The moderating role of playfulness as a personality trait in the relationship between playful work design and job satisfaction

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Master Strategic Human Resources Leadership

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Preface

This master's thesis is the final part of the master's specialisation Strategic Human Resources Leadership of the master Business Administration at Radboud University in Nijmegen. Although writing this thesis was very challenging at times, I must say I enjoyed every bit of it. I feel like I have developed myself in many ways, especially on academic level. The insights that I gained during this master's course will undoubtably be of use in the future.

There are some people I want to thank for helping me during the process of writing this master's thesis. I want to thank my supervisor Dr. Rawan Ghazzawi for guiding me in the last few months. The feedback and help I received from her pushed me to improve my academic skills and to improve the quality of my thesis. The fact that I was always able to drop by her office to ask for help shows that she really cared for me to succeed in my work. I also want to thank two of my classmates, Nigel Gieling and Daan Verhagen. We often faced the same difficulties or challenges and trying to solve these together really helped me to get through them.

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Abstract

The main aim of this study was to examine the moderating role of playfulness in the relationship between Playful Work Design (PWD) and job satisfaction. The relatively new concept of PWD has gained increased attention over the past few years. The first studies done on PWD have revealed promising results, which is why it is argued that it is a worthwhile concept. By investigating the moderating role of playfulness in the relationship between PWD and job satisfaction, this paper aimed to add knowledge to the existing scarce literature on PWD. This paper also aimed to investigate the relationship between PWD and job satisfaction, as well as the relationship between playfulness and job satisfaction. A quantitative study (N = 177) was conducted in order to investigate the mentioned relationships. Results indicate that playfulness has no significant moderating role in the relationship between PWD and job satisfaction. When looking at playfulness and job satisfaction, also no significant relationship was found. However, a significant positive relationship was found between PWD and job satisfaction. This finding indicates that employees who engage in PWD have increased job satisfaction, confirming that PWD is a worthwhile concept for both employees and organizations.

Key words: playful work design, playfulness, job satisfaction.

Content

Introduction

Play and work were previously seen as mutually exclusive concepts, but nowadays they are seen as intertwined with each other. Play has become a crucial aspect of organizational culture (Butler et al, 2011). For the younger, emerging workforce (e.g., millennials), leisure and recreational activities during work are an integral aspect of their lives (Twenge et al., 2010). Therefore, incorporating the concept of play at work is found to be something that is welcomed by (new) younger workers. More and more organizations are trying to incorporate play into the everyday working-life of employees by creating team-building exercises, simulation games, puzzle-solving activities and much more (Butler et al., 2011). Having a playful work environment is found to be beneficial for commitment, productivity, creativity and much more (Fourie et al., 2020). Additionally, it is found that integrating play at work reduces boredom among employees (Petelczyc et al., 2018). Boredom in the workplace is a phenomenon that has been around for a long time and is seen as an important issue in organizational research (Loukidou et al., 2009). Boredom in the workplace is linked to many negative consequences such as absenteeism, poor retention and even health problems. The global increase of automation in work environments will likely cause boredom to be a growing problem (Cummings et al., 2016). Studies show that integrating play at work reduces boredom (Bakker et al., 2020b; Petelczyc et al., 2018) which makes the concept of play an interesting way of dealing with this problem of increasing levels of boredom in the workplace, highlighting that the concept of play is very relevant in todays organizational research.

The concept of *play* can be seen as a universally enjoyable phenomenon and is about transforming any situation into one that is more stimulating, enjoyable and entertaining (Barnett, 2007). People use play in multiple areas of daily life, such as in leisure time but also during work (Proyer, 2014). Play in the workplace enables employees to psychologically detach from work to create a break (Hülsheger, 2016). This break allows employees to replenish their resources before going back to work again, which can for example benefit employee motivation and mental fitness (Sørensen & Spoelstra, 2012).

Play can be used by individuals in a wide range of jobs in order to proactively make their work more playful (Bakker et al., 2020b). Proactively using play during work is known as Playful Work Design (PWD). PWD is still a relatively new concept and the first studies done on PWD have indicated that it has enhances employee creativity, engagement, performance and well-being (Bakker et al., 2020b; Scharp et al., 2021). Bakker et al. (2020) suggest that PWD may be applicable to various work tasks, but especially work tasks that are

repetitive, monotonous and often seen as boring. These promising outcomes of the first investigations on PWD reveal that it is a worthwhile concept for both employees and organizations (Scharp et al., 2022).

A positive outcome that has not yet been investigated in relation to PWD, is job satisfaction. Job satisfaction is an important outcome for both employees and organizations (Gupta & Agrawal, 2023), as it is an important factor in determining organizational outcomes such as commitment, productivity and employee turnover (Sidin et al., 2021). Employees who are satisfied with their jobs are deemed more stable and productive, while employees who are not satisfied with their jobs are less productive and tend to quit (James, 2014). Besides this, the efficiency and achievements of organizations rely heavily on employees' job satisfaction, making it a desirable outcome for both employees and organizations (Gupta & Agrawal, 2023).

An important factor that influences one's job satisfaction is personality. Multiple studies highlight that personality plays a role in how satisfied an employee is with their job (Bruk-Lee et al., 2009; Maggiori et al., 2016; Törnroos et al., 2019). High levels of certain personality traits such as extraversion, agreeableness and openness are all related to a higher level of job satisfaction (Törnroos et al., 2019). For example, it is argued that extraverted individuals are more sensitive to positive affective experiences in general and therefore more often experience higher job satisfaction (Avery et al., 2015). While certain personality traits influence job satisfaction, it is also found that personality plays a role within the concept of PWD (Scharp et al., 2019). In a previous study conducted by Scharp et al. (2019), playfulness as a personality trait was used as a moderator in the indirect relationship between PWD and creativity through work engagement. It was found that PWD fosters work engagement and creativity more for employees with a more playful personality compared to employees who have a less playful personality, indicating that playfulness enhances the effectiveness of PWD.

As personality is found to be of major influence on employees' job satisfaction (Bruk-Lee et al., 2009; Maggiori et al., 2016; Törnroos et al., 2019) and playfulness specifically is found to have a moderating role in relationships between PWD and certain organizational outcomes (Scharp et al., 2019), this paper will use playfulness as a moderating variable in the relationship between PWD and job satisfaction.

