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The Future of Work:

The Impact of Artificial Intelligence on the Well-Being of White-collar Employees

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Abstract

Title: The Future of Work: The Impact of Artificial Intelligence on the Well-Being of White-collar Employees

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Given the upward trend in automation, as seen on a mechanical level in manufacturing plants, it is predicted that the next phase will involve artificial intelligence working in conjunction with human employees within the office environment. This research will explore how these predicted future scenarios of human white-collar employees working alongside artificial intelligence agents impacts their well-being. This research follows an experimental approach where participants are exposed to two different scenarios manipulating the independent variable: working with and without an artificial intelligence team member and measures participants' well-being. The study's findings indicate that there is no significant difference between the two groups. Implementing artificial intelligence as a new co-worker does not affect the employee's well-being significantly different than a new human co-worker.

Furthermore, attitudes towards AI do not mediate the relationship between type of co-worker and the participants' well-being.

Keywords: Artificial Intelligence, Well-being, Office Job, White-Collar Employees.

Sumário

Título: O Futuro do Ambiente de Trabalho: O impacto da Inteligência Artificial no bem-estar dos funcionários de colarinho branco.

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Dada a tendência ascendente na automatização, tal como se vê a nível mecânico nas fábricas, prevê-se que a próxima fase envolverá inteligência artificial trabalhando em conjunto com empregados humanos dentro do ambiente do escritório. Esta investigação irá explorar como estes cenários futuros previstos de empregados de colarinho branco humanos que trabalham em conjunto com agentes de inteligência artificial têm impacto no seu bem-estar. Esta investigação segue uma abordagem experimental em que os participantes são expostos a dois cenários diferentes manipulando a variável independente: trabalhar com e sem um membro da equipa de inteligência artificial e medir o bem-estar dos participantes. Os resultados do estudo indicam que não há diferença significativa entre os dois grupos. A implementação da inteligência artificial como um novo colega de trabalho não afecta o bem-estar do empregado significativamente diferente de um novo colega de trabalho humano. Além disso, as atitudes em relação à IA não medeiam a relação entre o tipo de colega de trabalho e o bem-estar dos participantes.

Palavras-Chave: Funcionários de colarinho branco, Bem-estar, Inteligência Artificial, Ambiente de trabalho.

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Table of Contents

1.1	<i>Problem Statement</i>	1
1.2	<i>Relevance</i>	2
1.3	<i>Structure</i>	3
2.	<i>Literature Review</i>	3
2.1	What makes us feel well? What is well-being?	3
2.2	Effect of workspace on well-being	6
2.3	Effect of co-workers on well-being	6
2.4	Artificial Intelligence	7
2.5	How does AI contribute to our workplace?	9
2.6	Employees’ attitude towards implementation of AI in workspace	10
2.7	Concluding remarks	10
3.	<i>Methodology</i>	11
3.1	Research strategy and design	11
3.2	Participants	12
3.3	Procedure	13
3.4	Dependent Variables	14
3.5	Independent Variable – Manipulation	15
3.6	Mediator variables	16
4.	<i>Data Analysis and Results</i>	17
4.1	Data Preparation and Cleaning	17
4.2	Statistical analysis	17
4.3	Inferential statistics	18
4.4	Mediator	20
4.5	Summary of Results	21
4.6	Discussion	22
4.7	Limitations	23
5.	<i>Conclusion</i>	24
6.	<i>References</i>	25
7.	<i>Appendices</i>	30

1. Introduction

Our world is changing, and technology has advanced to the point where especially Artificial Intelligence (AI) will be integrated into our daily lives. It is clear, that AI is taking over many functionalities that we humans also do or even perform better in certain tasks. With automation already present in different organizations and factories, the next phase is to have humans and AI collaborate together in our environment. AI is gaining more autonomy and evolving more skills to be potential co-workers performing the same tasks as human workers. The purpose of this study is to investigate the potential future of workplaces where humans work with AI on the same autonomy level, and to evaluate the effect of these changes on white-collar employee's well-being within their workspace. The current state of AI is task oriented where AI can only focus on getting a specific task done. There are different methods on how to train AI, but it all concludes that these machines work with data. The more data is collected, the more advanced and precise these machines become and the more skills and abilities they gain (De Spiegeleire, Maas & Sweijs, 2017). Automation is the process of introducing new technologies that can replace human labor with machines or other forms of capital in different types of jobs, such as manufacturing, transportation, and service sectors. When automation is integrated, it leads to a "displacement effect", meaning that specific tasks that were previously performed by humans are now done by machine or other forms of capital. This leads to changes at work as well as changes in the distribution of work and roles that workers play in the organization (Acemoglu & Restrepo, 2019). Since technology is evolving and organizations are adapting to new automation processes, I want to understand how human white-collar employees feel about working alongside an advanced AI machine when it gains more skills. Does the evolution of AI impact employee's well-being?

1.1 Problem Statement

Employees' opinions are not largely considered in terms on how they feel about having these changes in their work environment (Fukumura et al., 2021). The recent advancements in technology mean that people will need to learn new skills and adapt to changes in the workplace.

This can include some jobs being replaced by machines, changes to the way work is done, the creation of new jobs and unemployment (Vasilescu, 2020).

To understand if working alongside an advanced AI has an effect on employee's well-being and whether it is seen as a threat for their office job, I decided to measure employee's well-being in a between-subject design. In one test group I chose to measure the well-being with a new human co-worker and in the second scenario with a new AI co-worker. I then want to compare the two groups and see if differences occur and if the well-being would be different in these two different office environments. I also would like to understand if people with a previous positive attitude towards AI would have less of an impact on their well-being working alongside AI.

This problem statement can be divided into two main questions:

Research question 1: Does the addition of a new AI team member have a negative effect on the well-being of white-collar employees?

Research question 2: Does AI have a lower impact on people's well-being, when they have a previous positive attitude towards AI?

1.2 Relevance

In this thesis, a contribution will be made to the existing literature on the intersection of AI and subjective well-being in the workspace of white-collar employees by integrating these two concepts in a unique way. With the growing popularity of AI in the work environment, it is important to understand how people will feel working alongside this new technology to maximize its potential. Organizations should consider their current human employees' well-being throughout these technological changes. Research about reactions and attitudes towards AI has been made, however there is still a significant lack of research about employee's emotional affect when new technology will gain autonomy and be more integrated into the workplace in the near future, underscoring the importance of this study, which will serve as valuable foundation for future research.

1.3 Structure

To achieve the goals of this thesis, an experimental study was conducted. The first part will be a literature review to explain different relevant topics including the complexity of a human's well-being. I will discuss the relevance of co-worker relationships in the office, and the importance and impact they have on employees in the work environment. Further on, I will explain how AI is evolving and being implemented in work environments, especially in relevance for white-collar workers. The following chapter will cover methodology, including the research strategy and design and details about our participants of this study. Furthermore, there will be the data analysis part where results will be presented and analyzed in detail, following by the key conclusions derived from the study. At last, I will discuss limitations of the study and suggest ideas for future research.

2. Literature

Review

2.1 What makes us feel well? What is well-being?

Every person has different values, strengths, or goals to be happy. There have been so many different concepts about happiness over different decades that the word "happiness" has gotten a variety of meanings. This developed into a scientific debate. The word "happiness" is frequently evenly used for describing "the good" (Ruut Veenhoven, 1991). Happiness is a positive emotional state, but everyone's experience of that positive emotional state is subjective (Sauter, 2010). The term "happiness" has many different definitions and measures. "Well-being is most commonly used in philosophy to describe what is non-instrumentally or ultimately good *for* a person" (Crisp, 2021, p.1). Psychological well-being is gaining meaning in organisational sciences. Academics and professionals stress the need of helping workers achieve their highest levels of psychological wellness rather than just treating mental disease (Burdzinska & Rutkowska, 2015). In this study, I decided to focus on measuring the well-being of a person in their changing work environment (Helliwell & Wang, 2012). There are three different concepts that have been used to abduct research on well-being, which is the eudaemonic, integral and hedonic concept (Keyes et al., 2002; Ryan & Deci, 2001). The concept of the eudemonic well-being focuses on purpose and self-realisation while hedonic focuses on happiness and pleasure in

terms of life satisfaction and emotions (Desmarais & Savoie, 2012). Most research focused on eudemonic well-being has utilised the psychological well-being (PWB) evaluation (Zheng et al., 2015). In the hedonic concept, happiness is defined as the pursuit of pleasure and the avoidance of misery. The majority of research in the new hedonic psychology has utilised the subjective well-being (SWB) evaluation (Hoffmann-Burdzinska & Rutkowska, 2015). In this study, I will focus on the individual self-report of a person's well-being. SWB is the general expression used to cover a range of individual self-reports of moods and life assessments (Helliwell & Wang, 2012). Maggino (2015) states that SWB is essential for the well-being of a person, and it is the individual's perspective of someone's state of well-being. Though ultimately well-being might be viewed as a synonym for happiness, psychology research's conceptualization of well-being has made it possible to describe and quantify it more accurately (Sauter, 2010). The well-being of a person depends on many different factors, such as one's subjective characteristics, environmental influences, quality of life, living conditions and their SWB, which we can measure and quantify. These different factors mentioned all influence one's well-being (Maggino, 2015). Since people have different realities and different perceptions or beliefs, we differ between objective well-being (OWB) and SWB. The objective indicator is measured by external observers and depend on many different factors, such as nature, dimensionality, levels of observation, life domains, dynamics, resources or results, the need of making indicators relative and avoiding over-reductionism. "The subjective indicator is based upon subjective evaluations and implicit criteria which can vary from individual to individual" (Maggino, 2015, p.93). Functional traits and traits that promote well-being might differ greatly across cultures and in various life contexts. Out of different factors contributing to one's general well-being, we can say that for evaluating one's well-being, measuring SWB is essential (Diener et al., 1998). "SWB is a person's evaluation of his or her life. This valuation can be in terms of cognitive states such as satisfaction with one's marriage, work, and life, and it can be in terms of ongoing affect (i.e., the presence of positive emotions and moods, and the absence of unpleasant affect)" (Diener et al., 1998, p. 34). In this way, measuring SWB, leads for people evaluating about their own life satisfaction and how they feel about their beliefs, aspirations, and circumstances. Therefore, we can say that others may place a high importance on relationships, while still others may live their lives with a strong sense of purpose. However, each of us would probably prefer that we choose the significance of these traits in our own lives rather than having it determined for us by experts. "Thus, the concept of SWB reflects more than simply having fun -

it also recognises what people believe is important in life.” This tells us if a person is happy with their life, they probably possess the traits they value most (Diener et al., 1998, p.35).

To define subjective characteristics, we can say it is defined by someone’s abilities, personality traits and sentiments. Sentiments can change and be measured by feelings, opinions, or evaluations. These sentiments vary through interests, values, and attitudes. Attitudes fall under three categories: cognitive, affective, and behavioral intentions. The cognitive component shows how individuals perceive their environment. The affective component reflects an individual’s emotional state and perceptions about their well-being. Behavioral intentions refer to behavioral tendencies towards a particular object. (Maggino, 2015). Andrews and Withey (1976) also agree that the main components of SWB are life satisfaction judgements, positive affect, and negative affect. Maggino (2015) talks about the approach of measuring SWB since I now know on what components SWB is defined. The two best components to measure SWB would be the affective component meaning measuring emotions of an individual, which measures momentary feelings of a person. The second measure would be cognitive which is evaluating one’s life satisfaction as a whole or in different domains such as at your workplace for example, which will be relevant for our study. It considers an individual’s expectations, desires, ideals, and experiences. Fulfilling these mentioned attributes will raise the person’s satisfaction in their life or in a specific domain. The emotional part can be either positive or negative and is affected by different influences from an individual’s daily life. “One important finding is that the domains that are closest and most immediate to people’s personal lives are those that most influence SWB” (Diener, 2009, p. 17). When working 5 days a week on average, people spend most of their time at their workplace. A daily activity such as work can influence and affect the individual’s emotional component (Maggino, 2015). The results will obviously depend on the individual itself and how strong a person reacts to changes by her/his values, personality traits, feelings and emotions, perception and functioning and on quality of society someone is living in (Maggino, 2015). I want to focus on the life satisfaction domain “work”, where we spend most of our time at and therefore have a big impact on our SWB.

2.2 Effect of workspace on well-being

As previously mentioned, SWB can be measured by life satisfaction and by emotional affect. Bowling et al. (2010) mention that work satisfaction contributes to the overall life satisfaction and therefore also impacts our SWB. According to Zheng et al. (2015), SWB and psychological well-being (PWB) are the main factors to determine employee's satisfaction. While SWB is based on a state of someone's well-being and based on one's self-perception about oneself, PWB are not just an individual's evaluations of positive affect, negative affect and life satisfaction, but also includes collective well-being of society. (Zheng et al., 2015).

Bowling et al. (2010) measured the relationships between SWB and different job satisfaction facets such as co-workers, promotional opportunities, supervision and pay. Results show a significant positive relationship between co-workers and SWB (Bowling et al., 2010). According to Demir and Weitekamp (2007), social relationships are a significant indicator of an individual's level of well-being.

