

**Work Values and Engagement, moderated by Person-Organization Fit in Generation Z  
Apprentices**

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## Executive Summary

This research is about work engagement levels in Generation Z apprentices (real estate agents, office administrators, dual students, and information technology specialists) within a German real estate organization. High work engagement is crucial in this group due to its positive links to organizational commitment and lower turnover rates; therefore, developing a better understanding of the determinants of work engagement in Generation Z apprentices could benefit this organization and others. The determinants focused on in this study are based on previous studies. For instance, they include holding specific work values more strongly; according to previous research for Generation Z, the most important ones are personal and professional development, stimulating work, relationships at work, and financial compensation and other benefits. Also, person-organization fit may determine work engagement, meaning the congruence of the organization's and employees' values. A sound method was used to investigate this, including an online survey sent to the apprentices via email. Overall, 87 apprentices participated in the study, with 30 males and 57 females.

Regarding the results, the most important finding of this study was that a higher person-organization fit was associated with higher work engagement levels. Furthermore, there was no indication of a link between more strongly valuing financial compensation and other benefits and higher work engagement levels. Therefore, this study concludes that a higher person-organization fit is linked to higher levels of work engagement among Generation Z apprentices. For the other links concerning the work values, no conclusion could be drawn due to difficulties with measurement instruments.

Even though the current study does not permit causal conclusions, this may suggest that increasing person-organization fit is valuable for higher work engagement levels. Three suggestions that, according to research, have been linked to increased person-organization fit are made. The first suggestion is to provide a realistic job preview to apprenticeship

applicants by, for example, developing videos that include current apprentices presenting positive and negative information about the apprenticeships, thereby enhancing source credibility. This suggestion is made because research has shown that Generation Z is more effectively engaged in video-based learning, and applicants can better understand the organization's values and apprenticeship program. It is further suggested that the videos could be created by the organization's social media team, which includes apprentices, to enhance feasibility.

Another advice is conducting regular online meetings with current apprentices to share experiences and promote team orientation. The planning of the meetings could be assigned to the organization's apprentices' representatives. Finally, during orientation week for the new apprentices, the organization could invite their friends and families for a presentation on the organization, their mission statement, and expectations of the new apprentices. This approach promotes collective learning processes, helps to identify with the organization and may also increase fit in newly hired apprentices.

In conclusion, this study highlights the importance of person-organization fit as a determinant of work engagement among Generation Z apprentices. The findings offer starting points for studies designing interventions focussed on increasing person-organization fit. This, in turn, will benefit the organization and the apprentices.

### Abstract

Work engagement has been associated with positive organizational outcomes, making it relevant to understand its determinants. This study investigated to what extent holding the work values development, stimulation, relating, and money relate to more work engagement and whether person-organization fit moderates these relations in Generation Z apprentices of a German real estate organization. Participants ( $N = 87$ , aged 16 to 27) were apprentices, self-reporting on the German New Work Values Scale, the German version of the Perceived Person-Organization Fit scale, and the Utrecht Work Engagement Scale. Results of hierarchical multiple regression analyses indicated significant positive relationships between valuing relating and work engagement, person-organization fit and work engagement, and person-organization fit moderating the links between valuing development and stimulation on work engagement. Overall, higher levels of person-organization fit were linked to higher work engagement levels. For the others, measurement difficulties prevented conclusions. Starting points for interventions to increase fit are discussed.

*Keywords:* work engagement, work values, person-organization fit, apprentices, Generation Z

## **Work Values and Engagement, moderated by Person-Organization Fit in Generation Z Apprentices**

In today's work environment, organizations recognize the importance of work engagement, "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli et al., 2002, p. 74) among their employees due to its links to higher organizational commitment and lower turnover rates (Ashfaq & Hamid, 2021; Kim et al., 2013; Takawira et al., 2014). High work engagement is especially relevant in apprentices; apprenticeship programs combine practical work experience and academic studying to obtain a recognized certification and become qualified professionals. The current study will investigate determinants of work engagement in apprentices of a German real estate organization, explicitly focusing on Generation Z apprentices born in the late 1990s and after (Iorgulescu, 2016). Because of its positive organizational outcomes, understanding the determinants of work engagement is valuable for this organization and organizations with similar apprenticeship programs.

Important determinants of work engagement can be found in an individual's work values (Schreurs et al., 2014). Work values generally describe broad concepts of standards relating to work, including personal preferences, social norms, and moral standards (Stiglbauer et al., 2022). Super (1957, 1980) has theorized within his work values theory of career development that work values reflect what individuals consider important in the work context. According to him, these values shape individuals' attitudes, behaviours, and interpretations of work-related situations (Super, 1957, 1980). He further has proposed that these values impact individuals' motivation and drive to be engaged in work-related situations by providing them with a sense of purpose and meaning. Past research has built on his theory, demonstrating that holding specific work values more strongly was indeed linked

to higher work engagement (Bakker et al., 2008; Basinska & Dåderman, 2019; Schreurs et al., 2014; Sortheix et al., 2013; Tartakovsky, 2016).

Research has indicated that examples of work values especially relevant to Generation Z include personal and professional development, stimulating work, relationships at work, and financial compensation and other benefits (Iorgulescu, 2016; Mahmoud et al., 2021; Stiglbauer et al., 2022).

### **Valuing Development**

Valuing development is Generation Z's first important work value, referring to the wish for personal and professional growth (Stiglbauer et al., 2022). Holding this value more strongly, thereby indicates valuing personal and professional growth in the work context more. It could be that holding this value more strongly is linked to higher work engagement, as suggested by Super's work values theory (1957, 1980). Research on young adults transitioning from university to work has indeed shown that valuing personal growth more predicted higher levels of work engagement (Sortheix et al., 2013). Thus, it is expected that the stronger Generation Z apprentices hold this work value, the higher their work engagement.

### **Valuing Stimulation**

The second work value important to individuals of Generation Z is stimulation. Valuing stimulation describes the need for task variety, challenges, and stimulating work; thus, in people scoring higher on this value, the extent of this need is greater (Stiglbauer et al., 2022). As for valuing development, it could be that valuing stimulation more strongly is connected to higher work engagement. For example, Basinska and Dåderman (2019) have indeed found that police officers who valued task variety and challenging work more had significantly higher levels of work engagement. Another study conducted among employees

working at a university has found similar effects (Dubbelt et al., 2019). Hence, holding this value more strongly is expected to be related to higher work engagement.

### **Valuing Relating**

Valuing relating is also important to Generation Z, referring to valuing positive work relationships, including teamwork and social support; therefore, holding this value more strongly means placing more importance on these aspects (Stiglbauer et al., 2022). As for the two above-mentioned work values, it could be that holding this value more strongly is linked to higher work engagement. Indeed, placing importance on work relationships and valuing social work environments has been found to be significantly related to higher levels of work engagement in young adults (Sortheix et al., 2013) as well as among Dutch employees aged 15 and older (Van Ruysseveldt et al., 2009). Therefore, valuing relating more strongly is expected to be associated with higher work engagement.

### **Valuing Money**

Finally, the last work value relevant to Generation Z is money. Valuing money refers to valuing financial compensation and benefits, with individuals scoring higher on this value, meaning that the extent to which they value both is greater than those who score lower on this value (Stiglbauer et al., 2022). Results on the relationship between valuing money and work engagement are mixed. Some studies have found a positive association, indicating a link between valuing money more strongly and higher levels of work engagement in the case of police and security officers (Basinska & Dåderman, 2019; Dahiya & Raghuvanshi, 2021). Conversely, others have found a negative association, indicating that in young adults, valuing money more strongly negatively predicted work engagement (Lechner et al., 2018; Xie et al., 2016). Latter studies reasoned that strongly valuing money decreases employees' need for autonomy, resulting in less motivation and, subsequently, less work engagement, in line with self-determination theory (Lechner et al., 2018; Xie et al., 2016). Importantly, these studies

did not investigate these relations in Generation Z individuals. Thus, based on Super's work values theory (1957, 1980), holding this value more strongly is expected to be linked to higher work engagement.

Work values may not be the only determinant of work engagement, person-organization fit (P-O fit) may also play a role. P-O fit refers to how (potential) employees perceive the congruence between their and the organization's values (Kristof-Brown et al., 2005). Based on person-environment fit theory, a high P-O fit results from a match between the organization's and the individual's values (Edwards et al., 1998). Sorlie et al. (2020) propose that P-O fit could likely impact work engagement. They suggest how individuals feel at work depends on their perception of the work environment. Thinking positively about it and perceiving a sense of fit with the organization leads to positive behaviour, ultimately impacting their work engagement levels. Hence, individuals perceiving a high P-O fit are expected to display positive work-related outcomes, including work engagement. Indeed, past research has demonstrated that a higher perceived P-O fit was associated with higher work engagement levels (Ashfaq & Hamid, 2021; Memon et al., 2018; Saito et al., 2018; Sorlie et al., 2020). Thus, Generation Z apprentices perceiving a higher P-O fit are expected to be linked to higher work engagement levels.

Next, P-O fit may also moderate the links between work values and work engagement. Previous research has found higher work engagement levels among individuals who more strongly held specific work values and felt more congruence between their values and the organization's (Leiter, 2008; Leiter et al., 2008; Sortheix et al., 2013). Studies on similar topics have found support for the moderation: One study has shown that the association between more strongly held personal values and higher employee engagement (work and organizational engagement) increased with a higher P-O fit in employees working in the service sector (Ünal & Turgut, 2015). Similarly, for employees with stronger

environmental values, P-O fit moderated the relation to work engagement, namely that those who perceived higher fit had higher levels of work engagement (Hicklenton et al., 2019). Hence, P-O fit is expected to moderate the link between holding work values more strongly and higher work engagement levels in Generation Z apprentices.

However, research examining the links between the work values development, stimulation, relating, and money and work engagement, moderated by P-O fit in Generation Z, is scarce. Moreover, to the author's knowledge, there are also no studies on Generation Z apprentices concerning these links. Therefore, the current study will investigate to what extent holding the specific work values development, stimulation, relating, and money relate to more work engagement and whether these relations are moderated by perceived P-O fit among Generation Z apprentices. Answering this question is crucial since, first, to gain insights on whether the previously found links hold for Generation Z apprentices too. Second, in light of the positive outcomes of high work engagement (Ashfaq & Hamid, 2021; Kim et al., 2013), the organization of focus and other organizations with similar apprenticeship programs could benefit from understanding work engagement determinants and take this study's findings as starting points for developing interventions, such as increasing P-O fit in their apprentices.

