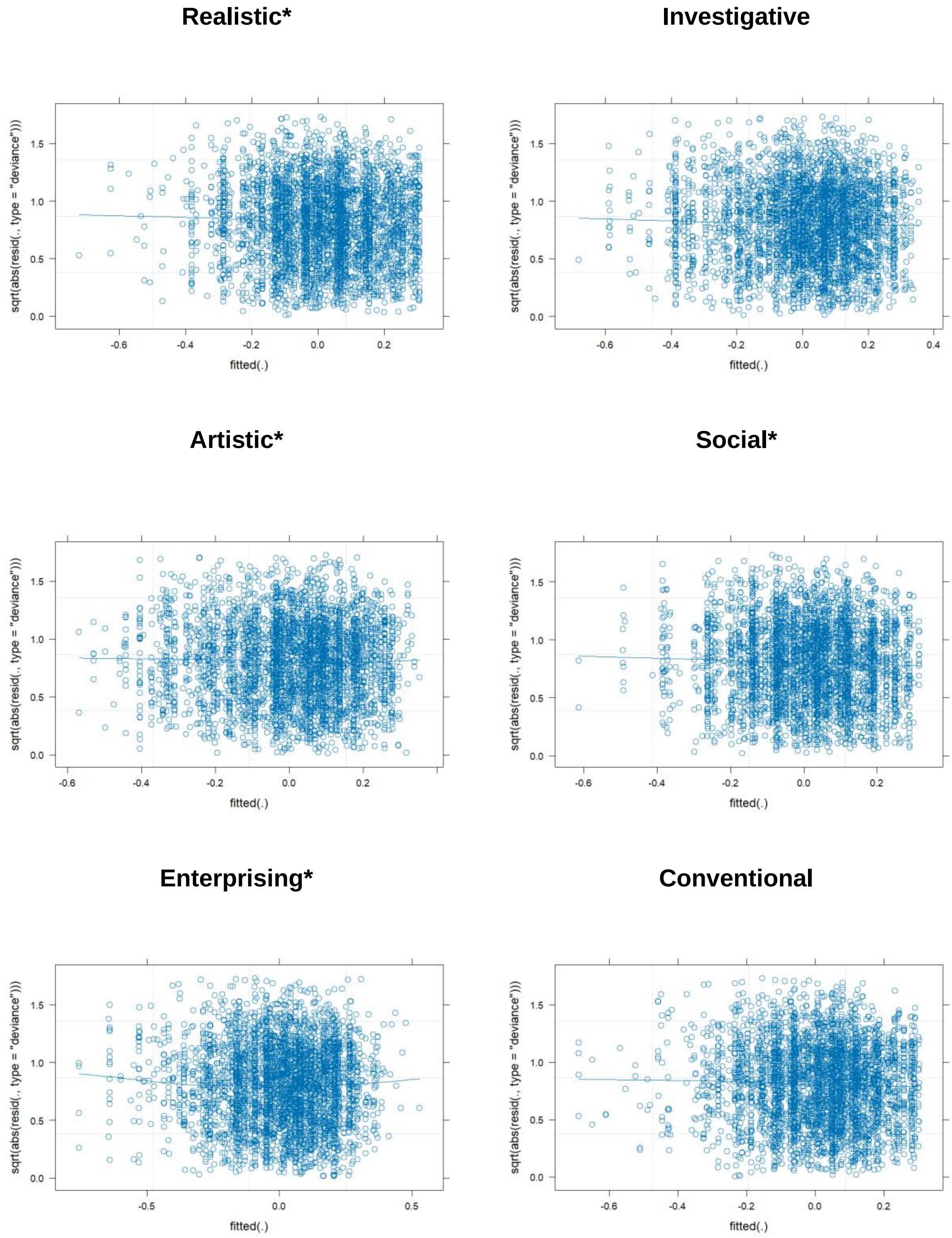


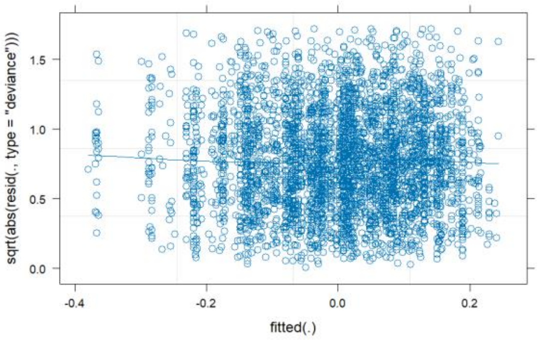
Figure 6A. Scale-location plots to examine constant variance for subjective interest fit across all interests for PC2



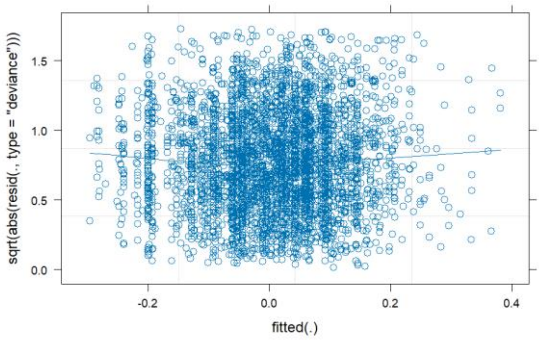
*Denotes intercept-only model.

Figure 7A. Scale-location plots to examine constant variance for subjective interest fit across all interests for PC3