This paper aims to investigate the moderating role of playfulness in the relationship between PWD and job satisfaction. The following research question is made for this paper:

"To what extent does playfulness moderate the relationship between PWD and job satisfaction?".

This paper aims to make several theoretical contributions. To the author's knowledge, there have not been any studies investigating the direct relationship between PWD and job satisfaction, making this the first paper to do so. Understanding the relationship between PWD and job satisfaction is important since having high levels of job satisfaction is desirable for organizations as this determines important organizational outcomes such as productivity and commitment (Sidin et al., 2021). This paper will therefore fill this gap in research on PWD. Additionally, it can be stated that doing research on PWD is a contribution to literature on its own, since present literature on PWD is scarce and full of opportunities (Scharp et al., 2022).

Another contribution that is aimed to be made is related to the investigation of the moderating role of playfulness. While the concept of play in general has become a crucial aspect of organizational culture (Butler et al., 2011), there is also increasing support and interest in literature for studying playfulness as a personality trait for adults (Proyer & Tandler, 2019). However, adult playfulness is still an understudied personality trait (Proyer, 2017). This has to do with the given that previous research on playfulness was mainly conducted with children, neglecting the potential relevance of playfulness as a personality trait for adults (Proyer & Tandler, 2019). Investigating the moderating role of playfulness in this paper is therefore an important contribution that will be made, as this will provide further insights into the possible relevance of playfulness as an adult personality trait.

Theoretical framework

Playful work design and job satisfaction

Play, as mentioned in the introduction, is used to transform any situation into one that is more stimulating, enjoyable and entertaining, and allows individuals in a wide range of jobs to make their work more playful (Bakker et al., 2020; Barnett, 2007). Vleet and Feeney (2015) describe three core aspects of play. The first aspect is that play is performed with the goal of achieving fun and/or challenge. Individuals are often intrinsically motivated to play and therefore this engagement is often voluntary. The second aspect is that play requires an in-the-moment attitude and individuals should be enthusiastic to engage in play. The third aspect is that the play activity is highly interactive. For example, reading a book or watching TV is not considered play, but playing a computer game is (Vleet & Feeney, 2015).

Individuals can incorporate play at work by acting in a proactive manner. Proactive work behaviour is about taking initiative to challenge the status quo. Employees who are proactive try to improve their current circumstances by changing either the self or their environment (Parker & Collins, 2010). An example is that an employee takes initiative to improve work methods, or proactively asks colleagues for feedback on their performance. Employees also tend to optimize their vitality, by for example performing activities that make them feel energized (drinking coffee, socializing, taking the stairs at work, etc.) (Op den Kamp et al., 2018).

Combining the concepts of play and proactive work behaviour has led to the introduction of PWD. PWD refers to the process in which employees proactively create conditions during work in which enjoyment and challenge are fostered, without changing the actual design of the job (Bakker et al., 2020). By proactively making their work tasks more fun and/or competitive, employees incorporate play into their work. PWD can be defined as: *"The proactive cognintive-behavioral orientation aimed at fostering fun and challenge during work activites through creating, seeking and resolving surprises and complexities."* (Scharp et al., 2022, p. 7).

Literature describes two ways in which employees can playfully design their work. Employees can use ludic play to make their work more fun (designing fun), or use agnostic play to create some kind of competition within their work (designing competition) (Bakker et al., 2020b). An example of ludic play is using humour or imagination to provide oneself or others with amusement (Scharp et al., 2021). An example of agnostic play is trying to perform a task within a certain (self-determined) time limit (Bakker et al., 2020b).

Research on PWD has shown the many benefits it can entail for employees and organizations. Employees use PWD to design fun and challenge during work which optimizes their personal experience of work (Bakker et al., 2020b). Employees who design fun and design competition are also found to be more engaged with their work (Scharp et al., 2022). By using PWD, employees increase their intrinsic motivation and stimulate energetic performance, while also creating a sense of belongingness (Bakker et al., 2020). Individuals who play generally perform better than individuals who are less playful. Days on which individuals play during work are relatively "good" days in terms of engagement and performance when compared to other working days (Scharp et al., 2022). The use of PWD helps employees to avoid boredom, make their work more meaningful, decrease job stress and overall improve their experiences of work (Bakker et al., 2020b; 2023). It was also found that PWD can reduce the negative effect of daily hindrance job demands on employees' work engagement (Scharp et al., 2021). It is therefore argued that the concept of PWD is very useful and worthwhile for both employees and organizations (Scharp et al., 2022).

Although there have been a number of studies on PWD and its possible outcomes since its existence (Bakker et al., 2020a; 2020b; 2023; Scharp et al., 2019; 2021; 2022), the relationship between PWD and job satisfaction has not yet been investigated. Job satisfaction is about the attitudes, preferences or feelings individuals have towards their work (Skaalvik & Skaalvik, 2010). It may be described as the degree to which individuals enjoy their jobs (McCloskey & McCain, 1987). Job satisfaction is related to both psychological and physical health, as it reduces mental and physical health problems such as burnout, anxiety and depression. At the same time, job dissatisfaction eventually leads to such mental and physical health problems (Faragher et al., 2005). A low level of job satisfaction can cause a variety of unwanted outcomes for organizations such as increased turnover, decreased productivity and less employee commitment (Siddin et al., 2021).

This paper argues that PWD is positively related to job satisfaction. Both components of PWD (play and proactive work behaviour) show positive relations with job satisfaction. A study conducted by Abramis (1990) shows that play at work leads to increased job satisfaction. Besides this, it is also argued that proactive work behaviour causes employees to have a higher job satisfaction over time (Kuo et al., 2019; Li et al., 2010). Proactive employees are generally more satisfied with their job over time since they take action when their job satisfaction is low. This is because being proactive at work has the features of being self-initiated, change oriented and future-focused (Grant & Ashford, 2008; Parker et al.,

2010). Because of these three features, proactive employees try to change their current (unsatisfying) situation into one that is more desirable.

