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## Abstract

Coworking spaces are becoming an attractive office alternative for independent professionals, as they provide flexible membership engagements and a network of like-minded people. However, the way people interact in coworking spaces and how they build social support structures has yet to be investigated. The present study used the Organizational Identification framework to assess the relationship coworkers have with their respective coworking spaces and suggests that factors such as time pressure, tenure and received social support act as moderators between identification with the coworking space and social interaction. Additionally, a qualitative approach was added to gain insight into the exact forms of social interaction and to determine whether informal interactions can turn into social support. Therefore, a survey was adapted to fit the cohort of coworkers and conducted in Austria with 104 participants. Results lent support to the hypothesis that identification with the coworking space had a positive impact on social interaction. Moreover, this relationship was moderated by received social support, whereas tenure and time pressure had no significant effect on the relationship. Furthermore, results showed that social interaction can, in fact, turn into social support. Therefore, fellow coworkers can become a new resource for independent professionals and fill the gap for support usually provided by colleagues and superiors. Further investigation on the benefits (especially health benefits) of using a coworking space are indicated.


Keywords: coworking space, social interaction, organizational identification, new ways of working

## Introduction

As market and business demands change, employment conditions and forms of engagements need to adapt. In the eighties, there was the first shift from bound office workers to virtual freelancers (Johns & Gratton, 2013). With the digital evolution and the wide spread of the internet, professionals got the chance to work independently and the concept of untethered work spread rapidly (Mikl-Horke, 2009; Singh, Bahndarker & Rai, 2012). However, due to several shortcomings, what started as virtual freelancers, turned into virtual corporate colleagues to bring back employment benefits and secure continuity for organizations in their operations. Even though the concept was adapted by many organizations and has proven itself efficient, workers started to feel some sort of isolation and lacked collaboration and human encounters, which office environments naturally provide. This led to the formation of virtual coworkers, who collaborate not only in a virtually, but occasionally also in a physically shared environment – combining the best of both work settings (Johns & Gratton, 2013).

The trend to more flexible work arrangements is still prevalent today as many people do not work as “traditional employees” in nine to five jobs anymore, but have more flexible work contracts (Kjaerulff, 2010). They coin the term of independent professionals (Kjaerulff, 2010). This term incorporates freelancers, entrepreneurs and remote teleworkers who often work by themselves or turn into the above mentioned virtual coworkers. As their engagement with the organization and team structure change, so does their physical environment. Independent professionals who often work virtually are lead with a spare or nonexistent office infrastructure, which has several benefits as well as bottlenecks (Kjaerulff, 2010). Now with advanced and easy to access virtual workspaces, independent professionals can decide to work from almost anywhere they want, usually their only requirement for a workspace being unlimited internet access (Johns & Gratton, 2013). Hence, several freelancers and self-employed professionals choose to work from home, in coffeehouses or libraries (Johns & Gratton, 2013). Even though, these ‘work environments’ mostly provide free internet access and a comfortable atmosphere, they do not seem to satisfy all needs (Kjaerulff, 2010). Coffeehouses for example can provide a rather welcoming atmosphere, but can be very noisy and hectic at times. Working from home on the other hand, can provide the silent work atmosphere often needed for concentration and work calls. However, as Jens Kjaerulff (2010) points out, there are several issues teleworkers and

freelancers can face, when they use their homes as offices. He argues, that these workers mostly suffer from professional isolation and often struggle with finding and maintaining a healthy balance between work and home. Others find it hard to build meaningful relationships and lack networking opportunities, which would be beneficial for their businesses (Spinuzzi, 2012). People working from home can also face distractions and often lack self-motivation (Spinuzzi, 2012). Hence, many independent professionals seek a different, more professional working environment.

One solution to this challenge are *coworking spaces* - a new and very fast spreading concept of creative office environments. According to Johns and Gratton (2013) coworking spaces could be a great alternative to working from home or public places, while covering all requirements of a suitable working environment. They provide the newest technology, creative workplaces and most importantly they foster interaction with other professionals. As stated in research around coworking spaces to date, social interaction is a clear benefit such work environments provide (e.g., Pohler, 2012; Garrett, Spreitzer & Bacevice, 2014). However, this group of people working in a coworking space is very heterogeneous, because they have different business backgrounds, work in a different field and usually do not have more in common than using the same space. A profound assessment of the different ways these independent professionals interact with each other is still missing. Thus, this thesis will give an insight into the different forms social interaction can take in coworking spaces and assess factors that could influence the degree to which people interact in a coworking space. It will be investigated whether these flexible work concepts like coworking spaces could act as a solution to professional isolation experienced when working from home. The question is posed whether coworkers in coworking spaces can become a new source of social support similar to colleagues in traditional work settings. Hence, the research will not only focus on measuring the occurrence of social interaction, but will use techniques to differentiate the forms of social interaction ranging from informal encounters to acts of social support. The more is understood around social interaction taking place in a coworking space the more will be understood about what independent professionals need in their working environments and if coworking spaces can fill this gap. These research findings are aspired to contribute to the newly emerging field of coworking.

# Theoretical Background

The following part is dedicated to the theoretical background of this empirical study and will lead to the extraction of the research questions. Firstly, an introduction to coworking spaces and the concept of *coworking* is given, including an overview of existing empirical studies on this phenomenon. Secondly, the Social Identity Theory (SIT; Tajfel & Turner, 1979; 1985) and the Organizational Identification model (Ashforth & Mael, 1989) are presented as theoretical underpinning and will serve as frameworks to better understand how social interaction can occur in coworking spaces and the different forms it can take. Finally, the predictors for social support as one form of social interaction will be portrayed.

## 1.1. Coworking Spaces

The concept of *coworking* is defined by a "working-alone-together" behavior whereby independent professionals work side by side in a shared office space, but are not affiliated with each other (Spinuzzi, 2012; Bilandzic & Foth, 2013). Hence, coworking is more than just access to a space and its facilities, it is access to a like-minded community. The focus on building community and collaboration, as well as the other values of openness, sustainability and accessibility have made coworking a source of growing attraction and distinguish the concept from serviced offices[1] (DeGuzman & Tang, 2011). The same values can be found on the Coworking Wiki - a free, community-owned and operated resource for everyone involved or interested in the world of coworking[2]. Similarly to other sources, the site also describes coworking as community-based and as an effort to "create better places to work and as a result, a better way to work".

Coworking spaces are becoming an attractive office alternative for independent professionals. In the 2017 Global Coworking Survey[3] conducted by Deskmag[4], the most popular coworking online portal and magazine, they estimated 1,2 million people to be working in a coworking space by the end of 2017, that is an increase of more than 1,1 million people in the last five years and an annual growth rate of 41% (Foertsch, 2012a; 2017). As the number of coworkers increases, so does the number

[1] A serviced office is a popular type of office space that offers flexible and simple rental contracts with the added advantage of having essential amenities, facilities and services on-site to support a business. (www.proz.com)
[2] http://wiki.coworking.com/w/page/16583831/FrontPage
[3] https://www.slideshare.net/carstenfoertsch/the-first-results-of-the-2017-global-coworking-survey
[4] http://www.deskmag.com

of coworking spaces. There are expected to be 13.800 coworking spaces worldwide by the end of 2017 (Foertsch, 2017). In comparison, there were only 2.070 five years ago (Foertsch, 2012a). The survey shows the rapid increase of this new office concept, which started roughly a decade ago. Even though there is a disagreement on who founded the very first coworking space and can be associated with coining the term *coworking,* the first spaces to open were the Spiral Muse in 2005 and the Hat Factory in 2006, both located in San Francisco (Botsman & Rogers, 2011; Pohler, 2011).

### 1.1.1. Members of a Coworking Space

People working in a coworking space – often referred to as *coworkers* – come from different industries and backgrounds. The reader of this thesis is advised that the term *coworker* is from now onwards used as a proper noun for people working in a coworking space and is modelled after Foertsch (2012a).

However, the Global Coworking Survey of 2011 showed that most of the coworkers are in the field of creative industries and new media, which would fit the above stated assumptions that coworking spaces are a suitable office space alternative for people with virtual work environments. As their work is mainly based on information and communication technologies (ICTs), they have the spatial and temporal flexibility to decide to work from anywhere they want, making their work prototypical for the emerging concept of *new ways of working* (NWW; ten Brummelhuis, Bakker, Hetland, & Keuleman, 2012).

Even though the number of web designers, developers and programmers dominates coworking spaces, there are also other occupational groups represented such as accountants, writers and architects (Pohler, 2012; Gerdenitsch, Scheel, Andorfer, & Korunka, 2016). Some coworking spaces have a certain industry focus or accept membership applications based on the company's social impact, whereas most coworking spaces are free for everybody to join.

The coworking community is comprised of 54% of members who work as freelancers, almost 20% as entrepreneurs and 20% are permanent employees (Foertsch, 2011). Coworking spaces are growing older, and so are their members. The current average age of coworking space members is a little over 36 years, compared to 34 years in 2011 (Foertsch, 2011 & 2017). The high level of education remains a characteristic feature among members of coworking spaces. The Global Coworking Survey of 2017 shows that 85% hold a university degree (Foertsch, 2017). However,

one characteristic that has changed over the years in the coworking community is the gender distribution among the members. While in 2011 two thirds of the coworking population were male, today the number of female coworkers is estimated to be over 40% (Foertsch, 2011; 2017).