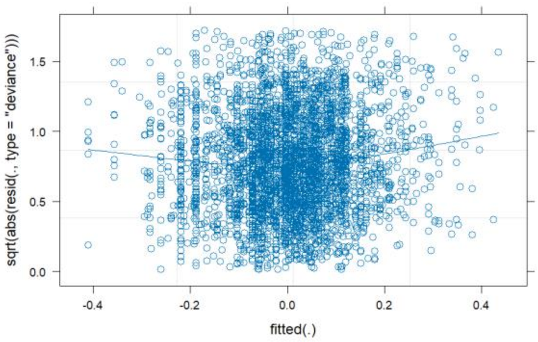
Realistic*



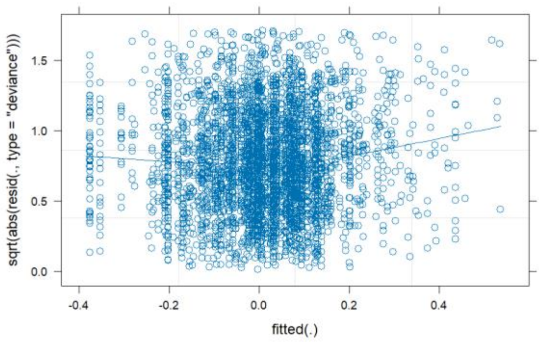
Investigative*



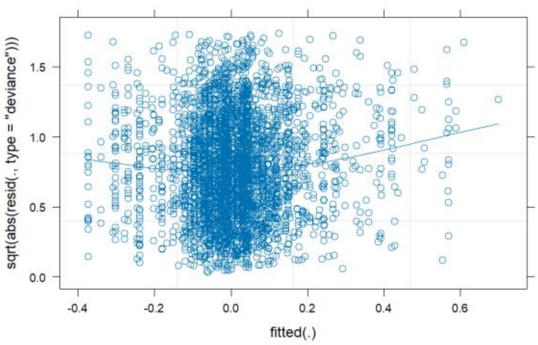
Artistic*



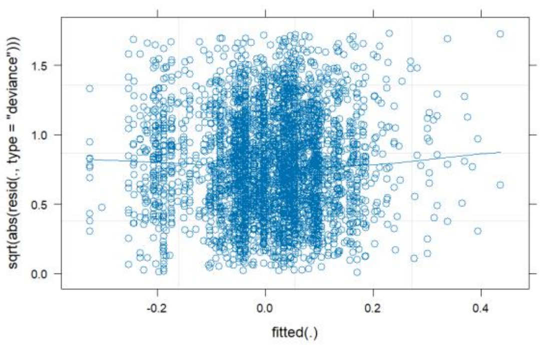
Social



Enterprising



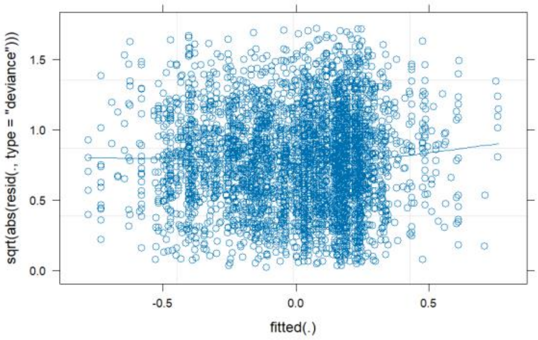
Conventional*



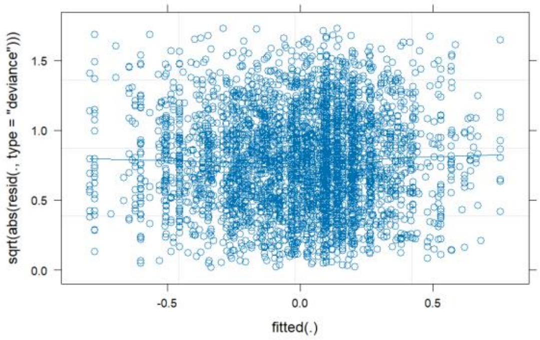
*Denotes intercept-only model.

Figure 8A. Scale-location plots to examine constant variance for subjective interest fit across all interests for PC4