The following is hypothesized: First, there will be a positive correlation each between holding the work values (a) development, (b) stimulation, (c) relating, and (d) money and work engagement. Second, the correlation between P-O fit and work engagement will be positive. Last, links between the work values development, stimulation, relating, and money and work engagement are expected to increase with higher scores on P-O fit. The hypothesized relations between all study variables are displayed in Figure 1.

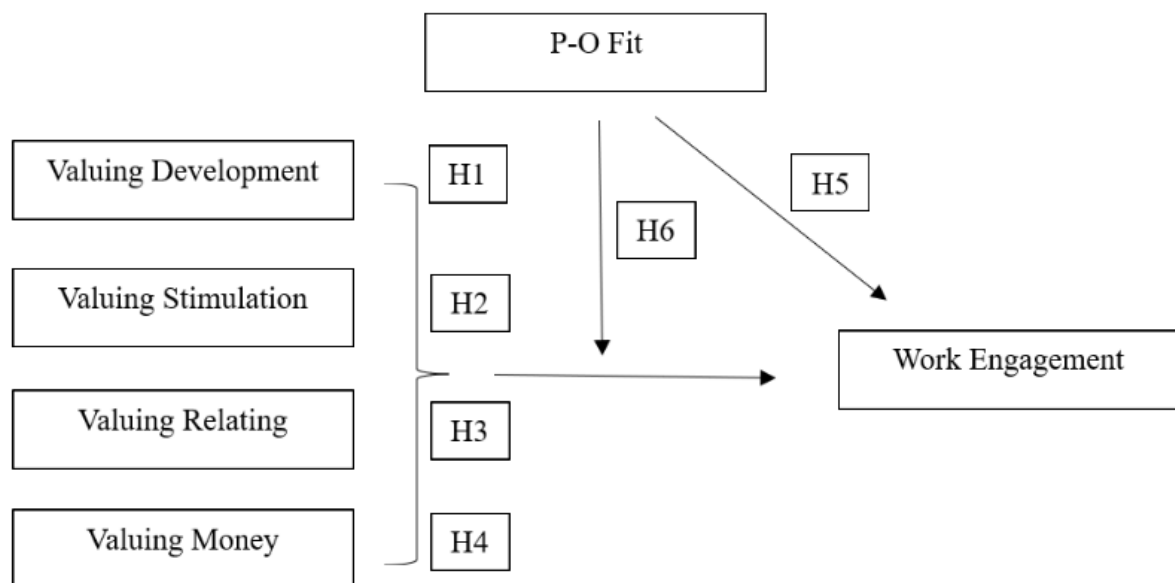
## **Method**

### **Participants**

An a priori power analysis was conducted with an alpha value of  $\alpha = 0.05$ , power of  $\beta = 0.80$ , number of predictors = 14, and an effect size of  $f^2 = 0.25$  to determine sufficient sample size. The effect size used to calculate sufficient sample size was determined based on previously found effects in a meta-analysis on work engagement and a study on P-O fit (Hoffman & Woehr, 2006; Verquer et al., 2003). Based on this power analysis, the desired sample size for the current study was  $N = 86$ . To be able to exclude outliers, 10% more data was collected.

### Figure 1

*Hypothesized Model of Work Values and Work Engagement, moderated by P-O Fit in Generation Z*



*Note.* H1 to H4 = it is expected that there will be a positive correlation between each work value and work engagement; H5 = it is expected that there will be a positive correlation between P-O fit and work engagement; H6 = it is expected that the links between the work values and work engagement will be stronger at higher scores on P-O fit; P-O fit = person-organization fit.

Out of the 185 apprentices in the real estate organization, 117 voluntarily participated in the research after active, informed consent (see Appendix A; response rate 63.24%). Participants of interest were apprentices (e.g., real estate agents, office administrators, dual students, and information technology specialists) belonging to Generation Z (Iorgulescu, 2016). Since ethically only participants of age 16 and older were allowed to participate, inclusion criteria were thus being between 16 and 27 years. The study was carried out in accordance with the guidelines of the ECCS of Radboud University [ECSW-LT-2023-4-1-54047]. After excluding 17 participants due to incomplete data (which had to be deleted since it was stated in the information letter that this was a way to withdraw from the survey) and 13 participants aged 28 and older, the total sample size was  $N = 87$ . The sample consisted of 30 males (34.5%) and 57 females (65.5%), with a median age range of  $Mdn = 20 - 23$  ( $SD = 6.18$ ). For comparison, the entire target group working at the organization consists of 104 female (56.2%) and 81 male apprentices (43.8%) with an average age of 22 years.

## **Materials**

The survey included three questionnaires measuring work engagement, the four work values (valuing development, stimulation, relating, and money) and P-O fit. No confounders were considered, as the reviewed literature above did not suggest an impact of confounding variables on the hypothesized links (e.g., Ünal & Turgut, 2015). Participants filled in the survey using a computer or a phone. The materials are displayed in appendices B to D.

## ***Work Engagement***

Work engagement was assessed using the German short version of the Utrecht Work Engagement Scale (UWES-9) by Schaufeli and Bakker (2004b). It includes nine items, answerable on a 7-point Likert scale from 0 (*never*) to 6 (*always*). The UWES-9 is a self-report questionnaire measuring work engagement according to the definition by Schaufeli et al. (2002). Reliability of samples from nine countries with  $N = 12,631$  was high ( $\alpha = .90$ )

(Schaufeli & Bakker, 2004b). The reliability of this study's sample was high, too ( $\alpha = .94$ ). Mean scores were computed by adding the scores and dividing the sum of the scores by the number of items, with a higher score indicating higher levels of work engagement (Schaufeli & Bakker, 2004b).

### ***Valuing Development, Stimulation, Relating, and Money***

The work values development, stimulation, relating, and money were measured using subscales from the German New Work Values Scale (NWVS) developed by Stiglbauer et al. (2022). Valuing development was measured with two items assessing how strongly participants value personal and professional growth in the work context (e.g., "In my job, I always want to develop myself and my knowledge"). Valuing stimulation was assessed with two items measuring the extent of the need for task variety, challenges, and stimulating work (e.g., "I really enjoy a job when I am always faced with new challenges"). Valuing relating examined how much importance is placed on positive work relationships, with two items (e.g., "Regular social events alongside work are a sign of a good company"). Finally, valuing money was measured with two items assessing the extent to which participants value financial compensation and benefits at work (e.g., "A high salary is the most important thing to me.").

Participants answered the items on a Likert scale from 1 (*do not agree at all*) up to 5 (*fully agree*). In a non-patient sample, acceptable reliabilities were found for valuing development ( $\alpha = .82$ ), valuing stimulation ( $\alpha = .71$ ), valuing relating ( $\alpha = .70$ ), and valuing money ( $\alpha = .84$ ) with sufficient validity (Stiglbauer et al., 2022). In the current study, reliability for valuing money was acceptable ( $\alpha = .68$ ); however, for valuing development, stimulation, and relating, no acceptable reliabilities were found ( $\alpha = .53$ ,  $\alpha = .33$ ,  $\alpha = .24$ , respectively). Mean scores were computed per subscale by adding the scores and then

dividing the sum by the number of items, with higher scores suggesting that more importance is placed on each respective work value.

### ***P-O Fit***

To investigate P-O fit, participants filled in the German version of the Perceived Person-Organization Fit scale by Saks and Ashforth (2002), including four self-report items measuring the extent to which the participant believes their work values fit the organization's values (e.g., "To what extent are the values of your company similar to your own values?") (Schliephake, 2018). The items could be rated on a 5-point Likert scale from 1 (*very little*) to 5 (*very strongly*) (Schliephake, 2018). The reliability in a German non-patient sample was good ( $\alpha = .90$ ) (Schliephake, 2018). The current study's reliability for this scale was acceptable ( $\alpha = .81$ ). The mean score for P-O fit was calculated by adding the scores for each participant, then dividing the sum of it by the number of items, whilst a higher score indicates that the participant more strongly believes their work values fit the organization's (Schliephake, 2018).

### ***Sociodemographic Variables***

Before survey completion, participants answered two demographic questions. The first question was about their age, with four response options corresponding to different age ranges. The second question was about their gender, offering four response options. Age was coded 1 (*16-19*), 2 (*20-23*), 3 (*24-27*), and 4 (*28 and older*). Gender was coded 1 (*male*), 2 (*female*), 3 (*other*), and 4 (*I prefer not to say*).

### **Procedure**

A recruitment text including the survey link was emailed to all 185 apprentices, to recruit participants (see Appendix E). The survey was presented through the RU-licensed version of Qualtrics (<https://www.qualtrics.com>). Participants accessed the survey by clicking on the anonymous link in the email. They were first presented with an information letter

describing the study's purpose, content, data storage procedure and contact information for questions (see Appendix F). Then, they were directed to the informed consent form, where declining consent led to survey completion. Participants who consented answered demographic questions, followed by three questionnaires with different response options. One open-ended question about how they perceived the organization's recruiting process was also included for organizational purposes (see Appendix G). At the end of the survey, participants were thanked, debriefed, and asked to agree to data usage (see Appendix H). Survey participation took approximately 5 to 10 minutes.

### **Data analysis**

Contrary to expectation, the reliabilities for the subscales used to measure the work values development, stimulation, and relating were low. Nevertheless, this fact may not be argument enough to discard the scales, especially since research has shown that scales with few items (in this case, two items for each subscale) generally cannot yield high reliabilities (Vaske et al., 2017). Therefore, after careful consideration, it was decided to run the analysis, including all measures, and interpret the findings cautiously. A multiple hierarchical regression analysis was performed, with valuing development, stimulation, relating, and money as independent variables, work engagement as the dependent variable, and P-O fit as the moderating variable. Before analysis, the predictors were standardized, and interaction terms were computed. One influential data point with Cook's  $D = 2.11$  was identified and excluded from the regression analysis (Dhakal, 2017). The predictors were entered in the first block, and the interaction terms in the second block. Assumptions of the normality of residuals, linearity, homogeneity of residuals, data independence, interval data, and absence of multicollinearity were checked and met (see Appendix I).