Both ways of using PWD (creating fun or competition) are also positively related to job satisfaction. Multiple studies reveal that fun at the workplace enhances job satisfaction (Chan & Mak, 2016; Falola et al., 2018; Karl et al., 2007). Employees have more fun at the workplace when they have a positive attitude towards fun which leads to them having a higher job satisfaction (Karl et al., 2007). When looking at creating competition in the workplace, it is found that this is often done through gamification. The following definition is given by Xi and Hamari (2019): *"Gamification refers to designing systems, services, organizations and activities in a way that they may bring about similar experiences and motivations as games, with the added goal of affecting user behaviour."* (p. 211). Creating competition through gamification can be for example be done by creating a group competition in which users get weekly challenges (Van Roy & Zaman, 2018). Gamification is found to lead to satisfaction of three intrinsic needs related to autonomy, relatedness and competence (Xi & Hamari, 2019). Satisfaction of these intrinsic needs on their turn lead to increased job satisfaction (Battaglio et al., 2022). Within gamification, employees compete against each other while within the use of PWD, employees compete against themselves. Despite this difference it is expected that the positive influence of creating competition on job satisfaction will hold, as competition satisfies intrinsic needs (Xi & Hamari, 2019).

The two critical components of PWD (play and proactive work behaviour) and two ways of using PWD (creating fun or competition) are all found to be positively related to job satisfaction. Combining the latter has led to the development of the following hypothesis:

H1: Playful work design is positively related to job satisfaction.

Playfulness and job satisfaction

Playfulness is often associated with amusement and/or entertainment, while recent studies argue that playfulness may also be associated with certain other positive emotional experiences (Proyer et al., 2018). Barnett (2007) defines play as: *"The predisposition to frame (or reframe) a situation in such a way as to provide oneself (and possibly others) with amusement, humor, and/or entertainment."* (p. 955). Playfulness has been well studied in psychology from a developmental perspective in children, but has been studied relatively less in adults. Prior research has often ignored the observation that adults can be playful too (Proyer & Wagner, 2015).

A playful individual can be typically seen as someone who is funny, humorous, sociable, active and energetic. These such individuals behave in a playful manner by for example joking, teasing or acting silly (Proyer et al, 2018). Playfulness in adults can be seen as a personality trait and has been associated with a number of positive outcomes such as subjective well-being and coping with stress (Proyer & Wagner, 2015). Yu et al. (2007) even argue that employees with a playful personality often have better social skills, making playfulness a trait that should be a selection criteria when recruiting new employees. Having more playful people in the workplace leads to a higher level of playfulness in the workplace which is beneficial for certain work outcomes (Yu et al., 2007).

Playfulness is positively related to certain work outcomes such as job performance and job satisfaction. Having a playful personality can enhance creativity and effectiveness, which stimulates job performance. Also, individuals that are playful relatively engage more in humorous interactions, which leads to a higher job satisfaction (Yu et al., 2007). It is also found that a higher level of playfulness leads to increased intrinsic motivation and innovative behaviour (Petelczyc et al., 2018), which are outcomes that are also positively related to job satisfaction (Brimhall & Mor Barak, 2018; Hayati & Caniago, 2012).

Based on these findings, the following hypothesis has been developed:

H2: Playfulness is positively related to job satisfaction.

Playful work design, job satisfaction and playfulness

Individuals working in a similarly stressful environment can have varying levels of job satisfaction, which is why it is argued that personality plays an important role in determining one's job satisfaction (Chang et al., 2010). Various personality traits have been positively associated with job satisfaction, such as extraversion, agreeableness, openness (Törnroos et al., 2019) and optimism (Chang et al., 2010). To illustrate, an optimistic individual is more likely to deal with stressful situations rather than to ignore them, which is a potential explanation for why optimism is positively related to job satisfaction (Chang et al., 2010). Playfulness as a personality trait is also seen to be positively related to job satisfaction (Yu et al., 2007). Besides this, it is found that playfulness increases intrinsic motivation, innovative behaviour (Petelczyc et al., 2018), creativity and work engagement (Scharp et al., 2019), which are all outcomes that are positively related to job satisfaction as well (Brimhall & Mor Barak, 2018; Hayati & Caniago, 2012; Ogbuanya & Chukwuedo, 2017; Orgambidez-Ramos et al., 2014; Tongchaiprasit & Ariyabuddhiphongs, 2016).

In a study by Scharp et al. (2019), playfulness was used as a moderator in the indirect relationship between PWD and creativity through work engagement. Playfulness was found to amplify the positive outcomes resulting from the use of PWD. It was found that being playful as an employee allows one to be better able to derive creativity and work engagement from using PWD (Scharp et al., 2019). Work engagement is often seen as a similar concept to job satisfaction. This is supported in a study by Nimon et al (2023), as it was found that certain scales used for measuring work engagement shared a lot of similarity with a scale used for measuring job satisfaction.

This paper argues that playfulness will have a moderating role in the relationship between PWD and job satisfaction. A high level of playfulness in an individual's personality allows them to derive more creativity and work engagement from the use of PWD. As work engagement is a similar concept to job satisfaction, it is argued that this moderating effect will also occur for job satisfaction. Additionally, it is found that playfulness is directly and indirectly positively associated with job satisfaction, which is another indicator for the potential amplifying effect of playfulness in deriving job satisfaction from the use of PWD. Playful individuals are able to transform any environment into a more enjoyable one (Barnett, 2007), which is why it is expected that playful individuals engaging in PWD will enhance their feeling of job satisfaction more than other, less playful individuals. The following hypothesis has been developed:

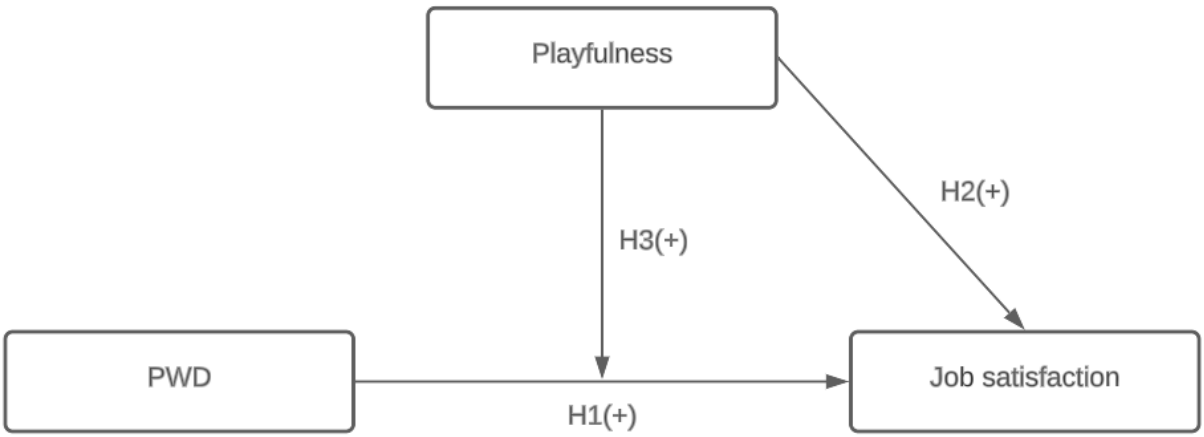
H3: Playfulness moderates the relationship between playful work design and job satisfaction.