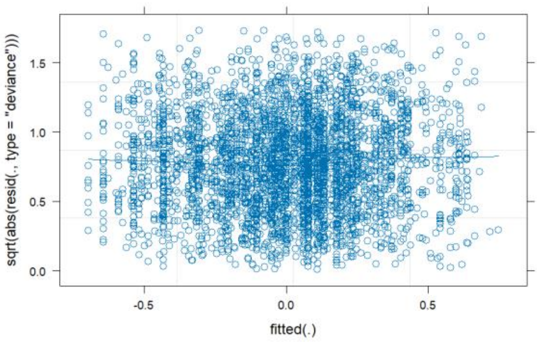
Realistic*



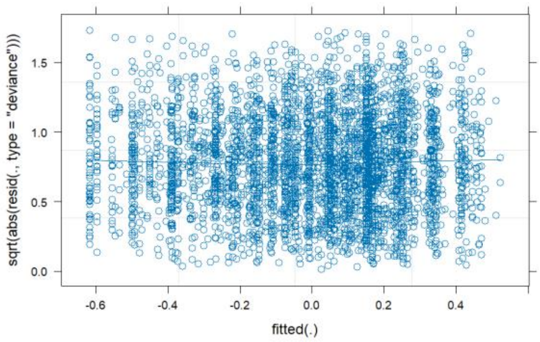
Investigative



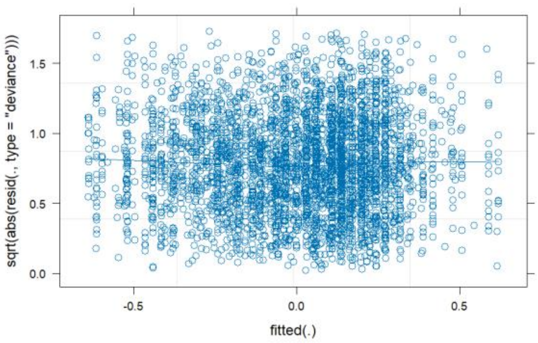
Artistic*



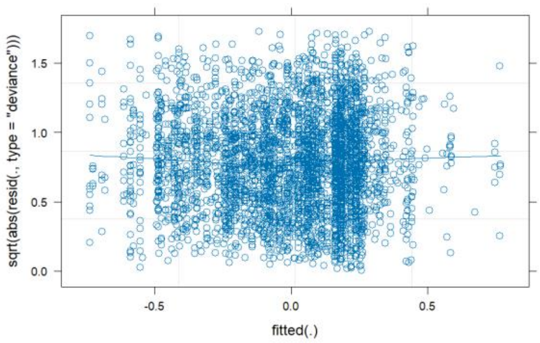
Social*



Enterprising*

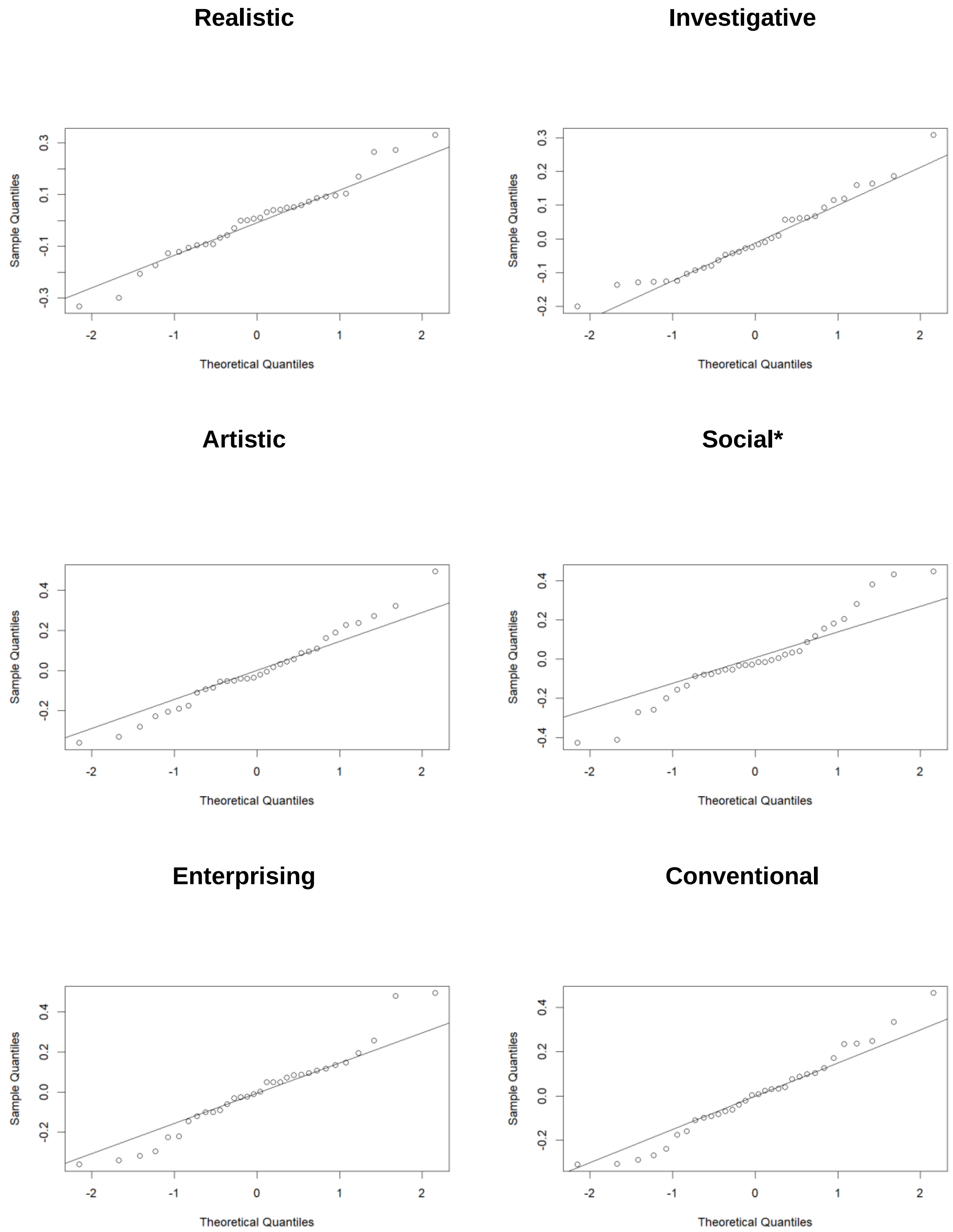


Conventional*



*Denotes intercept-only model.

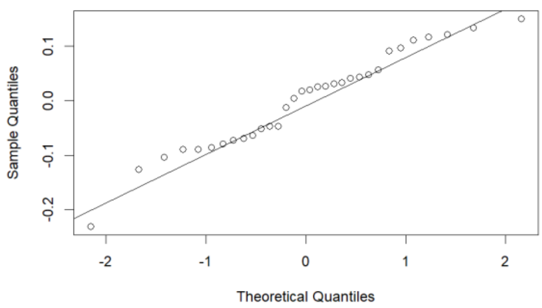
Figure 9A. Normal Q-Q plots for objective interest fit across all interests for PC1



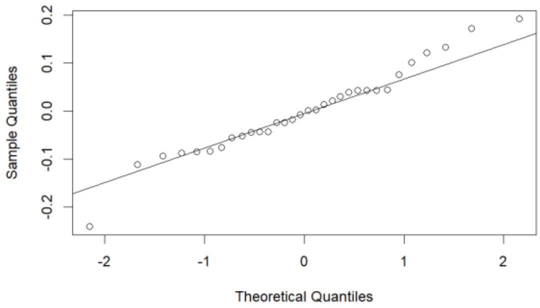
*Denotes intercept-only model.

Figure 10A. Normal Q-Q plots for objective interest fit across all interests for PC2