## **Results**

### **Preliminary Analyses**

In Table 1, the descriptive statistics for all study variables are displayed. Table 2 shows the correlations for all study variables. A moderate positive Pearson's correlation coefficient was found for P-O fit and work engagement ( $r = .60, p < .001$ ), indicating that a higher level of P-O fit goes along with more work engagement. Weaker correlations were found for the variables valuing development, valuing stimulation, and valuing relating with work engagement ( $r = .32, p = .002$ ;  $r = .33, p = .001$ ; and  $r = .20, p = .030$ , respectively), indicating that higher scores on valuing development, stimulation, and relating were associated with higher scores on work engagement.

**Table 1**

*Descriptive Statistics of Study Variables*

Study Variables	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>
Valuing development	86	1	5	4.2	0.5
Valuing stimulation	86	1	5	3.6	0.6
Valuing relating	86	1	5	3.6	0.7
Valuing money	86	1	5	3.4	0.8
P-O fit	86	1	5	3.1	0.7
Work engagement	86	0	6	3.4	1.2

*Note.*  $N = 86$ . *Min* = minimum; *Max* = maximum; *M* = mean; *SD* = standard deviation; P-O fit = person-organization fit.

**Main Analyses**

In Table 3, the hierarchical regression results are displayed. The analysis predicting work engagement revealed that model one, including the five predictors, explained a significant proportion of variance ( $F(5, 80) = 15.01, p < .001, R^2 = .48$ ). This value indicates

that 48.4% of the variance in work engagement could be predicted from the variables valuing development, stimulation, relating, money, and P-O fit.

**Table 2**

*Correlations for Study Variables*

Study Variables	1	2	3	4	5	6
1. Work engagement	—					
2. Valuing development	.32**	—				
3. Valuing stimulation	.33**	.40**	—			
4. Valuing relating	.20*	.15	.06	—		
5. Valuing money	-.12	-.11	-.08	.01	—	
6. P-O fit	.60**	.13	.15	.03	.05	—

*Note.* P-O fit = person-organization fit.

\* $p < .05$ . \*\* $p < .01$ .

Within this first model, no significant effects of valuing development ( $\beta = .15, p = .088$ ), stimulation ( $\beta = .16, p = .074$ ), relating ( $\beta = .16, p = .056$ ), and money ( $\beta = -.13, p = .110$ ), on work engagement were found, indicating that there are no links found between the four work values and work engagement. Finally, the model revealed a significant positive effect of P-O fit on work engagement ( $\beta = .56, p < .001$ ), indicating that a higher P-O fit was associated with more work engagement.

Model two, adding the four interaction terms, also explained a significant proportion of variance ( $F(4, 76) = 3.06, p = .022, R^2 = .56$ ). Model comparisons revealed that the percentage of variance seemed to increase with the interaction terms added, indicating that 55.5% of the variance in work engagement could be predicted from the five predictors and the four interaction terms.

**Table 3***Hierarchical Regression Results for Work Engagement*

Variable	<i>B</i>	95% CI for <i>B</i>		<i>SE B</i>	$\beta$	<i>R</i> <sup>2</sup>	$\Delta R^2$
		<i>LL</i>	<i>UL</i>				
Model 1						.48	.48***
Valuing development	0.18	-0.05	0.40	0.11	.14		
Valuing stimulation	0.20	-0.01	0.41	0.11	.17		
Valuing relating	0.20	-0.01	0.41	0.10	.16		
Valuing money	-0.15	-0.34	0.05	0.10	-.12		
P-O fit	0.69***	0.49	0.89	0.10	.56***		
Model 2						.56	.07*
Valuing development	0.19	-0.03	0.42	0.11	.15		
Valuing stimulation	0.19	-0.02	0.40	0.10	.16		
Valuing relating	0.24*	0.04	0.45	0.10	.19*		
Valuing money	-0.15	-0.34	0.04	0.09	-.13		
P-O fit	0.69***	0.50	0.89	0.10	.56***		
Interaction development	-0.37**	-0.60	-0.14	0.12	-.31**		
Interaction stimulation	0.24*	0.00	0.48	0.12	.20*		
Interaction relating	-0.14	-0.36	0.08	0.11	-.10		
Interaction money	0.12	-0.06	0.29	0.09	.11		

*Note.* CI = confidence interval; LL = lower limit; UL = upper limit; P-O fit = person-organization fit; Interaction development = interaction term of valuing development and P-O fit; Interaction stimulation = interaction term of valuing stimulation and P-O fit, Interaction relating = interaction term of valuing relating and P-O fit, Interaction money = interaction term of valuing money and P-O fit.

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

Within this model, a significant positive effect of valuing relating on work engagement was found ( $\beta = .19$ ,  $p = .022$ ), indicating that valuing relating more was

associated with more work engagement. Further, a significant negative effect of the interaction of valuing development with P-O fit on work engagement was found ( $\beta = -.31, p = .002$ ), indicating that the moderator, P-O fit, impacted the relationship between valuing development and work engagement. Also, a significant positive effect of the interaction of valuing stimulation with P-O fit on work engagement was found ( $\beta = .20, p < .050$ ), indicating that the link between valuing stimulation and work engagement was affected by P-O fit. No significant effects were found for the interaction of valuing relating, and P-O fit on work engagement ( $\beta = -.10, p = .202$ ), neither for the interaction of valuing money and P-O fit on work engagement ( $\beta = .11, p = .199$ ). Consequently, the results give no support for an interaction of P-O fit on the links between valuing relating and money and work engagement.

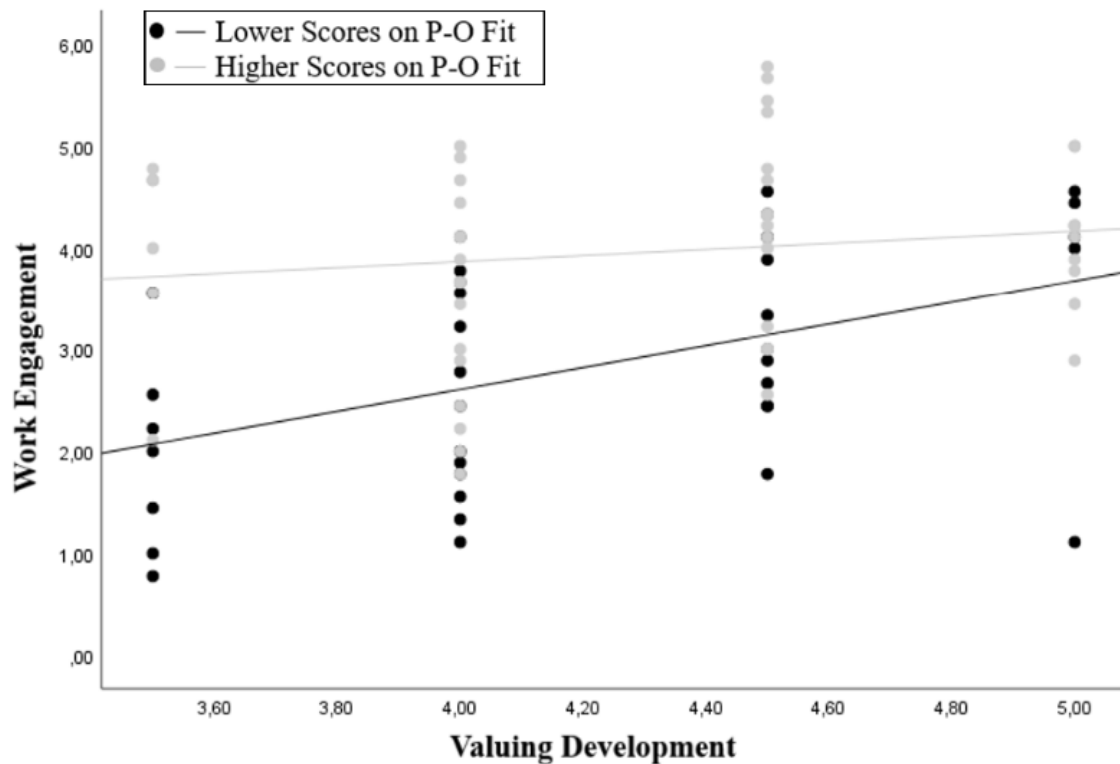
The interactions between valuing development and stimulation with P-O fit on work engagement were investigated using simple slopes post hoc analyses. Prior, new variables were created, including a P-O fit variable with high levels of P-O fit (1 *SD* above the mean) and a P-O fit variable with low levels (1 *SD* below the mean). Four extra interaction variables were computed: valuing development with high P-O fit, valuing development with low P-O fit, valuing stimulation with high P-O fit, and valuing stimulation with low P-O fit. In total, six new variables were created and standardized. Following this, four regression analyses were performed: each focusing on a new interaction term. The remaining factors in the analyses remained unchanged.

For the interaction between valuing development and P-O fit, the post hoc analyses revealed that valuing development had a significant positive effect on work engagement for participants with lower levels of P-O fit ( $\beta = .44, B = 0.56, SE = 0.16, 95\% \text{ CI } [0.25, 0.88], p = .001$ ), but not for participants with high levels of P-O fit ( $\beta = -.14, B = -0.18, SE = 0.17, [-0.51, 0.16], p = .291$ ). In other words, valuing development had a positive effect on work engagement for participants with lower scores on P-O fit, but there is no indication of an

effect of valuing development on work engagement for participants with higher scores on P-O fit (see Figure 2).

