

## WORKPLACE NEEDS AND THEIR SUPPORT; ARE MILLENNIALS DIFFERENT FROM OTHER GENERATIONS?

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### ABSTRACT

*Nowadays, employees are seen as key assets of knowledge organisations who increasingly struggle to attract the best potential talent from a declining workforce. The office environment is considered to be an important way to support the needs of the newest generation – the millennials – and thus attract and retain them. This study therefore aimed to create more evidence-based insights for Corporate Real Estate Managers (CREM) in how to support specific workplace needs of millennials. The three most important workplace needs of millennials were first identified as sociability with colleagues, opportunity to grow and work-life balance, followed by analyses of how the physical workplace is expected to best support them. Next, hypotheses were developed and tested on differences between millennials and other generations on these needs and the perceived workplace support.*

*A survey among 302 Dutch office employees from 3 generations provided the necessary data, which were tested with bivariate correlation and ANOVA analysis. Findings indicate that millennials attach more value to the need for coaching and professional growth and less value to the balance between leisure and work than generation X does. Regarding physical workplace aspects, in total thirteen unique physical workplace aspects were identified as perceived support for workplace needs. Again millennials differed from generation X, as they found accessibility of colleagues and informal work areas/break-out zones more important in support of their need for sociability with colleagues. The oldest generation of Baby boomers found IT-services for social networking more important than millennials. Regarding the opportunity to grow, baby boomers also perceived audio-visual equipment to be more important than the tech savvy millennials. Also unexpected, millennials find the ability to personalise their workstation more important than older employees to support their work-life balance. Future studies should further clarify support of needs of different generations and how CREM can create an office environment that accommodates and supports all.*

**Keywords:** millennials, user preferences, workplace design, generational differences

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### INTRODUCTION

The overall workforce is declining because of the retiring baby boomers generation (Bureau of Labor Statistics (2015) and the composition of the workforce is shifting further by the upcoming generation of millennials (born between 1980-1998) (Brack, 2012; Gorman, Nelson, & Glassman, 2004). As each generation grows up with different standards, it is said that such shifts (especially for the tech-savvy millennials) will reshape the world of work and that companies must understand and support workers' needs to attract and retain talent (CoreNet Global, 2015; Harvard Business Review, 2013). Companies are concerned about this so-called "war for talent" (Global, 2016; PwC, 2011). Besides the declining workforce, there are two more reasons why attracting and retaining millennial employees is so important. Millennials are a highly educated and well-skilled generation (CoreNet Global, 2015; Raines, 2002), which is crucial in the current global knowledge economy. Plus, the way millennials use communication networks and easily gain knowledge brings more and innovative opportunities to the company (Brack, 2012; Johnson Controls, 2010). Since employees are the organisation's most important asset, companies are striving to get the most out of this asset (Gorman et al., 2004; Rothe et al., 2012).

As corporations attempt to become the Employer of choice (Harvard Business Review, 2013) they have "...carefully thought about creating an environment where people want to work ..." (Roberts, 2011, p. 1). By doing so, employers want to fulfil the needs of their preferred potential employees and hope that eventually those people will choose their company over others. Leesman (2016) showed that younger employees attach more value to the role of the workplace than older employees. However, adding value this way is not easy. Despite the increasing interest to understand how offices can best be used and how workplaces can support

employees (Oseland, 2009), there is little scientific evidence for relations between workplace needs of millennials and the physical workplace aspects that support those workplace needs. Most studies are from practitioners. They show that the generations currently working in offices express different characteristics and needs (e.g. Hammill, 2005; Murphy, 2007; Steelcase, 2009). A survey of 131 companies with European headquarters (CBRE, 2016) also showed that 77% of their corporate real estate managers (CREM) saw talent attraction as a key element of their strategy, so they want to be involved. With stronger proof, CREM would know better how to support the needs of the future workforce and thus how to help attract and retain millennials (Harris, 2016; Haynes, 2012, 2012b; Khanna, Van der Voordt, & Koppels, 2013). Also, changes that help newer employees adjust to the workplace can also allow the organization to operate more efficiently, benefiting employees of all generations (Stewart et al., 2017).

Most scientific CREM studies only focus on management processes (e.g. Kämpf-Dern & Pfnür, 2014) or the physical aspects of the workplace in general (e.g. Harris, 2016). Studies on the characteristics and needs of millennials are mostly non-scientific (e.g. Deloitte Consulting LLP, 2005; Martin, 2005) or do not focus on workplace design (e.g. Lyons & Schweitzer, 2016). Scientific research about the relation between the physical workplace and millennial needs is limited. Those studies that do focus on the physical workplace needs of millennials (e.g. Rothe et al., 2012; Haynes, 2011) show inconsistencies and contradictions. Also, CREM cannot only focus on millennials since there are other generations present in the workplace that want to be heard too. More insight is needed to support CREM decision making and theory on this topic. Therefore, this study aimed to identify which physical workplace aspects contribute to attracting and retaining millennials, and whether they differ from other generations in their workplace needs and preferences. Data are collected by means of a questionnaire among 302 office employees of different generations and statistically analysed to test the hypotheses. The next 2 sections provide a literature review on employee generations and workplace related needs, after which hypotheses are formulated. Then the approach and findings are shown, followed by a discussion, conclusions and recommendations for research and practice.