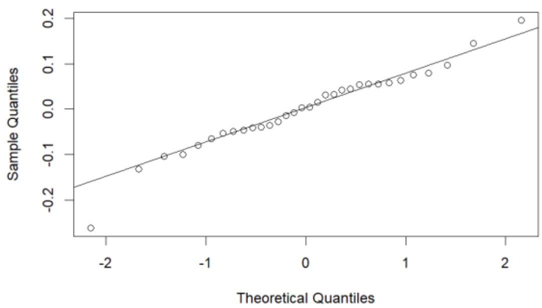
Realistic*



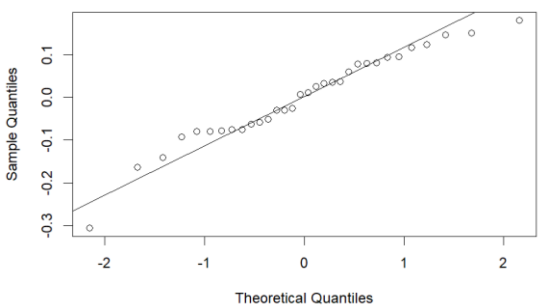
Investigative



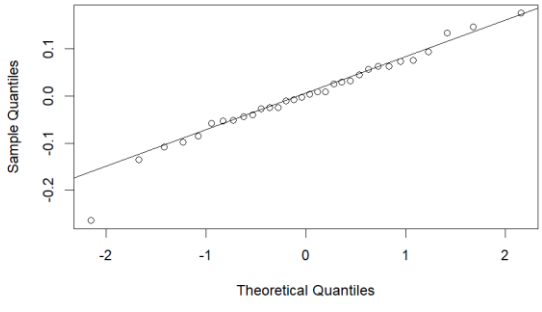
Artistic*



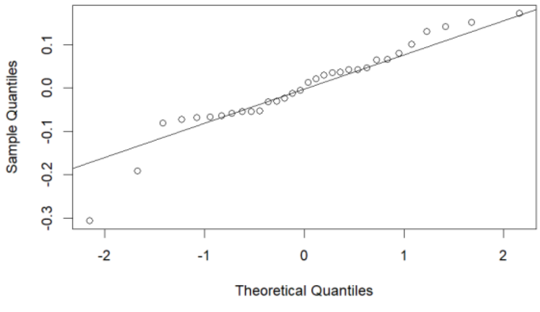
Social*



Enterprising*



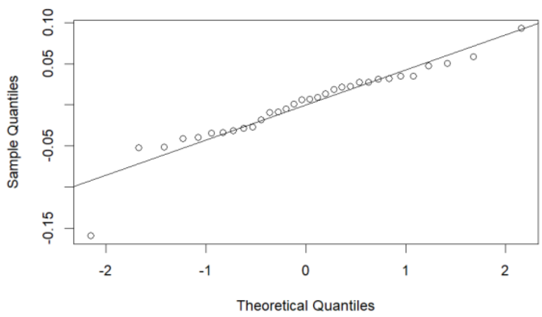
Conventional



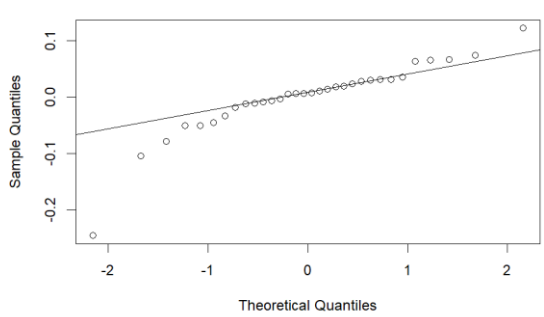
*Denotes intercept-only model.

Figure 11A. Normal Q-Q plots for objective interest fit across all interests for PC3

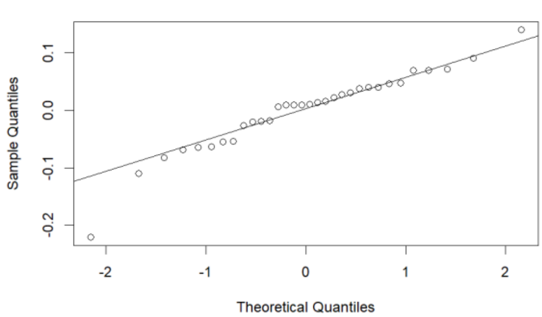
Realistic*



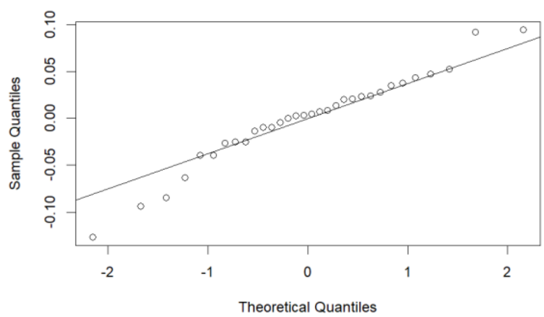
Investigative*



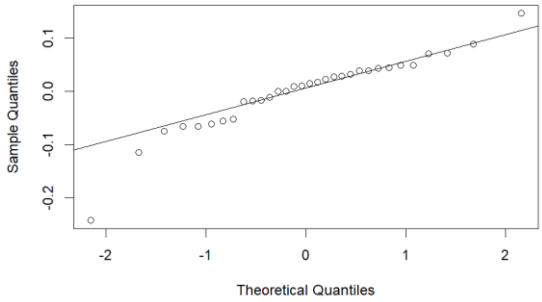
Artistic*



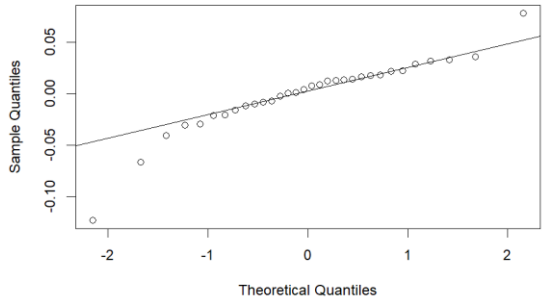
Social*



Enterprising*



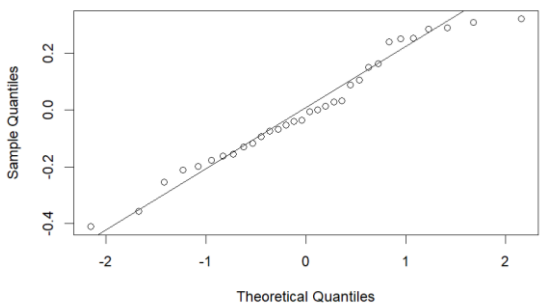
Conventional*



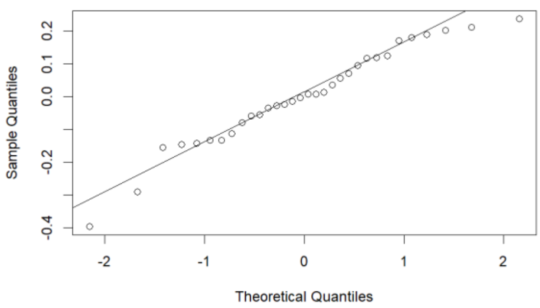
*Denotes intercept-only model.

Figure 12A. Normal Q-Q plots for objective interest fit across all interests for PC4