Simon et al. (2010) state that having good relationships at work with a co-worker that you possibly also view on a friendship level has a positive effect on your well-being and affects you positively. A further effect makes it clear that positive relationships with co-workers even prevents an individual from leaving the organization (Madden et al., 2015). Furthermore, Simon et al. (2010) confirms that an employee's satisfaction with their co-workers lead to job satisfaction and that leads to life satisfaction overall.

2.3 Effect of co-workers on well-being

The self-determination theory (SDT) states three crucial psychological needs—competence, relatedness, and autonomy—in various settings. Competence refers to a person's ability to handle challenging situations successfully and to work diligently until the desired outcome is achieved. Second, having a desire for relatedness involves developing respect-based trust with other people. The third need is the desire for autonomy which relates to the person's ability to make decisions and exercise initiative (Hoffmann-Burdzińska & Rutkowska, 2015). Satisfying these three needs

of the SDT is crucial for psychological growth, integrity, well-being and the experiences of vitality and self-congruence (Ryan & Deci, 2001). SDT highlights the elements that promotes well-being throughout a range of developmental stages and in particular social situations such as school, friendships, and the workplace (Ryan & Deci, 2001). According to Dutton and Ragins (2007), having interpersonal positive relationships with co-workers are crucial for the well-being at work. Another effect is that employees perform worst when they have a negative relationship with their co-worker and manager where on the other hand they perform better and have a higher motivation level when having positive relationships at work (Madden et al., 2015). “The reciprocal exchanges in positive relationships at work can produce beneficial organizational effects at many levels” (Madden et al., 2015, p. 245). Positive relationships contribute to better organizational functioning being also positive for organizational outcomes (Madden et al., 2015). Thus, having positive relationships at work have positive effects on the employee, such as their psychological well-being and therefore a positive effect on their productivity at work. In organizations, psychological well-being (PWB), subjective well-being (SWB), or job satisfaction are frequently used as substitutes to measure the overall well-being of employees (Zheng et al., 2015). It follows, that if positive relationships at work have a positive effect on psychological well-being, and it can provide individuals with emotional support, motivation and give a sense of belonging which leads to better performance and job satisfaction. (Heaphy, 2007). These mentioned factors improve one’s well-being and additionally have a positive effect for the organization overall (Heaphy, 2007).

2.4 Artificial Intelligence

“Artificial intelligence (AI) is commonly defined as a system’s ability to interpret external data correctly, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation” (Haenlein & Kaplan, 2019, p.1). AI is supposed to have human abilities of doing specific tasks, but our current state of AI is still lacking on cognitive functions and the ability of multitask and have agile abilities for unexpected situations outside of the patterns. The artificial intelligence works with a lot of collected data and learns in different methods and ways. “AI is defined as nonhuman intelligence that is measured by its ability to replicate human mental skills, such as pattern recognition, understanding natural language (NLP), adaptive learning from experience, strategizing, or reasoning about others” (De Spiegeleire et al., 2017, p. 28).

The more collected data the more intelligent the system works. AI is supposed to have human abilities of doing specific tasks, but our current state of AI is still lacking on cognitive functions and the ability of multitask and have agile abilities for unexpected situations outside of the patterns (De Spiegeleire et al., 2017, S.28). The current state of AI is called narrow AI systems and it can accomplish specific tasks. The next state will be general AI and will have therefore a more general-purpose reasoning to perform multiple tasks more agile and flexible like a human. It will have the complete ability to complete different tasks just like a human being (Scharre et al., 2018). The third stage of AI will be “Artificial Superintelligence” which will be “machine intelligence that exceeds human intelligence across any task” is able to outperform a human (De Spiegeleire et al., 2017, p. 30).

During the different AI stages mentioned above, AI will acquire new skills and evolve in tasks. These stages represent four types of intelligences, such as mechanical, analytical, intuitive, and empathetic, and for each stage certain additional skills and abilities are required (Huang & Rust, 2020). The mechanical intelligence is the “unskilled labor, which typically does not require advanced training or education” (Huang & Rust, 2020, p. 158). This is the first stage and minimum required intelligence where AI only requires the ability of performing and repeating tasks. The second stage of the four intelligences is analytical where AI requires abilities such as problem solving and cognitive thinking where tasks are mainly information processing and require logical reasoning and mathematical skills. This stage of intelligence can be used as a tool in offices for computer-technology related work, financial analytics, accounting, and further analytical tasks (Huang & Rust, 2020). So far, soft skills that is require intuitive and empathetic Intelligence, are still considered a Human Intelligence (HI) strength which is more difficult for AI to acquire and is considered the “strong AI” (Huang & Rust, 2020, p.159). It requires skills such as thinking creatively and adjust in different and new situations. This AI must be more flexible and therefore must build human cognition. In the highest state of the four intelligences the AI needs to fulfil all the tasks that the human intelligence can do such as communication, social tasks, emotional tasks, interactive tasks, and relational tasks. It can understand other people’s emotions, respond appropriately emotionally, and can even influence other’s emotions (Huang & Rust, 2020).

2.5 How does AI contribute to our workplace?

Automation refers to the advancement and integration of innovative technologies that allow for the substitution of capital for labor in various activities (Acemoglu & Restrepo, 2019). The implementation of automation changes the nature of tasks performed during production due to *displacement effect* as capital takes over responsibilities that were previously performed by human labor (Acemoglu & Restrepo, 2019). Production tasks are being replaced by automated machines while white collars work alongside AI tools in different departments such as accounting, sales, financial analytics, logistics or trading for example and experience changes in tasks by AI. “By allowing a more flexible allocation of tasks to factors, automation technology also increases productivity, and via this channel, which we call the *productivity effect*, it contributes to the demand for labor in non-automated tasks” (Acemoglu & Restrepo, 2019, p. 4). While AI leads to a displacement effect, it also leads to the productivity effect and reinstatement effect. Using AI gives the white collar the opportunity to focus on further non-automated tasks and helps being more productive while getting support on the older tasks which are now automated. There is the positive productivity effect, but the reinstatement effect also follows by creating new roles around the new automation (Acemoglu & Restrepo, 2019). Tyson & collaborators state that “AI will continue to intensify and accelerate automation adverse effects on key labor market trends in the advanced economies” (Tyson & Zysman, 2022, p.1). These effects will lead to polarization of employment and wages, meaning slow wage growth for middle and low skill workers but high wages for exclusively high educated employees. These effects will then lead to growing income inequality (Tyson & Zysman, 2022). These automation accelerations lead to AI taking over more tasks and taking over human’s task or entire roles, meaning employee labor will be steadily replaced states Huan & Rust (2020).

Thus, in a futuristic state without mentioning a specific amount of time, AI will evolve its intelligence to master all skills of human intelligence, as referred “machine intelligence that exceeds human intelligence across any task” (De Spiegeleire, Maas and Sweijs, 2017, p. 30). Approximately one-third of current jobs could potentially be replaced by Smart Technology, Artificial Intelligence, Robotics, and Algorithms (STARA) within the next years, as predicted by futurists (Brougham & Haar, 2018).

2.6 Employees' attitude towards implementation of AI in workspace

„In work life, robots can adopt various roles, some of which are to act as an assistive equipment or a co-worker” (Latikka et al., 2021, p. 1). New research has indicated that people tend to be hesitant to embrace AI as an actual co-worker. People with low digital skills tend to be not as open to automation than people with high digital skills (Vasilescu, 2020).

Respondents had a more positive attitude toward robots as equipment or tool than as coworkers, meaning that as soon as AI gains more on autonomy and could do more tasks itself and not just having AI implemented as a tool improving a employee's productivity, the attitude becomes less positive in the work-life context (Latikka et al., 2021). More specifically, individuals are not receptive to situations where humans work together with machines and the machine holds greater dominance (Li et al., 2015). As soon as AI gains more on autonomy and could do more tasks itself, the attitude towards becomes less positive in the work-life context (Latikka et al., 2021). Studies have found results regarding the level of self-confidence that individuals have when it comes to accepting new technologies such as autonomous AI as a coworker, meaning self-confidence could be a factor of a higher acceptance. Additionally, prior experience using technology has been found to have an impact on people's acceptance of the new technology. People who have had positive experiences with technology in the past are more likely to be accepting new technologies (Latikka et al., 2021).

2.7 Concluding remarks

Now that we can say that AI will at some point might exceed human intelligence and will be doing tasks the same or better than humans, it is possible that machines will be able to have the same level of responsibility and authority as a human in an office job. As previously mentioned, SWB can be measured by life satisfaction and by emotional affect. Bowling et al. (2010) mentioned, that work satisfaction contributes to the overall life satisfaction and therefore also impacts our SWB. According to Bowling et al. (2010), there is a relationship between life satisfaction and some of

the specific job satisfaction facets including co-workers. Co-workers do have an impact on our life satisfaction and therefore on our SWB (Bowling et al., 2010). The quality of the working environment has a big impact on the level of well-being. It is a deterrent of productivity at all working levels (Schulte & Vainio, 2010). Studies show that employees' attitude towards AI in the service industry for instance, is more negatively than positively (Hengxuan Chi et al., 2020). Brougham and Haar (2018) confirmed that STARA awareness has a negative effect on organisational commitment and career satisfaction.

Other studies who investigate attitudes of AI in managerial professions mention that attitudes towards AI are neutral towards the effects of AI on workplaces so far in the current state of AI (Sowa et al., 2020).

Thus, it follows to test a futuristic scenario when AI has equal abilities to a human and gains authority. And I will do so focussing on the emotional effect and satisfaction level of a white-collar employee if AI joins a corporate team as a new co-worker and doing the same tasks as them and having the same level of authority instead of improving their own productivity. Considering all the revised literature, I hypothesize that:

H1: "Adding a new AI co-worker instead of a human co-worker will negatively affect the well-being of a white-collar employee."

Furthermore, as revised, attitudes seem to matter to this relationship. Thus, I hypothesize that:

H2: "Attitudes towards AI mediate this relationship, such that the more positive the attitude toward AI is, the lower the impact of working alongside an AI on well-being."

3. Methodology

3.1 Research strategy and design

The main focus will be on a quantitative study in the form of an online survey.

Online surveys give advantages such as low-cost administration and simple data analysis. I conducted my survey on the market research tool from the Company Appinio GmbH. It is a German market research company, and they have a modern approach to research by conducting data through their own panels. Having their own panel with participants gives them control to ensure data quality. Their tools offer survey creations as a “do it yourself” option, where I was able to easily integrate my own study design and questions.

A between-subjects-design was conducted, which means participants are randomly assigned to one of the two testing groups. For hypothesis 1, I compare the results of the two groups without the possibility of influence from one scenario to another.

As mentioned, SWB is most evaluated through self-report measures, using the Satisfaction with Life Scale (SWLS; Pavot & Diener, 1993) and Positive and Negative Affect Scale (PANAS; Watson et al., 1988). Emotional aspects and life satisfaction will be understood by manipulating the independent variable (IV), which are two different scenarios and for seeing the effect on the dependent variable (DV), meaning the SWB of the white-collar employees. To ensure external validity, I will assign the online survey to random participants who work in an office role (Malhotra et al., 2017). Regarding the Hypothesis 2, I would like to understand the participants attitude towards AI. Therefore, I would like to evaluate if one’s positive attitudes towards AI impacts the relationship between working alongside an AI and SWB. Approaches to testing attitudes are self-reports for instance which can be conducted through questionnaires and rating scales (Simonson & Maushak, 1996).

Due to the current stage of AI, it is not feasible yet to approach an experiment at the office. The study approaches futuristic situational factors when general or even artificial super intelligence will be fully developed and be implemented into our workspace.

3.2 Participants

My final participant number was 297 out of 300 asked participants ($N \geq 297$). For further information regarding data cleaning, see in the data preparation and cleaning section.

The average age for both groups is 33 years. For the human co-worker group, we asked 74 men and 76 women. For the AI co-worker group, we asked 70 men and 80 women. Moreover, I asked

the level of education of each participant. Options ranged from no degree until doctoral degree in both groups. The mode of the level of education for group 1 was a bachelor's degree and for group 2 it was Baccalaureate preparing for university. The second highest level of education out of the possibilities was a master's degree in both groups. There were no age restrictions for this study. Only participants who work in a corporate office job were valid and successfully qualified for this study, therefore I asked participants to select what kind of job they have and excluded participants who do not have an office job. It emerged that the totality of the participants in both groups answered that they have an office job. I additionally screened the job titles of my participants and identified that the mode of both groups resulted to be managerial positions. As I did not focus on a specific geographic area or country, we asked our participants about their current English levels and if they would be open to do the survey in English.

3.3 Procedure

In this quantitative survey I will be testing the causal relationship between having an AI machine or robot as a co-worker instead of a human where I will be measuring subjective indicators regarding white-collar employee's well-being who work in the corporate environment. The approach will be experimental which is the most common approach for measuring causal evidence in hypothetical situations (Malhotra et al., 2020). As a person's well-being results from their OWB and SWB, whereas OWB is not based on the personal perception of how one individual seems to feel. My approach is to evaluate the effect of the IV on the individual's SWB, which is our DV. This will be measured among the manipulation of our two IV's. Group 1 is measured having the new human co-worker in the team and group 2 is measured having the new AI co-worker in the team.

