

Critically Appraised Topic

Generational Differences

1. Background

Atrain approached the Center for Evidence-Based Management (CEBMA) to undertake a review to understand what is known in the scientific literature about (assumed) generational differences in the workplace. This CAT will present an overview of the best available evidence.

2. Main questions: What will the review answer?

1. *What is meant by generational or age differences in the workplace?*
2. *How are generational or age differences supposed to influence work-related outcomes?*
3. *What is the scientific evidence for (assumed) generational or age differences in the workplace?*

3. Search process: How was the research evidence sought?

The following two databases were used to identify studies: ABI/INFORM Global from ProQuest and Business Source Elite from EBSCO. The following generic search filters are applied to all databases during the search:

1. Scholarly journals, peer-reviewed
2. Published in the period 1980 to 2017
3. Articles in English

A search was conducted using combinations of different search terms. We conducted 7 different search queries and screened the titles and abstracts of more than 80 studies. An overview of all search terms and queries is provided in Annex I.

4. Selection process: How were the studies selected?

Study selection has taken place in two phases. Firstly, the titles and abstracts of the studies identified were screened for their relevance to the review question. In case of doubt or lack of information, the study was included. Duplicate publications were removed. This first phase yielded 44 studies. Secondly, studies were selected based on the full text of the article according to the following inclusion criteria.

1. Type of studies: Focusing on quantitative, empirical studies.
2. Research design: Only meta-analyses were included
3. Measurement: Only studies in which the impact on diversity and inclusion was measured.
4. Context: Only studies related to workplace settings.

5. Level of trustworthiness: Only studies that were graded level D or above (see below).

This second phase yielded 13 meta-analyses. An overview of the selection process is provided in Annex II.

5. Data extraction: What data were extracted?

Data extraction involved the collation of the results of the studies included. From each study, information relevant to the review question was extracted, such as year of publication, research design, sample size, population (e.g., industry, type of employees), possible moderators or mediators, main findings, effect sizes, and limitations.

6. Critical appraisal: How was the quality of the studies included judged?

The classification system of Shadish, Cook and Campbell (2002), and Petticrew and Roberts (2006) was used to determine the methodological appropriateness of the research design of the studies included on the basis of a systematic assessment.

To determine the magnitude of an effect Cohen's rule of thumb (Cohen, 1988) was applied. According to Cohen (1988) a 'small' effect is an effect that is only visible through careful examination. A 'medium' effect, however, is one that is 'visible to the naked eye of the careful observer'. Finally, a 'large' effect is an effect that anyone can easily see because it is substantial.

7. Outcome of the critical appraisal

The overall quality of the studies included was moderate to low. Most of the meta-analyses were based on cross-sectional studies, and where therefore qualified as level C or lower.

8. Main findings

Question 1: What is meant by generational differences in the workplace?

A generation is defined as "a cohort of individuals who have grown up in the same historical and social context, whose shared formative experiences instill in them beliefs, values, and general dispositions that differ from those of others born and raised in different contexts and time periods" (Woodward et al., 2015). Put simply, generations are usually seen as groups of individuals created by shared experiences at a similar age (Costanza et al., 2012). In the research literature four types of generations have been conceptualized:

Generations	Born between
Traditionalists	1925–1944
Baby Boomers	1945–1964
Generation X	1965–1979
Generation Y (Millennials)	1980–2000

Stereotypes about generational differences in the workplace abound and interventions for helping organizations and managers to deal with these supposed differences are increasing. The question therefore is whether the scientific evidence supports the investments.

Question 2: How are generational differences supposed to influence work-related outcomes?

Employees from different generation groups are said not to have the same work ethics, or expectations and values about organizations, or goals and aspirations in their working life. However, the concept that researchers deem appropriate for hypothesizing how and why groups of individuals may vary, is the “life course theory” (Elder, 1994). This theory is often used to study how significant social–historical events and experiences shape the behavior of individuals and generations of individuals over their entire lives, and even across generations. However, Costanza et al. (2012) reported that little of the empirical research on generational differences has a solid, theoretical foundation underpinning either the concept of generations or the specific hypotheses about the impact that such generations have. Overall, this fact limits our ability to make sound hypotheses about specific differences among generations on work-related outcomes and the reasons for them.