## EMPLOYEE GENERATIONS

Today, four types of generations are active within the workplace: veterans, baby boomers, generation X and millennials (Hammill, 2005; Steelcase, 2009). People who belong to a generation are “individuals born and reared in the same historical era and are shaped by common formative experiences and therefore develop a unique identity” (Mannheim in: Lyons, Schweitzer, Ng, & Kuron, 2012, p. 334). This unique identity can be assigned to the different generations and therefore contributes to the general characteristics of people that belong to a specific birth cohort. Generations are usually defined as being around 17–20 years in length, partly from a biological reasoning that this is the time it takes for a human to mature and reproduce (Campbell, Twenge, & Campbell, 2017). However, studies show inconsistencies about the birth cohort of these generations (Giancola, 2006). Due to the inconsistency of studies for assigning age groups to a specific generation, it is useful to indicate a common thread. Averaging three studies (Hammill, 2005; Johnson Controls, 2010; Steelcase, 2009) the derived birth cohorts for veterans is 1922 – 1945, for baby boomers is 1946 – 1964, for generation X is 1965 – 1979 and for millennials is 1980 – 1998. As the proportion of veterans that belongs to the current workforce is very small (Bureau of Labor Statistics, 2016), it does not make sense to include them in the study. Similarly, generation Z is the generation after the millennial generation and is not present in the workplace yet.

According to the Bureau of Labor Statistics of the United Nations, the baby boom generation was the largest generation in 2015 with 25.6% (United Nations Department of Economic and Social Affairs Population Division, 2015). Despite the relatively small percentage of millennials of the total population of developed countries (19,8% for Europe, Northern America, Australia/New Zealand and Japan, see United Nations Department of Economic and Social Affairs Population Division, 2015), the percentage of millennials that belongs to the workforce in the Netherlands is relatively large (37.4%) (Central Bureau of Statistics, 2017). The percentage of the other generations that belonged to the Dutch workforce are 35.7% for generation X and 26.9% for baby boomers (Central Bureau of Statistics, 2017).

Chamberlin (2009) argues that the definition of generations should be interpreted with care since it is easy to stereotype assumptions. Not every person that belongs to a specific generation will share all the same characteristics that are representative for this generation (Hammill, 2005). Besides, people that are born at the beginning or the end of a birth cohort may have overlapping characteristics that are related to the preceding or succeeding generation (Hammill, 2005), which is also called generational fuzziness (Campbell, Twenge, & Campbell, 2017), and they could even form microgenerations (Taylor, 2018). Therefore, it is important to interpret the following character descriptions with caution.

The baby boomers is a large generation and is also known as Boomers, Vietnam Generation and Me Generation (Murphy, 2007). As children they grew up in the post-World War II era. Their parents lived through a global depression and people believed that the world would be better for this next generation (Murphy, 2007). Baby boomers learned flexible discipline from their parents, which includes the how and why of acceptable behaviour (Murphy, 2007). Baby boomers value the quality of life (Johnson Controls, 2010). They are well-known for their good communication skills (Murphy, 2007). Despite having the tendency of being a bit self-centred, they have a strong aim to please other people (Steelcase, 2009).

Generation X is also known as GenX, Baby Busters, and Post-Boomers (Murphy, 2007). The role of women began to change and many mothers worked outside of home during the childhood of generation X, which resulted in children increasingly taking care of themselves (Murphy, 2007). They are affected by the increase of divorce that might have caused their reserve to commitment and their loyalty (Murphy, 2007). They are more flexible in their behaviour than the previous generations and are less likely to stick to the rules (Haynes, 2011; Murphy, 2007). Generation X is also interpreted as impatient and might be seen as lazy by other generations (Steelcase, 2009).

Millennials belong to the youngest generation that is present in the workplace. This generation is also known as Generation Y, Internet Generation and Nexters (Murphy, 2007). Millennials grew up with technology and with a much more casual exposure to multiculturalism than any earlier generation (Murphy, 2007). They are goal- and achievement-oriented and many were required to serve time volunteering or participating in after school activities (Deloitte Consulting LLP, 2005; Raines, 2002). They are innovative thinkers and are comfortable with speed and change (Deloitte Consulting LLP, 2005). Besides, they are sociable and loyal to others (Steelcase, 2009). However, as Stewart et al (2017, p. 53) state, "their educational path and other early life experiences may not prepare them for successful entry into a workplace shaped by the Baby Boomers or previous generations".

## **WORKPLACE RELATED NEEDS**

A theory originated in general psychology that explains the basic psychological needs that all people have in the workplace is the self-determination theory (SDT). Within SDT, basic psychological needs symbolise the nutrients that have to be obtained by a person to promote optimal functioning and health (Deci & Ryan, 2000). In relation to the work environment, employees are expected to be motivated and show well-being when they have psychological need satisfaction within their organisation (Deci & Ryan, 1985). SDT comprises three basic psychological needs: the need for relatedness, the need for competence and the need for autonomy.