The new co-worker has the same level of authority and abilities. I asked participants to imagine being in their workspace and their manager assigned them to a new project. Regarding the scenario, the participant is supposed to complete this project with one current colleague of the company and a new colleague that has recently joined the company. The three of them are assigned to work on this new project as a team for conducting a market trend analysis for a following project in the company.

They were then asked to rate their feelings and satisfaction levels about the scenario on the PANAS scale and SWLS measurement (see dependent variables section for further details). Furthermore, I asked participants about their attitude towards AI disregarding the scenario situation. Here I wanted to see if a positive attitude towards AI is related to having less of an impact on the participants' well-being when working alongside the new AI co-worker. To ensure data quality, I included attention tests by requesting a specific answer. Furthermore, I asked the participants demographic questions to understand where participants live to consider possible external influence on their well-being if necessary. I additionally collected data about their age, gender, level of education and job position (see Participants section for further details). Another implemented measure to ensure data quality of the survey, was an open question regarding the given scenario. I asked if they understood the given scenario and to summarize the scenario in their own words as open question. This way, the participants get to think through the situation one more time and gain time to start visualizing the scenario. It gives them time to imagine themselves in the described case before answering questions about it.

3.4 Dependent Variables

To test my first hypothesis, I will use the Positive Affect and Negative Affect Scale to assess the positive and negative affectivity components of SWB, as well as the Satisfaction with Life Scale to measure the life satisfaction level of the participants.

The directions of the PANAS can be altered to assess the emotions felt in the last week or the present moment (Diener et al., 2009). Respondents are presented statements regarding how they feel in the scenario, including words that describe positive (e.g., "interested", "excited", "proud") and negative (e.g., "distressed", "guilty", "scared") emotions. They will have to evaluate how intense they experience the feeling on a 6-point Likert scale.

The PANAS questions identify how participants would feel about working with the new co-worker. They were exposed to rate their agreements and disagreements about given statements on a 6-Likert Scale.

The second part of the survey measures the life satisfaction level of the participants regarding the scenario situation and this part is also conducted with a 6-Likert Scale. The Satisfaction with Life

Scale is a 5-item instruments that evaluates an individual's global cognitive judgments of their life. Participants are asked to judge how they feel about these following 5 statements regarding the given scenario, which are, “In most ways, my life is close to my ideal, The conditions of my life are excellent, I am satisfied with my life, So far, I have gotten the important things I want in life, If I could live my life over, I would change almost nothing” (Diener et al., 1985). Participants are asked to rate their agreement with these statements using a 6-point Likert scale (Diener et al., 2009). A 7-point Likert style response scale (ranging from strongly agree to strongly disagree) can be utilized in order to give respondents enough range of response options (Diener & Pavot, 2008). However, I decided to choose a 6-point Likert scale for the PANAS and life satisfaction scales, so that participants’ responses lean either towards agree or disagree side and therefore getting clearer results when evaluating their answers.

To conclude, our three dependent variables that we want to use as measurements for this study are positive affect, negative affect, and life satisfaction. I can then compare, if there are any significant differences regarding the DV outcomes among the two groups.

3.5 Independent Variable – Manipulation

As mentioned, I randomly assigned different participants into two groups having the same exact questions and scenario, except manipulating the independent variable. The first group is the usual scenario situation in a workspace where a new human co-worker joins the team, and I ask how they feel about working alongside a new human co-worker with the same abilities and same level of authority. In the second group a new AI co-worker joins the team, and I ask how they feel about working alongside a new AI co-worker with the same abilities and same level of authority. In Group 1, I asked participants to contemplate this following scenario:

Today your manager announced a new project that your department must work on in the next weeks. You will work closely with two other colleagues of your team on it. Imagine that you and your old colleague have been working for 5 years together now. You two have been assigned to work on a market trend forecast assignment first with the third colleague in the team, who is new in the team and has just joined the company. The new colleague has the same level of authority and abilities as you.

In Group 2 I asked participants to contemplate this following scenario:

Today your manager announced a new project that your department must work on in the next weeks. You will work closely with two other colleagues of your team on it. Imagine that you and your old colleague have been working for 5 years together now. You two have been assigned to work on a market trend forecast assignment with the third colleague in the team, who is new and is an artificial intelligence co-worker who has just joined the company and has the same level of authority and abilities as you.

The aim was to compare the two test groups and to observe different effects on participants' SWB. I want to understand if participants react more negatively towards the new AI co-worker than the new human co-worker.

3.6 Mediator variables

The last part of the survey is about the attitude towards AI, which is the mediator. This model has one single mediator. With the second hypothesis, I want to understand if positive attitude towards AI influences the participants' well-being less than people who have a negative attitude towards AI. „In experimental situations, tests of inference are often performed using the results of attitude tests” (Simonson & Maushak, 1996, p. 999). Simonson and Maushak (1996) also recommend using a Likert-scale about given statements and participants should rate their agreement intensity on a scale from strongly disagreeing to strongly agreeing (Simonson & Maushak, 1996). “Narrow attitude constructs such as "desire to take a course in chemistry" are probably better than "liking of chemistry," and "importance of knowing about the chemical elements" might be an even better attitude to measure” (Simonson & Maushak, 1996, p. 997). I will ask participants about the importance of AI being integrated into office jobs today and if they desire working alongside AI. Those who desire working with AI or see importance in AI have a positive attitude towards AI. Afterwards I will analyze if previous attitudes towards AI, mediate the relationship and has less effect on well-being through statistical tests. With my hypothesis, we believe that this mediates the relationship between the IV and our DV's measuring well-being.

4. Data Analysis and Results

4.1 Data Preparation and Cleaning

In this experimental study with a between-subject design I asked two individual groups. I asked 300 participants in total. Each group included 150 participants who were asked to imagine the given scenario. After analyzing the collected data, I had to exclude 1 participant from the human co-worker group due to failing the attention check that was implemented in question 12. I performed this exclusion to make sure that participants are carefully reading and paying attention to our survey. In the second group, the AI co-worker survey, all participants passed the attention check. Since we did not specify a geographic area for this study, the survey can be answered by participants from different countries. All participants resulted to be in Europe. We have asked participants about their level of English before starting the survey. The lowest answer option regarding their English level was “almost no knowledge”. We decided to exclude all participants who have almost no English knowledge to ensure data quality within the sample. Therefore, we had to exclude 2 participants of the AI co-worker group.

4.2 Statistical analysis

As mentioned before, this study aimed to investigate the causal effect of the IV on the DV using a between-subject design. A series of analyses were conducted for this study to investigate the differences between both groups regarding the well-being of white-collar employees. To measure the well-being, I had the PANAS measures and SWLS measures in the survey.

The following statistical results were conducted to test our hypothesis. I divided this study into three dependent variable groups, the positive affect, the negative affect, and life satisfaction level of our participants.

I wanted to test if white collar employees' well-being would be negatively affected towards having AI as a new co-worker since automation is evolving into this new possible futuristic scenario. The human co-worker group is described as Group 1 and the AI co-worker group is described as Group 2 in the following sections.

Comparing the positive affect of Group 1 and 2, it shows that group 1 has a slightly greater positive affect towards the new co-worker than group 2. Comparing the negative affect of Group 1 and 2, it shows that Group 2 had a slightly more negative affect towards the new co-worker than Group 1. The mean score on the DV regarding the Life Satisfaction of the participants was higher in Group 2 which indicated that people in Group 2 are less satisfied with their life working alongside a new AI co-worker than participants of Group 1 working alongside a new human co-worker.

Table 1

Descriptive Statistics of the study's variables

Dependent Variable	<i>Human_AI Groups</i>	<i>Mean</i>	<i>SD</i>	<i>N</i>
Positive_Affect_All	1.00	3.0022	1.06154	149
	2.00	3.0473	1.15602	148
	Total	3.0247	1.10798	297
Negative_Affect_All	1.00	4.1879	1.07826	149
	2.00	4.0586	1.08359	148
	Total	4.1235	1.08104	297
LS_All	1.00	3.1678	1.11430	149
	2.00	3.2784	1.04527	148
	Total	3.2229	1.08005	297

Additionally, the Standard Deviation for both groups and all variables were relatively small, indicating that the scores were tightly clustered around the mean.

In conclusion, the descriptive statistics presented in this study provide a first understanding of the results of the IV (the two groups) on the three DV's illustrated above.

4.3 Inferential statistics

For being able to see significance about the hypotheses, I have conducted a multivariate analysis of variance, the MANOVA test, which is used to determine whether there are statistically significant differences among the two groups of our between-subject designed experiment. This way, I can see if there are overall differences in a set of 3 different dependent variables among the two groups. As mentioned, the human co-worker group is labelled as Group 1 with the number 1 and the AI co-worker group is labelled as Group 2 with the number 2.

Looking over the results of the multivariate test, it indicates that the group variable labelled as “Human_AI” (group 1 vs. group 2), is not a significant predictor of the dependent variables (positive affect, negative affect, LS), as indicated by the non-significant p-values for all four test statistics (Pillai’s Trace, Wilks’ Lambda, Hotelling’s Trace, and Roy’s Largest Root). Especially regarding the Wilks’ Lambda value = .993, shows that most differences between groups on the dependent variables are likely due to chance. The p-value showing the significance is $p = 0.566$ which is less than 0.05 and indicates that I fail to reject the Null Hypothesis and therefore there is no significant difference between the two groups.

In the Levene’s Test I want to see if the error variance of the dependent variable is equal across groups. It tests all three dependent variables for significance. This test shows the assumption of homoscedasticity which tests if variance is constant across all levels of IV in a regression model. Based on the mean, I can see in the positive affect group, $p = .275$ and for the negative affect group $p = .545$. LS_All variable shows a significance value of $p = .379$. All values are higher than 0.05, which implies that I do not reject the Hypothesis for all variables and there is no evidence of a significant difference in variance between the groups for each dependent variable. There is no violation of homoscedastic, meaning it is valid to compare the means of the dependent variables between the groups and interpret significances in results.

The Test of the Between-Subject Effects table in the output of MANOVA shows the results for each dependent variable included in the analysis. This test provides information on the main effects of the group variable on each dependent variable separately.

The F value shows, if there is a difference between the two groups for each dependent variable. To see significance, I view the results of the p-value and check if it is less than 0.5. The p-value for the positive affect variable $p = .727$ whereas for the negative affect variable $p = .303$ and the LS variable $p = .378$. All group variables have values greater than 0.05 and this implies that I do not

reject the null hypothesis and conclude that there is not significant difference among means for any of the dependent variables being analyzed. The p-value also results that the F value is not significant.

4.4 Mediator

I have implemented a single mediator into the model and want to understand the mechanisms by which one variable influences another variable through the third variable, the mediator. I wanted to test if the mediator had any significant evidence affecting the relationship between the groups and participant's well-being. My mediator is attitudes and we wanted to see if a positive attitude towards AI show less effect on the SWB of our participants. For evaluating whether this mediation model fits well with the data and whether the proposed mediation effects are statistically significant, I conducted a Hayes Process Macro test with the model 4. I ran the test three times with the 3 different DV's.

For the positive affect variable, the outcome of the p-value for the direct effect is $p = .5116$. The direct effect refers a direct effect of the IV on the DV, disregarding the mediator. The value is greater than 0.05 and is therefore the direct effect is statistically not significant meaning there is no direct significance between our IV and our DV (positive affect). The indirect effect involves the possible effect of the mediator. In this case the IV (2 Groups) affecting M and M (Attitude) in turn affects the DV (positive affect). The results show $BootLLCI = -.1637$ and $BootULCI = .1133$. The confidence interval includes the zero meaning the indirect effect is considered statistically not significant at the 95% confidence level. The total effect represents the overall relationship between X and Y and is decomposed into a direct effect and an indirect effect. For the total effect I look at the values in model summary. The p-value is $p = 0.7098$ which indicates that the coefficient for x is not statistically significant meaning the influence of the two groups have no significant effect on the positive affect of the participants. Therefore, I cannot reject the null hypothesis and there is no difference between the two groups in terms of the effect of the two different co-workers (my x) on the well-being through the mediator. There is no sufficient evidence to suggest that the relationship between the IV and DV differs between the two groups.

I ran the same tests for the next two DV, the negative affect and life satisfaction. The results for both following DV's show the same value $p = .7098$ as total effect and likewise result being statistically not significant. Following results from negative affect and life satisfaction variables also result with the same values. Direct effect with a p-value of $p = .3206$ and indirect effect showing $BOOTLLCI = -.0423$ and $BOOTULCI = .0259$, which furthermore show no statistical significance. Therefore, my mediator does also not show a significant mediation on the relationship between the negative affect variable and the two groups, as well as the life satisfaction variable. For all three DV's there is no evidence of significance effect from the Hayes process test and therefore my mediator does not mediate the relationship between the two groups and our PANAS measures and SWLS measures.