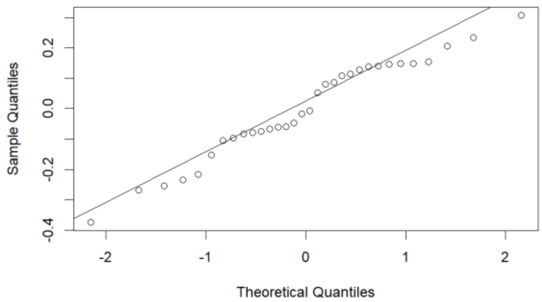
Realistic*



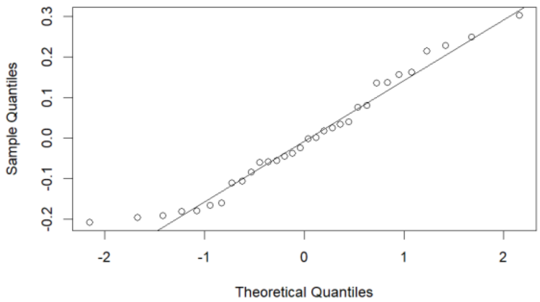
Investigative



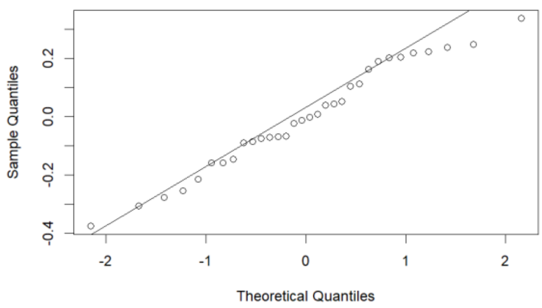
Artistic*



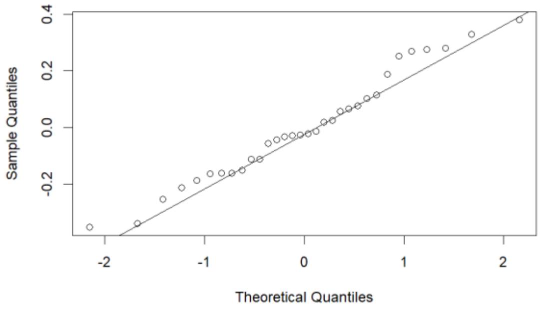
Social*



Enterprising*



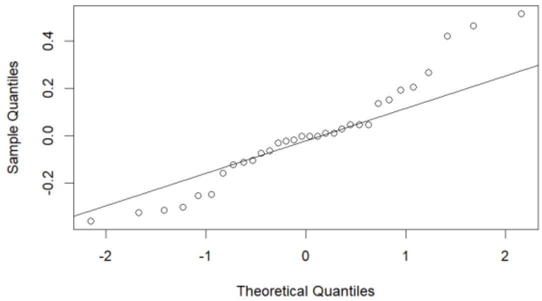
Conventional*



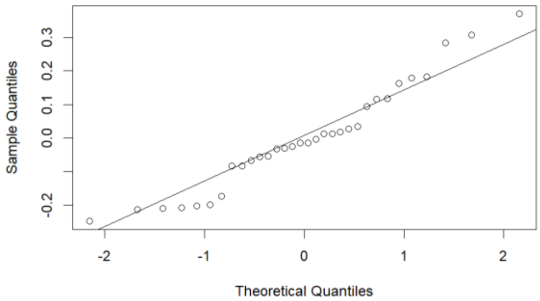
*Denotes intercept-only model.

Figure 13A. Normal Q-Q plots for subjective interest fit across all interests for PC1

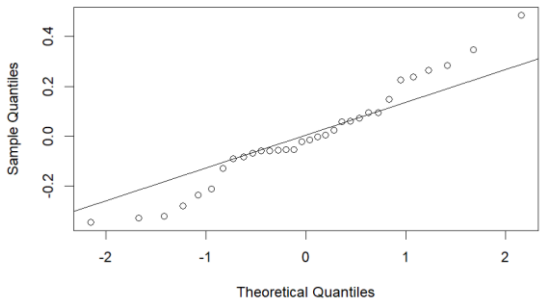
Realistic



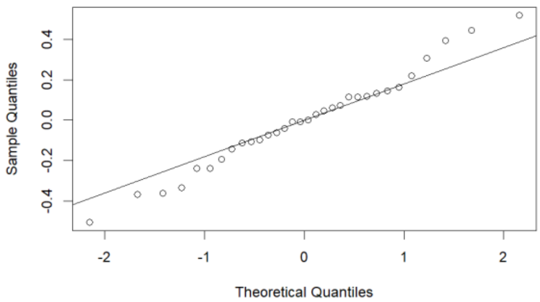
Investigative



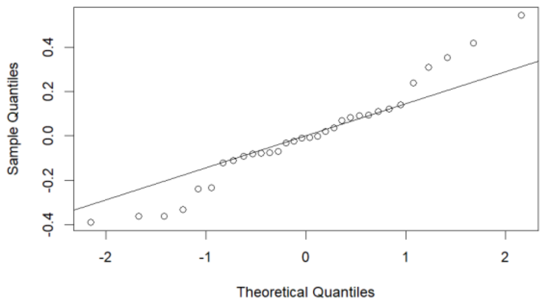
Artistic



Social



Enterprising



Conventional

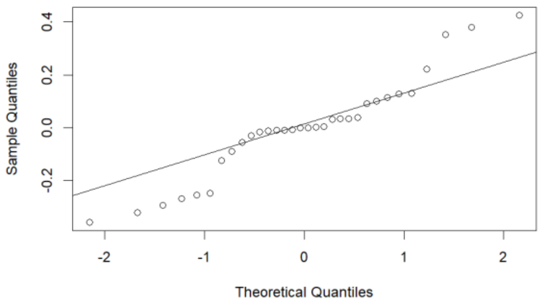
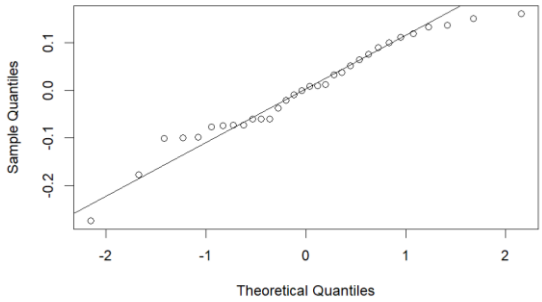
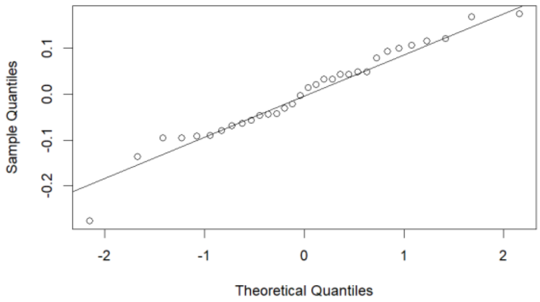


Figure 14A. Normal Q-Q plots for subjective interest fit across all interests for PC2