The need for relatedness is the desire of individuals to be connected to others and to experience feelings of security and belongingness (Van den Broeck, et al., 2010). This need is fulfilled when individuals experience intimate relationships with other individuals and when they experience a sense of community (Deci & Ryan, 2000). CREM can support the need for relatedness by for example designing the physical environment of the office in such a way that it facilitates more interaction between employees (Meulensteen, 2017).

The need for competence can be explained as the desire to feel effective in interacting with the environment, whereby the individual can adapt to complex and changing environments (Deci & Ryan, 2000). Thwarted competence satisfaction can lead to helplessness and a lack of motivation (Deci & Ryan, 2000). By means of competence, individuals might tend to explore and manipulate the environment by means of engaging in challenging tasks and extending their skills (Deci & Ryan, 2000). CREM can play a role in supporting the need for competence by for example facilitating space that supports learning, such as classrooms or spaces where mentors and their pupils can interact.

The need for autonomy refers to a situation where people can self-organise and regulate their own behaviour while working toward inner integration and coherence among managerial demands (Deci & Ryan, 2000). Hereby, it is important that individuals experience a sense of choice and psychological freedom when carrying out an activity (Deci & Ryan, 2000). The conceptualisation of autonomy by SDT is slightly different from the conceptualisation of autonomy by the typical organisational psychology. SDT refers to the experience of choice and psychological freedom while performing an activity, while organisational psychology refers to autonomy as a task characteristic (Van den Broeck et al., 2010). Roelofsen (2002) showed that workplace matters because employees give a better rating to their job satisfaction and a more favourable rating to their job stress if they are able to independently control the temperature and ventilation for their own workspace.

Since the three psychological needs that are related to SDT are specified as essential nutrients, individuals cannot thrive without fulfilling the satisfaction of all of them (Ryan & Deci, 2000). Empirical research among Belgian employees showed that not satisfying all three psychological needs results in less positive outcomes for the employees and ultimately the organisation, such as less satisfaction at work, less dedication to the company and less vitality while on a job (Vansteenkiste et al., 2007). Ryan & Deci (2008) emphasize, that while SDT

includes that the effects of need support is generalizable across all people and (cultural) contexts, this does not mean that all individuals or cultural groups value or support these needs and that these needs are satisfied or thwarted in the same way (Ryan & Deci, 2008).

Age plays an important role for specific workplace needs (Rothe, et al., 2011), implying that generations can show a different way of satisfying certain needs. Existing studies claim that the baby boomers show more basic needs regarding their workplace. They might be satisfied with basic, solid offices as long as their basic support of autonomy is not breached by giving them a voice (Murphy, 2007; Steelcase, 2009), a safe and clean area (Rothe et al., 2012) and enough privacy and concentration (Rothe et al., 2012). Generation X appears to ask more from their work environment regarding competence. It is the first generation that is critical about the workplace and questionable about authority (Murphy, 2007) and they need to feel competent by the meaningfulness of the work they do and how this is compensated (Johnson Controls, 2010) and require feedback (Hammill, 2005; Murphy, 2007). There is not much specifically mentioned on workplace design regarding this generation. The needs of millennials show much emphasis on self-actualisation in existing studies. All three SDT needs come forward in literature on millennials. They care a lot about sociability with colleagues (CoreNet Global, 2015; Johnson Controls, 2010) which could fall under the category relatedness needs. They strongly value mentoring and the opportunity to grow (Brack, 2012; Steelcase, 2009) as way to satisfy their need for competence. And last but not least, they find a work-life balance very important (PwC, 2011; Steelcase, 2009), as a sign of their autonomy. Related to this last need, flexible workplace use is said to be appreciated a lot by them (CoreNet Global, 2015; Johnson Controls, 2010). As this study focused on millennials' needs, their three biggest workplace needs according to existing studies (sociability with colleagues, opportunity to grow, work-life balance) will be elaborated further in the next section, including how physical workplace design might support them.

## PHYSICAL WORKPLACE AND MILLENIALS' NEEDS

Naturally work content, management and rewards are important strategies for being an employer of choice and creating employee satisfaction (Roberts, 2011). However, some studies also mention complementary strategies that are more or less tangible and related to CRE management such as implementing flexibility through flexible workspaces or hours (Harvard Business Review, 2013; Murphy, 2007; Roy, 2008; Steelcase, 2009), use of technology (Roy, 2008; Steelcase, 2009), and offering facilities like a gym or restaurant (Murphy, 2007; Roy, 2008).