Question 3: What is the evidence for generational or age differences in work-related outcomes?

1. There are no differences in work ethics amongst Baby Boomers, Generation X, and Millennials (Level C).

Across 105 studies in which the average age was used to assign individuals to different generational cohorts, Zabel et al. (2016) did not find generational differences on average work ethic scores, which comprised dimensions such as centrality of work, beliefs that hard work yields successful outcomes, morality/ethics, time-wasting, avoiding leisure activities, delaying gratification, and self-reliance.

2. There are only small differences across generations regarding job attitudes (Level C).

A meta-analysis conducted on more than 19,000 employees found moderate to mainly small relationships between generations (Traditionals, Baby Boomers, Generation X, and Generation Y/Millennials) in job satisfaction, organizational commitment, and intent to stay/quit (Costanza et al., 2012). However, these effects on job attitudes may be explained by demographic factors such as age and tenure (Ng et al., 2010). It should be noted that Costanza’s meta-analysis is the first quantitative answer to a question that is often researched by means of a literature review, where findings are mixed (Woodward et al., 2015).

3. Evidence of generational differences in work values is, at best, mixed (Level D).

Through a critical review of the literature, Parry et al. (2011) found that evidence of generational differences on work values is mixed. Many studies did not find any effects, others did but failed to distinguish between “generations” and “age” as drivers of such observed differences. Even if it is important to account for values and preferences of different groups, based on both age and other factors such as gender, a convincing case for the consideration of a person’s generation as an additional distinguishing factor has yet to be made.

4. The relationship between age and a large number of job attitudes is weak (Level C).

A meta-analysis that pooled together results from 802 studies found mostly weak, or even very weak, relationships between age and 35 job attitudes (Ng et al., 2010). For example, weak positive

relationships were found between age and job satisfaction and organizational commitment, suggesting that effects attributable to generational differences are actually related to these demographic factors (Costanza et al., 2012). Furthermore, older workers were found to be slightly more willing to remain in a company (e.g. XXXXX); in addition, older employees with higher tenure are less likely to quit (Ng et al., 2009). Finally, a large meta-analysis did not support stereotypes regarding older workers' attitudes, such as that they are generally less motivated, less trusting, and more resistant to change (Ng et al., 2012).

5. Older workers contribute considerably to non-core performance domains, i.e. other than task performance (Level C).

It was found that older workers display more enhanced citizenship behaviour and greater safety-related behaviour. Also, they engage in less counterproductive work behaviour and exhibit lower workplace aggression, on-the-job substance use, tardiness, and voluntary absence in particular (Ng et al., 2009). While age is only minimally related to job behavior revolving around core task performance and creativity, older workers seem to be as motivated as their younger counterparts in terms of contributing to the organisation and more consciously engaging in discretionary behaviour to compensate any loss in technical core performance (Ng et al., 2008). Still, a meta-analysis investigating the effect of time on performance found that higher tenure becomes more predictive of job performance in high-complexity jobs, whereas, for low-complexity jobs, as time passes by employees display lower performance levels (i.e. an inverted U-shaped relationship) (Sturman, 2003).

6. Older workers are less motivated by training and developmental opportunities than their younger counterparts (Level A).

Several meta-analyses found that older workers are slightly less willing to take part in training and development activities, tend to be slightly less motivated to learn, and have lower learning self-efficacy (Kojij et al., 2010b; Ng et al., 2010; Ng et al., 2012). Additionally, Ng et al. (2008) found that age was slightly negatively related to performance in training programs. Taken together, these findings suggest that older workers may prioritize, and benefit from, activities other than training in core-performance domains (Ng et al., 2008), for instance, providing older employees with greater supervisory and mentoring training, so that they can do a better job of facilitating younger employees' core performance. Moreover, training that is slower paced and spaced out over time may be more effective for older workers.