Conceptual model

The theoretical framework and the formulated hypotheses have led to the creation of a conceptual model, which is shown in figure 1. The arrows represent direct relationships between variables. The formulated hypotheses are shown in the figure, with the "+" sign indicating a positive relationship. H1 represents the expected relationship between PWD and job satisfaction. H2 represents the expected relationship between playfulness and job satisfaction. H3 represents the expected moderating role of playfulness in the relationship between PWD and job satisfaction.

Figure 1

Conceptual model



Methodology

Research design

This study used a quantitative approach and is deductive, since existing literature was used and tested. This study is cross-sectional, meaning that data was collected at a particular point in time. The method used for collecting data in this paper was by survey. A questionnaire was developed which was distributed online to employees in the Netherlands who work in all kinds of different organizations. The questionnaire was made in the program Qualtrics and contained a total of 33 items. The scales that were used in the questionnaire were originally written in English and were translated into Dutch. The translation process was executed carefully to make sure that the items' meaning remained the same. This study used the translation-backtranslation procedure (Werner & Campbell, 1970) to translate the items of the measurement scales. In this procedure, text is translated into the target language and then translated back by a second interpreter into the source language. Then, the original and backtranslated versions are compared in order to check if the text still holds the same meaning (Van de Vijver & Tanzer, 2004).

Sample

Participants of this research were chosen based on convenience sampling, as this allowed the researcher to select participants that were easily accessible. Participants were invited to participate in this study through the personal network of the researcher. While PWD is deemed most applicable for monotonous and repetitive jobs, its possible use during the practice of basically any profession has also been put forward (Bakker et al., 2020). The professions in which these individuals are active were therefore not of importance. The only requirement for the participants was that they actively work in the Netherlands or have previous working experience. Table 1 gives an overview of the gender and age of the participants and also indicates how many hours the participants work per week. The participants of this study were 57.6% female and 42.4% male. Almost half of the participants (48.1%) are below the age of 26 and another large part of the participants (33.9%) is above the age of 50. Almost 70% of the participants work less than 38 hours per week. A total of 177 participants were questioned in this survey.

Table 1
Participants statistics

		Count	Column N %
Please indicate your gender	Male	75	42.4%
	Female	102	57.6%
	Non-binary / third gender	0	0.0%
	Prefer not to say	0	0.0%
Please indicate your age	Below 18	1	0.6%
	18-25	84	47.5%
	26-35	18	10.2%
	36-40	3	1.7%
	41-50	11	6.2%
	Above 50	60	33.9%
How many hours do you work per week?	Less than 38	123	69.9%
	between 38-40	31	17.6%
	More than 40	22	12.5%

Measurement scales

The variables that are investigated in this study are PWD, job satisfaction and work engagement. For all three variables, appropriate instruments were used to develop the questionnaire. The instruments that are chosen are deemed appropriate ways to measure the respective variable because of their wide use in practice and high validity.

Playful work design scale

For the variable PWD, the instrument developed by Scharp et al. (2022) was used. This instrument measures PWD according to the assumption that engaging in PWD can be done by either designing fun or designing competition. The PWD instrument has a total of 12 items, six of which are related to designing fun and six which of are related to designing competition. The items are measured according to a five-point Likert scale, ranging from 1 (never) to 5 (very often). The items in this instrument were developed by performing exploratory factor analysis and were validated in multiple follow-up studies (Scharp et al., 2022), which is why using this instrument for measuring PWD is deemed appropriate for this paper. In order to check the structure of the PWD scale, a confirmatory factor analysis was conducted. The KMO measure of sampling adequacy was above the threshold of .5 (.835) and

the Bartlett's test of sphericity was significant ($p < .5$). The communalities of all items were above .2 and therefore no items were removed from the scale. Two factors were extracted since these both had an eigenvalue above 1 and explained nearly 60% of the variance (57.121%). Looking at the rotated component matrix, it was found that all items had significant factor loadings (> .3), with six items loading significantly on factor one (creating fun) and six items loading significantly on factor two (creating competition). No cross-loaders were found. This two factor structure of the PWD scale is in line with the expected structure and so the two factor structure of the PWD scale is confirmed. The reliability of the PWD scale was also tested and was found to be reliable, since the Cronbach's Alpha was above the threshold of .7 (.856).

Job satisfaction scale

For the variable job satisfaction, the Brief Index of Affective Job Satisfaction (BIAJS) was used. The BIAJS was developed by Thompson and Phua (2012) and uses four items to measure affective job satisfaction. The items are measured according to a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). This instrument was found to have good reliability and validity in multiple studies (Gong et al., 2020; Hirschi, 2014; Thompson & Phua, 2012), which is why using this instrument for measuring job satisfaction is deemed appropriate for this paper. In order to check the structure of the BIAJS, a confirmatory factor analysis was conducted. The KMO measure of sampling adequacy was above the threshold of .5 (.753) and the Bartlett's test of sphericity was significant ($p < .5$). The communalities of all items were above .2 and therefore no items were removed from the scale. One factor was extracted since it had an eigenvalue above 1 and explained over 60% of the variance (62.159%). Looking at the component matrix, it was found that all items had significant factor loadings (> .3). No cross-loaders were found. This one factor structure confirms the expected structure of the BIAJS, as the four items represent affective job satisfaction. The reliability of the BIAJS was also tested and was found to be reliable, since the Cronbach's Alpha was above the threshold of .7 (.788).