Millennials are networked, collaborative and highly social and expect to be constantly connected to a social network, also with colleagues during work by means of a sociable environment (Johnson Controls, 2010). As much as 74% of millennials agrees that working relationships are more important than other work related aspects (CBRE-dataset, 2016). Where other generations focus on the job itself, this job itself is for millennials increasingly becoming a secondary concern behind other external factors such as their social utility (Thompson, 2011). A study by Walters (2016) found that one third of the millennials felt that meeting their colleagues in a social setting was the most important aspect of their workplace introduction and see this as an effective way to integrate as part of the team. Those figures are only 15% for the employees that belong to generation X and less than 1% for the Baby Boomers. Also, 34% of the millennials think of meeting with colleagues outside the office as a positive initiative for their work reputation versus 14-15% for the other generations (Shandwick, 2015). Sociability with colleagues can take place at different settings. This setting can be present inside the office varying from the workplace to informal work areas/break out zones and canteens, or outside the office at various leisure facilities such as a restaurant or sports club onsite or nearby. Additionally design aspects matter such as openness and transparency (CfPB, 2017), including people walking past your desk, space between work-settings and accessibility of colleagues. But also IT-services for social networking can play a role (PwC, 2011).

Regarding the opportunity to grow, millennials approach their job with the intention to learn and grow during their time of employment at a certain employer (Gallup, 2016). This desire for development might be the biggest differentiator between this generation and other generations that are already present within the workplace (Gallup, 2016). Therefore, the implementation of a lifetime of learning is a business requirement when companies want to attract millennials (Meister, Willyerd, & Foss, 2010). In general, the vast majority of millennials (93%) see ongoing skills development as a basic requirement in their future careers (Manpower Group, 2016). The most common methods for providing training are traditional classroom training or online training and mentoring (Piech, 2016). Regarding workplace support, the first type will take place in meeting rooms, the second demands audio-visual equipment and the third is more likely to take place in quiet rooms for working alone or in pairs. Mentoring is not just having meetings; it is also useful that the mentee watches the

mentor work to learn by example. This is why openness and transparency and accessibility of colleagues are also important workplace aspects to support the opportunity to grow.

A definition of work-life balance is "... people spending sufficient time at their jobs while also spending adequate time on other pursuits, such as family, friends, and hobbies" (Smith, 2010, p. 434). The creation of a good work-life balance is a joint responsibility between the employer and its employee, by which both the individual and organisational needs have to be met (Glynn, Steinberg, & McCartney, 2002). Managerial support, communication and understanding are very important when it comes to achieving a personalised work-life balance (Eversole et al., 2012). According to Reilly et al. (2012) the most common arrangements are family responsibilities (assistance with childcare), leave policies, multiple services and flexibility. Facilitating flexibility within the workplace is an important enabler for creating a good work-life balance. However, despite the fact that desks are increasingly not assigned to create both spatial and temporal flexibility, millennials appear to be more conservative than everyone thought since 70% prefers to have their own assigned desk (Johnson Controls, 2010) with the ability to personalise their workstation. Possible facilities that can make employees save time are mail/post-room services, washroom facilities/showers, and leisure facilities onsite or nearby, and also commute time is relevant (CBRE, 2016). For temporal flexibility they need remote access to the company network and files and to their colleagues.

To test the relationships between all these variables (SDT needs, millennials' workplace needs, and physical workplace aspects), several hypotheses were proposed. First of all, it is needed to check whether the specific millennials workplace needs fit with SDT as assumed and whether generations differ on these workplace needs:

H1: The need for sociability with colleagues is related most strongly to the need for relatedness

H2: The need for opportunity to grow is related most strongly to the need for competence

H3: The need for work-life balance is related most strongly to the need for autonomy

H4: Generations differ in workplace needs

Then it was analysed whether the workplace needs are perceived to be supported through physical workplace aspects and whether generations perceive these relationships differently:

H5: Employees perceive certain physical workplace aspects to be a support for workplace needs

H6: Generations perceive different physical workplace aspects to be a support for workplace needs

H6A: Generations perceive different physical workplace aspects to be a support for sociability with colleagues

H6B: Generations perceive different physical workplace aspects to be a support for the opportunity to grow

H6C: Generations perceive different physical workplace aspects to be a support for a work-life balance

## APPROACH

A questionnaire was developed to gather input about workplace needs and perceived support of the physical workplace aspects from baby boomers, generation X and millennials. Several CRE managers working for Dutch office organisations were approached to spread the questionnaire among their employees for a convenience sample. The questionnaire was open between the 7<sup>th</sup> of September and the 6<sup>th</sup> of October 2017 and provided 302 valid respondents. The sample may not be fully representative for the population of knowledge workers and contained a relatively high proportion millennials (63.6%, versus 37.4% nation-wide). The proportions of respondents in the sample that belong to generation X and the baby boom generation were lower (24.8% and 11.6%). However, they were all knowledge workers working in office environments, and they do represent the different socio-demographic groups in the Netherlands regarding gender (52.6% male and 47.4% female) and household composition (37.7% married/ living together with children, 32.1% married/ living together without children, 32.5% singles without children, 3.3% singles with children and 3.3% other). Mean age was 35 (SD=11.35) and 79.8% was highly educated. Most of the respondents are 'regular' employees (51.0%), followed by manager (22.8%), administrator (5.6%), board member (5.3%) and intern/ trainee (4.6%). While there were so many millennials in the sample, the average years of deployment was only 7.4 (SD = 9.3).