4.5 Summary of Results

The goal of the study was to test if white collar employees' well-being would be negatively affected towards having AI as a new co-worker instead of a new human co-worker since automation is evolving into this new possible futuristic scenario. An additional goal was to find out if this effect was mediated by participants' attitude towards AI. A total of 300 participants were asked to participate for this between-subject designed experiment divided in two groups. To test this hypothesis, a series of analyses were conducted using SPSS version 28. We conducted a MANOVA test with multiple dependent variables and the Hayes Process Macro Test, model 4, to test our mediator. Descriptive statistics only showed slight mean differences between the groups. The MANOVA test confirmed that our hypothesis does not show any significance when comparing the two groups.

My results did not show statistical significance on any of our three dependent variables and our mediator does also not show significance in mediating the relationship between our IV (the two groups) and our DV's. To sum up, both of our hypothesis in this study are not supported with statistical significance.

4.6 Discussion

In our first hypothesis we wanted to understand if participants react more negatively working alongside a new AI co-worker than a new human co-worker. Our results show, that working alongside AI is closer to the agree side in the negative affect scale than the in the human group and that working alongside AI is closer to disagree on the positive affect scale, which is not aligned with the findings from my literature review. Even though results showed slight differences that participants were leaning more positively towards the human co-worker than the AI co-worker, this difference is not significant.

My belief that there is a high importance of relationships at work and therefore it could negatively influence employee's SWB by implementing an AI machine or robot as new co-worker, did not appear in my results. The mean scores of all dependent variables have a central tendency since they lay between 3 and 4 on the scale. This shows that the participants' responses were quite neutral and therefore no significance resulted for my hypothesis.

A further reason why participants might have had a central tendency on the scale for their answer is because participants would not know exactly how they would feel in this futuristic scenario. It is a hypothetical scenario based on futuristic expectations about automation where sometimes it is hard to predict how someone might really feel in the situation. Staying neutral gives no strong opinion which could result through not enough knowledge about AI and possible futuristic threats. Based on different levels of knowledge about AI, opinions could have varied a lot, and this is why it did not lean towards a significant result. Even by enforcing clearer results with a 6-Likert scale by not having a neutral answer point, I did not receive strong tendencies to one specific side.

Diener and collaborators (1998) state that individuals' beliefs and aspirations can differ and prioritise relationships to a lesser extent and find importance in other values to find significance in their life and satisfaction. This aligns with these results being neutral and it shows that different co-workers are not having a big effect on this study's participants and may suggest that the majority of participants prioritize relationships to a lesser extent and find importance in other values. According to Vasilescu (2020), people with low digital skills tend to be not as open to automation and new technology than people with high digital skills. We did not test the level of digital skills of the sampled participants, but we can assume that a white-collar employee, while having a daily job on digital devices, have a certain type of expertise common technologies and this could result

as a reason for the openness to the new AI co-worker and not having a strong negative affect on their well-being.

4.7 Limitations

This study provides valuable outcomes for future research and helps us understand how AI will affect white collar employees' well-being when gaining more abilities and skills in the future. However, it is important to mention that there are still limitations and areas that would be interesting to include for future research. Well-being of a human is very complex. As discovered in the literature, we differentiate between subjective well-being and objective well-being. Subjective well-being is based on an individual's personal perception of their happiness and life satisfaction, while objective well-being is based more on concrete and external factors that contribute to a person's overall well-being.

In this study I have measured participants' subjective perception of their well-being for this study. It would be interesting to approach measuring objective well-being in future studies to understand a person's overall well-being and distinguish other factors that can contribute to the outcome of my study. This further study would lay on another complexity spectrum, where several external factors of each participant need to be measured. Factors that could be measured would be geographic circumstances, health circumstances, participant's financial state and their social situation. These external factors contribute to an individual's well-being.

I did not specify a geographical area for the study, and it turned out that the randomly assigned participants are either from Germany, Austria or Switzerland. More diversity could be approached in future research to see if results vary with having more nationalities included. On the other hand, future studies could go narrower and understand how participants of a specific country may think about working alongside AI.

Furthermore, according to Vasilescu (2020), I did not test the level of digital skills of the sampled participants and testing if having a certain level of digital skills mediate the relationship of individual's attitude and openness towards AI would be interesting in future research.

Additionally, regarding Simon and collaborators (2010) who state the positive affect on well-being through positive relationships at work, it would also be interesting to test if individuals could possibly imagine having a relationship with a machine or robot. People might believe that there is not a significant difference between robot and human and believe to be able to have a relationship with a robot just like with a human.

Furthermore, it would be interesting to conduct the same research again in future studies, when the predicted AI stages become a reality and the predicted situation occurs. Then, the past study and the new study could be compared to see the differences between the predictions and reality. A further possible explanation for these results could be that office white-collar employees already possess a certain level of expertise regarding technology to perform in their office jobs. The higher their digital skills are, the more open participants are towards new technology.

5. Conclusion

The statistical analysis did not provide support to our hypothesis and therefore there is no significant difference on the well-being of white-collar employees working alongside a new human co-worker vs. working alongside a new AI co-worker in a corporate office job.

Specifically, I found no significant difference in the mean scores on the DV between the two groups. This suggest that the IV did not have a significant impact on the outcome measures from the DV and therefore I cannot reject our null hypothesis. Regarding the hypothesis number two, positive attitude towards AI does not impact the effect of participants' well-being.

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7. Appendices

Appendix 1: Statistical Output

MANOVA Test

Box's Test of Equality of Covariance Matrices^a

Box's M	8.245
F	1.359
df1	6
df2	630443.115
Sig.	.227

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design:
Intercept +
Human_AI

Between-Subjects Factors

		N
Human_AI	1.00	149
	2.00	148

Multivariate Tests^a

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.962	2455.832 ^b	3.000	293.000	<.001	.962
	Wilks' Lambda	.038	2455.832 ^b	3.000	293.000	<.001	.962
	Hotelling's Trace	25.145	2455.832 ^b	3.000	293.000	<.001	.962
	Roy's Largest Root	25.145	2455.832 ^b	3.000	293.000	<.001	.962
Human_AI	Pillai's Trace	.007	.678 ^b	3.000	293.000	.566	.007
	Wilks' Lambda	.993	.678 ^b	3.000	293.000	.566	.007
	Hotelling's Trace	.007	.678 ^b	3.000	293.000	.566	.007
	Roy's Largest Root	.007	.678 ^b	3.000	293.000	.566	.007

a. Design: Intercept + Human_AI

b. Exact statistic

Levene's Test of Equality of Error Variances^a

		Levene Statistic	df1	df2	Sig.
Postive_Affect_All	Based on Mean	1.198	1	295	.275
	Based on Median	.951	1	295	.330
	Based on Median and with adjusted df	.951	1	293.102	.330
	Based on trimmed mean	1.002	1	295	.318
Negative_Affect_All	Based on Mean	.367	1	295	.545
	Based on Median	.240	1	295	.625
	Based on Median and with adjusted df	.240	1	293.588	.625
	Based on trimmed mean	.273	1	295	.602
LS_All	Based on Mean	.776	1	295	.379
	Based on Median	.912	1	295	.340
	Based on Median and with adjusted df	.912	1	294.788	.340
	Based on trimmed mean	.836	1	295	.361

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Human_AI

Tests of Between-Subjects Effects							
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Postive_Affect_All	.151 ^a	1	.151	.122	.727	.000
	Negative_Affect_All	1.243 ^b	1	1.243	1.063	.303	.004
	LS_All	.908 ^c	1	.908	.778	.378	.003
Intercept	Postive_Affect_All	2717.287	1	2717.287	2206.903	<.001	.882
	Negative_Affect_All	5049.269	1	5049.269	4321.560	<.001	.936
	LS_All	3085.277	1	3085.277	2642.914	<.001	.900
Human_AI	Postive_Affect_All	.151	1	.151	.122	.727	.000
	Negative_Affect_All	1.243	1	1.243	1.063	.303	.004
	LS_All	.908	1	.908	.778	.378	.003
Error	Postive_Affect_All	363.224	295	1.231			
	Negative_Affect_All	344.675	295	1.168			
	LS_All	344.376	295	1.167			
Total	Postive_Affect_All	3080.556	297				
	Negative_Affect_All	5395.778	297				
	LS_All	3430.240	297				
Corrected Total	Postive_Affect_All	363.374	296				
	Negative_Affect_All	345.918	296				
	LS_All	345.284	296				

a. R Squared = .000 (Adjusted R Squared = -.003)
b. R Squared = .004 (Adjusted R Squared = .000)
c. R Squared = .003 (Adjusted R Squared = -.001)

HAYES Process Test, Model 4

Positive Affect:

Model : 4
Y : PA_All
X : Human_AI
M : Attitude

Sample
Size: 297

OUTCOME VARIABLE:
Attitude

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	,0217	,0005	1,4349	,1388	1,0000	295,0000	,7098

Model

	coeff	se	t	p	LLCI	ULCI
constant	3,3874	,2196	15,4263	,0000	2,9552	3,8195
Human_AI	-,0518	,1390	-,3725	,7098	-,3254	,2218

OUTCOME VARIABLE:
PA_All

Model Summary

R	R-sq	MSE	F	df1	df2	p
,5441	,2960	,8701	61,8127	2,0000	294,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1,2508	,2298	5,4424	,0000	,7985	1,7031
Human_AI	,0711	,1083	,6571	,5116	-,1420	,2842
Attitude	,5037	,0453	11,1109	,0000	,4145	,5930

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,0711	,1083	,6571	,5116	-,1420	,2842

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
Attitude	-,0261	,0708	-,1637	,1133

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

Negative Affect:

Model : 4
Y : NA_All
X : Human_AI
M : Attitude

Sample
Size: 297

OUTCOME VARIABLE:
Attitude

Model Summary

R	R-sq	MSE	F	df1	df2	p
,0217	,0005	1,4349	,1388	1,0000	295,0000	,7098

Model

	coeff	se	t	p	LLCI	ULCI
constant	3,3874	,2196	15,4263	,0000	2,9552	3,8195
Human_AI	-,0518	,1390	-,3725	,7098	-,3254	,2218

OUTCOME VARIABLE:
NA_All

Model Summary

R	R-sq	MSE	F	df1	df2	p
,1231	,0152	1,1588	2,2618	2,0000	294,0000	,1060

Model

	coeff	se	t	p	LLCI	ULCI
constant	3,9880	,2652	15,0361	,0000	3,4660	4,5100
Human_AI	-,1243	,1250	-,9950	,3206	-,3702	,1216
Attitude	,0972	,0523	1,8578	,0642	-,0058	,2002

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
-,1243	,1250	-,9950	,3206	-,3702	,1216

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
Attitude	-,0050	,0161	-,0423	,0259

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

Life Satisfaction:

Model : 4
 Y : LS_All
 X : Human_AI
 M : Attitude

Sample
 Size: 297

OUTCOME VARIABLE:
 Attitude

Model Summary

R	R-sq	MSE	F	df1	df2	p
,0217	,0005	1,4349	,1388	1,0000	295,0000	,7098

Model

	coeff	se	t	p	LLCI	ULCI
constant	3,3874	,2196	15,4263	,0000	2,9552	3,8195
Human_AI	-,0518	,1390	-,3725	,7098	-,3254	,2218

OUTCOME VARIABLE:
 LS_All

Model Summary

R	R-sq	MSE	F	df1	df2	p
,3771	,1422	1,0074	24,3655	2,0000	294,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1,9143	,2473	7,7407	,0000	1,4276	2,4010
Human_AI	,1281	,1165	1,0992	,2726	-,1012	,3574
Attitude	,3374	,0488	6,9159	,0000	,2414	,4334

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,1281	,1165	1,0992	,2726	-,1012	,3574

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
Attitude	-,0175	,0473	-,1114	,0790

***** ANALYSIS NOTES AND ERRORS *****

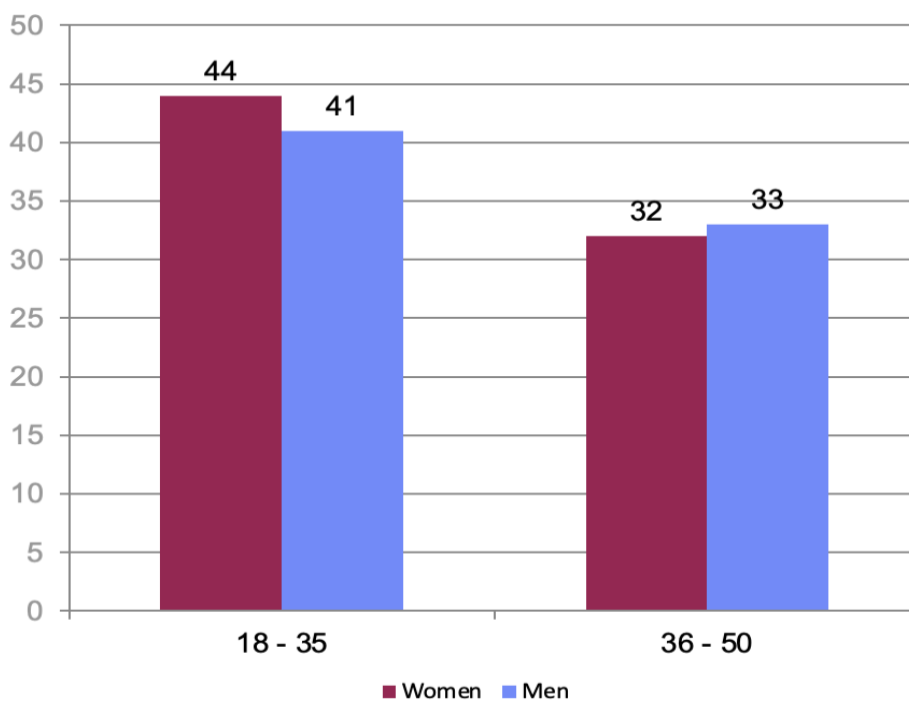
Level of confidence for all confidence intervals in output:
 95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
 5000

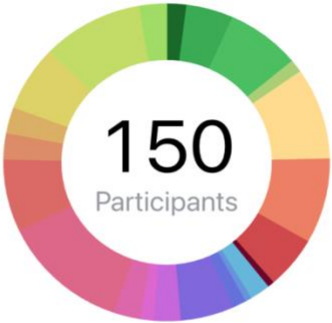
Appendix 2: Survey

Human Group

Sample Demographic of participants in Human Group



What is your highest level of education?