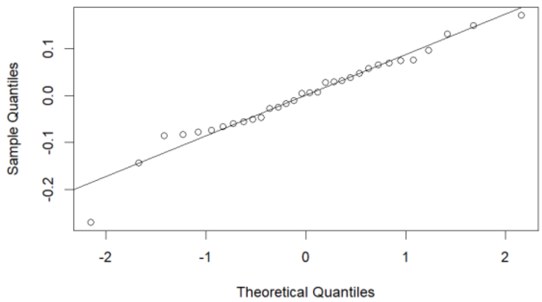
Realistic*



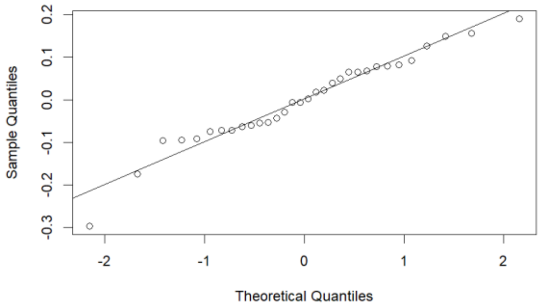
Investigative



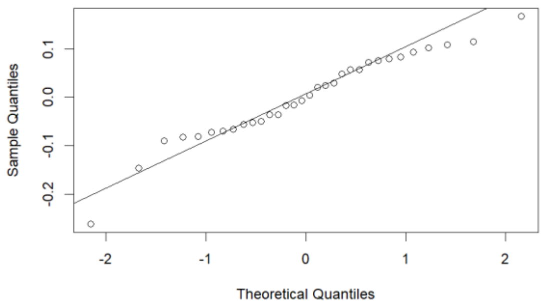
Artistic*



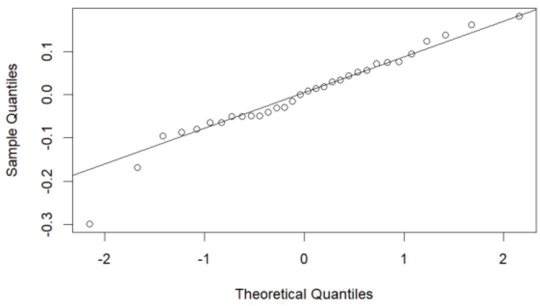
Social*



Enterprising*



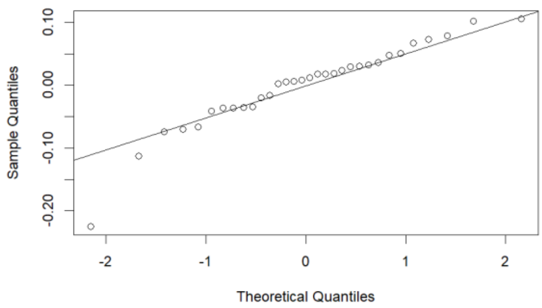
Conventional



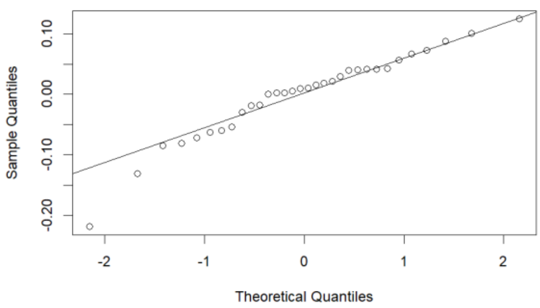
*Denotes intercept-only model.

Figure 15A. Normal Q-Q plots for subjective interest fit across all interests for PC3