The operationalization of the SDT needs was derived from Van den Broeck et al. (2010), who constructed a Work-related Basic Need Satisfaction scale (W-BNS) with five statements per need that are applicable to

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personal experiences at work. Similarly, five 5-point Likert-scale statements were created by the authors to operationalise each millennials workplace need. Sociability with colleagues was operationalised with statements about similar mind-sets (Weyland, 2011), meeting colleagues to integrate as part of a team (Walters, 2016), the work environments as a second home (PwC, 2011), socialisation with their manager (Kelly, 2016) and interactions with colleagues to build reputation (Shandwick, 2015). The need for the opportunity to grow was measured with a statement about future management position (Elance-oDesk, 2014), joining an individual training program (Piech, 2016), personal investment (Thompson, 2011), participation in skills development (Manpower Group, 2016) and presence of coaches (PWC, 2011). Statements about work-life balance included ability to take care of family responsibilities (Reilly et al., 2012), making sacrifices (Hershatter & Epstein, 2010), leaving early (Glynn et al., 2002) working hours (Thompson, 2011) and the need to separate work and leisure activities. The questionnaire also included 5-point scales to indicate the importance of the different physical workplace aspects for each millennials need. To make sure that no aspects were missed, each need offered the possibility to provide additional workplace aspects in an open question. Last, several personal characteristics were questioned (gender, date of birth, education level, job position, years of deployment, number of employers and household composition).

Before analysing the results of the questionnaire, the data was prepared further. The scales used for the SDT variables are generally accepted in social sciences (Van den Broeck et al., 2010), but the Cronbach's alpha was calculated to check internal consistency for this dataset. For all items the Cronbach's alpha coefficient was larger than 0.7, indicating a satisfactory degree of internal consistency (Devellis, 2012), except feeling connected ( $\alpha = 0.683$ ). In terms of workplace needs, a Principal Component Analysis (PCA, rotation method Varimax with Kaiser normalisation) showed that the total set of indicator variables used for the three workplace needs actually related to six underlying workplace need factors. The factors could be labelled as: informal socialisation, formal socialisation, professional growth, coaching, leisure-work balance and personalised arrangements. Therefore H1-3 were reformulated:

H1a: The need for informal socialisation is related most strongly to the need for relatedness

H1b: The need for formal socialisation is related most strongly to the need for relatedness

H2a: The need for professional growth is related most strongly to the need for competence

H2b: The need for coaching is related the most to need strongly for competence

H3a: The need for leisure-work balance is related most strongly to the need for autonomy

H3b: The need for personalised arrangements is related most strongly to the need for autonomy

The strength and direction of the relationships were analysed by calculating Pearson correlation coefficients ( $r$ ). Next, the differences between generations regarding the workplace need factors were examined. Hereby, H4 'Generations differ in workplace need factors' and 'Generations perceive different physical workplace aspects to be a support for workplace needs' were tested using ANOVA, in combination with post-hoc t-tests for pairwise comparisons between the groups. H5 'Millennials perceive certain physical workplace aspects to be a support for workplace needs' was considered by examining the distribution of the scores for the importance of the physical workplace aspects for specific needs.

*Table 2 PCA results*

Original need	Label	Factors					
		Leisure-work balance	Professional growth	Informal socialisation	Formal socialisation	Personalised arrangements	Coaching
W-l balance	Separate leisure	<b>-.697</b>	.060	-.228	-.115	.087	-.118
W-l balance	Working hours	<b>.692</b>	.065	-.124	.057	.275	.044
W-l balance	Make sacrifices	<b>-.641</b>	-.296	.018	.222	.142	.216
Opp to grow	Management function	.386	<b>.386</b>	-.287	.195	.062	.192
Opp to grow	Personal investment	.099	<b>.733</b>	.071	.108	.009	.076
Opp to grow	Participate develop	.062	<b>.616</b>	.169	.060	.001	-.029
Soc with coll	Similar mind-sets	.064	.031	<b>.651</b>	.025	-.283	.216
Soc with coll	Second home	-.175	.284	<b>.600</b>	-.178	.246	.078

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Soc with coll	Socialise with manager	.124	.076	<b>.588</b>	.334	.218	-,168
Opp to grow	Join training program	-.044	.009	-.045	<b>-.792</b>	.037	-,102
Soc with coll	Interact for reputation	-.032	.379	-.053	<b>.586</b>	-.017	-,207
Soc with coll	Meet to integrate	.062	.193	.254	<b>.364</b>	.343	,218
W-l balance	Family responsibilities	-.009	.051	-.059	-.085	<b>.816</b>	,107
W-l balance	Leave early	.146	-.324	.257	.182	<b>.495</b>	-,266
Opp to grow	Presence of coaches	.052	.039	.095	.017	.060	<b>.892</b>
Eigenvalue		2.324	1.561	1.318	1.206	1.090	1.022
Explained variance (%)		15.49	10.40	8.79	8.04	7.27	6.81