- No degree
- Primary school
- Secondary education...
- Additional year of se...
- General training scho...
- Baccalaureate prepar...
- Baccalaureate for ad...
- Diploma for teaching ...
- Vocational baccalaur...
- Vocational baccalaur...
- Elementary vocationa...
- Apprenticeship (voca...
- Second vocational tr...
- Advanced vocational ...
- Higher vocational trai...
- University of applied ...
- University of applied ...
- University diploma (i...
- University diploma an...
- University diploma an...
- University diploma an...
- Doctoral degree

What kind of job do you have?



- office job
- production worker
- medical/health indust...
- agriculture industry

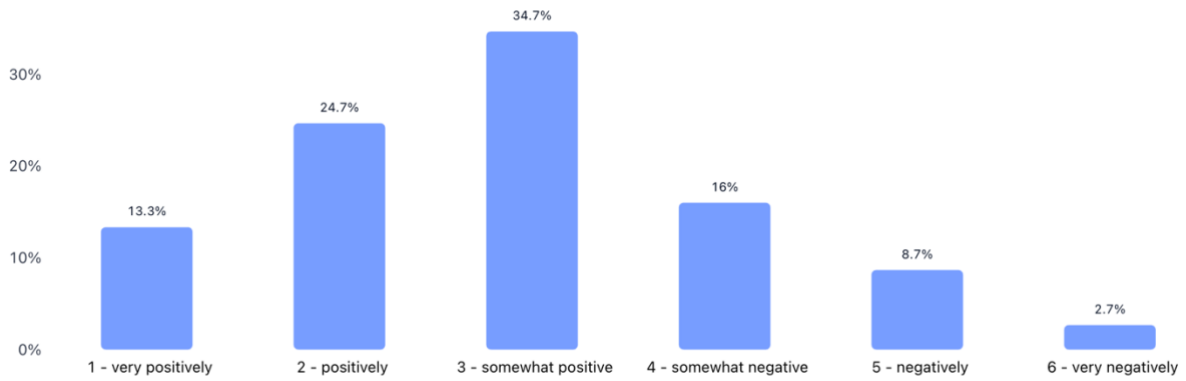
Scenario Description Human:

Please contemplate the following scenario:

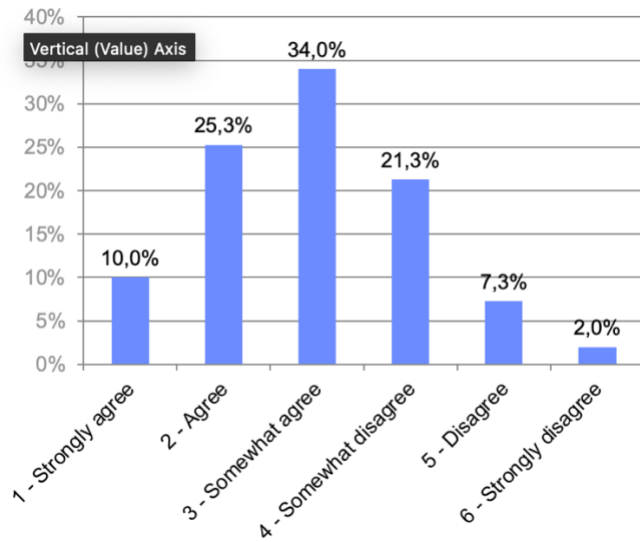
Today your manager announced a new project that your department must work on in the next weeks. You will work closely with two other colleagues of your team on it.

Imagine that you and your old colleague have been working for 5 years together now. You two have been assigned to work on a market trend forecast assignment first with the third colleague in the team, who is new in the team and has just joined the company. The new colleague has the same level of authority and abilities as you.

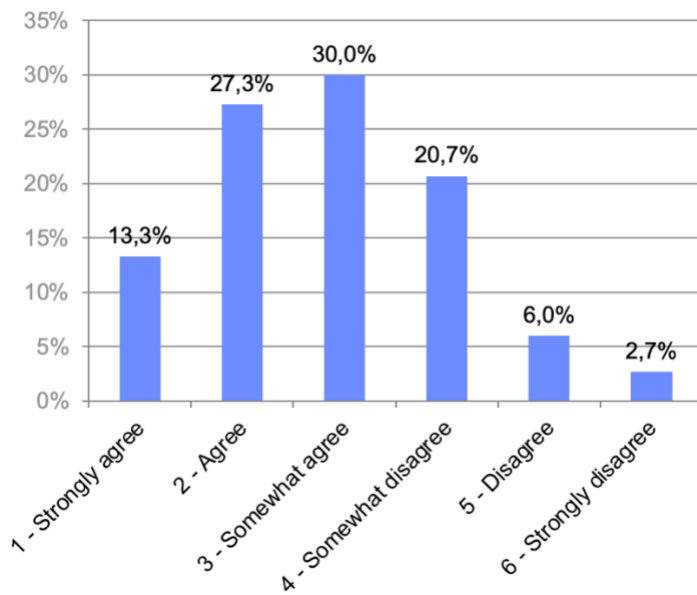
How would you feel about the prospect of working alongside the new co-worker?



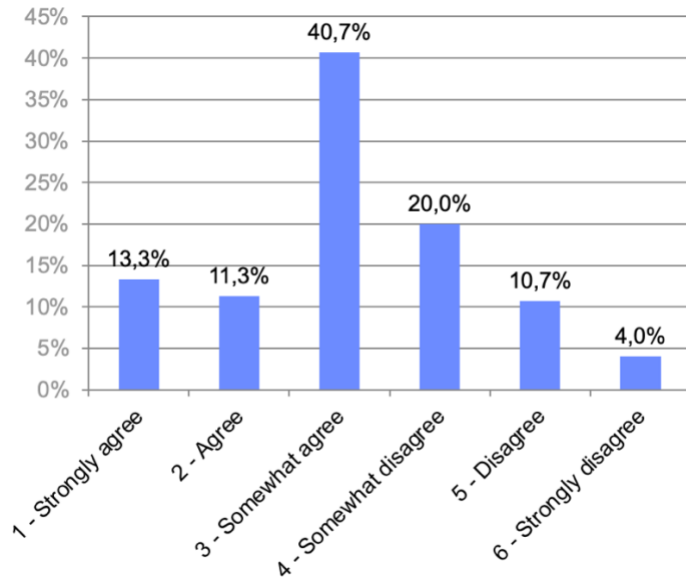
I most likely would feel excited about working alongside a new co-worker



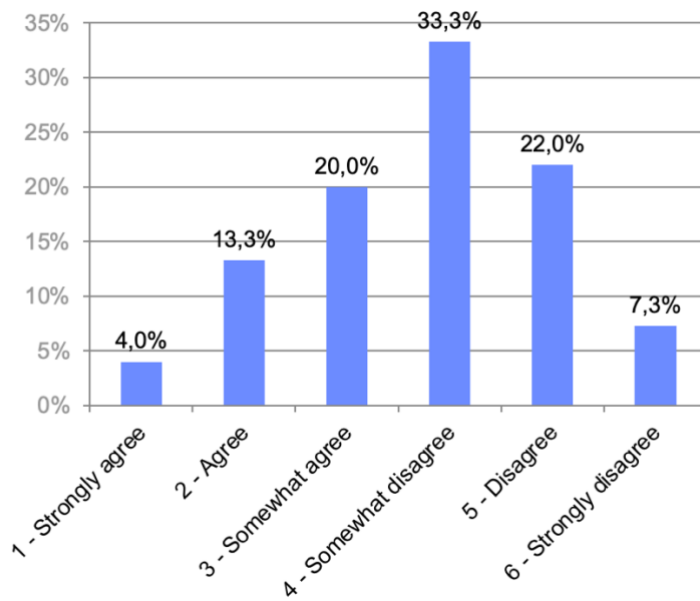
I most likely would feel interested working alongside a new co-worker.



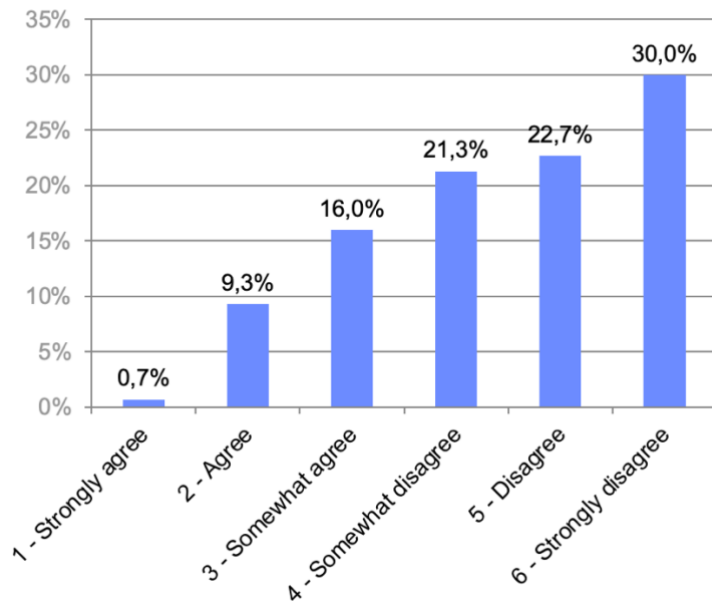
I most likely would feel proud working alongside a new co-worker.



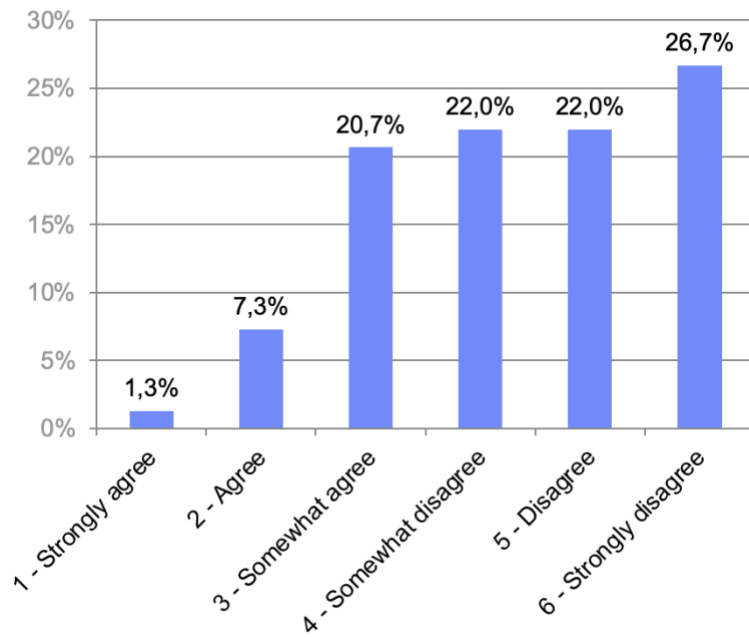
I most likely would feel distressed working alongside a new co-worker



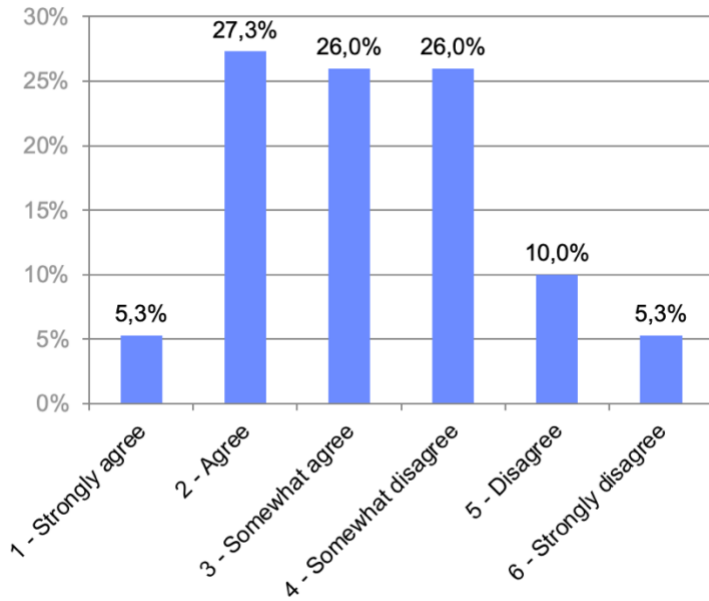
I most likely would feel guilty working alongside a new co-worker.