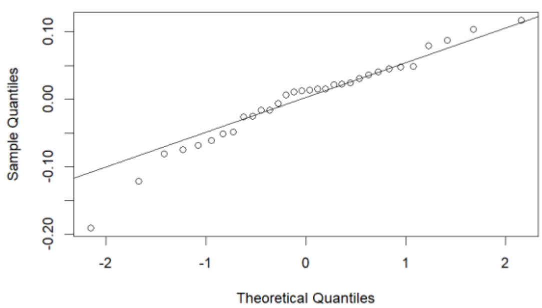
Realistic*



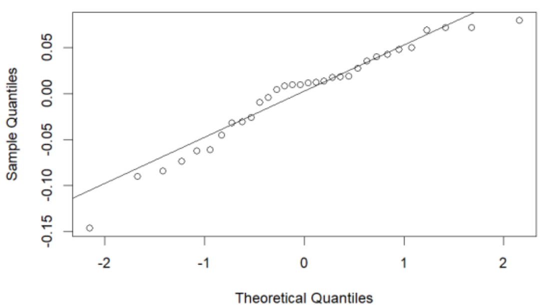
Investigative*



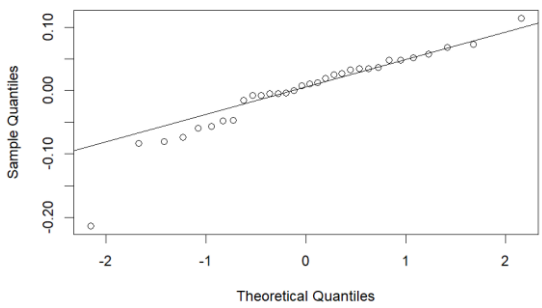
Artistic*



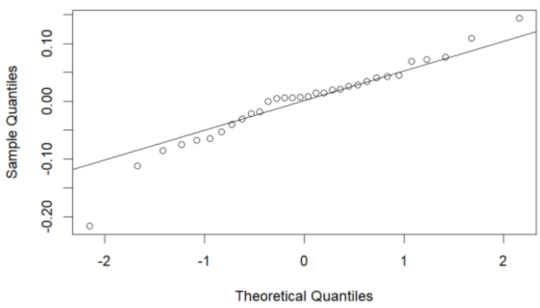
Social



Enterprising

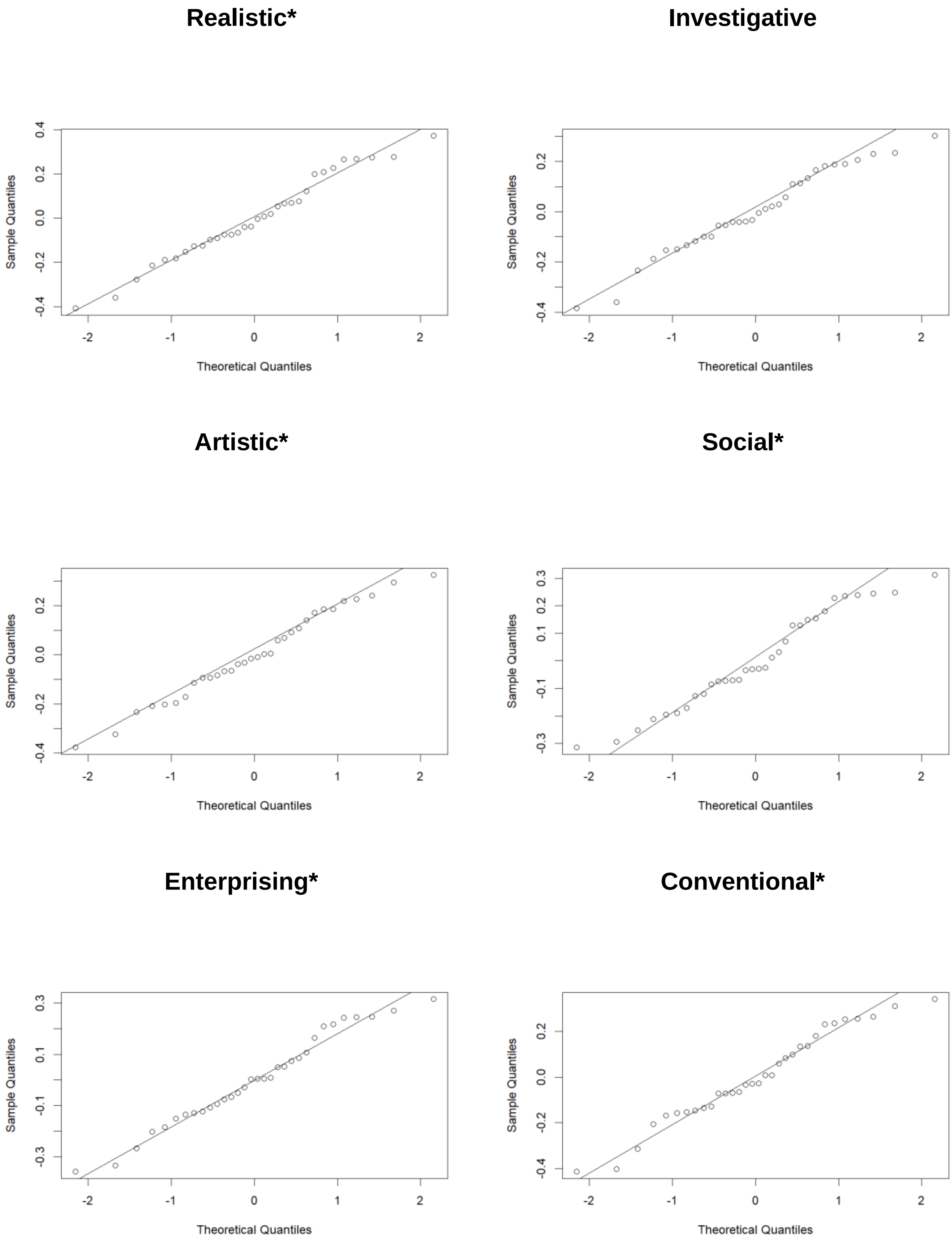


Conventional*



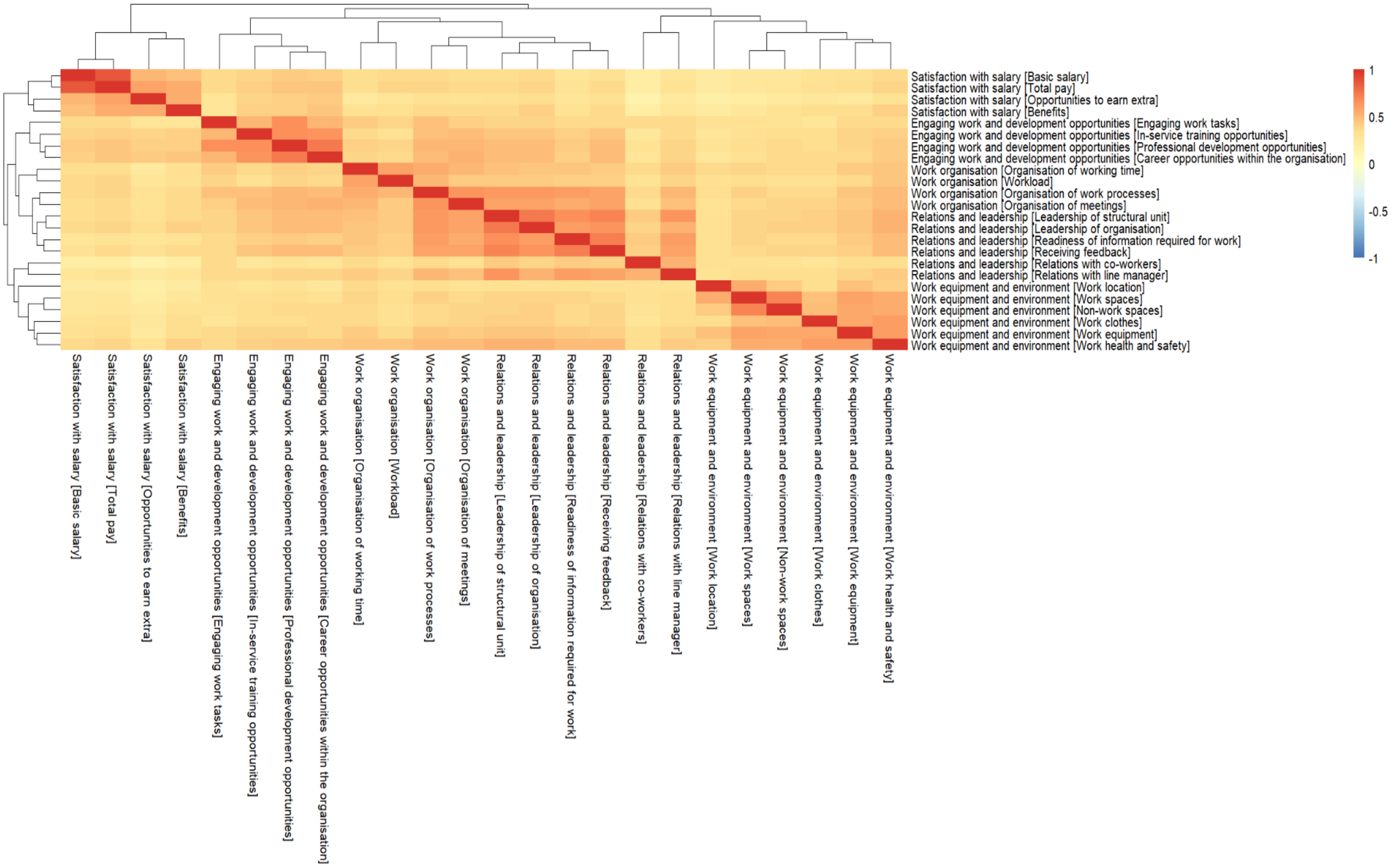
*Denotes intercept-only model.

Figure 16A. Normal Q-Q plots for subjective interest fit across all interests for PC4



*Denotes intercept-only model.