While the survey results display some homogeneity among people using a coworking space, they still have different needs in regards to their specific projects and assignments. Even though there is a shared belief that coworking spaces should provide flexible working hours and different places to work from, coworkers are very assorted when they are asked about the coworking space's composition. Some coworkers wish for people who work in the same field as they do or have similar expertise on relevant work topics, so they can ask them for support and help. Whereas other coworkers would like to meet people with complementary skill sets and prefer a diverse composition in the coworking space. Diversity in age, gender and occupation is viewed as an inspiring and stimulating working environment (Pohler, 2011).

### 1.1.2. Reasons for and Benefits of Coworking

Coworking spaces are known to "combine the best parts of an office environment - community, collaboration and access to the right tools - with the benefits of working at home or working for yourself - convenience, flexibility, autonomy" (Sundsted et al, 2009, p.8). Some coworking spaces are very flexible in their membership and independent professionals can pay according to their use of the space, others have a fixed membership rate per month – an example would be the Impact HUB Vienna[5]. This coworking space offers cheaper alternatives for people who only use the space for a couple of hours per week and more expensive membership rates for fixed working desks and unlimited access.

Usually the rate includes the rent of a table (fixed or flexible), unlimited Wi-Fi, access to shared facilities such as a kitchen, meeting and common rooms, as well as printing possibilities. Next to the "typical" office equipment, coworking spaces expand their offer by organizing community/networking events or providing an online collaboration platform. According to Garrett, Spreitzer and Bacevice (2014) this effort of creating communities within the coworking spaces is what sets them apart from alternative workspaces. The promise of like-minded coworkers and a strong community is present on many coworking space websites. Their aim is to foster social

5 https://vienna.impacthub.net/

encounters among unaffiliated professionals. “At coworking spaces, the chances of *accelerated serendipity* occurring – those *Eureka!* moments that take place during the most unexpected turns – are greater than in any other environment” (DeGuzman & Tang, 2011, p.7). Social interaction is viewed as one of the most important benefits coworking spaces can provide (Spinuzzi, 2012). Nevertheless, reasons for using a coworking space can be manifold. Independent professionals report to find membership costs affordable, compared to renting a whole office and having to make big investments in the founding stage of their business. Additionally, they view coworking spaces to have the right balance between a comfortable working environment and still keeping a professional appearance for coworkers to be able to invite customers and partners (Spinuzzi, 2012). Next to social interaction, independent professionals also seek to find sparring partners in a coworking space to receive feedback on their own projects, collaborate on new business ideas or even forge business partnerships (Spinuzzi, 2012). Besides social interaction and networking possibilities, coworking spaces are also valued for their flexibility in terms of working hours, but still providing structure in a coworker’s day of going to a set location in the morning and returning home in the evening (Pohler, 2011).

People working in a coworking space continue seeing its benefits. In a global coworking study conducted by Foertsch (2012b) 71% of the respondents claimed to continue working in a coworking space, because their creativity increased since joining the space and 62% stated that their standard of work had improved. Out of all the respondents, 68% said they were able to focus better and 64% claimed that they were better at completing tasks on time, since they had been working in a coworking space.

### 1.1.3. Empirical Studies about Coworking Spaces

As the numbers above demonstrate, coworking spaces and the amount of people using those spaces have rapidly increased over the past decade. There has been a major shift from traditional work settings to new and innovative emerging workplaces. However, there has been little academic attention paid to this phenomenon, despite of its vast and growing importance. The lack of scientific research makes it challenging to find citable scientific articles and high-quality information on the topic. First insights into the topic can be found in Master and Diploma theses (e.g., Pohler, 2011; Andorfer, 2013). Additionally, coworking spaces have become a subject of interest among popular-science books, giving an insight into

the rise of the trend (e.g., Schürmann, 2013; Bender, 2013). For the community itself, information can be found online in several blogs and coworking forums. As already cited above, Deskmag is the most popular coworking portal and magazine, publishing information around newly opened coworking spaces, best case practices and trends affecting the coworking community. Additionally, they inform about events relevant to coworkers and release an annual coworking survey which, so far, gives the best insight into the global coworking community. The portrayed survey results show the rapid increase of the coworking community (Foertsch, 2017), hence, the need to further conduct research to evaluate its impact on the current work and employment models. The scientific community is contributing by publishing mostly qualitative research on this topic (e.g., Pohler, 2012; Spinuzzi, 2012; Parrino, 2013; Garrett et al., 2014; Brown, 2017) and recently a scientific paper using a quantitative analysis approach was added (Gerdenitsch et al., 2016).

However, to the best of my knowledge, there is no published empirical quantitative research article exploring the relationship coworkers have with their coworking space and community. There is a research gap in understanding how coworkers identify with their respective coworking space and how that affects their social interactions within the space. Further, this thesis will contribute to the research on this new workplace arrangement by giving an insight into the different forms social interaction can take in coworking spaces and assessing whether coworkers can become support structures to each other similar to colleagues in traditional office settings.

## 1.2. Social Identity Theory

A framework that is suitable to describe the relationship coworkers have with their respective coworking spaces is the Social Identity Theory (SIT) developed by Tajfel and Turner (1979; 1985). The SIT states that part of peoples' identities, attitudes, beliefs and behaviors are grounded in groups that they affiliate with or groups that are important to them (Tajfel & Turner, 1985). Social identity has a deep seeded impact on how people experience and perceive their daily lives. Attitudes and behavioral choices are subjective to their social identities and self-concepts depend greatly on which groups they most strongly identify with (Nelson, 2015). Understanding the relationship between the individual and the group gives an explanation of how people behave in groups and how in return the identification with a group can affect a person's definition

of self. People tend to assign themselves and others to various social categories, such as organizational membership, gender and age cohort (Tajfel & Turner, 1985). For most of them, this identification with a social group creates their social identity and serves as an explanation for who they are (Tajfel & Turner, 1985). The identification takes place both ways - the individuals concerned define themselves, but are also defined by others as members of a group (Tajfel & Turner, 1985). The accredited belongingness from others is used as reassurance in the identification process. People view themselves as part of the social group they identify with rather than perceiving each other as separate individuals (Ashforth & Mael, 1989). This classification has two main functions: a) for individuals to understand and categorize others better and b) to locate themselves in the social environment (Ashforth & Mael, 1989; Tajfel & Turner, 1985). The following excerpt gives an explanation for why people identify with groups:

> *"Social categorizations are conceived here as cognitive tools that segment, classify, and order the social environment, and thus enable the individual to undertake many forms of social action. But they do not merely systematize the social world; they also provide a system of orientation for self-reference: they create and define the individual's place in society. Social groups, understood in this sense, provide their members with an identification of themselves in social terms. (Tajfel & Turner, 1985, pp. 15-16)"*

Individuals try to maintain a positive social identity or even enhance it by categorizing the environment into in-groups and out-groups, whereby their self-esteem is enhanced when they compare their own in-group favorably to the out-group (Tajfel & Turner, 1985). As their social identity is comprised of their group belongingness and their group's value, it is essential that the value of the in-group is rated higher than the value of relevant out-groups (van Dick, 2001). The value is defined by the individuals themselves as well as the social context, thus, differentiating the groups from each other (van Dick, 2001).

The concept of social identity has been applied to many research fields since first formulated in a theory by Tajfel and Turner (1989). There is a wide range of social identity research in the realm of health behaviors. There have been efforts to utilize the strong effects that social identity creates on behavior in personalized normative feedback. This intervention has been shown to be effective in lowering heavy alcohol consumption among college students (Martens, Smith, & Murphy, 2013). The effects of social identity were also investigated by health campaigns. Results of a recent study

showed that risky smoking behavior was more likely to be endorsed by participants who had a shared social identity with the featured individual in the campaign (Moran & Sussman, 2014). Similar studies showed that social identity can also be used as a platform to foster change within a group people identify with. Statements on favoring or opposing certain topics while reinforcing the shared social identity, influenced the perception of the group norm more strongly than statements which did not include reinforcements (Seyranian, 2014).

More recently, social identity has also become part of the research on work concepts and workplaces. Next to the identification with a group, one's self concept is also influenced by where one is and what is expected of the individual, making the workplace a significant factor in the identification process (Hogan, 1976). Several studies have highlighted the influence social identity has on different aspects of work such as leadership styles (e.g., Tse & Chiu, 2014) and work team compositions (e.g., Chattopadhyay & George, 2001). In fact, there has been a fair amount of research on employee attitudes and behaviors that are influenced by social identity (e.g., van Dick, Grojean, Christ, & Wieseke, 2006; Ashforth & Mael, 1989). The identification with the organization one works for is part of the search for social identity and, therefore, plays a significant role in the relationship employees have with their respective organizations (Ashforth & Mael, 1989). Independent professionals, however, often lack the identification with one single organization. Hence, this research will examine whether independent professionals using a coworking space, can build the same form of organizational identification as employees do with their organizations.

### 1.3. Organizational Identification

Social Identity Theory acts as a solid foundation for the concept of organizational identification, which fosters the understanding of work-related attitudes and behaviors (van Dick, 2001). Social groups such as organizations or work teams are not only features of the external world, but they are also internalized by the individual, becoming a part of a person's sense of self (Haslam, 2004). Subsequently, Ashforth and Mael (1989) argue that organizational identification is a specific form of social identification and can further help in answering the question, Who am I? Edwards and Peccei (2007) define organizational identification as a psychological linkage and a form of affective and cognitive bond between the individual and the organization. Similarly, Ashford and Mael (1989) characterize organizational

identification as a shared identity and a perceived oneness with the organization rather than organizational commitment as previously defined in literature (e.g. Hall, Schneider, & Nygren, 1970; Patchen, 1970). The main difference between organizational identification and organizational commitment is the self-defining and cognitive aspect of identification, which does not take place in the process of organizational commitment (Gautam, van Dick, & Wagner, 2004; Van Knippenberg & Van Sleebos, 2006). The more an individual identifies with an organization, the more they see themselves as ambassadors of the values and goals symbolized by this organization (Ashforth & Mael, 1989).