**Figure 2**

*Interaction of Valuing Development with P-O Fit on Work Engagement*



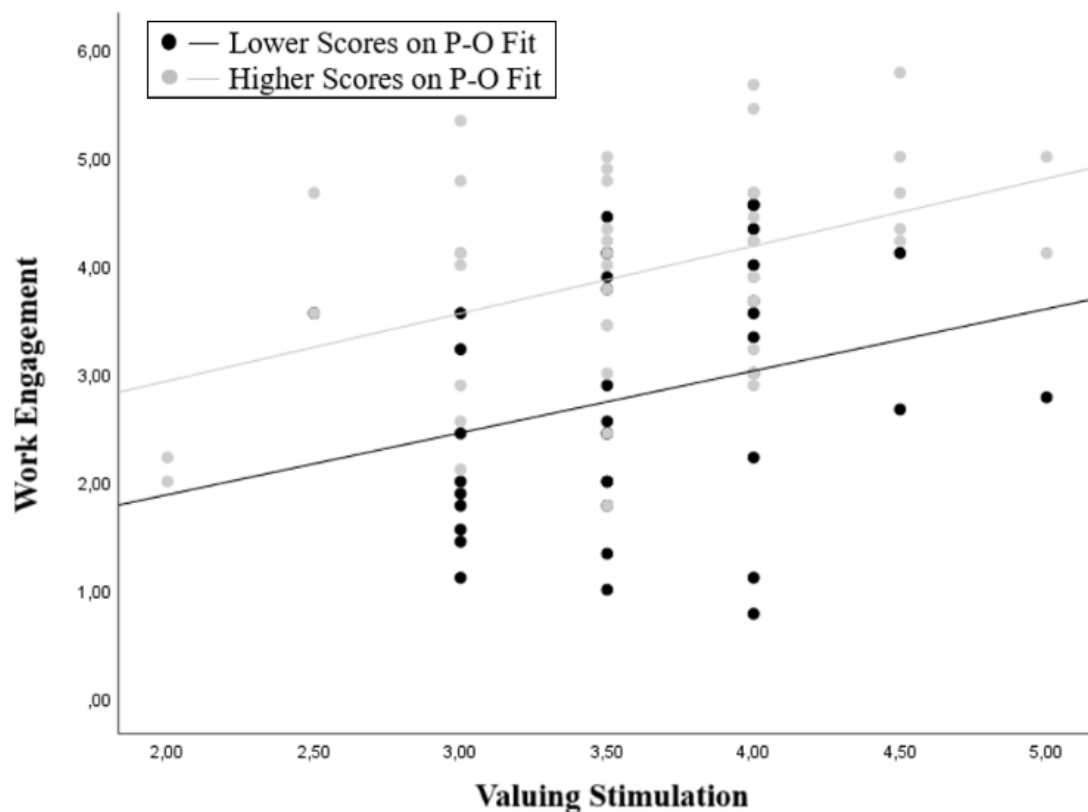
*Note.* Each dot represents an individual participant. Among participants with higher scores on P-O fit, higher scores of valuing development were associated with higher levels of work engagement (grey line). Among participants with lower scores on P-O fit, the association was not significant (black line). P-O fit = person-organization fit.

For the interaction between valuing stimulation and P-O fit, the post hoc analyses revealed that valuing stimulation had a significant positive effect on work engagement for participants with higher levels of P-O fit ( $\beta = .36$ ,  $B = 0.43$ ,  $SE = 0.14$ ,  $[0.15, 0.70]$ ,  $p = .003$ ) but not for those with lower levels of P-O fit ( $\beta = -.04$ ,  $B = -0.05$ ,  $SE = 0.18$ ,  $[-0.40, 0.30]$ ,  $p = .780$ ). To put it differently, valuing stimulation had a positive effect on work engagement

for participants with higher levels of P-O fit, while there is no indication of an effect of valuing stimulation on work engagement for participants with lower scores on P-O fit (see Figure 3).

**Figure 3**

*Interaction of Valuing Stimulation with P-O Fit on Work Engagement*



*Note.* Each dot represents an individual participant. Among participants with lower scores on P-O fit, higher scores of valuing stimulation were associated with higher levels of work engagement (black line). Among participants with higher scores on P-O fit, the association was not significant (grey line). P-O fit = person-organization fit.

## Discussion

In this study, I investigated to what extent holding the specific work values development, stimulation, relating, and money relate to more work engagement and whether

these relations are moderated by perceived P-O fit among Generation Z apprentices. Results indicated that valuing relating more strongly was uniquely associated with higher levels of work engagement and higher levels of P-O fit were uniquely associated with higher levels of work engagement after controlling for the other variables. Concerning moderation, lower levels of P-O fit and more strongly valuing development were associated with higher levels of work engagement. Additionally, higher levels of P-O fit and more strongly valuing stimulation were associated with higher levels of work engagement. Overall, the findings may suggest that valuing positive work relationships more strongly is linked to higher work engagement levels, while the effects of valuing personal and professional growth and valuing task variety, challenges, and stimulating work more strongly on higher levels of work engagement may be moderated by P-O fit in Generation Z apprentices. Results, both in line and in contrast with previous research, are discussed below.

Contrary to previous findings of a link between the work values development and stimulation and higher levels of work engagement (Basinska & Dåderman, 2019; Dubbelt et al., 2019; Sortheix et al., 2013); this study does not find support for a relation between these constructs. A difference between these studies and the current one is the age of the target group, which may explain the findings since younger people with less work experience have less clearly formed work values (Loughlin & Barling, 2001; Twenge et al., 2010). A hint in that direction is also found in the data of this study: when dividing the sample into two equally large groups, one consisting of the younger and the other of the older participants, reliability seemed to slightly increase with age (see Appendix J). Alternatively, it may be that not finding support for a link between the work values development and stimulation and work engagement could be due to the scales measuring the two work values being less reliable.

The current study indicates that valuing positive work relationships more strongly, including teamwork and social support, is related to higher levels of work engagement. This

finding aligns with previous research (Sortheix et al., 2013; Van Ruysseveldt et al., 2009) and may suggest that also in Generation Z apprentices, valuing relating more strongly is linked to higher work engagement levels. Moreover, this finding may also support Super's work values theory, suggesting that individuals holding specific work values more strongly are more likely to have higher work engagement levels, as these values give them a sense of meaning and purpose (Super, 1957, 1980). However, on the other hand, the finding must be interpreted with caution, as the scale measuring the work value relating did not reach the required cut-off value of a reliable measurement, according to the convention that Cronbach's alpha of  $\alpha = .65$  to  $\alpha = .80$  is considered acceptable (e.g., Cortina, 1993; DeVellis, 2003; Nunnally & Bernstein, 1994; Vaske, 2008).

In contrast to previous studies finding a link between valuing money more strongly and higher levels of work engagement (Basinska & Dåderman, 2019; Dahiya & Raghuvanshi, 2021), this study does not indicate a relationship between the work value money and work engagement. It could be that the target group, apprentices of Generation Z, do not place as much emphasis on financial compensation as other individuals of Generation Z, causing the absence of a link between this work value and work engagement. A suggestion for this idea can be found in a study examining extrinsic work values in relation to motivation and engagement, in which a negative association was found; for example, valuing compensation more strongly was associated with less motivation and work engagement (van Tuin et al., 2021).

Furthermore, the finding of a positive association between higher levels of P-O fit and higher levels of work engagement supports the expectations and is in line with previous studies (Ashfaq & Hamid, 2021; Memon et al., 2018; Saito et al., 2018; Sorlie et al., 2020), suggesting that also in Generation Z apprentices, perceiving a higher P-O fit is linked to higher work engagement levels.

Next, the association of a moderating effect of P-O fit on the link between valuing development more strongly and higher levels of work engagement was only found for participants with lower values of P-O fit. This finding is not in line with previous studies proposing that the link would increase for people with higher values of P-O fit (Leiter, 2008; Leiter et al., 2008; Sortheix et al., 2013). Although counterintuitive at first, it could be that people who perceive a low fit with the organization engage in job crafting to compensate for and improve their P-O fit, leading to higher levels of work engagement. Indeed, research finds positive links between job crafting and work engagement when the perceived fit with the organization is low (Meng et al., 2021). Accordingly, potentially engaging in job crafting may explain the finding of valuing development more strongly and higher levels of work engagement for Generation Z apprentices with lower values of P-O fit. Alternatively, not finding support for a link between valuing development and work engagement for Generation Z apprentices with higher values of P-O fit could be due to the scale measuring the work value development being less reliable.

The positive association between a stronger tendency to value stimulation and higher levels of work engagement among participants with higher values of P-O fit is in line with prior research, indicating that individuals who strongly hold specific work values and perceive a fit with their organization are more likely to have higher levels of work engagement (Leiter, 2008; Leiter et al., 2008; Sortheix et al., 2013). Likewise, this finding is also consistent with studies on similar constructs (Hicklenton et al., 2019; Ünal & Turgut, 2015). Hence, the result may indicate that among Generation Z apprentices with higher values of P-O fit, the link between valuing stimulation more strongly and higher work engagement levels is stronger.

Last, this study gives no indication of a moderation effect of P-O fit on the link between the work value relating and work engagement, as well as the work value money and

work engagement, which is not in line with previous studies (Leiter, 2008; Leiter et al., 2008; Sortheix et al., 2013). It could be that contextual factors played a role, in a sense that variations in the work environment of the apprentices potentially compensated for the expected interaction between P-O fit on the link between the work values relating and money and work engagement. Variations in the work environment of the apprentices may occur due to rotating through different departments within the organization every few months.

Suggestions for this idea can be found in studies indicating that work engagement levels fluctuate depending on different factors, for example, changes in job resources (Bakker, 2014; Schaufeli & Bakker, 2004a). Supposing that apprentices who recently started in a new department during the study had fewer job resources may therefore explain the absence of an effect. Alternatively, not finding support for an interaction of P-O fit on the link between valuing relating and work engagement could also be due to the scale measuring the work value relating being less reliable.

### **Strengths, Limitations, and Future Research**

Strengths of the current study include contributing to theory development by offering new insights concerning determinants of work engagement in apprentices of Generation Z. As this study is the first to investigate P-O fit in apprentices of Generation Z, according to the author's knowledge. Moreover, this study has direct relevance to the organizational context, as it demonstrates that P-O fit is linked to work engagement. However, some limitations must also be noted, including the cross-sectional research design limiting the ability to draw causal conclusions. In addition, the low reliabilities of the three subscales measuring the work values development, stimulation, and relating limit confidence in the findings concerning their links to work engagement. Last, most apprentices have a high educational level, limiting generalizability to lower educational apprentices.

Next, the results suggest future studies to examine how work experience relates to work values. Differences have been found between Generation Y and Generation Z in their work values (Iorgulescu, 2016; Mahmoud et al., 2021; Stiglbauer et al., 2022), but it is unclear how these values vary within a certain generation based on their work experience. Possibly less work experience is associated with less-developed work values (Loughlin & Barling, 2001). This knowledge could help organizations better understand their apprentices' work values. Moreover, this knowledge could be used to design training for apprentices to develop and refine their work values.

Furthermore, future studies on work values in Generation Z should increase the reliability of work values scales by adding more items, for example, which will strengthen the confidence in the observed relations, such as the link between valuing relating and work engagement.

### **Organizational Advice**

The present study showed that higher levels of P-O fit in Generation Z apprentices were associated with more work engagement. Even though the present study does not permit causal conclusions, this may suggest that increasing P-O fit is valuable for higher work engagement levels, in turn being linked to stronger organizational commitment and lower turnover rates (Ashfaq & Hamid, 2021; Kim et al., 2013). Therefore, the following recommendations for human resources practitioners could be considered.