Playfulness scale

For the variable playfulness, the Short Measure of Adult Playfulness (SMAP) was used. The SMAP is developed by Proyer (2012) and uses five items to measure adult playfulness. The items are measured according to a seven-point Likert scale, ranging from 1 (strongly disagree)

to 7 (strongly agree). The SMAP was validated in multiple studies (Proyer, 2012; Proyer et al., 2018), which is why using this instrument for measuring playfulness is deemed appropriate for this paper. In order to check the structure of the SMAP, a confirmatory factor analysis was conducted. The KMO measure of sampling adequacy was above the threshold of .5 (.857) and the Bartlett's test of sphericity was significant ($p < .5$). The communalities of all items were above .2 and therefore no items were removed from the scale. One factor was extracted since it had an eigenvalue above 1 and explained over 60% of the variance (70.734%). Looking at the component matrix, it was found that all items had significant factor loadings (> .3). No cross-loaders were found. This one factor structure of the SMAP is in line with the expected structure, as the five items represent adult playfulness. The reliability of the SMAP was also tested and was found to be reliable, since the Cronbach's Alpha was above the threshold of .7 (.885).

Data analysis

The data gathered in this research was analysed by using the program SPSS. The gathered data was checked for missing values and duplicates. The percentage missing data should not exceed 25% (Field, 2018). All cases that reported a missingness of over 25% were deleted. Because of the relatively small sample size, the choice was made to not remove any influential outliers. As the sample size is small, every case matters.

As mentioned in the previous section about measurement scales, confirmatory factor analyses were conducted in order to check the underlying structures of the variables' measurement scales. All measurement scales were found to represent the expected underlying structures and were therefore deemed adequate to use in this study. All measurement scales revealed sufficient reliability according to the Cronbach's Alpha statistic. The correlations between the variables were also checked and the description of these can be found in the results section.

Four assumptions were checked before conducting the multiple regression analysis. The assumptions of normality, linearity, homoscedasticity and multicollinearity were checked and are explained in the results section. After this, a moderation analysis was conducted using the PROCESS extension in SPSS. In the PROCESS extension, model 1 was chosen to conduct a regression analysis in which a moderating effect was tested. In this moderation analysis, PWD was used as the independent variable, job satisfaction was used as the dependent variable and playfulness was used as a moderating variable. The results of this regression analysis are discussed in the results section.

Ethics

There are certain ethical considerations that were taken into account in this paper. Participation in this study was fully anonymous to guard the participant's privacy. Participants did not have to fill in their name or give any other personal information, other than age. Participants were asked for permission to use their data for this paper. The data that was collected in this research was only used for this paper and was stored safely. Only the researcher had access to the data file containing all the responses from the participants. Participation in this study was completely voluntary and the participants were free to withdraw from the questionnaire at any given time. On top of this, the respondents were informed about the purpose of the questionnaire and were free to contact the researcher at any given time to be informed about the results.

Results

Descriptive statistics and correlations

Table 2 shows the descriptive statistics of the variables used in this study. The mean of PWD can be seen as somewhat low, as the mean is 2.951 (σ = .650) on a 5-point scale. Participants scored high on average on job satisfaction, with a mean of 3.929 (σ = .534) on a 5-point scale. On playfulness, participants scored somewhat high on average, with a mean of 4.841 (σ = 1.121) on a 7-point scale. The skewness and kurtosis statistics all lie within the range of -1 and +1, indicating that the variables are all normally distributed.

Table 2

Descriptive statistics of variables

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
PWD	177	1,500	5	2.951	.650	.221	.183	-.321	.363
JS	177	2,500	5	3.929	.534	-.068	.183	.168	.363
Play_Trait	177	1,600	7	4.841	1.121	-.692	.183	.295	.363
Valid N (listwise)	177								

Note: N = sample size, PWD = Playful Work Design, JS = Job Satisfaction, Play_Trait = Playfulness

The correlations between the three variables used in this study are shown in table 3. PWD is found to be significantly positively correlated to both JS (r = .215 and p < .01) and playfulness (r = .292 and p < .01). No significant correlation was found between playfulness and JS.

Table 3

Correlations between variables

Correlations

	JS	Play_Trait	PWD
JS	1		
Play_Trait	0.061	1	
PWD	.215**	.292**	1

**. Correlation is significant at the 0.01 level (2-tailed).

Checking assumptions

There are several assumptions that were checked before the moderation analysis was conducted. The assumptions of normality, linearity, homoscedasticity and multicollinearity were checked. The first assumption to be checked was the normality of the variables. Looking at table 1, it was derived that the skewness and kurtosis values were between -1 and +1, indicating a normal distribution. The normal probability plot, as seen in appendix A, was also examined to check for a normal distribution. In this case, it was seen in the normal probability plot that the residuals are normally distributed and so the assumption of normality was met.

Both the assumptions of linearity and homoscedasticity were checked using the scatterplot seen in appendix A. The residuals showed a linear cluster in the middle of the graph, while at the same time the residuals were randomly distributed and not clustered into one corner. This means that the assumptions of linearity and homoscedasticity were met.

The assumption of multicollinearity was checked by looking at the coefficients table as shown in appendix A. The tolerance values were below the threshold of .1 and the VIF values were above the threshold of 1, indicating that the assumption of multicollinearity was met.

Moderation analysis

Table 4 shows the results of the moderation analysis conducted in this study. The model shows the effects of PWD and playfulness on job satisfaction as well as the moderating effect of playfulness on the relationship between PWD and job satisfaction. This moderating effect is indicated as "Int_1". The overall model explains 5.99% of the variance in the dependent variable job satisfaction (*R-sq* = .0599) and is significant ($p < .05$).

H1 was tested by examining the relationship between PWD and job satisfaction. This hypothesis is supported as PWD shows a significant positive effect on job satisfaction (β = .1899 and $p < .05$). Participants who reported a higher level of PWD are seen to have a higher job satisfaction.

H2 was tested by examining the relationship between playfulness and job satisfaction. This hypothesis is not supported since there is no significant relationship between these variables ($p > .05$). Playfulness reveals no direct relationship with job satisfaction.

H3 was tested by examining the moderating role of playfulness in the relationship between PWD and job satisfaction. This hypothesis is not supported as the moderating effect of playfulness on the relationship between PWD and job satisfaction is not significant ($p > .05$). Playfulness does not moderate the relationship between PWD and job satisfaction.

Table 4

Regression analysis

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2447	.0599	.2730	3.6740	3.0000	173.0000	.0134

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.9128	.0407	96.2361	.0000	3.8326	3.9931
PWD	.1899	.0638	2.9746	.0034	.0639	.3159
Play_Trait	.0044	.0369	.1181	.9061	.0684	.0771
Int_1	.0784	.0497	1.5762	.1168	.0198	.1766

Product terms key:

Int_1	:	PWD	x	Play_Trait

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0135	2.4843	1.0000	173.0000	.1168

Discussion

The main purpose of this study was to investigate the moderating role of playfulness in the relationship between PWD and job satisfaction. This study also examined the relationship between PWD and job satisfaction, as well as the relationship between playfulness and job satisfaction. The following research question was developed: *"To what extent does playfulness moderate the relationship between PWD and job satisfaction?"*.