**FINDINGS**

Hypotheses H1-H3 were only partly confirmed. In only two cases, namely the relationship between informal socialisation and relatedness, and between professional growth and competence the correlation coefficients were largest suggesting that the relationships were strongest. There were relationships between formal socialisation and relatedness, and leisure-work balance and autonomy, as expected. However, they were not the strongest, as was hypothesised. Formal socialisation had the strongest positive relationship with autonomy. Leisure-work balance had the strongest (positive) correlation with competence. Finally, the workplace need factor coaching correlated the strongest with autonomy, which was also not expected. The relationship between those two variables was negative. Since the expected relationships are only confirmed in two cases, H1a and H2a were accepted. H1b, H2b, H3a and H3b were rejected.

Table 3 shows an overview of the differences between generations for the various millennials workplace needs, to address H4. As Levene's test ( $p = .046$ ) showed that the assumption of homogeneity of variances of ANOVA is not met for the variable 'professional growth', the Welch test and Brown-Forsythe test was performed instead of ANOVA for that variable. No significant differences were found between generations for the workplace need factors informal socialisation, formal socialisation and personalised arrangements. For the workplace need factors professional growth, coaching and leisure-work balance significant differences were found between generations. Millennials valued the workplace need factors professional growth and coaching on a higher level than generation X did. Generation X attached more value to the need for a leisure-work balance than millennials did. Since these generations differed in their scores for the three needs, H4 (Generations differ in workplace need factors) was accepted. However, baby boomers did not differ significantly from other generations.

Table 3  
*Overview descriptives, results ANOVA and post- hoc needs of generations*

Label	Baby boomers (1)		Generation X (2)		Millennials (3)		ANOVA		Post-hoc
	M	SD	M	SD	M	SD	F (2, 299)		
Informal socialisation	-0.20	1.20	-0.04	1.05	0.05	0.94	1,009		
Formal socialisation	0.00	0.96	-0.20	1.02	0.08	0.99	2,072		
Professional growth	-0.22	1.28	-0.20	0.81	0.12	1.00	0.013**	0.010**	3 > 2*
Coaching	-0.14	1.11	-0.23	0.91	0.11	1.00	3,542**		3 > 2**
Leisure-work balance	0.27	0.91	0.22	1.08	-0.14	0.96	5,065**		2 > 3**
Personalised arrangements	-0.21	0.92	0.11	0.97	-0.01	1.02	1,256		

\*  $p < .1$

\*\*  $p < .05$

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Regarding H5, eight physical workplace aspects are linked to the need for sociability with colleagues (see Table 4). Other aspects that were added by respondents were informal drinks, coffee corner, warm/ inspiring environment, mixing up workplaces, outdoor space, and space for relaxing/ playing games. Five physical workplace aspects were linked to the need for the opportunity to grow. Again additional aspects were mentioned under the open question: facilitating training, good mix of quiet and open workplaces, informal/ collaborative workspace, inspiring & light work environment, and library/ specialist literature. For work-life balance additional aspects mentioned were flexible hours and shops & childcare near work. As shown in table 3, the mean of the importance scores vary between 2.32 and 4.24 (on the scales scores below 3 mean not important). Accessibility with colleagues had the highest rank for sociability with colleagues and opportunity to grow, and second highest for work-life balance just behind remote access to work files or network. H5 (Employees perceive certain physical workplace aspects to be a support for workplace needs) was accepted.

Table 4  
*Importance of physical workplace aspects*

Label (n= 302, all generations)	sociability with colleagues		opportunity to grow		work-life balance	
	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.
Accessibility of colleagues	4.21	0.58	4.24	0.56	4.17	0.60
Openness and transparency	3.95	0.78	4.03	0.71		
Informal work areas/ break-out zones	3.93	0.83				
Restaurant/ canteen	3.75	0.90				
Space between work-settings	3.52	0.87				
People walking past my desk	3.30	0.97				
Leisure facilities onsite or nearby	2.86	1.19			2.81	1.17
IT-services for social networking	2.84	1.07				
Meeting rooms			3.69	0.90		
Quiet rooms for working alone or in pairs			3.67	0.99		
Audio-visual equipment			3.63	0.90		
Remote access to work files or network					4.18	0.79
Spatial flexibility					3.98	0.97
Commute time					3.88	0.87
Washroom facilities/ showers					3.35	1.12
Ability to personalise my workstation					2.63	1.13
Mail and post-room services					2.32	1.09

Last, H6 looked at differences in perceived support by the generations of whether the millennials needs are supported through the physical workplace. Figure 1 shows an overview of the differences between generations for the physical workplace aspects supporting the workplace needs (based on ANOVA as mentioned before). There were differences in mean scores between some generations in three out of the eight physical workplace aspects that support sociability with colleagues. Millennials indicated the physical workplace aspects accessibility of colleagues and informal work areas/ break-out zones to be significantly more important than generation X did. Furthermore, the oldest generation (the baby boomers) perceived IT-services for social networking as a more important support for sociability with colleagues than millennials, the youngest generation. Baby boomers also perceived audio-visual equipment as more important for the support of opportunity to grow than millennials. The last physical workplace aspect that was significantly different in importance for some generations was ‘the ability to personalise my workstation’. Millennials perceived the ability to personalise their workstation to be a more important support for a work-life balance than generation X. Since generations differed in their scores for the importance of the physical workplace aspects for supporting the workplace needs, it was concluded that H6a, H6b and H6c could be accepted, but evidence was not very strong especially not for H6b regarding opportunity to grow.