The first recommendation is to provide a realistic job preview (RJP) associated with strengthened P-O fit, such as job vacancies, websites, recruitment activities and orientation programs (Ryan & Kristof-Brown, 2003). One suggestion on how to do this can be found in a study designing and testing an RJP video for student readiness in online learning (Latheef et al., 2021). Understanding that Generation Z is more effectively engaged via video-based learning (Global Research & Insights, 2018), an idea could be to develop RJP videos. RJP

videos should include positive and negative aspects of the different apprenticeships to be transparent, provide essential information for applicants to know before applying, and, most importantly, have current apprentices of the organization present this information. According to Latheef et al. (2021), latter increases source credibility. Concerning feasibility, the RJP videos could be developed by the organization's social media team, including some of their current apprentices. Thereby, costs would be minimized, as no external videographer would need to be hired. Finally, the videos could be embedded above the apprenticeship vacancies on the organization's websites to highlight them. Overall, this approach could help applicants better understand the organization's values and the apprenticeship program and may increase fit.

Another suggestion that may increase fit in Generation Z apprentices already working in the organization is to regularly meet and share experiences and thoughts to enhance team orientation and extend networking within the organization (Zhu et al., 2010). This suggestion could be implemented by scheduling regular meetings, for example, once a month. Meetings could be held online, allowing apprentices in other cities to participate easily and thereby increasing feasibility. Moreover, the meetings could be planned and moderated by a couple of the organization's apprentices' representatives, increasing the cost-effectiveness of this intervention.

Finally, research suggests promoting organizational learning through social activities (Lau et al., 2017). One suggestion for this is, for example, during orientation week of the new apprentices, to invite their friends and families for a presentation on the organization, their mission statement, and expectations of their new apprentices. By inviting the new apprentices' friends and families to one afternoon during orientation week, the organization would not need to plan a different event for this. To follow up on this suggestion, the human resources team organizing the orientation week would need to send out invites to the

apprentices to bring friends and families; plus, they might also need to re-consider location, catering and so forth, as more guests would be there. Lau et al. (2017) suggest that new employees will identify with the organization through an activity like this, and P-O fit is strengthened. Hence, social activities that promote organizational learning among the newly employed apprentices may increase P-O fit in them.

### **Conclusion**

To conclude, this study highlights the importance of P-O fit as a determinant of work engagement in Generation Z apprentices as the next generation of workers. This finding benefits the organization at focus as well as others with similar apprenticeship programs. Beyond this, the study highlights the need for further research to understand the relationship between the work values of Generation Z and work engagement.

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## **Appendix A**

### **Consent Form**

This attachment includes the informed consent form in German, which participants actively agreed to if they wanted to participate in the study, followed by the English consent form.

### **Einwilligungserklärung für die Teilnahme an wissenschaftlicher Forschung: Die Beziehung zwischen Arbeitswerten und Arbeitsengagement in einem deutschen Immobilienunternehmen.**

Hiermit bestätige ich:

- Ich wurde schriftlich über die Studie informiert und dass sie von einer Psychologiestudentin im Rahmen ihres Masterforschungsprojekts durchgeführt wird.
- Ich habe die oben genannten schriftlichen Informationen gelesen.
- Mir wurde die Möglichkeit gegeben, Fragen zur Studie zu stellen.
- Meine Fragen wurden zufriedenstellend beantwortet.
- Ich habe ausreichend Gelegenheit gehabt, sorgfältig über eine Teilnahme an der Studie nachzudenken.
- Ich nehme freiwillig an der Studie teil.

Ich verstehe, dass:

- Ich das Recht habe, meine Einwilligung während der Teilnahme an der Studie jederzeit ohne Angabe von Gründen und ohne Konsequenzen zu widerrufen, indem ich Friederike Gitzelmann unter [friederike.gitzelmann@ru.nl](mailto:friederike.gitzelmann@ru.nl) kontaktiere.
- Ich das Recht habe, meine Forschungsdaten bis zu letzten Seite der Umfrage löschen zu lassen
- Ich das Recht habe, meine Einwilligung zur Verarbeitung meiner (persönlichen) Daten bis zur letzten Seite der Umfrage zu widerrufen.
- Meine (persönlichen) Daten werden gemäß den geltenden europäischen Datenschutzbestimmungen und gemäß der Datenschutzerklärung der Radboud Universität verarbeitet (<https://www.ru.nl/english/vaste-onderdelen/privacy-statement-radboud-university/>)

Ich stimme zu, dass:

- Meine Forschungsdaten im Rahmen dieser Studie zu wissenschaftlichen Zwecken erfasst und für 10 Jahre zur Überprüfung, Wiederverwendung und Replikation zur Verfügung stehen.
- Meine persönlichen Daten, die nur zu Verwaltungszwecken erhoben werden, werden maximal 1 Monat nach Abschluss der Forschung aufbewahrt.  
Verwaltungszwecke beinhalten dich erneut zur Umfrage einzuladen, indem du den Link zur Umfrage per email zugesendet bekommst
- Die Einwilligungserklärung wird 10 Jahre lang aufbewahrt;
- Aufsichtsbehörden meine Forschungsdaten zu Überprüfungszwecken einsehen können.

Hiermit erkläre ich mich damit einverstanden, an der oben genannten Studie teilzunehmen.

- Ja, ich stimme einer Teilnahme an dieser Studie zu (fortfahren zur Studie).
- Nein, ich möchte nicht an dieser Studie teilnehmen.

**Consent form for participation in scientific research: The Relation of Work Values on  
Work Engagement in a German Real Estate Company**

I herewith confirm that:

- I have been satisfactorily informed of the study in writing,
- I have read the written information above
- I have been given the opportunity to ask questions about the study;
- my questions have been answered satisfactorily;
- I have been given ample opportunity to think carefully about participating in the study;
- I participate in the study entirely on a voluntary basis.

I understand that:

- I have the right to withdraw my consent at any time during participation in the study without having to state reasons and without fear of adverse consequences.
- I have the right to have my research data deleted up until the last page of the survey.
- I have the right to withdraw my consent for the (further) processing of my personal data until the last page of the survey.
- My personal data are processed in accordance with the applicable European privacy regulations and in accordance with the privacy statement of Radboud University (<https://www.ru.nl/english/vaste-onderdelen/privacy-statement-radboud-university/>).

I agree that:

- My personal and/or research data within this research will be obtained for scientific purposes and will be available for verification, reuse and replication for 10 years.
- My personal data, which are obtained for administrative purposes only, will be kept for a maximum of 1 month after completion of the research. Administrative goals include to re-invite you to the survey by sending the link to the survey via email.
- The consent form is kept for 10 years.
- Supervisory authorities may inspect my personal and research data for the purpose of auditing the research.

I hereby consent to participate in the study referred to above.

- Yes, I agree to participate in this study (continue to the study).
- No, I do not wish to participate in this study.

## Appendix B

### The New Work Values Scale

This attachment includes the scale used to measure the extent to which the participants value development, stimulation, relating, and money. Below is the New Work Values Scale by Stiglbauer et al. (2022) displayed as it was used in the current study in its original language, German. A translation of the items in English is shown following the German questionnaire.

#### Instruction

Die folgenden Aussagen beziehen sich auf deine Arbeitswerte. Bitte gib mir deine Einschätzung zu den folgenden Aussagen und kreuze Zustimmendes an.

- Ein hohes Gehalt ist mir das Allerwichtigste.
- Die größte Motivation für meine Arbeit schöpfe ich aus einem hohen Gehalt.
- Fortbildungen sind mir wichtig.
- Im Job will ich mich und meine Kenntnisse stets weiterentwickeln.
- Bei meiner Arbeit muss was los sein, dann fühle ich mich erst wohl.
- Ein Job macht mir dann wirklich Freude, wenn ich immer wieder vor neuen Herausforderungen stehe.
- Mir ist es wichtig mit meinen Kolleg:innen auch befreundet zu sein.
- Regelmäßige soziale Veranstaltungen neben der Arbeit zeichnen ein gutes Unternehmen aus.

Antwort auf einer 5-stufigen Likert-Skala von 1 (*stimme überhaupt nicht zu*) bis 5 (*stimme voll und ganz zu*).

**Instruction**

The following statements will be on your work values. Please give me your opinion on the following statements and tick the response option that best describes how you feel.

- A high salary is the most important thing to me.
- I draw the greatest motivation for my work from a high salary.
- Further training is important to me.
- In my job, I always want to develop myself and my knowledge.
- There has to be something going on at my work before I feel good.
- I really enjoy a job when I am always faced with new challenges.
- It is important for me to be friends with my colleagues.
- Regular social events alongside work are a sign of a good company.

Response on a 5-point Likert scale from 1 (*do not agree at all*) to 5 (*fully agree*).

## Appendix C

### Perceived Person-Organization Fit Scale

Below is the scale used to measure the extent to which the participants believe their work values fit the organization's values. First, the German version of the perceived P-O fit scale by Schliephake (2018) is displayed. Following this, the attachment includes a translation of the items in English.

#### Instruction

Bitte gib mir deine Einschätzung zu den folgenden Fragen. Gehe hier beim Ankreuzen der Aussagen von deiner aktuellen Rolle als Auszubildender in diesem Unternehmen aus.

- Inwieweit sind die Werte deines Unternehmens ähnlich deiner eigenen Werte?
- Inwieweit passt deine Persönlichkeit zu der Persönlichkeit oder dem Image deines Unternehmens?
- Inwieweit erfüllt dein Unternehmen deine Bedürfnisse?
- Inwieweit passt dein Unternehmen gut zu dir?

Antwort auf einer 5-stufigen Likert-Skala von 1 (*sehr wenig*) bis 5 (*sehr stark*)

**Instruction**

Please give me your opinion on the following questions. Also, please respond to these questions from the perspective of your current function as apprentice at this company.

- To what extent are the values of your company similar to your own values?
- To what extent does your personality match the personality or image of your company?
- To what extent does your company meet your needs?
- To what extent is your company a good fit for you?

Response on a 5-point Likert scale from 1 (*very little*) to 5 (*very strongly*).

## Appendix D

### Utrecht Work Engagement Scale

This attachment displays the scale used to measure the participants' levels of work engagement. First, the German short version of the Utrecht Work Engagement Scale (UWES-9) by Schaufeli and Bakker (2004b) is displayed, which was used in the current study. Then, the English version of this scale is shown.