Previous findings in literature indicated that playfulness amplifies the effectiveness of PWD in enhancing work engagement and creativity (Scharp et al., 2019), which is one of the reasons why it was expected that playfulness would have a moderating role in the relationship between PWD and job satisfaction. Surprisingly, the results of this study indicate that the moderation effect of playfulness is non-significant. The level of playfulness in an individual is not found to influence the relationship between PWD and job satisfaction. An explanation for this might be that adult playfulness has been relatively understudied in previous literature (Proyer, 2017). Playfulness is a personality trait that was previously mostly associated with children, as many previous studies did not consider playfulness as something that is relevant to adults (Proyer & Tandler, 2019). Recent literature however shows that playfulness is a very relevant personality trait for adults with many potential benefits (Proyer & Wagner, 2015; Proyer et al., 2018). The neglection of playfulness as an adult personality trait in previous literature has led to a limited amount of studies being conducted on adult playfulness, which is why it could very well be that there is a limited understanding of adult playfulness. This limited understanding of adult playfulness may be the reason why the expectations of a moderating role of playfulness in this study may have been rejected.

Another possible explanation for the non-significance of playfulness as a moderator might be that the scale used for measuring playfulness may have been prone to item bias. This study used the translation-backtranslation procedure (Werner & Campbell, 1970) for translating the items of the playfulness (SMAP) scale from English into Dutch in order to reduce item bias. However, although the translation might be linguistically correct, it is still possible that it has poor quality from a psychological point of view. This is possible in the form of certain cultural connotations that are associated with the specific wording of items (Van de Vijver & Tanzer, 2004). In this paper, there might have been item bias in the form of such a cultural connotation. The direct translation of "playful" in Dutch is "speels", which is a word that is often associated with behaviour of children and (young) animals in the Dutch culture, as is found in multiple Dutch dictionaries (De Boer, 2006; Woorden.org, n.d;

Wiktionary, n.d.). This might have led to participants not understanding the intended meaning of the construct of playfulness, which is a reasonable thought to make since every item in the playfulness scale (SMAP) used in this study has the literal word "playful" in it. This may have caused lower scores of participants on the playfulness scale, impacting the results of this study.

The potential lack of understanding of adult playfulness and the potential item bias that may have occurred may also explain why playfulness was not significantly related to job satisfaction. Besides this, another explanation in this case might be that playfulness could be related to job satisfaction indirectly through other outcome variables rather than directly. A lot of certain outcomes of playfulness, such as increased innovative behaviour (Petelczyc et al., 2018), are positively related to job satisfaction (Brimhall & Mor Barak, 2018). Therefore, a positive relationship between playfulness and job satisfaction was expected. At the same time, these findings could mean that playfulness is indirectly related to job satisfaction, rather than directly. This could explain why there was only one previous study, conducted by Yu et al (2007), in which a direct positive relationship between playfulness and job satisfaction was found.

Apart from these non-significant relationships, it was found that there is a significant positive relationship between PWD and job satisfaction. This result is in line with findings in previous literature on PWD in which its critical components of play at work (Abramis, 1990) and proactive work behaviour (Li et al., 2010; Kuo et al., 2019), as well as its two forms of creating fun (Chan & Mak, 2016; Falola et al., 2018; Karl et al., 2007) and creating competition at work (Battaglio et al., 2022; Van Roy & Zaman, 2018), were all found to be positively related to job satisfaction. Employees who proactively incorporate play into their work, either through creating fun or creating competition, are found to have increased job satisfaction.

Theoretical contributions

There are several theoretical contributions made in this paper. This paper is the first to investigate the direct relationship between PWD and job satisfaction, filling a gap in the scarce existing literature on PWD and its potential outcomes (Scharp et al., 2022). PWD is found to be positively related to job satisfaction, which is an important finding since job satisfaction is a crucial determinant in organizational research as it is related to many desired organizational outcomes such as productivity and commitment (Sidin et al., 2021).

This paper has also validated the scale for measuring PWD developed by Scharp et al (2022). A confirmatory factor analysis revealed that the scale indeed consists of two factors; creating fun and creating competition. Of the twelve items in the PWD scale, six loaded significantly on creating fun and six loaded significantly on creating competition, acknowledging the duality of PWD.

This paper has also contributed to literature on playfulness as an adult personality trait. It was found that playfulness is not directly related to job satisfaction and does not have a moderating role in the relationship between PWD and job satisfaction. Besides this, investigating the influence of playfulness on other outcome variables is a contribution on its own, since playfulness in adults is a relatively understudied concept and has been often neglected in previous research (Proyer, 2017).

Limitations and future research

Apart from the several theoretical contributions this paper makes, there are also some limitations that need to be addressed. Firstly, a limitation of this study is that the sample size is relatively small (N = 177). Small samples generate relatively low statistical power, making it more difficult to generalize the results of this study to the population (Hair et al., 2019).

Secondly, another possible limitation is that the majority of the sample used in this study is 25 years old or younger. This might have played a role in answering the items on PWD since these are about actions employees take at their work. Participants under the age of 26 have had relatively little work experience and a majority of that work experience may have been derived only from part-time jobs. These young relatively inexperienced participants might therefore not have had any experience with some of the items that were related to PWD, which may have led to lower scores on certain items of the PWD scale. A recommendation for future research on PWD would be to investigate differences in age groups in using or not using PWD at their work.

Lastly, a limitation of this study is that is was conducted in a cross-sectional manner. PWD is found to fluctuate day by day since it is related to specific work tasks, which is why previous studies have argued that using a daily diary study is a more appropriate method for investigating PWD (Bakker et al., 2020). In a daily diary study conducted by Scharp et al (2019), it was found PWD was associated with basic need satisfaction and work engagement on certain days, but did not predict these outcomes on the next day. The cross-sectional design of this study might therefore have influenced the results, as outcomes of PWD are found to fluctuate based on the daily work tasks that employees find themselves in. Future research

might therefore investigate the variables of this study in a daily diary study, to examine these relationships on a daily basis and see what fluctuations occur.