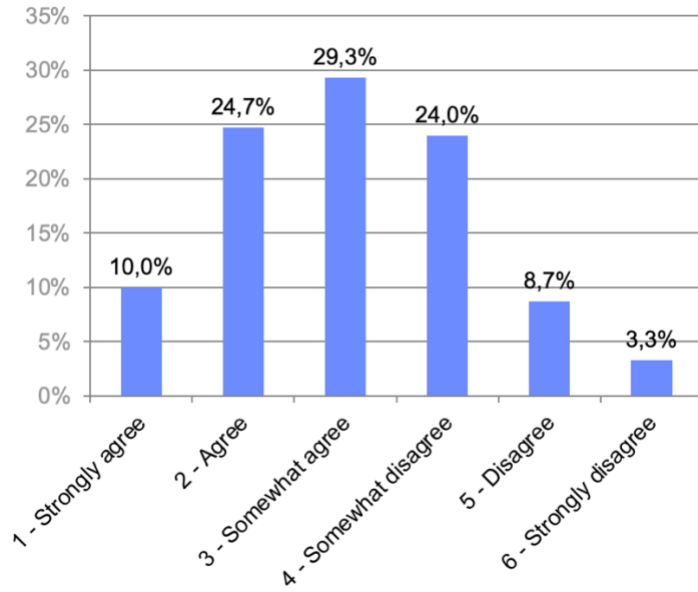
I most likely would feel scared working alongside a new co-worker.



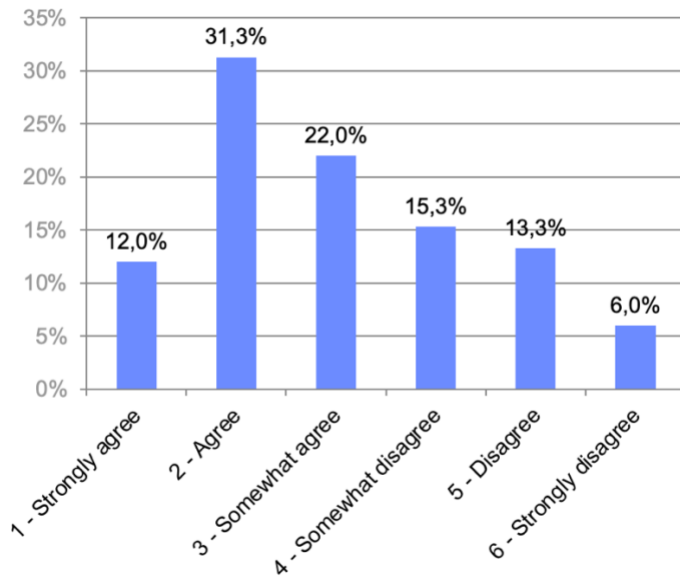
In most ways, my life is close to my ideal.



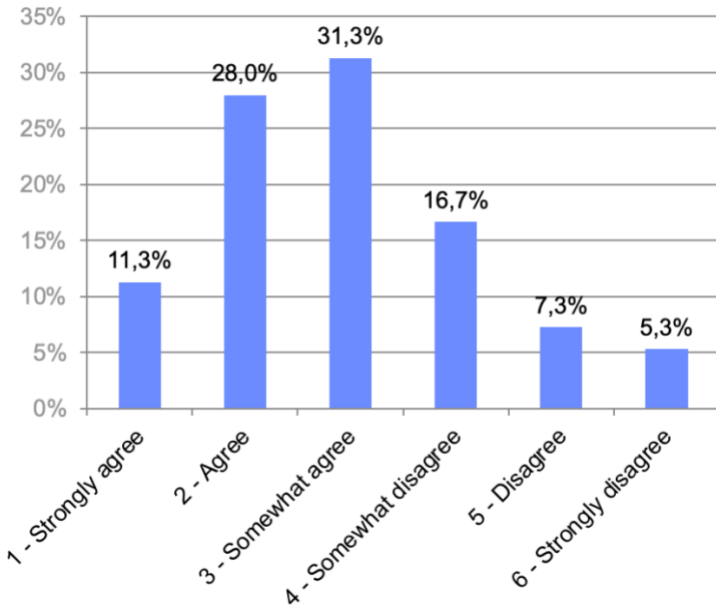
The conditions of my life are excellent.



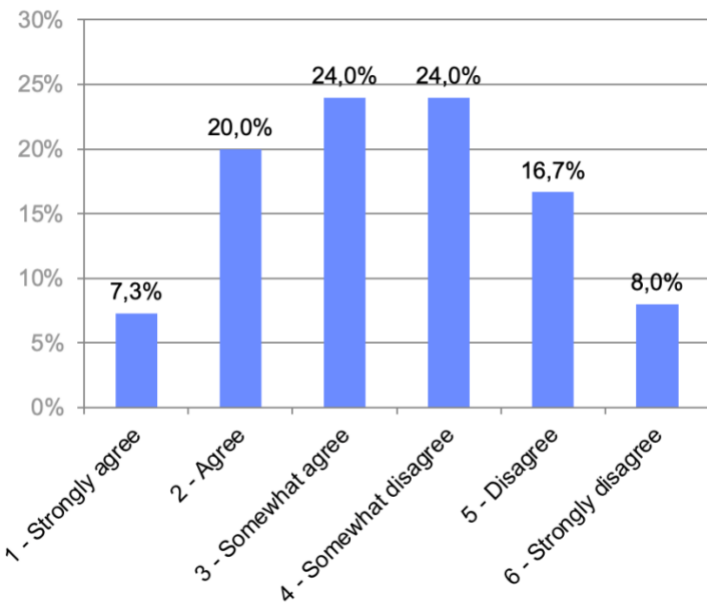
I am satisfied with my life.



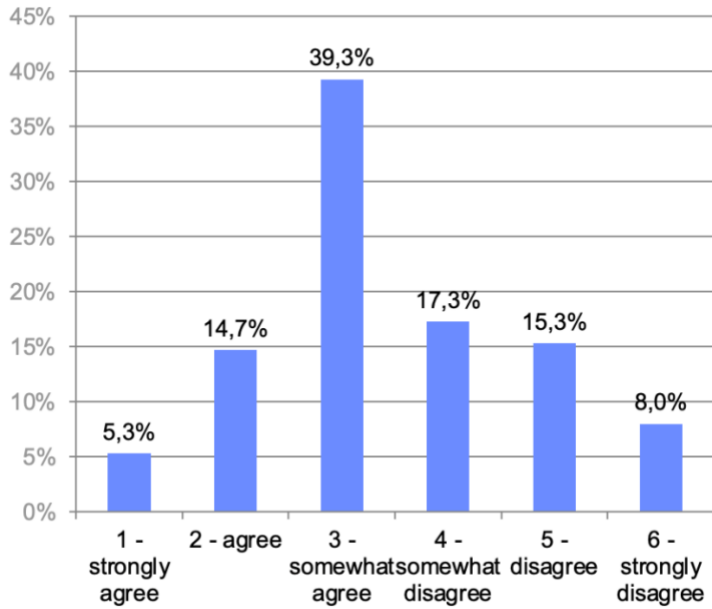
So far, I have gotten the important things I want in life.



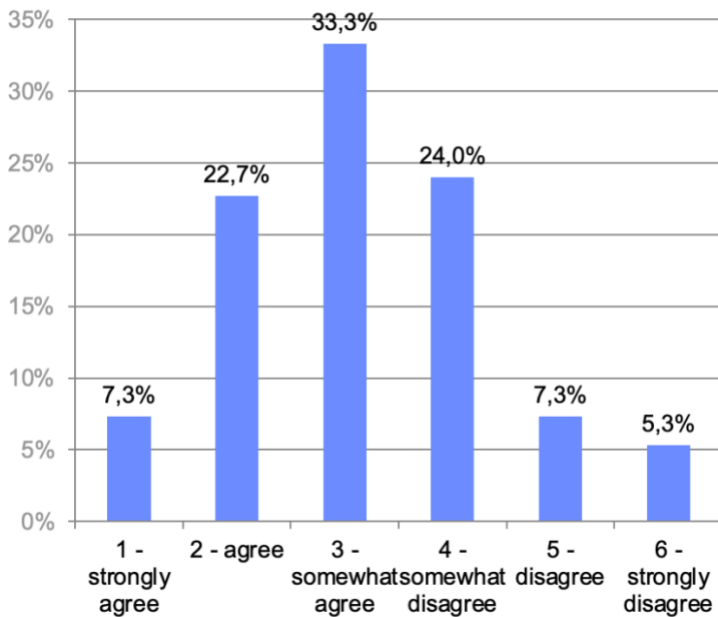
If I could live my life over, I would change almost nothing.



I desire interacting with artificial intelligence in my job.

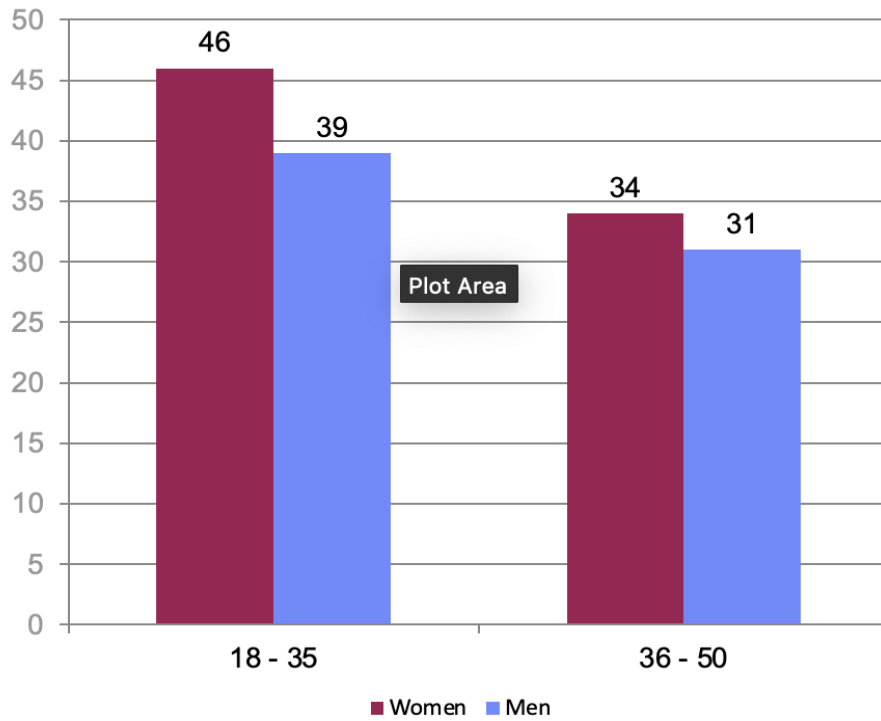


I think it is important for companies having AI integrated into office jobs.



AI Group

Sample Demographic of participants in AI Group



What is your highest level of education?