#### Instruction

In der folgenden Liste findest du neun Aussagen dazu, wie man die Arbeit erleben kann.

Kreuze bitte das für dich Zutreffende an. Bitte beachte, dass du hier sieben

Antwortmöglichkeiten hast. Gehe beim Ankreuzen der Aussagen von deiner aktuellen Rolle als Auszubildender in deinem Einsatzbereich im Unternehmen aus.

- Bei meiner Arbeit bin ich voll überschäumender Energie.
- Beim Arbeiten fühle ich mich fit und tatkräftig.
- Ich bin von meiner Arbeit begeistert.
- Meine Arbeit inspiriert mich.
- Wenn ich morgens aufstehe, freue ich mich auf meine Arbeit.
- Ich fühle mich glücklich, wenn ich intensiv arbeite.
- Ich bin stolz auf meine Arbeit.

Antwort auf einer 7-stufigen Likert-Skala von 0 (*nie*) bis 6 (*immer (täglich)*).

**Instruction**

The following nine statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, tick the 'never' after the statement. If you have had this feeling, indicate how often you feel it by ticking the response option that best describes how frequently you feel that way. Also, please respond to these statements from the perspective of your current function of apprentice at your area of application at this company.

- At my work, I feel bursting with energy.
- At my job, I feel strong and vigorous.
- I am enthusiastic about my job.
- My job inspires me.
- When I get up in the morning, I feel like going to work.
- I feel happy when I am working intensely.
- I am proud on the work that I do.
- I am immersed in my work.
- I get carried away when I'm working.

Response on a 7-point Likert scale from 0 (*never*) to 5 (*always (every day)*)).

## Appendix E

### Recruitment Text

The text below is the original text used to recruit participants for the study, which was sent via email to the participant pool, including all of the apprentices. Following this, the translated English version of the recruitment text is displayed.

Hallo, mein Name ist Friederike Gitzelmann und ich bin Werkstudentin im Personalmanagement, Team Ausbildung. Im Rahmen meines Masterstudiums „Arbeits- und Organisationspsychologie“ untersuche ich das Thema Einflussfaktoren von Arbeitsengagement, um genauer zu sein: die Arbeitswerte, das Arbeitsengagement und den Match zwischen den Auszubildenden und der Firma. Dazu möchte dich bitten, an meiner Umfrage teilzunehmen. Die Umfrage richtet sich an die kaufmännischen Auszubildenden, dauert 5-10 Minuten und kann bequem vom Laptop/Tablet/Handy aus ausgefüllt werden. Du würdest mich bei meiner Masterarbeit unterstützen und mir helfen, neue Kenntnisse für die Ausbildung bei uns zu sammeln. Über den folgenden Link kann die Umfrage bis zum 27.04.2023 gestartet werden: [https://psychru.qualtrics.com/jfe/form/SV\\_6matB8t7miuDxKS](https://psychru.qualtrics.com/jfe/form/SV_6matB8t7miuDxKS)

Die Teilnahme an der Umfrage ist freiwillig und anonym, womit Rückschlüsse auf deine Person absolut unmöglich sind.

P.S.: bitte lasse dich nicht von dem langen Informationsschreiben abschrecken. Die wichtigen Punkte sind fett markiert. Bei Fragen oder Anregungen freue ich mich auf deine Nachricht.

Vielen, vielen Dank für deine Unterstützung.

Mit freundlichen Grüßen,

Friederike Gitzelmann

Werkstudentin

HR Ausbildung

Hello, my name is Friederike Gitzelmann, and I am a working student in personnel management, team apprenticeship. As part of my master's programme "Work and Organizational Psychology," I am investigating determinants of work engagement, specifically focusing on work values, work engagement, and the fit between apprentices and the company. Therefore, I kindly ask you to participate in my survey. The survey is intended for commercial apprentices, takes 5-10 minutes to complete, and can be conveniently filled out from a laptop, tablet, or mobile phone. Your participation would support my master's thesis and help me gather new insights for our apprenticeship program. The survey can be accessed through the following link until April 27, 2023:

[https://psychru.qualtrics.com/jfe/form/SV\\_6matB8t7miuDxKS](https://psychru.qualtrics.com/jfe/form/SV_6matB8t7miuDxKS)

Participation in the survey is voluntary and anonymous, ensuring that no conclusions can be drawn about your personal identity.

P.S.: Please do not be deterred by the lengthy information letter. The important points are marked in bold.

If you have any questions or suggestions, I would be delighted to receive your message.

Thank you very, very much for your support.

Best regards,

Friederike Gitzelmann

Working Student

HR Apprenticeship

## **Appendix F**

### **Information Letter**

The attachment below contains the information letter that the participants read before completing the survey in German, followed by the translated letter in English.

### **Informationsschreiben zur Teilnahme an wissenschaftlicher Forschung: Die Beziehung zwischen Arbeitswerten und Arbeitsengagement in einem deutschen Immobilienunternehmen.**

#### **Ziel der Forschung**

Die Studie wird im Rahmen des Master-Studiengangs "Arbeit, Organisation und Gesundheit" an der Radboud-Universität durchgeführt und von einem Universitätsdozenten und einem externen Betreuer dieses Unternehmens, Vonovia SE, betreut. In der Umfrage wird eine spezifische Forschungsfrage für dieses Unternehmen untersucht, nämlich: das Halten bestimmter Arbeitswerte, ihre Übereinstimmung mit den Werten des Unternehmens und Arbeitsengagement im Kontext von Auszubildenden der Generation Z. Ein Einblick in diese Beziehungen wird dem Unternehmen und den Mitarbeitern zugutekommen, indem diese Erkenntnisse auf die Rekrutierung und Bindung von Personal angewendet werden.

#### **Beschreibung der Studie**

Zunächst beantworte bitte zwei demografische Fragen zu deinem Alter und deinem Geschlecht. Im Anschluss fülle bitte drei kurze Fragebögen aus, die Fragen zu verschiedenen Themen enthalten, wie z.B. spezifische Arbeitswerte, einschließlich der Wertschätzung des persönlichen und beruflichen Wachstums, herausfordernder Arbeit, positiver Arbeitsbeziehungen und finanzieller Vergütung. Weitere Themen sind deine Wahrnehmung, ob deine Werte mit den Werten des Unternehmens übereinstimmen, und deine Begeisterung

und Engagement für deine Arbeit. Da Auszubildende der Generation Z im Fokus dieser Umfrage stehen, werden Teilnehmer, die 28 und älter sind, nach der ersten Frage zum Ende der Umfrage geleitet. Alle Antwortmöglichkeiten sind Multiple-Choice, ohne richtige oder falsche Antworten. Wähle für jede Frage die Antwort, die deiner Meinung nach am besten passt. Schließlich gibt es eine offene Frage, welche eine schriftliche Eingabe erfordert. Bei dieser Frage geht es um deine Meinung zum Recruiting-Prozess der Auszubildenden bei Vonovia. Das Ausfüllen des Fragebogens dauert etwa 5-10 Minuten. Du erhältst keine Entschädigung für die Teilnahme an der Umfrage.

Die Forschung gilt als risikoarm und entspricht den ethischen Rahmenbedingungen des „Light Track“ und entspricht den ethischen Rahmenbedingungen des "Light Track", wie sie vom Ethikkomitee für Sozialwissenschaften (ECSS) der Radboud-Universität erstellt wurden. Der Forscher hat dies festgestellt, indem sie die zum Light Track gehörende Checkliste ausgefüllt hat.

### **Persönliche Daten**

Die Daten für diese Studie werden anonym erhoben. Zur Durchführung der Forschung ist es erforderlich, dass deine personenbezogenen Daten erhoben, genutzt und gespeichert werden. Personenbezogene Daten sind Informationen, mit denen du (in)direkt identifiziert werden könntest. Während der Umfrage wirst du nach deinem Alter und deinem Geschlecht gefragt. Ich werde diese Informationen verwenden, um die Gruppe der Teilnehmer zu beschreiben (z.B. durchschnittliche Altersgruppe, Anzahl männlicher/weiblicher/diverser Teilnehmer). Die Antwortoptionen zu beiden Fragen werden jedoch gruppiert, um Anonymität zu gewährleisten (z.B. wirst du gefragt, in welcher Alterskategorie sich dein Alter befindet, anstatt dein Alter zu nennen). In der Einwilligungserklärung wirst du um ausdrückliche Erlaubnis zur Erhebung, Verwendung und Speicherung der oben genannten persönlichen Daten gebeten.

## **Anonymität**

Die von dir gesammelten Daten werden anonym erhoben, mit größter Sorgfalt behandelt und sind nur für autorisiertes Personal zugänglich. Persönliche Daten, die der Forscher über dich gesammelt hat, bleiben während der Forschung vertraulich. Zum Schutz deiner Privatsphäre speichert der Forscher deine Daten mittels eines Verschlüsselungsverfahrens. Das bedeutet, dass die Ergebnisse dieser Studie nicht auf dich zurückgeführt werden können. Keine an der Forschung beteiligten Parteien erhalten Daten, die auf dich zurückgeführt werden können. Um deine Identität zu verschleiern, dürfen in Berichten und Veröffentlichungen der Forschung nur anonymisierte Forschungsdaten verwendet werden.

Du kannst die Teilnahme während der Studienteilnahme jederzeit kündigen oder deine Einwilligung widerrufen, indem du deine Antworten nicht einreichst. Da die Daten anonym erhoben werden, ist ein Widerruf deiner Daten bis zum Ende der Umfrage möglich, indem du die Umfrage nicht beendest oder am Ende der Umfrage nicht zustimmst, dass deine Daten zur Forschung verwendet werden. Dies hat für dich keine Konsequenzen.

Der Zugang zu den Daten wird dem Universitätsbetreuer und mir gewährt. Darüber hinaus sind die Daten den Prüfern des Studiengangs, für den diese Studie durchgeführt wird, zugänglich. Ich werde die Rohdaten auf einem verschlüsselten USB-Stick speichern. Nach Abschluss des Masterprojekts werden die Daten verschlüsselt an das Psychologie-Programm der Radboud-Universität gesendet, damit sie gemäß europäischen Vorschriften gespeichert werden können (für 10 Jahre). Das Psychologie-Programm der Radboud-Universität bewahrt die Forschungsdaten für Bildungszwecke auf (z. B. Bewertung, Überprüfung und Audits). Die Daten werden von mir aufbewahrt, bis das Projekt evaluiert und bewertet wurde und spätestens 1 Monat nach Erhalt der Thesis-Note gelöscht. Die von dir unterschriebene Einverständniserklärung wird nach Abschluss der Forschung 10 Jahre lang in der Radboud

Universität aufbewahrt. Deine (anonymisierten) Forschungsdaten werden für 10 Jahre nach Abschluss der Forschung gespeichert.