Organizational identification is organization specific and not solely linked to a profession or field of business. An individual can be committed to certain goals and values that are shared by an organization, but as soon as another organization proves more convenient, such an individual could transfer to it. However, if an individual identifies with an organization, leaving that organization would involve some psychic loss (Levinson, 1970). Similarly, when companies merge or get dissolved, employees can experience a major loss and trauma to their self-concept (Ashforth & Mael, 1989).

Identification with an organization can happen on many levels, ranging from the micro-level, whereby the individual identifies with his or her work or lunch group all the way to identifying with the organization as a whole (Ashforth & Mael, 1989). Thus, suggesting that the organizationally situated social identity may be comprised of many coupled identities (Ashforth & Mael, 1989). As independent professionals do not have one organization to identify with, coworking spaces and more specifically people working in coworking spaces could become their new source for identification. Could the community in a coworking space compensate for the identification with a specific organization and act as the social entity companies usually embody?

One aspect many coworking spaces use as a significant distinguishing feature on their website and in their promotion, is their unique community. A membership in a space goes beyond simply “using a table”, it provides access to like-minded people. However, engaging in the community is neither enforced nor mandatory. Very often members are invited to take part in community events, are asked for feedback or even receive an open invitation to co-create the space. They can choose to what degree they would like to engage with other coworkers. Since interaction is not mandatory, but can happen on a voluntary basis, coworkers who engage in the community, get a sense of personal investment and ownership that bonds them with the community

(Garrett, Spreitzer & Bacevice, 2014). This might lead to them experiencing some sort of connection or even identification with the coworking space, similar to the above mentioned organizational identification, where employees report a perceived oneness with their organization and the experience of their organization's success and failures as their own (Mael & Ashforth, 1989). Since the commitment to a coworking space is very flexible (most coworking spaces have monthly contracts), the question still remains whether coworkers can develop the same sense of organizational identification with the coworking space as employees can with their organizations. Research in traditional work settings has shown that people with high organizational identification also perceive their colleagues more positively, which, in return, helps to be more collaborative and supportive towards each other (Haslam, 2004). If the same behavior can be reported of coworkers in coworking spaces, will be assessed.

### 1.4. Social Support

The popularity of coworking spaces is not only the result of creative office designs. People working in those spaces value the possibility for interaction with other coworkers and view the community aspect as a major benefit coworking spaces have over home offices (Pohler, 2012). In fact, many coworkers define coworking as the interactions they have with other coworkers and the partnerships and trust that develop from these interactions. As a proprietor of a coworking space in Texas pointed out, if a coworking space had a no-talking policy then it would not be coworking (Spinuzzi, 2012). Thus, social interaction is a major part of coworking. Social interaction is defined as the process by which people act and react to those around them (Giddens, 2006). This includes the greeting of a coworker in the morning, as well as a casual chat over coffee in the afternoon. The term is very broad, hence, it encompasses several incidents, positive as well as negative ones.

As mentioned above, there is still little known about the exact forms social interaction can take in coworking spaces and working in such a space is not a guarantee for having beneficial social interactions. For many companies, collaboration is a premise for executing one's work. Support among colleagues in a company increases when their jobs are interdependent (House, 1981). There are weekly team meetings and many projects that need to be worked on as a team. The aligned working hours and the closed office settings are forcing social encounters and fostering exchange among colleagues. However, this does not apply to coworkers. Due to their

spatial and temporal flexibility, it is their choice, whether they decide to work during usual office hours and choose a spot in the coworking space, which is shared by others. They can enter and leave the coworking space without interacting with almost anybody.

Hence, social interaction cannot be enforced in coworking spaces, but rather needs to happen naturally and be part of the process called "*coworking*". Clay Spinuzzi (2012) spent almost two years studying several coworking spaces in the United States and found that coworkers interacted to socialize and build casual relationships. Others sought feedback and looked at coworkers as learning partners. The question still remained unanswered, whether social interaction can, in fact, turn into social support or whether the coworking crowd is too heterogeneous in their knowledge and business backgrounds to be able to support each other.

Providing or receiving social support is a certain form of social interaction. It is defined as an exchange of resources and ought to be beneficial for the recipient or at least intended to be beneficial for them by the donor (Schwarzer & Knoll, 2017; House, Umberson, & Landis, 1988; Shinn, Lehmann & Wong, 1984). Social support is an interactive process and involves at least two people. Furthermore, it underlies the concept of reciprocity, whereby giving social support is positively associated with receiving it (Bowling, Beehr, & Swader, 2005; Schwarzer & Leppin, 1991). Since coworkers are not dependent on each other, they might doubt that the support they provide will ever be reciprocated. This raises the question, whether the interaction between coworkers ever takes the form of social support. The case is very different with colleagues working in the same company. The 6$^{th}$ European Working Conditions Survey (EWCS) conducted in 2010 found that 72% of workers in the EU28 reported feeling supported and helped by their colleagues always or at least most of the time.[6] As social support can provide health benefits and act as a stress buffer (House et al., 1988), having a support network within one's working environment can be very beneficial for the individual. Furthermore, social support among colleagues is shown to negatively and significantly relate to workload (Bowling, Alarcon, Bragg, & Hartman, 2015). This stimulates the positive effect of people being aware that they are not alone to cope with their job demands and that they have others to express their feelings to. Additionally, when the job load is very high or demanding, social support can contribute

[6] https://www.eurofound.europa.eu/publications/report/2016/working-conditions/sixth-european-working-conditions-survey-overview-report

to faster task accomplishment, since colleagues are asked for help and advice (Luchman & Gonzales-Morales, 2013).

Social support is not only beneficial for the individual, but it can also influence a company's success. As known from research on startups, one of the most important factors for a venture's success is the quality of social interaction within an entrepreneurial team (Lechler, 2001). If they manage to establish a support structure within the team, they are several times more likely to succeed than teams without it (Lechler, 2001). This might be true for fully engaged employees, however, as the 6th EWCS also shows, there is a difference between being a full-time and a part-time employee. People only working in an organization part-time reported more often than full-time workers, that they never or rarely receive social support from their colleagues. One explanation for that could be the reduced form of social interaction they experience. This might lead to fewer acquaintances and thereby less people to ask for support. If employees do not spend enough time in the office, they might not be able to create a support network they can turn to for help. However, as pointed out by Shinn, Lehmann and Wong (1984) the measurement of social support should not only take the frequency of interaction into account, but rather focus on the quality of the encounter or the exchange of resources. Another explanation can be found when linking social support to social identity. Research shows that there is a positive correlation between received social support and social identity (Haslam, 2004), suggesting that a strong identification with a work or friends group leads to the perception of having received more social support. People working in an organization part-time might not have the same level of identification with the organization and, therefore, perceive to have received less social support from colleagues.

Even though current research on coworking spaces has strengthened the assumption that social interaction is part of coworking (e.g., Spinuzzi, 2012; Pohler, 2012), very little is known about the exact forms of social interaction and social support structures within the community. Furthermore, factors influencing social interaction behavior still need to be identified and studied. Are people more likely to engage in social interactions when they feel connected to the coworking space? Do coworkers show similar social support behavior as colleagues in traditional work settings do? Even though coworkers do not usually work on the same projects or towards the same goals, they might be aligned in one aspect – defining themselves as part of the global coworking community. Drawing on the previous mentioned Social Identity Theory,

members of a group act in favor and in support of other members in that group (Ashforth & Mael, 1989). Thus, suggesting that coworkers who identify as being part of the global coworking community and/or part of their specific coworking space want to foster social support behavior within their group.

## 2. Research Model and Hypotheses

Since the concept of coworking is still a fairly new one, quantitative scientific research is rather limited. This thesis aims to contribute to understanding the concept of coworking and the reasons people choose to work in a coworking space. More importantly, the nature of social interactions taking place in coworking spaces will be assessed. Building on existing research, the following research questions can be derived:

- What are forms of social interaction in coworking spaces?
- Can social interaction among coworkers turn into social support?
- Does identification with the coworking space and community* positively relate to social interaction with coworkers?
- How do the moderator variables *time pressure*, *tenure* and *received social support from coworkers* influence that relationship?