Figure 17A. Heatmap of the correlations between job satisfaction items



1A. Results of five selection criteria for retainment of principal components

1A.1. Cumulative proportion of explained variance criterion

The cumulative proportion of explained variance criterion indicated that the first 10 principal components collectively accounted for 80.8% of the total variance in the data.

1A.2. Kaiser's rule.

Kaiser's rule was applied, revealing that four principal components had eigenvalues greater than 1.

1A.3. Scree plot.

A scree plot was generated (refer to Figure 18A), visually depicting the eigenvalues of all components. The plot revealed a point of inflection at the seventh component, suggesting that retaining six principal components was appropriate.

1A.4. Velicer's minimum average partial (MAP) method.

The MAP method indicated that the lowest MAP value was achieved for four principal components.

1A.5. Parallel analysis.

Parallel analysis was conducted with a confidence level of 95% (refer to Figure 19A). The analysis indicated that retaining four principal components would yield eigenvalues greater than simulated ones.

Table 5A. Subset of principal component loadings for job satisfaction

Aspect	Item	Principal components							
		PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8
Satisfaction with salary	Basic salary	0.583	0.556	0.198	0.265	0.171	0.120	-	-0.360
	Opportunities to earn extra	0.519	0.529	0.100	0.199	-0.142	-	0.156	0.306
	Benefits	0.578	0.398	0.154	0.194	-0.151	-	-	0.470
	Total pay	0.614	0.574	0.202	0.295	0.114	0.111	-	-0.255
Engaging work and development opportunities	Engaging work tasks	0.623	0.143	-	-0.475	0.247	0.154	-	-0.118
	Professional development opportunities	0.717	0.275	-0.101	-0.483	-	-	-	-
	In-service training opportunities	0.666	0.240	-	-0.414	-0.160	-	-	-
	Career opportunities within the organisation	0.700	0.281	-	-0.379	-0.163	-	-	-
Work organisation	Organisation of work processes	0.756	-	-0.233	-	0.120	-0.217	0.109	-
	Organisation of meetings	0.730	-	-0.202	-	-	-0.268	-	-

	Organisation of working time	0.661	-	-	-	0.484	-0.245	-	0.138
	Workload	0.617	-	-	-	0.509	-0.292	-	0.157
Work equipment and environment	Work location	0.526	-0.288	0.325	-0.103	0.181	0.212	0.393	-
	Work spaces	0.616	-0.340	0.468	-	-	-	0.264	-
	Non-work spaces	0.618	-0.284	0.444	-	-0.164	-	0.138	-
	Work equipment	0.674	-0.260	0.378	-	-	-	-0.118	-
	Work clothes	0.608	-0.169	0.358	-	-0.178	-0.117	-0.468	-
	Work health and safety	0.730	-0.174	0.255	-	-0.112	-0.130	-0.258	-
Relations and leadership	Relations with co-workers	0.527	-0.275	-0.146	-	0.228	0.577	-0.242	0.180
	Relations with line manager	0.668	-0.213	-0.306	0.158	-	0.305	-0.105	-
	Readiness of information required for work	0.718	-0.216	-0.328	0.177	-	-	-	-
	Receiving feedback	0.749	-0.129	-0.328	0.139	-0.199	-	-	-
	Leadership of structural unit	0.774	-0.151	-0.330	0.167	-0.156	-	-	-
	Leadership of organisation	0.758	-	-0.248	0.150	-0.177	-	-	-

	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8
Sum of squares loadings	10.445	1.949	1.595	1.175	0.975	0.845	0.685	0.644
Proportion variance	0.435	0.081	0.066	0.049	0.041	0.035	0.029	0.027
Cumulative variance	0.435	0.516	0.583	0.632	0.672	0.708	0.736	0.763

Note. This table contains only the first eight of the 24 total principal components analysed, selectively presented for conciseness.

Figure 18A. Scree plot for job satisfaction principal components

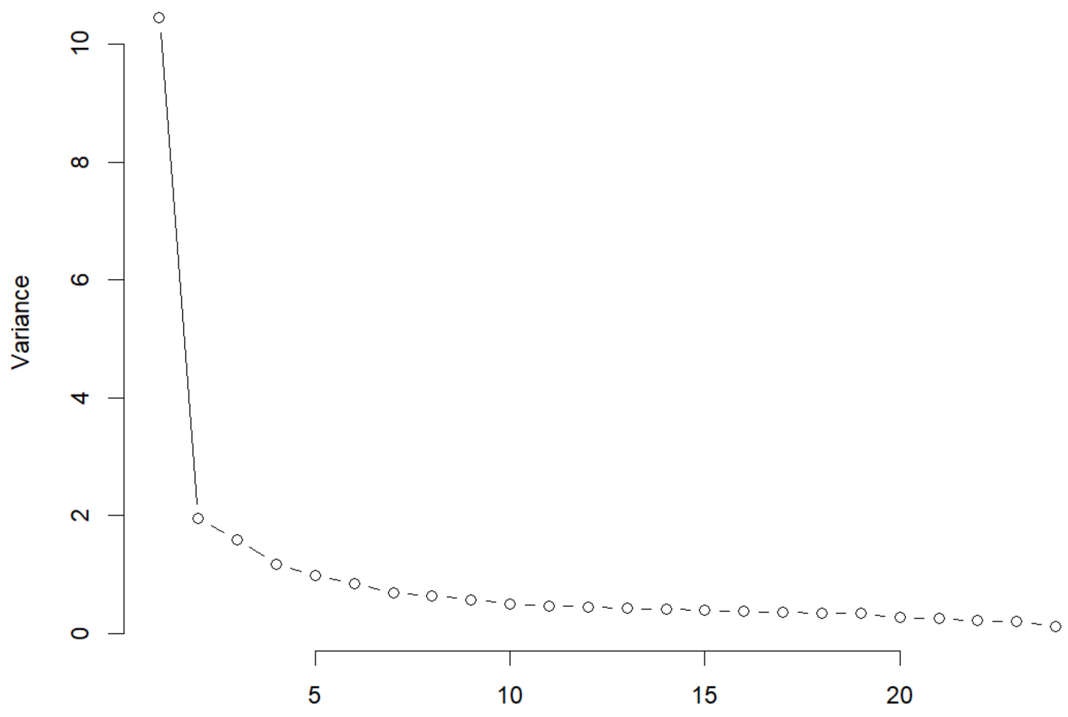


Figure 19A. Parallel analysis plot for job satisfaction principal components