### **Recht auf Zugang durch Aufsichtsbehörden zur Überprüfung der Einhaltung von Richtlinien**

Einige Personen und Organisationen müssen Zugang zu deinen Forschungsdaten haben. Dies ist notwendig, um zu prüfen, ob die Forschung ordnungsgemäß und zuverlässig durchgeführt wurde. Diese Personen und Aufsichtsbehörden, umfassen autorisierte Personen innerhalb der Radboud Universität (z.B. ein Dekan, Direktor oder Datenschutzbeauftragter) und (inter)nationale Aufsichtsbehörden (z.B. die niederländische Datenschutzbehörde und das niederländische Board on Research Integrity). Sie sind zur Inspektion deiner Daten auf einer streng vertraulichen Basis verpflichtet. Du wirst gebeten, diese Zugriffsberechtigung zu erteilen. Wenn du dies ablehnst, kannst du nicht an der Studie teilnehmen.

### **Zusätzliche Informationen zu deinen Rechten im Hinblick auf die Verarbeitung deiner Daten**

Die Radboud University ist verantwortlich für die Einhaltung der Allgemeinen Datenschutzverordnung (DSGVO) bei der Verarbeitung deiner Daten. Ich stelle sicher, dass deine Privatsphäre und die damit verbundenen Bedingungen geschützt sind und sie sich an den niederländischen Verhaltenskodex und die Universitätsrichtlinien zur Speicherung und Verwaltung von Forschungsdaten halten. Du hast das Recht, deine Einwilligung zur Verarbeitung deiner Daten bis zur letzten Seite der Umfrage zu widerrufen. Deine (personenbezogenen) Daten werden dann gelöscht. Die Datenschutzerklärung der Radboud University findest du unter: <https://www.ru.nl/english/vaste-onderdelen/privacy-statement-radboud-university/>. Wenn du Fragen zum Datenschutz hast, wende dich bitte an den lokalen Datenschutzbeauftragten der Fakultät für Sozialwissenschaften (enna.lujinovic@ru.nl). Bei allgemeinen Fragen wende dich bitte an das Büro des Datenschutzbeauftragten der Radboud

University unter [privacy@ru.nl](mailto:privacy@ru.nl). Weitere Informationen über deine Rechte bei der Verarbeitung deiner personenbezogenen Daten findest du unter <https://www.ru.nl/privacy/english/protection-personal-data/data-subjects-rights/> und auf der Website von der Dutch Data Datenschutzbehörde (<https://autoriteitpersoonsgegevens.nl/en>).

### **Freiwillige Teilnahme**

Deine Teilnahme an dieser Studie ist freiwillig. Wenn du dich dazu entscheidest, nicht teilzunehmen, hat dies keine Konsequenzen. Wenn du während des Forschungsprozesses deine Einwilligung widerrufen und deine Teilnahme beenden möchtest, hast du jederzeit das Recht dazu. Des Weiteren wirst du am Ende der Umfrage gefragt, ob du noch immer zustimmst, dass deine Daten zu Forschungszwecken verwendet werden dürfen.

### **Kontaktinformationen**

Wenn du Fragen, Kommentare oder Bedenken zu dieser Studie hast, wende dich bitte an mich, die verantwortliche Forscherin (Friederike Gitzelmann, Radboud Universität Nijmegen, Fakultät der sozialen Wissenschaften, per email an [Friederike.gitzelmann@ru.nl](mailto:Friederike.gitzelmann@ru.nl)). Wenn du Fragen, Anmerkungen oder Bedenken hast, die du lieber nicht mit dem zuständigen Forscher teilen möchtest, kannst du dich an die Koordinatorin des Masterstudiengangs Arbeits-, Organisations- und Gesundheitspsychologie, Brigitte Claessens ([brigitte.claessens@ru.nl](mailto:brigitte.claessens@ru.nl)), wenden.

Wir bitten dich nun zu überlegen, ob du an unserer Studie teilnehmen möchtest. Wenn du dich entscheidest, nicht an dieser Studie teilnehmen zu wollen, danken wir dir für deine Zeit. Wenn du angibst, dass du an dieser Studie teilnehmen möchtest, werden wir dich bitten, eine Einwilligungserklärung zu unterzeichnen. Indem du diese Einwilligungserklärung unterschreibst, erklärst du, dass du ausreichend über die Studie informiert bist, an der Studie teilnehmen möchtest und dies freiwillig tust.

Freundliche Grüße,

Friederike Gitzelmann

friederike.gitzelmann@ru.nl

Radboud Universiteit Nijmegen, Fakultät der sozialen Wissenschaften

**Information letter for participation in scientific research: The Relation of Work Values  
on Work Engagement in a German Real Estate Company**

**Aim of the research**

This study is conducted within the master psychology program “Work, Organisation & Health” at Radboud University. A university lecturer and an external supervisor at this company, Vonovia SE, supervise it. In this survey, I study a specific research question for this company. I investigate holding specific work values, their match with the organization’s values and work engagement in the context of apprentices of generation Z. Getting insight on these relations will benefit the company and employees by applying these insights to recruitment and retainment of personnel.

**Description of the study**

I will first ask you to fill in two demographic questions concerning your age and gender. Then, I will ask you to fill out three short questionnaires with questions about different topics, such as holding specific work values, including valuing personal and professional growth, challenging work, positive work relationships, and financial compensation. Other topics include your perception of whether your values match the organization’s values and your enthusiasm and dedication toward your job. Because Generation Z apprentices are the focus of this survey, respondents 28 and older will be directed to the end of the survey after the first question. All these answers will be multiple

choice, with no right or wrong answers. For each question, choose the answer that best fits your opinion. Finally, you will be presented with one open-ended question in which you can type in a response. This question will be about your opinion on the recruitment process of the apprentices at Vonovia. Filling in the survey will take approximately 5-10 minutes. You will not receive any compensation for participating in the survey.

The research has a minimal risk and complies with the ethical frameworks of the “Light Track” as drawn up by the Ethics Committee for Social Sciences (ECSS) of the Radboud University. The researcher has established this by completing the checklist belonging to the Light Track.

### **Personal data**

The data for this study are collected anonymously. To conduct the research it is necessary that your personal data are collected, used and stored. Personal data refers to information with which you can be identified (in)directly. During the survey, you will be asked about your age and gender. I will use this information to describe the group of participants (e.g., average age group and number of female/male/other participants). However, the answer options to both questions will be grouped (for example you will be asked to indicate in which age category your age falls instead of mentioning your exact age), to ensure anonymity. In the consent form, you are asked to give explicit permission for the collection, use and storage of the above-mentioned personal data. If you do not agree, you cannot participate in the research study.

### **Anonymity**

The data for this study are collected anonymously and the information you provide for the current research purposes is treated with the utmost care and is accessible to authorized staff only. Personal data collected by the researcher about you will remain confidential throughout the research. In order to safeguard your privacy, the researcher saves your

personal data using a process of encryption and your data will be collected and stored anonymously. That means that the results of this study cannot be traced back to you. No parties involved in the research shall receive any data that can be traced back to you. In order to disguise your identity, only anonymized research data are to be used in reports and publications regarding the research.

You can cancel participation at any time during study participation or withdraw your consent by not submitting your answers. Due to the fact that data is collected anonymous withdrawing your data is possible till the end of the survey by not finishing the survey or on the last page, by indicating that you do not want that your data will be used for this research. This has no consequences for you.

Access to the data is given to the university supervisor and me. In addition, the research data are accessible to the examiners of the course for which this study is conducted. I will store the raw data on an encrypted flashdrive. Upon finishing the master project, the data will be send the Psychology program of the Radboud University so that the data is stored in line with European regulations (for 10 years). The Psychology program of the Radboud University keeps the research data for education purposes (for example, appraisal, verification and audits). The data will be kept by me until the project has been evaluated and graded, and will be deleted 1 month after receiving the thesis grade at the latest. The consent form signed by you will be kept for 10 years upon completion of the research at Radboud University. Your (anonymized) research data will be stored for 10 years after the research has been completed.

### **Right of access by supervisory authorities to inspect the research's compliance with ruling guidelines**

Some persons and organizations must have access to your personal and research data. This is necessary in order to test whether the research has been carried out properly and

reliably. These persons and supervisory authorities inspecting your data for verification include: authorized persons within Radboud University (for example a dean, director or data officer) and (inter) national supervisory authorities (for example the Dutch Data Protection Authority and the Netherlands Board on Research Integrity). They are held to inspecting your data on a strictly confidential basis. You will be asked to grant permission for this access. If you refuse to do so, you cannot participate in the study.

### **Additional information on your rights regarding the processing of your personal data**

Radboud University is responsible for compliance with the General Data Protection Regulation (GDPR) when processing your personal data. The researcher ensures that your privacy and the conditions attached to it are safeguarded and he/she adheres to the Dutch code of conduct for scientific integrity and university policy regarding the storage and management of personal and research data when conducting this research. You have the right to withdraw your consent for the processing of your personal data at any time till the last page of the survey. Your personal data will then be deleted. You can find the Radboud University Privacy Statement at: <https://www.ru.nl/english/vaste-onderdelen/privacy-statement-radboud-university/>. If you have any questions about your privacy, please contact the Local Privacy Officer Faculty of Social Sciences ([enna.lujinovic@ru.nl](mailto:enna.lujinovic@ru.nl)). For general questions, please contact the office of the Data Protection Officer of Radboud University via [privacy@ru.nl](mailto:privacy@ru.nl). More information about your rights in the processing of your personal data can be found at <https://www.ru.nl/privacy/english/protection-personal-data/data-subjects-rights/> and on the website of the Dutch Data Protection Authority (<https://autoriteitpersoonsgegevens.nl/en>

### **Voluntary participation**

Your participation in this study is entirely voluntary. If you decide not to participate, there will be no consequences. If, during the course of the research, you wish to withdraw

your consent and terminate your participation, you have every right to do so at all times. In the end of the survey you will be asked if you still agree to that we can use your data.