7. Most of health-related stereotypes about older workers are not supported by evidence (Level C).

Several meta-analyses conducted across more than 200,000 employees did not support the stereotype that older workers are less healthy (Ng et al., 2012; Ng et al., 2013). In fact, older employees suffered no declines in either mental health or self-reported physical health problems, but, as expected, they did experience modest declines on clinical indices of physical health (e.g. blood pressure, cholesterol level, and body mass index). These findings point to a cognitive bias known as "representativeness error," in which evidence of decline in health conditions across older individuals is generalized to the population of older workers without evidence of such (Ng et al., 2013).

8. Older and more tenured employees tend to display higher coping strategies against stressors and lower performance declines (Level C).

A meta-analysis conducted by Shirom et al. (2008) has found that as age and tenure increased, the negative relationship between role ambiguity and general performance decreased, likely because people tend to obtain higher coping resources that benefit them in performing stressful work demands. Additionally, Brewer (2004) found that older employees, as well as individuals who have worked on a type of job for longer periods of time, experience less burnout than younger employees.

9. Conclusion

The assumed generational differences in the workplace are not supported by the scientific evidence

10. Limitations

This CAT aims to provide a balanced assessment of what is known in the scientific literature about the assumed generational differences in the workplace by using the systematic review method to search and critically appraise empirical studies. However, in order to be 'rapid', concessions were made in relation to the breadth and depth of the search process. As a consequence, some relevant studies may have been missed.

A second limitation concerns the critical appraisal of the studies included, which did not incorporate a comprehensive review of the psychometric properties of the tests, scales and questionnaires used.

Finally, this CAT focused only on meta-analyses. For this reason, primary studies were excluded. As a consequence, additional findings that are relevant for practice may have been missed.

References

- Brewer, E. W., and Shapard, L. (2004). Employee burnout: A meta-analysis of the relationship between age or years of experience. *Human resource development review*, 3(2), 102–123.
- Costanza, D.P., et al. (2012). Generational differences in work-related attitudes: A meta-analysis. *Journal of Business and Psychology*, 27(4), 375–394.
- Kooij, D., et al. (2010). The influence of age on the associations between HR practices and both affective commitment and job satisfaction: A meta-analysis. *Journal of Organizational Behavior*, 31(8), 1111–1136.
- Kooij, D., et al. (2011). Age and work-related motives: Results of a meta-analysis. *Journal of Organizational Behavior*, 32(2), 197–225.
- Parry, E., & Urwin, P. (2011). Generational differences in work values: A review of theory and evidence. *International journal of management reviews*, 13(1), 79–96.
- Ng, T., & Feldman, D., (2008). The relationship of age to ten dimensions of job performance. *Journal of Applied Psychology*, 93(2), 392–423.
- Ng, T., & Feldman, D. (2009). Re-examining the relationship between age and voluntary turnover. *Journal of Vocational Behavior* 74(3), 283–294.
- Ng, T., & Feldman, D., (2010) The relationships of age with job attitudes: a meta-analysis. *Personnel Psychology*, 63(3), 677–718.
- Ng, T., & Feldman, D., (2012). Evaluating six common stereotypes about older workers with meta-analytical data. *Personnel Psychology*, 65(4), 821–858.
- Ng, T., & Feldman, D., (2013). Employee age and health. *Journal of Vocational Behavior*, 83(3), 336–345.
- Shirom, A., et al. (2008). Gender, age and tenure as moderators of work-related stressors' relationships with job performance: A meta-analysis. *Human Relations*, 61(10), 1371–1398.
- Sturman, M.C. (2003). Searching for the inverted U-shaped relationship between time and performance: Meta-analyses of the experience/performance, tenure/performance, and age/performance relationships. *Journal of Management*, 29(5), 609–640.
- Woodward, I. et al. (2015). Generational diversity at work: A systematic review of the research. INSEAD.
- Zabel, K., et al. (2017). Generational differences in work ethic: Fact or fiction?. *Journal of Business and Psychology*, 32(3), 301

All annexes are available on request