**Coworking spaces are unique in their structure, as they can be referred to as a "space" and as a "community". To my knowledge, there has not been research done separating these two factors and analyzing them independently – coworking spaces as physical spaces and as virtual communities. Hence, this research will do this separation and test each hypothesis for the construct "space" and the construct "community" separately, assessing whether they can be understood as two separate constructs.*

While traditional office settings have a very structured form of interaction, like the weekly team meetings, the shared lunch in the cafeteria and the yearly Christmas parties, this thesis will examine these interactions in a rather unstructured environment – the coworking space. Since there is no set agenda coworkers have to follow and they can come and leave as they choose, the study aims to identify the minimal form of social interaction coworkers engage in. Even though Clay Spinuzzi (2012) reported on different forms of social interaction, he did not answer the question whether coworking

entailed a minimum of engagement and if so, what that would look like. There is the possibility that a person chooses not to interact with anybody and views the coworking space as office infrastructure but nothing more. However, since coworking spaces claim to be a solution to the problem of professional isolation some people experience when working from home (Johns & Gratton, 2013), it can be expected that a major reason for renting a table in a coworking space is the wish for social interaction. Hence, not interacting with anybody else, is very unlikely. This leads to the first proposition:

*Proposition 1: Coworking entails some sort of social interaction.*

Once the occurrence of social interaction is assessed, the study will further examine whether social interaction can, in fact, turn into social support. Social support can be described as an exchange of resources between at least two parties with the intention to help and can be clustered into three aspects: *direct support* (instrumental support, exchange of information), *affective support* (admiration), and confirmation (House et al., 1988). This study will focus on assessing social support as direct work-related support that individuals give or receive. In order to better understand this relationship, qualitative methods will be applied to analyze the nature of the interactions in an explorative manner. Based on previous research on social support among colleagues (e.g., Baruch-Feldman, Brondolo, Ben-Dayan, & Schwartz, 2002) and in recent years in coworking spaces (e.g., Spinuzzi, 2012; Gerdenitsch et al., 2016), social support is expected to be found. However, as independent professionals have different needs in their work structure, social support might take different forms than in traditional workplace settings. The thesis aims to provide a better insight into the forms of social interaction and how it can turn into social support.

*Proposition 2: Casual forms of social interaction among coworkers can turn into social support.*

Once the foundation for understanding the different forms and frequency of social interaction in coworking spaces is laid, the theory on organizational identification will be apply to coworking spaces. The cohort of coworkers will be examined in regards to whether or not they identify with their coworking space in a similar fashion as employees do with their respective organizations, thus, are more likely to interact with

their fellow coworkers. Studies show that organizational identification can have an effect on employees' behaviors, as they demonstrate a stronger commitment to goals (McGregor, 1967) and are more likely to interact with each other (Patchen, 1970). This paper will evaluate if the same phenomenon can be found among coworkers. Based on research in organizations, the following hypotheses can be formulated:

*H1a: Identification of coworkers with their coworking space leads to an increase in social interaction.*
*H1b: Identification of coworkers with their coworking community leads to an increase in social interaction.*

Additionally, there are several external factors that can influence how people interact with each other. Even if they feel connected to the coworking community, they might be withdrawing from social activities, because of a stressful project or an upcoming deadline. The factor *time pressure* can play an important role as to what extent coworkers interact. Time pressure was not only found to be an essential stressor for freelancers (Vanselow, 2003), it is also viewed as a work stressor for many other occupations (Bakker & Demerouti, 2007). In fact, research has shown that being pressed for time can have different effects, depending on whether organizational identification is high or low (e.g., Schaubroeck & Jones, 2000; Haslam, 2004). When job demands such as time pressure and workload are high, social interaction in form of social support can play a crucial role (Alarcon, 2011). Whether this relationship can be found in coworking spaces has not yet been investigated. However, in line with existing evidence from other work contexts, the following hypotheses can be formulated:

*H2a: Identification with the coworking space leads to higher social interaction, especially when time pressure is high.*
*H2b: Identification with the coworking community leads to higher social interaction, especially when time pressure is high.*

Another factor to be considered moderating this relationship is *tenure*. There is sufficient research confirming the direct impact tenure has on organizational identification (Hall et al., 1970; Mael & Ashforth, 1992; Dutton, Duckerich & Harquail,

1994). Furthermore, studies in traditional work settings have shown that tenure has a positive effect on social interaction (e.g. Maden, 2014). Since coworking spaces have rather short membership engagements and most coworking spaces have only opened recently (only short tenure possible), the question that this study will answer is, if tenure can have a moderating effect on organizational identification and social interaction. Building on the previous hypotheses:

*H3a: Identification with the coworking space leads to higher social interaction, especially when tenure is high.*
*H3b: Identification with the coworking community leads to higher social interaction, especially when tenure is high.*

The third moderator variable to be considered is *received social support from coworkers.* As known from literature, social support can have main and moderating effects in the working context (Rhoades & Eisenberger, 2002). Furthermore, social support underlies the concept of reciprocity, whereby giving social support is positively associated with receiving it (Bowling, Beehr, & Swader, 2005; Schwarzer & Leppin, 1991). This would entail that depending on how much coworkers identify with their coworking space, if they were to receive social support from a fellow coworker and thereby engage in a form of social interaction, their overall engagement with fellow coworkers would grow. Thus, the following hypotheses can be formulated:

*H4a: Identification with the coworking space leads to higher social interaction, especially when received social support from coworkers is high.*
*H4b: Identification with the coworking community leads to higher social interaction, especially when received social support from coworkers is high.*

Note, this effect is not expected to occur when social support is given by (other) friends, since the interaction is taking place outside of the coworking context and is not expected to moderate the relationship between identification with the coworking space or the coworking community.

To conclude, this thesis aims to contribute to the still limited research on coworking spaces and, hopefully, reveal more information on the exact forms of social

interaction taking place. In reference to previous literature on organizational identification and social support in organizations, the hypotheses for the present study were formulated, based on people working in a coworking space as a target group. Table 1 serves as an overview. Additionally, based on the research questions and the formulated hypotheses a research model was designed and illustrated below (see figure 1).

**Table 1**
*Propositions and hypotheses tested and analyzed in the present study*

| | |
|---|---|
| P1: | *Coworking entails some sort of social interaction.* |
| P2: | *Casual forms of social interaction among coworkers can turn into social support*. |
| H1a | *Identification of coworkers with their coworking space leads to an increase in social interaction.* |
| H1b | *Identification of coworkers with their coworking community leads to an increase in social interaction.* |
| H2a | *Identification with the coworking space leads to higher social interaction, especially when time pressure is high.* |
| H2b | *Identification with the coworking community leads to higher social interaction, especially when time pressure is high.* |
| H3a | *Identification with the coworking space leads to higher social interaction, especially when tenure is high.* |
| H3b | *Identification with the coworking community leads to higher social interaction, especially when tenure is high.* |
| H4a | *Identification with the coworking space leads to higher social interaction, especially when received social support from coworkers is high.* |
| H4b | *Identification with the coworking community leads to higher social interaction, especially when received social support from coworkers is high.* |

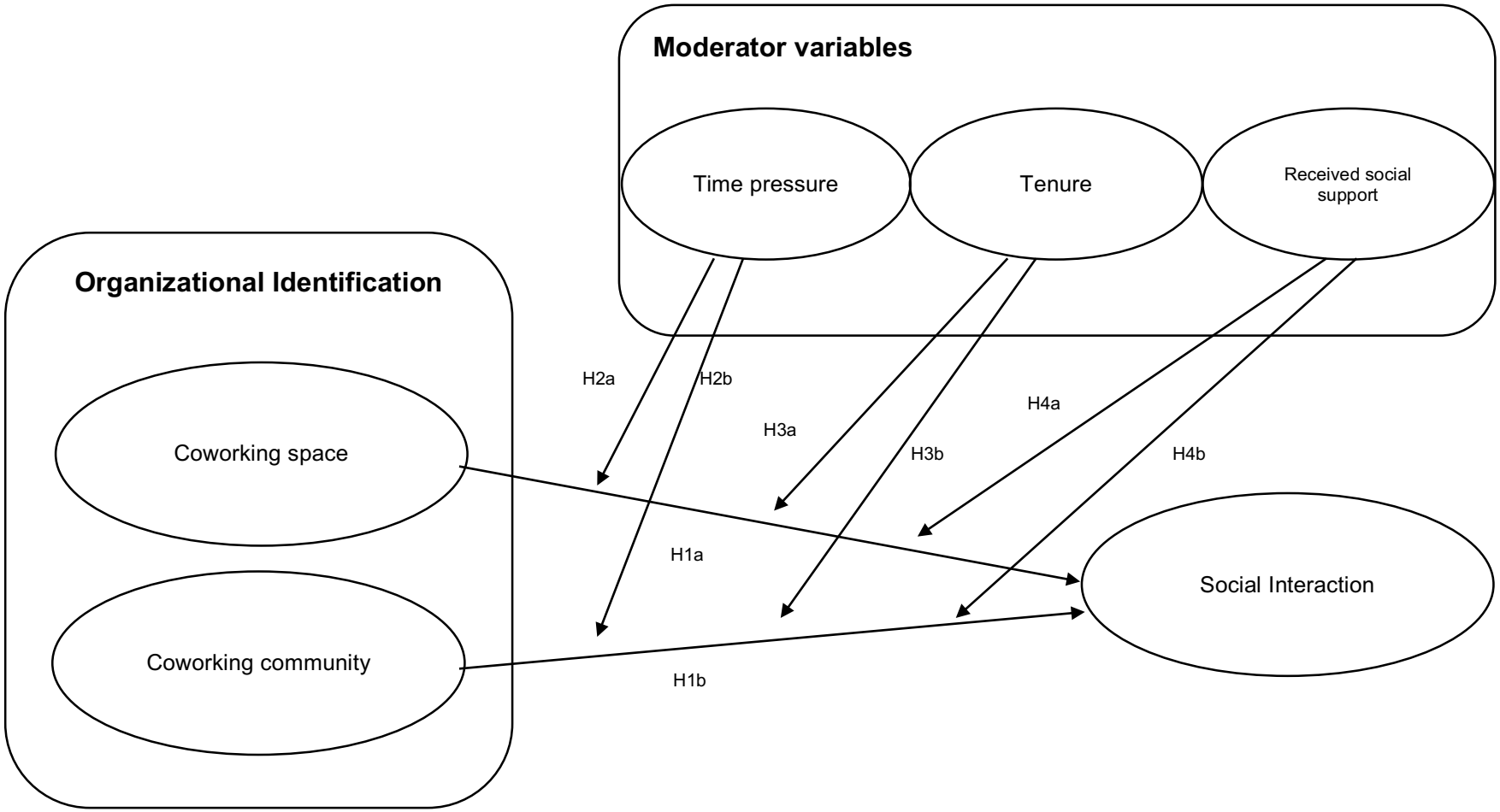


***Figure 1.*** Research model describing the hypothesized relations between organizational identification with the space and community and social interaction between coworkers.