Practical implications and recommendations

The present study has found that PWD is positively related to job satisfaction. Employees who proactively design fun or competition in their work tasks are found to have an increased job satisfaction. Besides this, previous studies on PWD highlight the many other potential positive outcomes it can provide for employees. PWD is found to be positively related to work engagement (Scharp et al., 2019; 2022), performance (Scharp et al., 2022) and is found to decrease boredom and stress (Bakker et al., 2020b). The findings of this study therefore further emphasize that PWD is a worthwhile concept for both or employees and organizations (Scharp et al., 2022).

An important aspect of PWD is that it is a bottom-up strategy, as employees create fun or competition in a proactive manner by themselves (Bakker et al., 2020b). Using PWD is often seen as most applicable during professions or work tasks that are deemed repetitive or boring. A study by Scharp et al (2022) mentions some interesting examples of designing fun and designing competition, which were derived from interviews with individuals who work in all kinds of professions. For example, they found that a server created fun at work by comparing work to performing as a ballerina on stage. Another example is of a bus driver who created competition at work by trying to minimize the amount of abrupt decelerations, making the trips as smooth as possible. Additionally, it is also found that PWD can be used in professions that at first glance seem inappropriate for using PWD. An example of this is found in a study by Bakker et al (2020), in which an eye surgeon explains that he uses his imagination during surgeries, as he sees surgery as a piece of art that needs to be exercised very precisely. PWD can therefore be seen as a concept that can be used in many different kinds of professions, highlighting its relevance to employees in all kinds of professions.

Although PWD is a bottom-up strategy and is initiated by employees themselves, there are things organizations can do to stimulate the use of PWD. Organizations can try to create playful environments in which the use of PWD is stimulated. Such playful environments are found to increase joy, social relationships and team cohesion among employees (Fourie et al., 2020). It is also argued that a playful environment stimulates intrinsic motivation and creativity (Yu et al., 2007). A way in which organizations can create a more playful environment and stimulate the use of PWD among employees is by gamifying certain work tasks or processes. An example of this is creating a group competition in which employees get

weekly challenges that are accompanied with certain rewards (Van Roy & Zaman, 2018), initiating the creation of competition at work among employees. Stimulating the use of PWD among employees is something that should be considered by organizations since PWD has many potential positive outcomes for both employees and organizations in general. However, it should be kept in mind that a playful work environment should not turn into uncontrolled fun. Uncontrolled fun in the workplace can lead to certain negative organizational outcomes such as decreased productivity, which is why it should be balanced. Although most organizations are argued to be nowhere near this extreme condition, it is something to take into account (Yu et al., 2007).

Conclusion

The main aim of this paper was to investigate the moderating role of playfulness in the relationship between PWD and job satisfaction. The results of this study indicate that there is no significant moderating effect of playfulness on the relationship between PWD and job satisfaction. A more playful person is not found to be any better or less able to derive job satisfaction from using PWD. Also, no significant relationship was found between playfulness and job satisfaction, indicating that a more playful person does not necessarily have a higher job satisfaction.

This paper also found a significant positive relationship between PWD and job satisfaction. Employees who engage in PWD, by either creating fun or creating competition, are found to have a higher job satisfaction. By engaging in PWD, employees can proactively improve a current unsatisfying situation into one that is more satisfying. This finding reveals that yet another outcome can be added to the growing list of positive outcomes from using PWD. The relatively new concept of PWD has been found to have many potential benefits for both employees and organizations, which is why it can be seen as a worthwhile concept that has rightfully received increased attention in organizational research.

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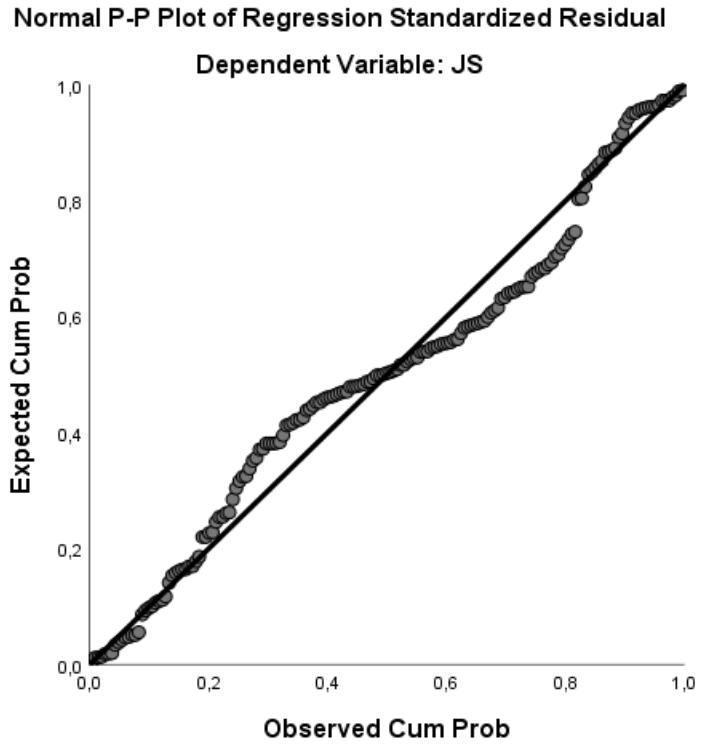
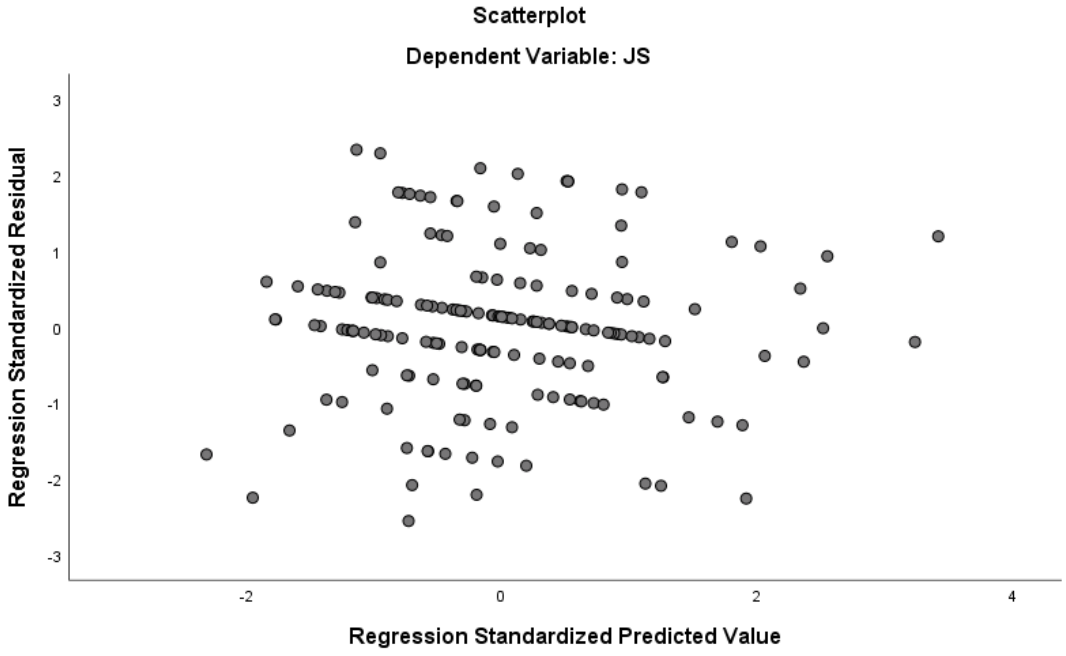
Appendix A: Assumptions