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	Baby boomers	Generation X	Millennials
<b>Sociability with colleagues</b>			
Accessibility of colleagues		-	++
Openness and transparency			
Informal work areas/ break-out zones		-	++
Restaurant/ canteen			
Space between work-settings			
People walking past my desk			
Leisure facilities on site or nearby			
IT-services for social networking	++		-
<b>Opportunity to grow</b>			
Accessibility of colleagues			
Openness and transparency			
Meeting rooms			
Quiet rooms for working alone or in pairs			
Audio-visual equipment	+		-
<b>Work-life balance</b>			
Remote access to work files or network			
Accessibility of colleagues			
Spatial flexibility			
Commute time			
Washroom facilities/ showers			
Leisure facilities onsite or nearby			
Ability to personalise my workstation		--	++
Mail and post-room services			
+	Generation indicates physical workplace aspect as more important for supporting the concerned need with a significant difference at the $p < .1$		
-	Generation indicates physical workplace aspect as less important for supporting the concerned need with a significant difference at the $p < .1$		
++	Generation indicates physical workplace aspect as more important for supporting the concerned need with a significant difference at the $p < .05$		
--	Generation indicates physical workplace aspect as less important for supporting the concerned need with a significant difference at the $p < .05$		
	No significant difference		

*Figure 1 Overview generations and physical workplace aspects*

**DISCUSSION**

CREM faces the challenge to create a workplace that supports the needs of employees to attract and retain them. SDT states that there are three basic needs all employees have and that can be fulfilled in different ways: the need for relatedness, the need for competence and the need for autonomy. Findings of this study indicated that informal socialisation, formal socialisation, professional growth and leisure-work balance contribute to fulfilling the need for relatedness. Furthermore, professional growth and leisure-work balance contribute to fulfilling the

need for competence. Informal socialisation, formal socialisation and leisure-work balance also contribute to fulfilling the need for autonomy. In total 13 unique physical workplace aspects have the potential to support the most important workplace needs of millennials, because they are perceived as important by all employees. They thus provide tools for CREM to play a role in talent attraction and retention by better design management, space planning and facility management. Almost all the physical workplace aspects identified from the literature study were indeed perceived as important by both millennials and other generations employees for supporting one of their workplace needs. Only five of the 21 aspects were not perceived as important. These were the aspects 'leisure facilities onsite or nearby' (Leesman, 2016) and 'IT-services for social networking' (PwC, 2011), identified as possible support for sociability with colleagues, and the aspects 'leisure facilities onsite or nearby', 'ability to personalise my workstation' and 'mail and post-room services' (all retrieved from Leesman, 2016) for supporting work-life balance.

Clearly accessibility of colleagues came forward as the most important physical workplace aspect for supporting millennials' workplace needs, which is in line with Leesman (2016). This finding might indicate in line with earlier claims that this generation is very sociable. Accessibility of colleagues is important for supporting social interaction and learning from others. More companies are beginning to see the sociability of millennials as a business advantage (KPMG, 2017). They are letting go of the thought about socialisation at work as a distraction. This is also the case for social interaction online since employees are increasingly giving millennials access to the collective intelligence available across organisational boundaries (Johnson Controls, 2010). The ability to get on with colleagues plays a very influential factor for millennials when they are choosing a workplace (CBRE, 2016). As much as 89% of millennials stated that the ability to get on with immediate colleagues/ managers is important when considering a job (CBRE-dataset, 2016). Millennials enjoy being part of a community with strong relations that can be called their "work family" (KPMG, 2017).