# 3. Method

The present study is designed as a cross-sectional study, however, it is part of a bigger longitudinal study on coworking spaces. The following section describes the sample, material, method and data analysis of the present study in more detail.

## 3.1. Sample and Procedure

The sample for this study was drawn from the population of coworkers, specifically, coworkers who work in an Austrian coworking space. To keep the sample as homogenous as possible, the decision was made to only focus on coworkers in one country. In order to achieve a high participation rate, several recruiting channels were used. First, the survey was made available online and uploaded to unipark[7] – an online survey platform. The link was posted in several social media groups related to the topic of coworking and on coworking space intranets. Additionally, emails were sent out to managers of coworking spaces and several coworking communities with the request to distribute it among their members. Second, to get a higher retention rate and to give every individual in the chosen population an equal chance to be included in the sample (Kadam & Bhalerao, 2010), all the Viennese coworking spaces which allowed their coworkers to be surveyed were visited personally. The survey was also available in a paper-pencil form, which made it easier to approach each coworker individually. The coworkers who were present in each visited coworking space were politely asked to fill in the survey, which approximately took them 10 minutes to finish. Chocolate was provided as an incentive to fill in the questionnaire. Ultimately, there were 105 completed submissions (91 paper-pencil and 14 online).

The number of valid data was N = 104. One submission needed to be excluded, as more than 20% of the values relevant to the study were missing. All other submissions were included in the study, since they only had items missing at random. Sociodemographic data was provided by all 104 participants, except for the participants' nationality, which was submitted by 102 participants (two missings) and the highest educational level, which was provided by 103 participants (one missing).

The sample consisted of 66 (63.5%) male and 38 (36.5%) female coworkers. The average age of the sample was 32.47 years (ranging from 22 to 53; SD = 6.42). More than half of the sample 60 (57.7%) coworkers were Austrian, 13 (12.5%) were

[7] www.unipark.com

German, 6 (5.8%) coworkers were US citizens and 3 (2.9%) were Romanian nationals. The remaining 20 coworkers (19.2%) were citizens of other European countries. What was shared amongst most of the participants, was a high educational level. Out of all sampled coworkers 83.7% had completed a university degree, 10.6% had graduated from high school, while one person held an apprenticeship diploma and one finished vocational school. Employment status among the sampled coworkers seemed to be a bit more diverse. Almost half of the sample 49 (47.1%) participants reported to be self-employed, another 33 (31.7%) indicated to be full-time and 15 (14.4%) part-time employees, while 25 (24.0%) of the coworkers stated to be freelancers and 11 (10.6%) to be students. It is important to mention that multiple options could be selected for this question, since independent professionals can be in multiple work engagements at once.

Participants were asked to describe the current project(s) they were working on with an open question format. Based upon those answers, categories for the fields of occupation were created and participants were classified accordingly (see Table 2).

**Table 2**
*Classification of occupation*

| Occupation | number of participants | % |
|---|---|---|
| Software & Web Development | 29 | 27,88% |
| Writing, Journalism, Blogging & Language Services | 11 | 10,58% |
| Consultancy & Management | 10 | 9,62% |
| Online marketing/communication, Social Media Marketing & PR | 9 | 8,65% |
| Working for a coworking space | 9 | 8,65% |
| Social Entrepreneurship | 7 | 6,73% |
| Accelerator & Business Development | 5 | 4,81% |
| Science, Research & Medicine | 3 | 2,88% |
| Design, Arts & Architecture | 3 | 2,88% |
| Event management & Gastronomy | 3 | 2,88% |
| Other | 5 | 4,81% |

Over half of the sample worked either in the section of ‘software and web development’ (27.88%), ‘writing, journalism, blogging and language services’ (10.58%), ‘consultancy and management’ (9.62%) or ‘online marketing/communication, social media marketing and PR’ (8.65%). Two groups were strongly connected to the startup field and worked in either ‘social entrepreneurship’

(6.73%) or in ‘accelerator and business development’ (4.81%). The remaining participants were categorized into the occupation fields ‘science, research and medicine’ (2.88%), ‘design, arts and architecture’ (2.88%) and ‘event management and gastronomy’ (2.88%). Another 8.65% indicated to be working for a coworking space or being part of the founding team. The category ‘other’ (4.81%) consisted of for example an individual working as a sales representative or one person who worked as a pastor at an evangelic free church. The answering field was left blank by 10 participants (9.62%).

The coherence in the findings of this study compared to Deskmag’s second annual coworking survey (Foertsch, 2012a) is a good indicator that the sample in this study is, in fact, representative of the coworking population. In Foertsch’s study (2012a) with a sample size of 1532 participants, he found a very similar gender distribution (66% male and 34% female) among coworkers. The factors average age of a coworker and level of education, were similarly conform to this study’s findings, as he sampled the average age of a coworker to be 34 years and 75% of his participants had a university degree (Foertsch, 2012a). Additionally, participants of both surveys alike, named social interaction as the most important reason for choosing to work in a coworking space, 79.6% in this study compared to 84% in the second annual coworking survey (Foertsch, 2012a). While coworkers in this study named productivity as the second most important factor to work in a coworking space, participants of the global survey were looking for flexible working hours (Foertsch, 2012a). Both mentioned infrastructure to be relevant, but rated interaction and community aspects to be of higher importance (Foertsch, 2012a).

### 3.2. Material

As mentioned above, the material used in this coworking study was a survey in a paper and pencil format and, additionally, made available online. The questionnaire was written in English to cater the international group of coworkers and pre-tested on a group of eight people including native speakers to advise on correct grammar and spelling. Two were working in a coworking space and have been recruited from a personal network. They were only asked to provide input, but were not surveyed in the study afterwards. The questionnaire was labeled with a 10-minute completion time, which turned out to be 13 minutes on average.

The questionnaire consisted of two major parts with a closed and an open answering format. The first half included 22 questions around the participants' respective coworking spaces in order to get a better insight into their working habits, understanding why (reasons for choosing to work in a coworking space) and how (time spent in a coworking space) they are using coworking spaces. Afterwards 44 questions needed to be answered on a rating scale. They referred to the different psychological constructs around organizational identification and social interaction in coworking spaces. Most items were taken from survey instruments and, additionally, self-generated constructs for social interaction were included. The second part had an open answering format, where participants were asked to describe three different social interaction situations ranging from short and casual encounters to long and intensive exchanges. The last page asked for the needed sociodemographic data including age, gender, nationality, highest educational level completed and their current employment status (see Appendix A for the entire questionnaire).

*Identification with the Coworking Space* and *with the Coworking Community* were assessed with a slightly modified 6-item scale from Mael and Ashforth (1992). The word *organization* was replaced with *coworking space* for the first construct and *coworking community* for the second. An exemplary item was "When I talk about the coworking space, I usually say 'we' rather than 'they'." Participants had to indicate their agreement on a 5-point Likert scale, ranging from 1 (very weak) to 5 (very strong). For reliability analysis, Cronbach's alpha was calculated to assess the internal consistency of both subscales for positive affect, which consisted of six questions each (Blanz, 2015). The internal consistency of both questionnaires was satisfying, with Cronbach's $\alpha$ .896 for identification with the coworking space and Cronbach's $\alpha$ .915 for identification with the coworking community (Blanz, 2015). In both scales, Cronbach's alpha was the highest when all items were included, therefore, all items were included in the study.

*Social interaction* was measured with three self-developed items, with a satisfying Cronbach's $\alpha$ for internal consistency of .864 (Blanz, 2015). One exemplary item was "How often do you engage in social interactions with coworkers?" The participants could answer on a 5-point Likert scale, the options ranging from 1 (very rarely/never) to 5 (very often).

*Time pressure* as one of the moderator variables was measured with a subscale

from the ISTA (Semmer et al., 1999). Cronbach's $\alpha$ for the subscale's internal consistency was reported to be .869 (Blanz, 2015). A 4-item subscale, translated into English, was used with the following item as an example: "How often are you pressed for time?" Again, the answer had to be provided on a 5-point Likert scale, ranging from 1 (very rarely/never) to 5 (very often/daily).

*Social support* was measured in two different ways. One approach was an open answer format based on the critical incidence technique (Flanagan, 1954; Butterfield, Borgen, Amundson & Maglio, 2005) to obtain a better insight into the social interactions coworkers have with each other. The questionnaire contained three boxes with a short explanation each. Participants were asked to think of three social interactions they had with fellow coworkers in the past and write three to five sentences about them. The interactions ranged from small/casual interactions, medium interactions to long/intense interactions. The questionnaire had the following instructions:

> *"Please think of 3 situations in your coworking space when you interacted with coworkers, one situation with a short/casual social interaction, one with a medium length, and one situation with a long/intensive social interaction. Please briefly describe the situations in the following paragraphs (~5 sentences each)."*

The open answer format was used to generate more qualitative data on the nature of social interactions in coworking spaces.