- No degree
- Primary school
- Secondary education...
- Additional year of se...
- General training scho...
- Baccalaureate prepar...
- Baccalaureate for ad...
- Diploma for teaching ...
- Vocational baccalaur...
- Vocational baccalaur...
- Elementary vocationa...
- Apprenticeship (voca...
- Second vocational tr...
- Advanced vocational ...
- Higher vocational trai...
- Higher vocational trai...
- University of applied ...
- University of applied ...
- University diploma (i...
- University diploma an...
- University diploma an...
- University diploma an...
- Doctoral degree

What kind of job do you have?



office job production worker medical/health indust... agriculture industry

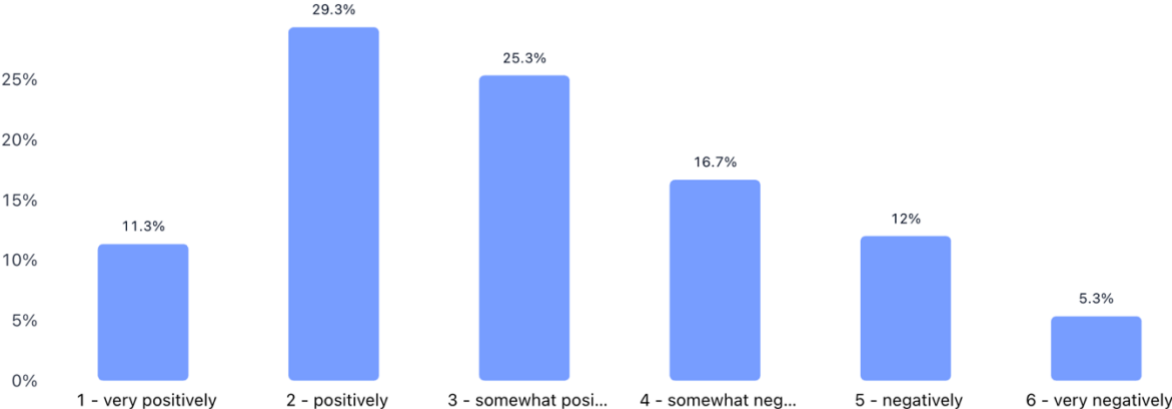
Scenario Description AI:

Please contemplate the following scenario:

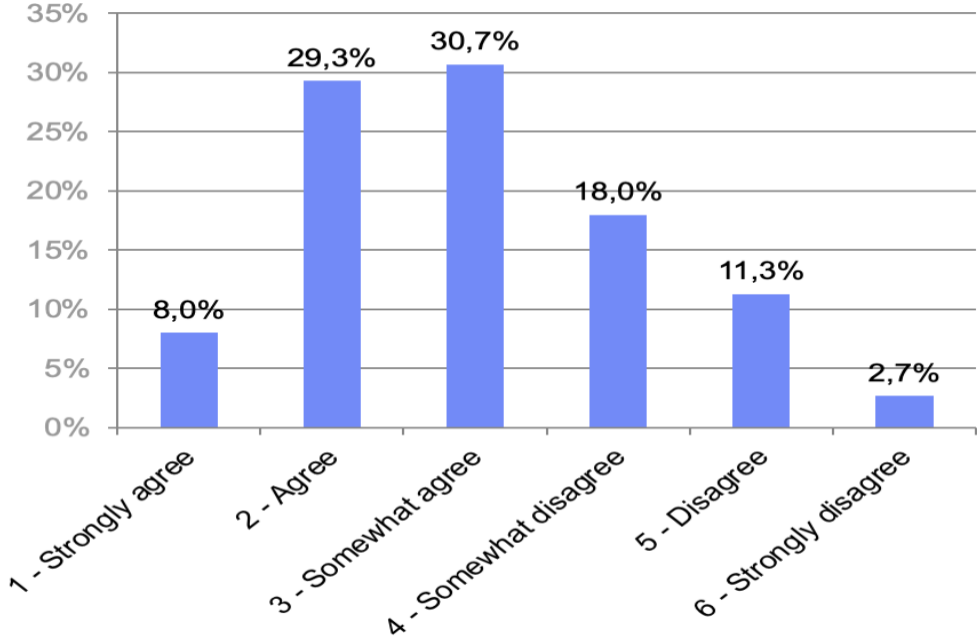
Today your manager announced a new project that your department must work on in the next weeks. You will work closely with two other colleagues of your team on it.

Imagine that you and your old colleague have been working for 5 years together now. You two have been assigned to work on a market trend forecast assignment with the third colleague in the team, who is new and is an **artificial intelligence co-worker** who has just joined the company and has the same level of authority and abilities as you.

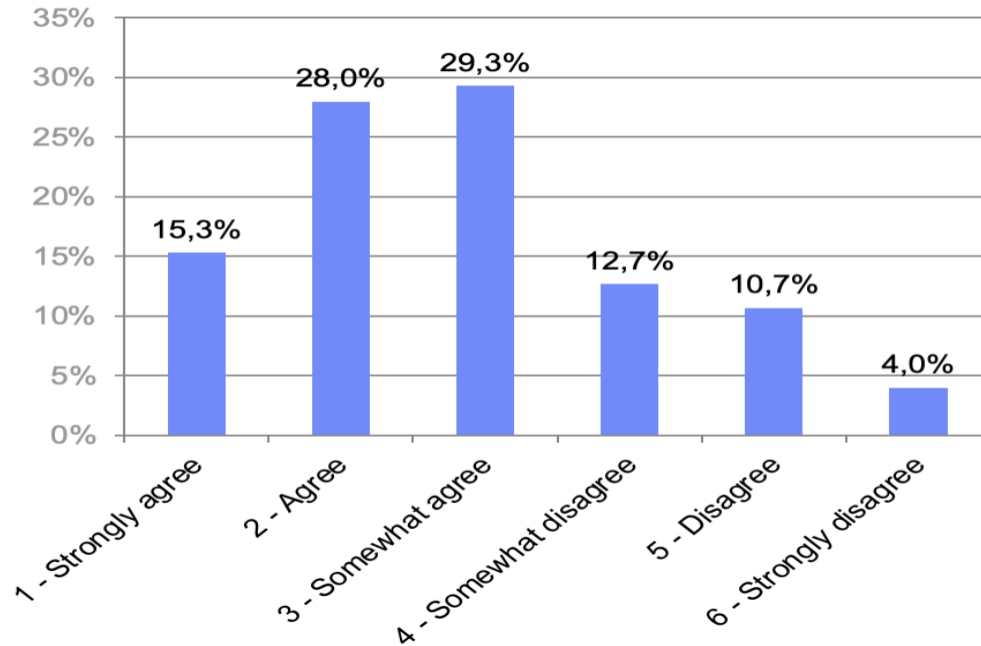
How would you feel about the prospect of working alongside the new AI co-worker?



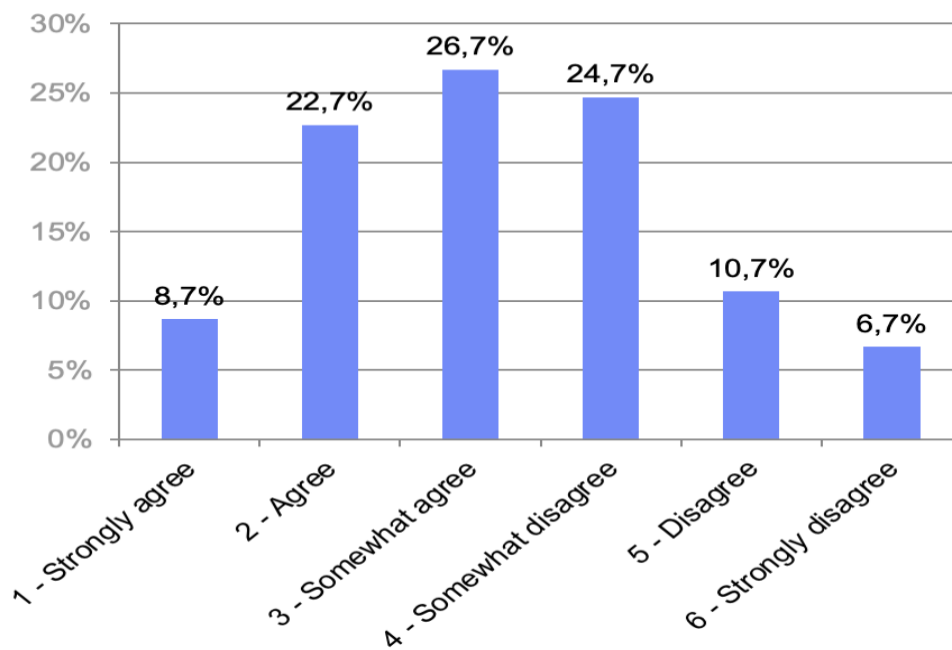
I most likely would feel excited about working alongside a new AI co-worker.



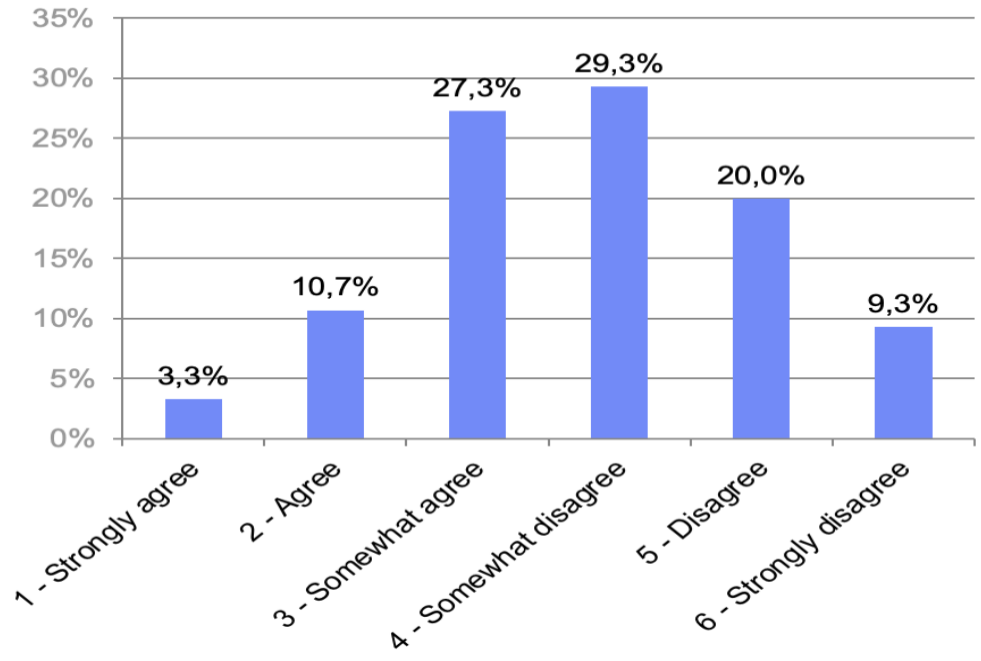
I most likely would feel interested working alongside a new AI co-worker.



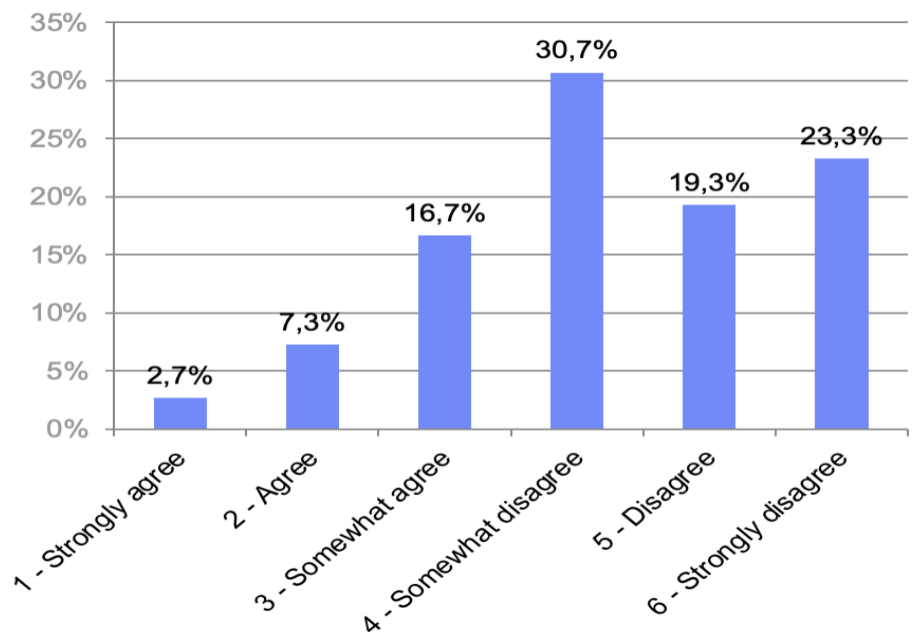
I most likely would feel proud working alongside a new AI co-worker.



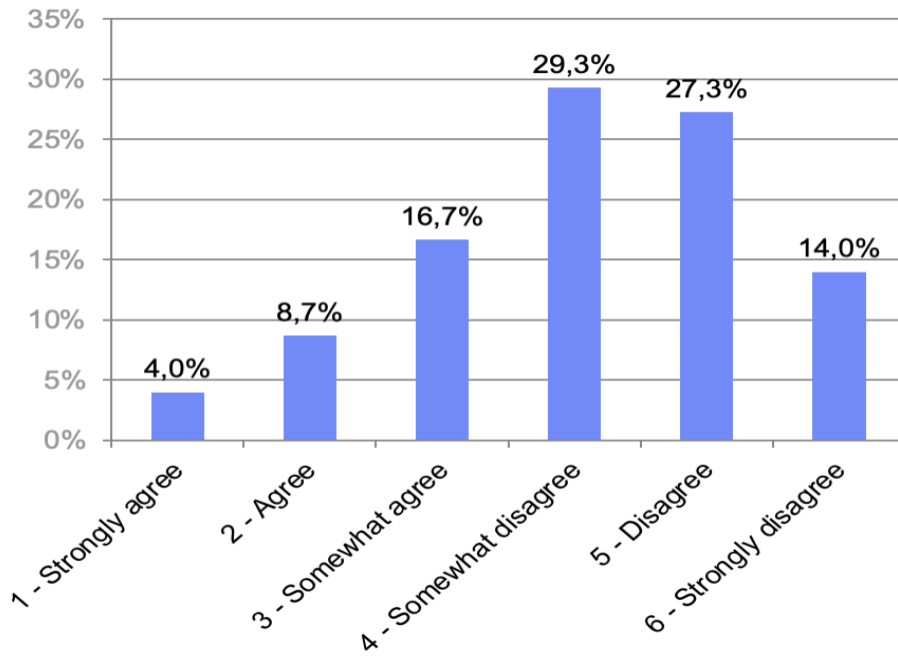
I most likely would feel distressed working alongside a new AI co-worker.