### **Contact information**

If you have any questions, comments or concerns about this study, please contact me, the researcher responsible. (Friederike Gitzelmann, Radboud University Nijmegen, Faculty of Social Sciences by sending an email to [Friederike.gitzelmann@ru.nl](mailto:Friederike.gitzelmann@ru.nl)). If you have questions, remarks or concerns that you rather not share with the researchers in charge, you can contact the coordinator of the Master's Program in Work-Organizational and Health Psychology, Brigitte Claessens ([brigitte.claessens@ru.nl](mailto:brigitte.claessens@ru.nl)).

We now ask you to consider whether you want to participate in our study. If you decide you do not want to participate in this study, we thank you for time. If you indicate that you want to participate in this study, we will ask you to sign an informed consent form. By signing this informed consent form, you indicate that you are sufficiently informed about the study, that you want to participate in the study and that you voluntarily do so.

With kind regards,

Friederike Gitzelmann

[friederike.gitzelmann@ru.nl](mailto:friederike.gitzelmann@ru.nl)

Radboud University Nijmegen, Faculty of Social Sciences

## Appendix G

### Open-ended Question

Below is the open-ended question at the end of the survey, asking how the participants perceived the organization's recruiting process, which was included for organizational purposes. Following this is the question translated into English.

- Bitte beantworte kurz, wie du den Recruiting-Prozess, bzw. den Bewerbungsprozess für einen Ausbildungsplatz bei uns empfunden hast (z.B. was hätten wir vom Personalbereich besser machen können, was hat dir gefallen, etc.).
- Please answer briefly how you felt about the recruiting process of apprentices or the application process (e.g., what could we have done better in HR, what did you like, etc.).

## Appendix H

### Debriefing

This attachment displays the debriefing presented to the participants at the end of the survey. Following this, the English translation of the debriefing is shown.

Du hast das Ende dieser Studie erreicht. Mit dieser Umfrage möchte ich die Beziehung zwischen dem Festhalten an bestimmten Arbeitswerten und dem Arbeitsengagement bei Auszubildenden der Generation Z untersuchen. Es wird erwartet, dass Auszubildende, die bei den Arbeitswerten (persönliches und berufliches Wachstum, herausfordernde Arbeit, positive Arbeitsbeziehungen und Vergütung) höher punkten, auch beim Arbeitsengagement höher abschneiden und dass diese Beziehung für diejenigen stärker ist, die der Meinung sind, dass diese Werte mit den Werten des Unternehmens übereinstimmen.

Die von mir gesammelten Informationen werden anonym verarbeitet. Das bedeutet, dass die Ergebnisse nicht zu dir zurückverfolgt werden können. Dies hat zur Folge, dass ich dich nach Abschluss der Studie nicht über deine persönlichen Ergebnisse informieren kann. Wenn du über die Ergebnisse dieser Studie informiert werden möchtest, teile mir dies bitte über [friederike.gitzelmann@ru.nl](mailto:friederike.gitzelmann@ru.nl) mit. Bei Fragen, Anmerkungen oder Bedenken zu dieser Studie kannst du mich auch unter [friederike.gitzelmann@ru.nl](mailto:friederike.gitzelmann@ru.nl) kontaktieren. Wenn du Fragen, Anmerkungen oder Bedenken hast, die du lieber nicht mit dem zuständigen Forscher teilen möchtest, kannst du dich an die Koordinatorin des Masterstudiengangs Arbeits-, Organisations- und Gesundheitspsychologie, Brigitte Claessens ([brigitte.claessens@ru.nl](mailto:brigitte.claessens@ru.nl)), wenden.

Bitte gebe die Informationen zu dieser Studie nicht an andere weiter, um sicherzustellen, dass neue Teilnehmer nicht mit dem Zweck unserer Studie vertraut sind. Nun bitte ich erneut um eine Zustimmung zur Nutzung deiner Forschungsdaten.

- Ja, meine Forschungsdaten können für diese Studie verwendet werden.
- Nein, meine Forschungsdaten können für diese Studie nicht verwendet werden.

Vielen Dank für die Teilnahme an meiner Studie! Du kannst dieses Fenster jetzt schließen.

Mit freundlichen Grüßen,

Friederike Gitzelmann

You have reached the end of this study. With this study, I want to investigate the relationship between holding specific work values and work engagement among apprentices of Generation Z. I expect that individuals who score higher on the work values (personal and professional growth, challenging work, positive work relationships, and financial compensation) will score higher on work engagement and that this relationship is stronger for those who perceive that these values match with the organization's values.

The information I collected will be processed anonymously. This means that the results cannot be traced back to you. The consequence of this is that I cannot inform you about your personal results after the study has been completed. If you wish to be informed about the results of this study, then please let me know via [friederike.gitzelmann@ru.nl](mailto:friederike.gitzelmann@ru.nl). Also, for questions, remarks or concerns about this study, you can contact me via [friederike.gitzelmann@ru.nl](mailto:friederike.gitzelmann@ru.nl). If you have questions, remarks or concerns that you rather not share with the researchers in charge, you can contact the coordinator of the Master's Program in Work-Organizational and Health Psychology, Brigitte Claessens ([brigitte.claessens@ru.nl](mailto:brigitte.claessens@ru.nl)).

I would like to ask you not to share the information about this study with others, to ensure that new participants are not familiar with the purpose of our study. Now, I ask you again for your permission to use your research data.

- Yes, my research data can be used for this study.
- No, my research data cannot be used for this study.

Thank you very much for participating in our study! You can now close this window.

Kind regards,

Friederike Gitzelmann

## Appendix I

### Data Assumptions

This attachment includes tables and figures on the met data assumptions. It demonstrates that the assumptions of the normality of residuals, linearity, homogeneity of residuals, data independence, interval data, and absence of multicollinearity are checked and met. The data assumption of interval data is already reflected in the response categories of the different scales used to measure the variables. Further, if the assumptions of normality and homogeneity are met, linearity is likely also met (therefore, there is no extra table or figure on this data assumption).

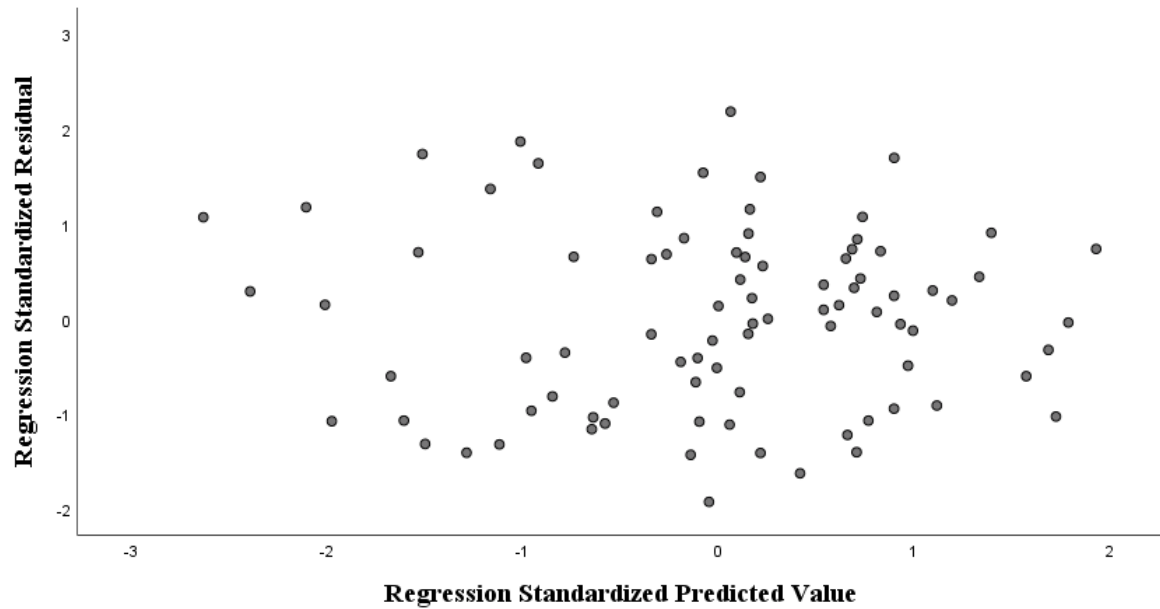
**Table I1**

*Collinearity Statistics for Study Variables*

Study Variables	Tolerance	VIF	Durbin-Watson
<b>Model 1</b>			
Valuing development	.81	1.23	
Valuing stimulation	.83	1.21	
Valuing relating	.98	1.02	
Valuing money	.98	1.02	
P-O fit	.97	1.03	
<b>Model 2</b>			2.05
Valuing development	.76	1.32	
Valuing stimulation	.76	1.32	
Valuing relating	.89	1.12	
Valuing money	.94	1.07	
P-O fit	.91	1.11	
Interaction development	.61	1.64	
Interaction stimulation	.59	1.68	
Interaction relating	.89	1.12	
Interaction money	.89	1.12	

*Note.* Absence of multicollinearity when tolerance values < .20 or VIF < 10.

The data is independent when the Durbin-Watson test value lies between 1 and 3.

**Figure I2***Standardized Predicted Values on Standardized Residuals*

*Note.* The assumption of homogeneity of residuals is met if no specific shape is visible.

**Table I3***Tests of Normality*

Variable	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	<i>df</i>	Sig.	Statistic	<i>df</i>	Sig.
Standardized Residuals	.08	86	.200	.98	86	.177

*Note.* *df* = degrees of freedom; Sig. = significance.

<sup>a</sup> Lilliefors Significance Correction.

## Appendix J

### Post Hoc Analysis

This attachment displays the results of the post hoc reliability analysis of the subscales of the work values scale, in which the original sample was divided into two equally large groups where one group represented the younger apprentices and the other the older apprentices. As shown in the table, reliabilities slightly increased in the older apprentices for all four work values.

#### *Post Hoc Analysis on Reliability*

Age group	Study variable	$\alpha$	$N$
16-19 years to 20-23 years	Valuing development	.503	43
	Valuing stimulation	.230	
	Valuing relating	.223	
20-23 years to 24-27 years	Valuing money	.650	43
	Valuing development	.544	
	Valuing stimulation	.440	
	Valuing relating	.254	
	Valuing money	.726	

*Note.* Age group = original sample divided into two equally large groups where one group includes the younger participants and the other the older participants,  $\alpha$  = Crohnbach's alpha,  $N$  = sample size.