In order to assess *received social support* the modified and translated version of the "Skala zur Sozialen Unterstützung am Arbeitsplatz" (SzSU) by Frese (1989) was used. Again, the instrument had to be adapted to the coworking context and the original words of *supervisors* and *colleagues* were exchanged with *fellow coworkers* and *(other) friends*. The questions were asked twice and the participants had to first refer to their fellow coworkers and then to (other) friends when answering the questions. The information provided on social support received from friends was used as a reference. The internal consistency of both questionnaires was satisfying, with Cronbach's $\alpha$ .841 for social support received from fellow coworkers and Cronbach's $\alpha$ .739 for social support received from (other) friends (Blanz, 2015). An exemplary item was "How much do these persons support you so that your work is easier?" Participants could answer on a 4-point scale ranging from 1 (not at all) to 4 (completely).

Table 3 provides an overview of all instruments used, the item number, their respective reference and relevant statistical parameters. All scales proved to be reliable instruments, as their Cronbach's $\alpha$ was above .70, which is considered to be the lower limit for an acceptable reliability (Field, 2009).

**Table 3**
*Instruments used in the questionnaire*

| Dimension | Reference | Typ | C. $\alpha$ | MW | SD |
|---|---|---|---|---|---|
| Identification with Coworking Space | Organizational Identification Scale by Mael & Ashforth (1992) | Scale (6 Items) | .896 | 2.82 | 1.76 |
| Identification with Coworking Community | | | .915 | 2.85 | 1.61 |
| Social Interaction | Self developed items | 3 items | .864 | 3.30 | 1.05 |
| Time pressure | ISTA by Semmer et al. (1999) | Subscale (4 items) | .869 | 3.18 | 1.18 |
| Social support Coworker | Modified SzSU by Frese(1989) | Scale (5 items) | .841 | 2.71 | .550 |
| Social support Friend | | | .739 | 3.24 | .507 |

# 4. Results

To begin and to provide a better insight into the target group of coworkers, the results on their working habits are portrayed. In a second step, the qualitative analysis is showcased and the descriptive statistics are explained. Lastly, the hypotheses are tested and the results presented.

## 4.1. Descriptive Analysis

### 4.1.1. Coworkers' Working Habits

As mentioned above, the survey included questions on the coworkers' habits, when working in a coworking space and asked for reasons they chose to work there. The collected data provides more insight into the sample, but also gives information on the still poorly studied population of coworkers.

In average the survey participants were working in their respective coworking space for 16.78 months (ranging from 0 to 61 months; SD = 15.07). Almost two thirds of the sample (66 coworkers = 63.5%) indicated to use the coworking space full-time, 35 people (33.7%) only needed it for "some hours a day" and the remaining ones recorded a rather sporadic use on the weekends or at night. 99 of the participants (97.1%) indicated that their coworking space had a community aspect.

The main reason to work in a coworking space was social interaction with fellow coworkers, 79.6% rated it as important or very important. That was followed by productivity with 72.5% and the provision of infrastructure with 66%. Surprisingly, collaboration was not named as one of the top reasons to work in coworking space and only achieved 53.4%. However, these findings are coherent with previous studies (e.g., Spinuzzi, 2012). Start-up programs and initiatives were indicated as being least important with a score of 37.9%. An overview on the descriptive statistics on coworkers including the employment status, frequency of coworking space use and used workplaces is presented in Appendix B.

### 4.1.2. Social Interaction among Coworkers

Before analyzing the factors that influence social interaction in coworking spaces, the proposition of social interaction taking place in coworking spaces needs to be examined. Does working in a coworking space entail social interaction? Table 4 shows a list of social interaction behavior that the participants had to rate, ranging from behaviors they "very rarely/never" (1) engage in to behaviors they demonstrate "very

often" (5). Greeting a coworker is a form of social interaction most coworkers engage in on a very frequent basis with a mean of 4.59 and over 90% of the participants stating that they greet their fellow coworkers often to very often. Furthermore, many coworkers seem to often have a short conversation (m= 3.93) or lunch (m= 3.26) with their fellow coworkers. Social interactions that require more time, like supporting a coworker (m= 2.70) or working on a joined project (m= 2.50), had a slightly lower average.

**Table 4**
*Social interaction*

| Social interaction | Mean | SD |
|---|---|---|
| Greeting a coworker. | 4.59 | .77 |
| Having a short conversation. | 3.93 | .95 |
| Having lunch together with a coworker. | 3.26 | 1.16 |
| Sitting down and having coffee/tea with a coworker. | 3.01 | .92 |
| Sitting down and having a longer conversation with a coworker. | 2.79 | .98 |
| Supporting a coworker with his/her job inquiry. | 2.70 | 1.02 |
| Getting support from a coworker for own job inquiry. | 2.59 | 1.11 |
| Working on a project together with a coworker (e.g. brainstorming, event organization) | 2.49 | 1.24 |
| Hanging out with a coworker. (e.g. playing table tennis, computer games) | 2.21 | 1.08 |

## 4.2. Qualitative Data Analysis and Results

In order to analyze the qualitative data gathered on social support, a summarizing qualitative content analysis (Mayring, 2008) was used to cluster the situational descriptions in a step-wise approach. Firstly, the original statements were reformulated into a content-related linguistic form. The second step entailed that three raters discussed the statements and developed a set of categories to cluster them into. To control for bias, an independent rater categorized the statements deductively. The reader is advised to note that the data collection and evaluation was a joined effort and the results of this qualitative content analysis have already been published by Gerdenitsch et al. (2016) and will be presented here in reference to their paper.

In total, there were 178 descriptions of social interactions in coworking spaces collected – 65 short, 58 medium and 55 long interactions. The above described content analysis resulted in four categories to cluster the situational descriptions. Two

categories represent the aspects of direct social support, which are instrumental support and exchange of information. The other two include situations of informal social interaction and collaboration within projects. To ensure inter-rater agreement Cohen's κ was calculated. The result was a good degree of agreement ($\kappa = 0.744$, $p < 0.0005$) based on the suggested threshold of 0.7 by Landis and Koch (1977). More precisely, raters agreed with regard to the category "informal social interactions" in 74 (out of 85), "exchange of information" in 33 (out of 41), "instrumental support" in 24 (out of 30), and "collaboration" in 16 (out of 22) situations (Gerdenitsch et al., 2016). The categories are described below and additional exemplary items for situational descriptions are shown in table 5.

*Informal social interactions* (85 statements). For basic interactions, coworkers stated encounters when they greet other coworkers and have short conversations over a cigarette, coffee or lunch breaks. Two coworkers described the following situations: "After coming to the office in the morning, I usually get some coffee. Other people are frequently passing by on their way in, so we typically have a short chit-chat" (#11, 31 years, male); "I had a short conversation with a coworker on a terrace. We introduced ourselves and did a little small talk about the weather" (#7, 30 years, male) These situations can also get more meaningful when coworkers have personal conversations about life while for instance going for drinks after work or doing sports together. One participant described the following situation. "We were working late, and I didn't care to go home. I asked a colleague to go for a beer. We ended up talking for several hours and covered personal, work, and emotional topics" (#20, 25 years, male).

*Exchange of information* (41 statements). Compared to the category of informal social interactions, the focus of this category are social interactions that are entirely work-related. The interactions range from conversations coworkers have around work-related topics to their participation in official networking activities provided by their coworking space. "I went to the AngularJS meetup. Listened to a couple of interesting lectures, met some interesting people. It was a good opportunity to meet people with similar interests and learn a few things" (#7, 30 years, male). Other examples include joined lunch or coffee breaks, during which coworkers have the chance to get to know the projects other coworkers are working on. "When people have lunch, we often sit and eat together while talking about projects, tech-related things (with other engineers)

or whatever comes to mind. Most people know each other well enough that having lunch together is not awkward" (#11, 31 years, male). In some cases, the conversations turned from updates on current projects to elaborating the potential of working together or planning common activities (workshops): "Talking with a coworker about actual technical developments in media. Discussing about effects on our market as problems to solve; Talking about a cooperation within a client project with mutual coworkers" (#2, […]).

*Instrumental support* (30 statements). This category symbolizes direct social support and includes situations in which coworkers report helping each other in a concrete task, incorporating behavior of asking for or providing help in terms of feedback, brainstorming and coaching. The following statements are examples of asking for or providing feedback: "A coworker asked me for my opinion on some websites he was designing" (#36, 35 years, male); "I asked a coworker about a technical problem. He/she took 10 min of time to listen and propose a solution" (#49, 53 years, male); "I was having a lunch session with a coworker where I gave feedback on project idea" (#17, 30 years, male). The situations of direct social support could also take the form of joined brainstorming sessions or mutual coaching meetings. Three coworkers described the following situations: "I had a 1-h chat over coffee with a member of the community about his next steps, as he's at the moment standing [at] the crossroads of opportunities (changing career, discovering where he wants to go); I also shared an idea with him about starting" (#62, 25 years, male); "Business modeling support for a coworker's start-up company, strategy to apply for public grant, strategy for talking to external investors/business angels, contact with and meetings with business angels" (#25, 43 years, male); "Meeting with a coworker every 14 days for mutual coaching and exchange, for the past 2 years" (#51, 45 years, female).