Normality



Linearity and homoscedasticity



Multicollinearity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	4.452	.697		6.387	.000		
	PWD	-.190	.241	-.231	-.786	.433	.063	15.871
	Play_Trait	-.227	.148	-.477	-1.532	.127	.056	17.794
	Int	.078	.050	.750	1.576	.117	.024	41.645

a. Dependent Variable: JS

Appendix B: Survey

ENGLISH	DUTCH
Please indicate your gender	Wat is uw geslacht?
Choices	**Choices**
Male	Man
Female	Vrouw
Non-binary / third gender	Non-binair / derde geslacht
Prefer not to say	Zeg ik liever niet
Please indicate your age	Wat is uw leeftijd?
Choices	**Choices**
Below 18	Onder 18
18-25	18-25
26-35	26-35
36-40	36-40
41-50	41-50
Above 50	Boven 50
How many hours do you work per week?	Hoeveel uur werkt u per week?
Choices	**Choices**
Less than 38	Minder dan 38 uur
between 38-40	Tussen 38-40 uur
More than 40	Meer dan 40 uur

Playful Work Design scale

Please think about the job you currently have or any professional experience you may have had in the past and on a scale from 1 to 5 indicate how often you demonstrate the behaviors listed below.	Denk aan de baan die u momenteel hebt of aan enige beroepservaring die u in het verleden hebt gehad en geef op een schaal van 1 (Nooit) tot 5 (Heel vaak) aan hoe vaak u het onderstaande gedrag vertoont.
Statements	**Statements**
I look for humor in the things I need to do.	Ik zoek naar humor in de dingen die ik moet doen.
I approach my work in a playful way.	Ik benader mijn werk op een speelse manier.
I look for ways to make tasks more fun for everyone involved.	Ik zoek naar manieren om taken leuker te maken voor iedereen die betrokken is.
I approach my tasks creatively to make them more interesting.	Ik benader mijn taken op een creatieve manier om ze interessanter te maken.

I look for ways to make my work more fun.	Ik zoek naar manieren om mijn werk leuker te maken.
I use my imagination to make my job more interesting.	Ik gebruik mijn verbeelding om mijn werk interessanter te maken.
I try to set time records in my work tasks.	Ik probeer tijdrecords te vestigen binnen mijn werktaken.
I try to keep score in all kinds of work activities.	Ik probeer bij allerlei soorten werk activiteiten de score bij te houden.
I compete with myself at work, not because I have to, but because I enjoy it.	Ik concurreer met mezelf tijdens werk, niet omdat ik dat moet, maar omdat ik dat leuk vind.
I try to make my job a series of exciting challenges.	Ik probeer van mijn werk een reeks interessante uitdagingen te maken.
I push myself to do better even when it isn't expected.	Ik probeer mezelf te verbeteren, zelfs wanneer dit niet verwacht wordt.
I approach my job as a series of exciting challenges.	Ik benader mijn werk als een reeks interessante uitdagingen.
Scale points	**Scale points**
Never	Nooit
Rarely	Soms
Sometimes	Regelmatig
Often	Vaak
Very Often	Heel vaak

Job Satisfaction scale: BIAJS

On a scale from 1 to 5, please rate how strongly you agree or disagree with the statements below:	Op een schaal van 1 (Zeer oneens) tot 5 (Zeer eens), in welke mate bent u het eens of oneens met de onderstaande uitspraken?
Statements	**Statements**
I find real enjoyment in my job	Ik haal plezier uit mijn werk.
I like my job better than the average person	Ik vind mijn werk leuker dan de gemiddelde persoon.
Most days I am enthusiastic about my job	De meeste dagen ben ik enthousiast over mijn werk.
I feel fairly well satisfied with my job	Ik ben redelijk tevreden met mijn werk.
Scale points	**Scale points**
Strongly Disagree	Zeer oneens
Disagree	Oneens
Neutral	Neutraal
Agree	Eens
Strongly Agree	Zeer eens

Playfulness scale: SMAP

On a scale from 1 to 7, please rate how strongly you agree or disagree with the statements below:	Op een schaal van 1 (Zeer oneens) tot 7 (Zeer eens), in welke mate bent u het eens of oneens met onderstaande uitspraken?
Statements	**Statements**
I am a playful person.	Ik ben een speels persoon.
Good friends would describe me as a playful person.	Goede vrienden zouden mij omschrijven als een speels persoon.
I frequently do playful things in my daily life.	Ik doe regelmatig speelse dingen in mijn dagelijks leven.
It does not take much for me to change from a serious to a playful frame of mind.	Er is niet veel voor nodig voor mij om van een serieuze naar een speelse gedachtegang te gaan.
Sometimes, I completely forget about the time and am absorbed in a playful activity.	Soms vergeet ik helemaal de tijd en ga ik op in een speelse activiteit.
Scale points	**Scale points**
Strongly disagree	Zeer oneens
Disagree	Oneens
Somewhat disagree	Enigszins oneens
Neutral	Neutraal
Somewhat agree	Enigszins eens
Agree	Eens
Strongly agree	Zeer eens