Millennials also value companies that invest tangible resources in their future and create ways for them to use their skills and talent (Meister et al., 2010; Thompson, 2011). They might even jump to a better offer at another organisation when they feel that they are not getting enough opportunities for learning or development (Beechler & Woodward, 2009). So here lies an important task for CREM in combination with other support services such as HRM. It is however not so simple to decide how to invest in the (physical) workplace. There seem to be even conflicts within the preferences of millennials. Activity based working (ABW) is increasingly being implemented in modern work environments to support employees of all generations but specifically to attract the flexibility-loving millennial. Also, it is claimed that organizations can benefit from creating flexible workplaces to accommodate the desires of the different generations while still meeting the goals of the organization as a whole (Taylor, 2018). ABW is an approach that does not include a traditional workplace, but a 'hybrid environment' that provides various types of workplaces shared by employees (Ross, 2010). Those workplaces are used on a need basis, depending on the activity that is being performed (Ross, 2010). Examples of different types of activity based workspaces are open spaces, meeting rooms, concentration rooms and informal collaboration points, so they could support millennials' high perceived importance of having informal work areas and break out zones. However, it is questionable whether colleagues are well accessible for each other in such environments, since they can work at a different workplace every day or hour. Not being able to find colleagues is a known complaint in ABW offices and accessibility of colleagues was most important for millennials. Also, millennials' need for mentoring could be violated by ABW, as not being at the same workplace or not working at the same time might cause challenges for mentors to mentor their pupils. Additionally, their preferred ability to personalise their desk is not possible in an ABW environment, a preference adding to previous studies that already mentioned that millennials like to have their own desk (CoreNet Global, 2015; Johnson Controls, 2010). Partly due to the costs it is difficult for CRE managers to on the one hand take care of flexible workstations and create choice in types of available workspaces and on the other hand arrange own desks for every employee and make sure that people can find each other.

This exploratory study suggested that generations differ for 5 out of the 21 physical workplace aspects in the extent of perceiving those physical workplace aspects as a support for their workplace needs. Companies that specifically want to satisfy their millennials could thus pay special attention to informal work areas and break-out zones, accessibility of colleagues and the ability to personalise a workstation. However, the findings should be interpreted with care since the differences between the actual mean scores and the effect sizes for the importance of the concerned physical workplace aspects are rather small. As this paper mainly focused on the needs of millennials, it is necessary to study specific needs of the other generations in today's work environment in similar studies before definite conclusions can be drawn. For example, generation X specifically cares about fun and feedback (Hammill, 2005) and the baby boomers seem to care more about a safe and clean area (Rothe et al., 2012) and adjustable indoor climate (Johnson Controls, 2010). Comparable studies like this paper on such topics are worthwhile to support CREM decision-making further.

## CONCLUSIONS AND RECOMMENDATIONS

This research has given more insight into the workplace needs and preferences for physical workplace aspects of various generations (baby boomers, generation X and millennials), with a specific focus on the millennial generation. It also identified the significant differences and similarities between generations regarding their workplace needs and preferences for physical workplace aspects. The results suggested that generations differ in three of the six workplace need factors, namely in the need for professional growth, the need for coaching and the need for leisure-work balance. The differences in needs occur only between millennials and generation X. The results also suggested that the three generations differ for five out of the 21 physical workplace aspects on how important they perceive them as a support for their workplace needs. Based on the analyses and the interpretation of the results, it can be concluded that there are differences between generations regarding their needs and their preferences for physical workplace aspects. However, those differences between generations are rather small.

Limitations of this study relate to the representativeness of the sample and the sample size, and the fact that the work activities and possible differences in personal background of the respondents were not taken into account. Recommendations for further research are to conduct the same research with a larger and more representative sample, with other or more independent variables and in different settings, and using multivariate analysis. Larger samples will allow multivariate (regression) analyses, whereby differences in personal characteristics can be controlled for. Some have called studies on generational difference a popular culture rather than a social science (Macky et al., 2008) and consider generational differences as a myth (Giancola, 2006). Future research should thus also study whether needs differ mostly based on generation, or whether it is more related to age/life phase. Older generations might also perform different activities than younger generations and on that account value certain needs differently. Three specific findings in this paper might (partly) be explained by this. First, the result that millennials attached more value to the needs professional growth and coaching than generation X. This might be caused by the fact that this generation is younger and less experienced and therefore values development and growth and the presence of coaches. Second, millennials marked importance of the ability to personalise their workstation higher than generation X did. This might be caused by the fact that they are often at the beginning of establishing their position within an organisation. By means of a personalised workstation they might feel more involved and acknowledged by an organisation (Johnson Controls, 2010). Last, literature indicates that millennials are tech-savvy, but the results showed that the baby boomers significantly perceived audio-visual equipment as more important for supporting the opportunity to grow than millennials did. Moreover, they also perceived IT-services for social networking as more important for supporting sociability with colleagues than millennials did. Leesman (2016) found that older respondents value activities such as audio conferences at a higher level than younger respondents. Since the baby boomers might therefore be more common with this activity, they might also perceive the physical workplace aspects that support this activity as more important.

The results of this study can be translated into recommendations for CRE managers and developers and owners of office buildings. The physical workplace aspects that support the needs of millennials have to be taken into account by the CRE manager to attract and retain millennials. In the case of implementing those physical workplace aspects, CREM needs to perform (workplace) design management/ space planning and facility management. For guaranteeing the accessibility of colleagues in combination with the increasingly popular activity based working (ABW) style, it is recommended for the CRE manager to implement additional policy. Furthermore, it is recommended for CREM to go in consultation with the HR department about how to approach some aspects that employees perceive as important that are related to both departments. Finally, CREM needs to take the results of further research about the needs and preferences of the other generations into account to create a mix of physical workplace aspects that support the workplace needs of all generations.

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