*Collaboration* (22 statements). In contrast to direct social support situations, coworkers also engage in collaborations with one another, both paid and unpaid. They reported working on an idea together or asking others to take over some tasks. Two coworkers described recruiting someone in the coworking space to do some paid work: "A professional article was needed for a huge online magazine and a PR/marketing expert coworker helped us to write it" (#63, 33 years, female); "Asked some coworkers to do some paid work for me: making photos, develop a concept for corporate ID" (#49, [...]).

**Table 5**
*Categorized exemplary items for situational descriptions*

| | Example 1 | Example 2 | Example 3 |
|---|---|---|---|
| **Informal social interactions** | „Short talk by dishwasher with new coworker about what they are doing and just saying hello.“ | „Was grabbing a coffee, met a coworker. Just briefly introduced ourselves. Waited for his coffee to finish (coffee machine -> cup) as well. Said goodbye.“ | „Going out for drinks & connecting on all kinds of topics“ |
| **Exchange of information** | „When people have lunch, we often sit and eat together while talking about projects, tech-related things or whatever comes to mind.“ | „I went to the AngularJS meetup. Listened to a couple of interesting lectures, met some interesting people. It was a good opportunity to meet people with similar interests and learn a few things.“ | „Social Impact Award Kick-off Event. Talked with a lot of the other coworkers and learned more about their projects.“ |
| **Instrumental social support** | „A coworker asked me for my opinion on some websites he was designing.“ | „I asked a coworker about a technical problem. He/she took 10 minutes of time to listen and propose a solution.“ | „I was having a lunch session with a coworker where I gave feedback on a project idea“ |
| **Collaboration** | „A professional article was needed for a huge online magazine and a PR/marketing expert coworker helped us to write it.“ | „One guy that we met here and hung out with frequently and described our project to, recently joined us during a product merge, so we‘re now working together, participating in design sessions,.“ | „Asked some coworkers to do some paid work for me: making photos, develop a concept for corporate ID.“ |

## 4.3. Quantitative Data Analysis and Results

### 4.3.1. Intercorrelation Matrix

A correlation matrix between all the relevant study variables for the hypotheses as well as for the control variables age and gender was conducted and their pearson product-moment coefficients are portrayed below (see table 6).

Identification with the coworking space was significantly related to all of the other scales except for social support received from a friend and to age. Identification with the coworking community shows similar correlation results. As expected the two identification scales correlated significantly with each other ($r = .825$, $p < .01$). The second highest positive relationship was found between identification with the coworking community and social interaction ($r = .491$, $p < .01$), as well as identification with the coworking space and social interaction ($r = .474$, $p < .01$). The two identification

variables were also highly correlated with time pressure ($r = .399$; $r = .401$, $p < .01$), tenure ($r = .363$; $r = .276$, $p < .01$) and had a significant negative correlation with gender ($r = -0.406$; $r = -0.331$, $p < .01$). Therefore, gender was also included as a control variable in the regression analyses. As expected, there was a strong, significant relationship between social interaction and received social support from coworkers ($r = .330$, $p < .01$) and no significant correlation with received social support from friends ($r = .124$, $p = .236$). Furthermore, social interaction had a negative, significant correlation with gender ($r = -0.313$, $p < .01$) and was correlated significantly with time pressure ($r = .307$, $p < .01$).

**Table 6**
*Descriptive statistics and Pearson product-moment correlation coefficients*

| | Variables | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | OI Space | 2.84 | 1.08 | | | | | | | | |
| 2 | OI Community | 2.85 | 1.09 | .825** | | | | | | | |
| 3 | Social Interaction | 3.28 | .91 | .474** | .491** | | | | | | |
| 4 | Age | 32.47 | 6.42 | -0.009 | .079 | -0.048 | | | | | |
| 5 | Gender | 1.63 | .48 | -0.406** | -0.331** | -0.313** | .075 | | | | |
| 6 | Tenure | 16.78 | 15.07 | .363** | .276** | .182 | .143 | -0.044 | | | |
| 7 | Time Pressure | 3.17 | .92 | .399** | .401** | .307** | -0.064 | -0.455** | .124 | | |
| 8 | Social Support CW | 2.70 | .61 | .294** | .288** | .330** | .128 | -0,206* | .084 | .062 | |
| 9 | Social Support F | 3.23 | .52 | .176 | .152 | .124 | .024 | -0.122 | -0.133 | .125 | .201 |

*Note.* OI = organizational identification; CW = coworkers; F = friends; *p < .05, **p < .01.

### 4.3.2. Hypotheses Testing

The main effects were tested with a hierarchical regression analyses with the forced entry method. Before the actual analysis, several assumptions were evaluated to guarantee accurate interpretation. First, a graphical analysis from the residual plots was made to show that the assumptions of linearity, normal distribution of residuals and homoscedasticity were fulfilled. Second, the regression analysis was tested for multicollinearity to avoid the possibility that the variables of interest are highly correlated. The variance inflation factor (VIF) with the critical value of 10 (Bowerman & O'Connell, 1990; Myers, 1990) and tolerance with the critical factor of 0.2 (Menard, 1995) were used. The possibility of multicollinearity was discarded as none of the VIF values exceeded the critical value of 10 and none of the tolerance values demonstrated a critical value of below 0.2. Third, the Durbin-Watson test was evaluated to test the assumptions of independent errors. The analysis showed a value of 1.81 which is close enough to the optimum value of 2 (Durbin & Watson, 1951) and, hence, satisfactory to start the main effect analysis.

#### 4.3.2.1. Main Effects of Organizational Identification on Social Interaction

The first hypothesis suggested that the identification of coworkers with their coworking space as well as their community has a positive, significant effect on their social interaction. The control variables gender and age were included in the first step of the hierarchical regression model. As expected from the correlation matrix, gender had a strong, negative correlation ($\beta = -0.566$, $p < .001$) with social interaction, which contributed significantly to the model, $R^2 = .095$, $F = 4.861$, $p = .01$. In a second step, identification with the coworking space and community were added into the regression analysis and, as expected, they explained a significant proportion of the criterion variance, $\Delta R^2 = .292$, $F = 12.686$, $p < .001$. Identification with the coworking space exerted a significant positive influence on the criterion social interaction ($\beta = .285$, $p = .040$). In contrast, identification with the coworking community ($\beta = .140$, $p = .281$) did not explain a significant proportion of the variance in the regression model. The control variable gender was not significant in the second step of the model. Table 7 summarizes these results.

**Table 7**
*Hierarchical regression analysis for hypothesis 1a/b*

| | *b* | *SE B* | *β* | *p* |
|---|---|---|---|---|
| Step 1 | | | | |
| Constant | 4.380 | .528 | - | p < .001 |
| Age | -0.004 | .013 | -0.029 | .768 |
| Gender | -0.566 | .183 | -0.305 | p < .001 |
| Step 2 | | | | |
| Constant | 2.739 | .578 | - | p < .001 |
| Age | -0.008 | .012 | -0.062 | .491 |
| Gender | -0.216 | .179 | -0.117 | .231 |
| Identification with coworking space | .285 | .137 | .335 | .040 |
| Identification with coworking community | .140 | .129 | .169 | .281 |

*Note.* $R^2$ = .095 for Step 1 (p= .01); $R^2$ = .292 for Step 2 (p < .001)

Hence, hypothesis 1a was supported, as identification with the coworking space lead to significantly higher social interaction. Hypothesis 1b was rejected as identification with the coworking community was no significant predictor of social interaction, when identification with the coworking space was added to the equation. The results of the main effect are visually represented in figure 2.

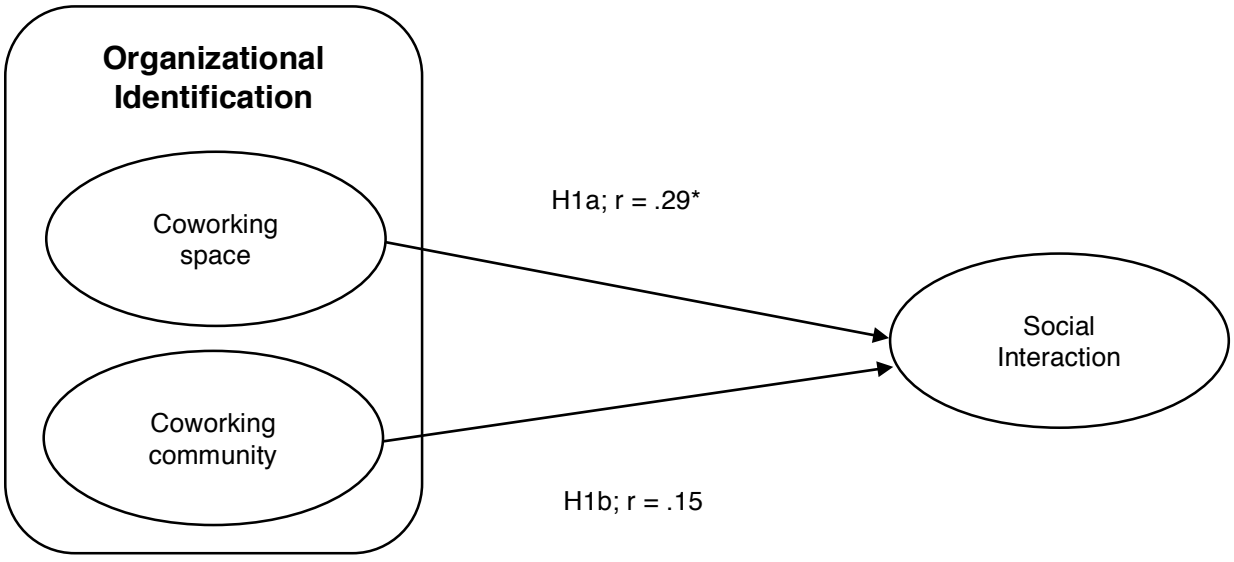


***Figure 2.*** Results: Main Effect.

#### 4.3.2.2. Moderation effects of time pressure on the relationship between identification with the coworking space as well as coworking community and social interaction (H2)

For the examination of hypotheses 2a and 2b regarding the interaction effects between identification with the coworking space as well as coworking community and social interaction, time pressure was included as a moderation variable. In table 8 the results of the first moderation analysis can be found. As seen, the relationship between identification with the coworking space and social interaction was not significantly moderated by time pressure (β = -0.135, p = .150). Similar results were found for the moderation analysis between identification with the coworking community and social interaction (β = -0.091, p = .256). Therefore, Hypotheses 2a and 2b could not be confirmed.