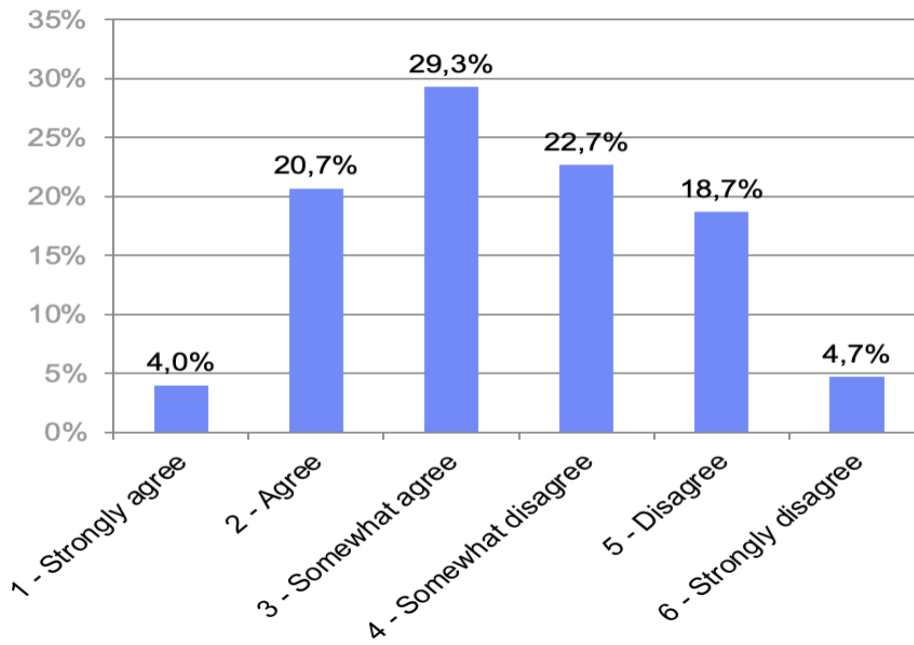
I most likely would feel guilty working alongside a new AI co-worker.



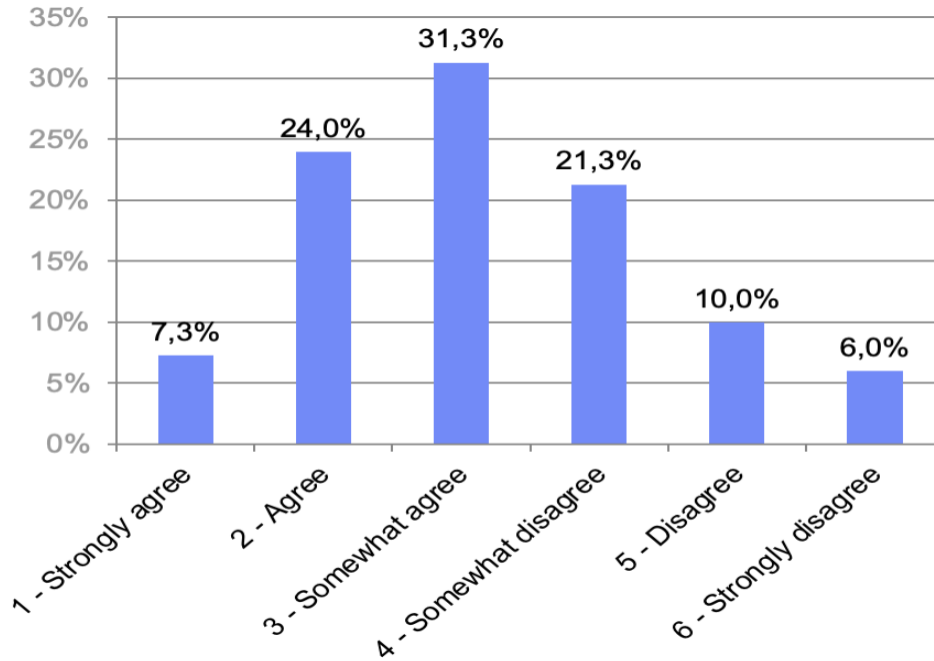
I most likely would feel scared working alongside a new AI co-worker.



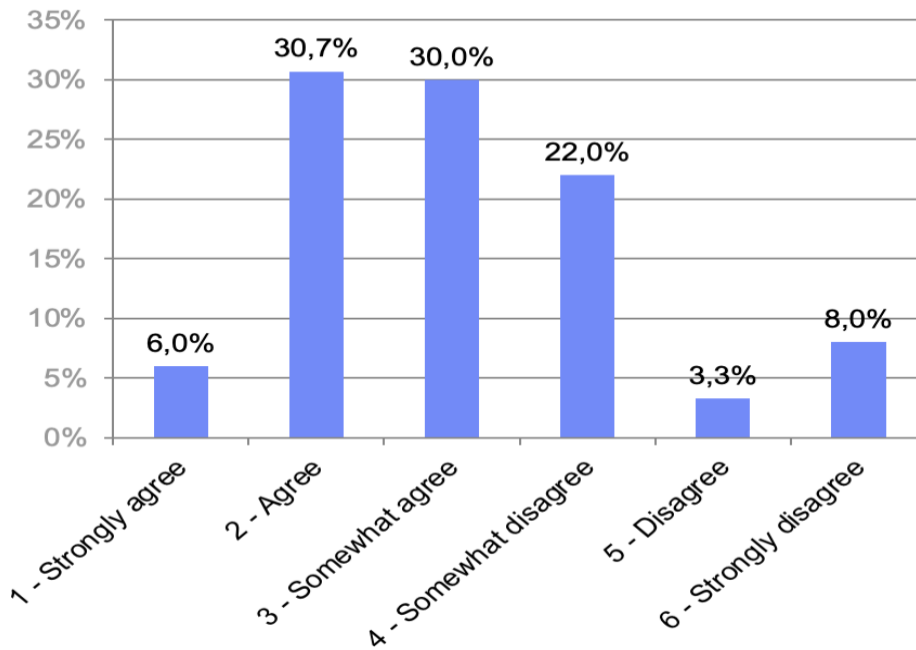
In most ways, my life is close to my ideal.



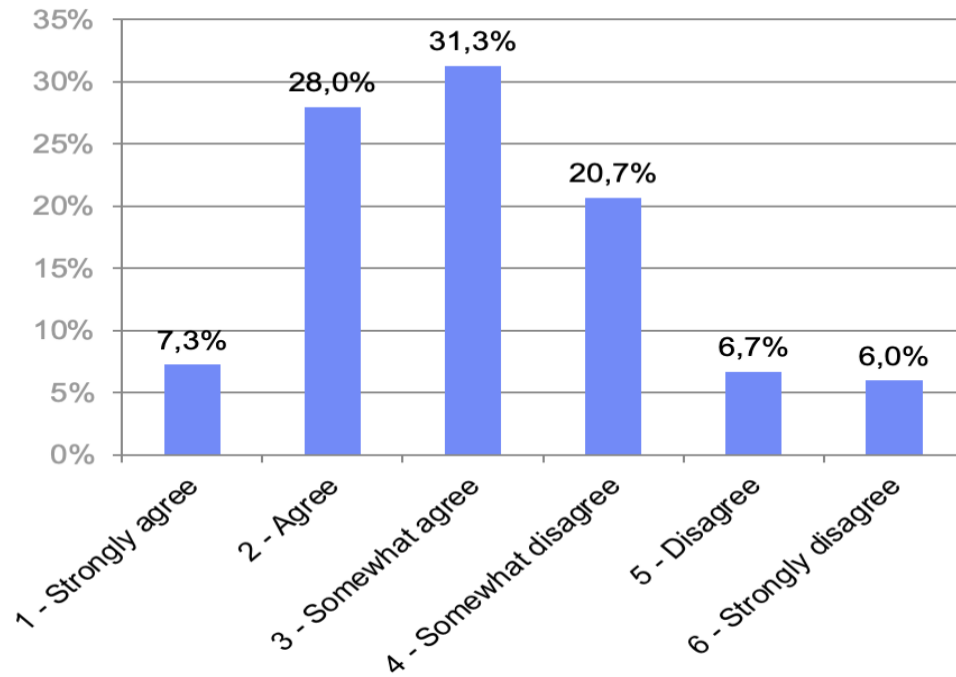
The conditions of my life are excellent.



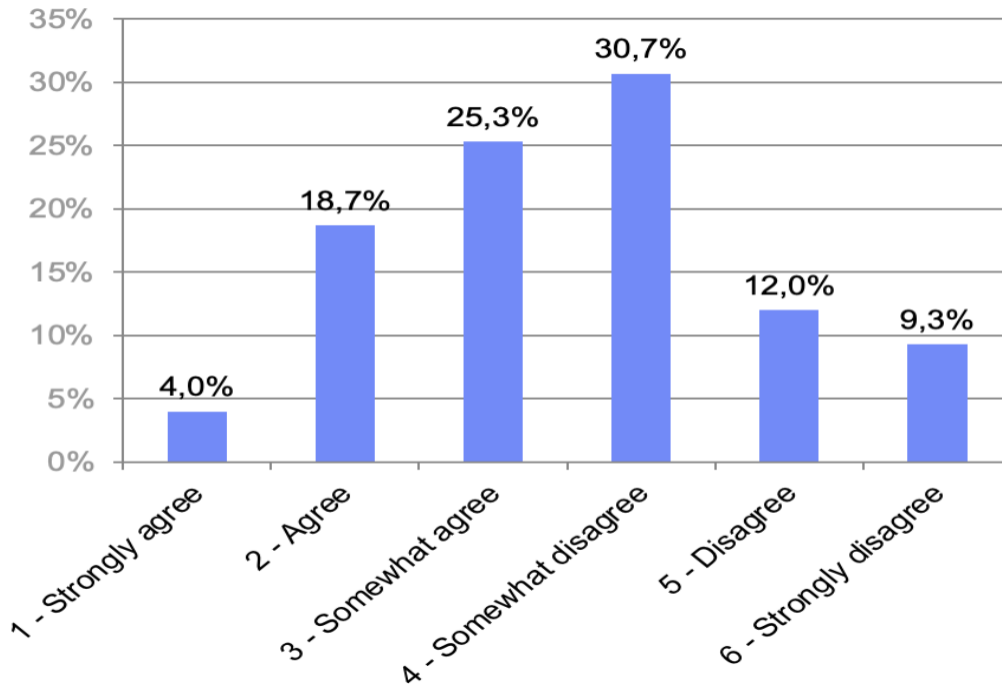
I am satisfied with my life.



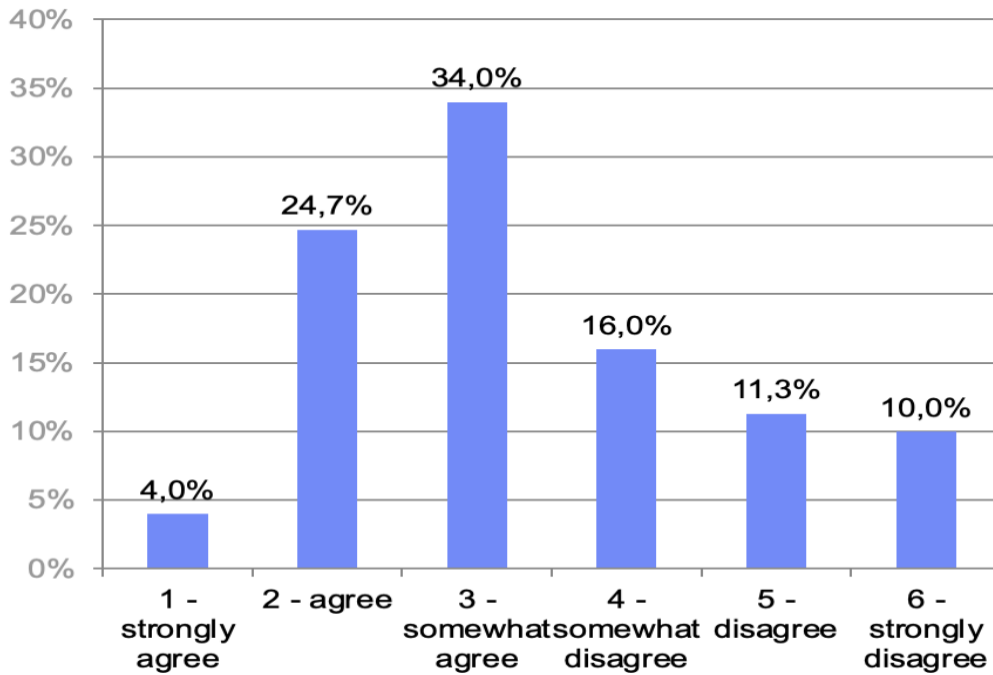
So far, I have gotten the important things I want in life.



If I could live my life over, I would change almost nothing.



I desire interacting with artificial intelligence in my job.



I think it is important for companies having AI integrated into office jobs.