**Table 8**
*Moderation analysis – linear model of predictor time pressure on social interaction*

| Hypothesis 2a | b | SE B | t | p |
|---|---|---|---|---|
| Constant | 3.338 | .089 | 38.908 | p < .001 |
| Time pressure | .094 | .098 | .955 | .342 |
| Identification cw space | .379 | .082 | 4.602 | p < .001 |
| Time pressure x Identification cw space | -0.135 | .093 | -1.452 | .150 |
| **Hypothesis 2b** | **b** | **SE B** | **t** | **p** |
| Constant | 3.318 | .086 | 38.544 | p < .001 |
| Time pressure | .163 | .099 | 1.654 | .102 |
| Identification cw community | .368 | .081 | 4.534 | p < .001 |
| Time pressure x Identification cw community | -0.091 | .079 | -1.143 | .256 |

*Note.* cw = coworking.

#### 4.3.2.3. Moderation effects of tenure on the relationship between identification with the coworking space as well as coworking community and social interaction (H3)

As a second moderation analysis, tenure was included to moderate the relationship between identification with the coworking space and social interaction. No significant moderation effect can be found in the relationship between identification with the coworking space as well as coworking community and social interaction when moderated by tenure (β = -0.007, p = .178; β = -0.009, p = .080). Hence, the third hypotheses 3a and 3b could not be supported. The results are portrayed in table 9.

**Table 9**
*Moderation analysis – linear model of predictor tenure on social interaction*

| Hypothesis 3a | b | SE B | t | p |
|---|---|---|---|---|
| Constant | 3.346 | .084 | 39.659 | p < .001 |
| Tenure | .004 | .006 | .599 | .550 |
| Identification cw space | .399 | .079 | 5.027 | p < .001 |
| Tenure x Identification cw space | -0.007 | .005 | -1.356 | .178 |
| Hypothesis 3b | b | SE B | t | p |
| Constant | 3.340 | .083 | 40.042 | p < .001 |
| Tenure | .008 | .006 | 1.412 | .161 |
| Identification cw community | .409 | .078 | .247 | p < .001 |
| Tenure x Identification cw community | -0.009 | .005 | -1.772 | .080 |

*Note.* cw = coworking.

#### 4.3.2.4. Moderation effects of received social support from coworkers on the relationship between identification with the coworking space as well as coworking community and social interaction (H4)

The relationship between identification with the coworking space and social interaction was assumed to be moderated by social support received from coworkers (H4a). The significant moderation effects support the hypothesis. As seen in table 10, received social support from coworkers significantly moderated the relationship between identification with the coworking space and social interaction (b = -0.324, p = .012). In contrast, there was no moderation effect on the relationship between identification with the coworking community and social interaction (b = -0.080, p = .537).

**Table 10**
*Moderation analysis – linear model of predictor social support from coworkers on social interaction*

| Hypothesis 4a | b | SE B | t | p |
|---|---|---|---|---|
| Constant | 3.319 | .081 | 41.167 | p < .001 |
| Social support from coworkers | .306 | .150 | 2.045 | .044 |
| Identification cw space | .373 | .080 | 4.683 | p < .001 |
| Social support from coworkers x Identification cw space | -0.324 | .126 | -2.574 | .012 |
| Hypothesis 4b | b | SE B | t | p |
| Constant | 3.279 | .087 | 37.552 | p < .001 |
| Social support from coworkers | .279 | .165 | 1.694 | .094 |
| Identification cw community | .385 | .085 | 4.550 | p < .001 |
| Social support from coworkers x Identification cw community | -0.080 | .129 | -0.620 | .537 |

*Note.* cw = coworking.

The exact nature of the moderation analysis between identification with the coworking space and social interaction when received social support from coworkers is added as a moderator can be seen in figure 3. Interaction of the moderation analysis: under the condition of high received social support from coworkers, the identification with the coworking space had no significant effect on social interaction. However, identification with the coworking space had a significant effect on social interaction when participants received low social support from their fellow coworkers. With low received social support from coworkers, the participants with low identification with the coworking space had significantly lower rates in social interaction than their fellow coworkers who had high identification with the coworking space.

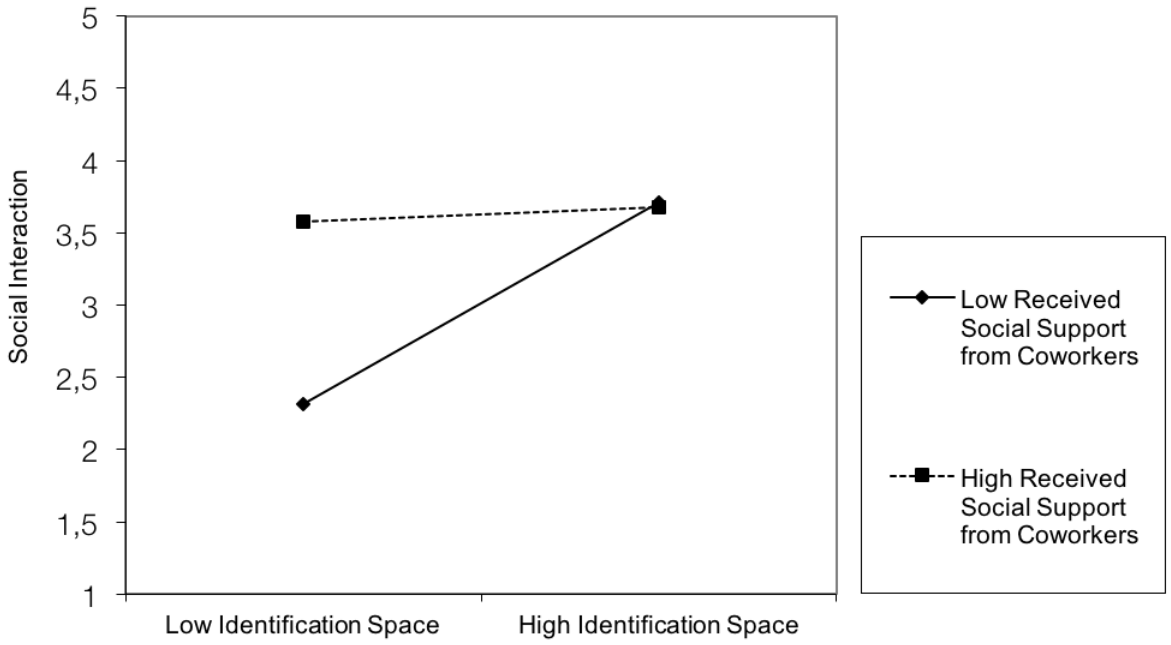


***Figure 3.*** Interaction of the moderation analysis.

To exclude the possibility of the effect occurring based on the concept of reciprocity in general (Bowling, Beehr, & Swader, 2005; Schwarzer & Leppin, 1991), the moderation analysis was also calculated with received social support from (other) friends not coworkers. As seen in table 11, the relations between organizational identification with the coworking space as well as coworking community and social interaction were not significantly moderated by social support received from (other) friends ($\beta = -0.196$, $p = .240$; $\beta = -0.249$, $p = .138$). Hence, the effect can be associated to social support received from coworkers and not reciprocity in general.

**Table 11**
*Moderation analysis – linear model of predictor received social support from (other) friends on social interaction*

| | b | SE B | t | p |
|---|---|---|---|---|
| Constant | 3.299 | .085 | 38.616 | p < .001 |
| Social support from (other) friends | .083 | .167 | .499 | .619 |
| Identification cw space | .369 | .082 | 4.516 | p < .001 |
| Social support from (other) friends x Identification cw space | -0.196 | .165 | -1.184 | .240 |
| | b | SE B | t | p |
| Constant | 3.301 | .086 | 38.437 | p < .001 |
| Social support from (other) friends | .085 | .167 | .509 | .612 |
| Identification cw community | .375 | .080 | 4.665 | p < .001 |
| Social support from (other) friends x Identification cw community | -0.249 | .166 | -1.498 | .138 |

*Note.* cw = coworking.

#### 4.3.2.5. Research model with supported hypotheses

After testing the formulated four hypotheses the original research model was reduced, where only the supported hypotheses were included. Figure 4 shows the reduced research model.

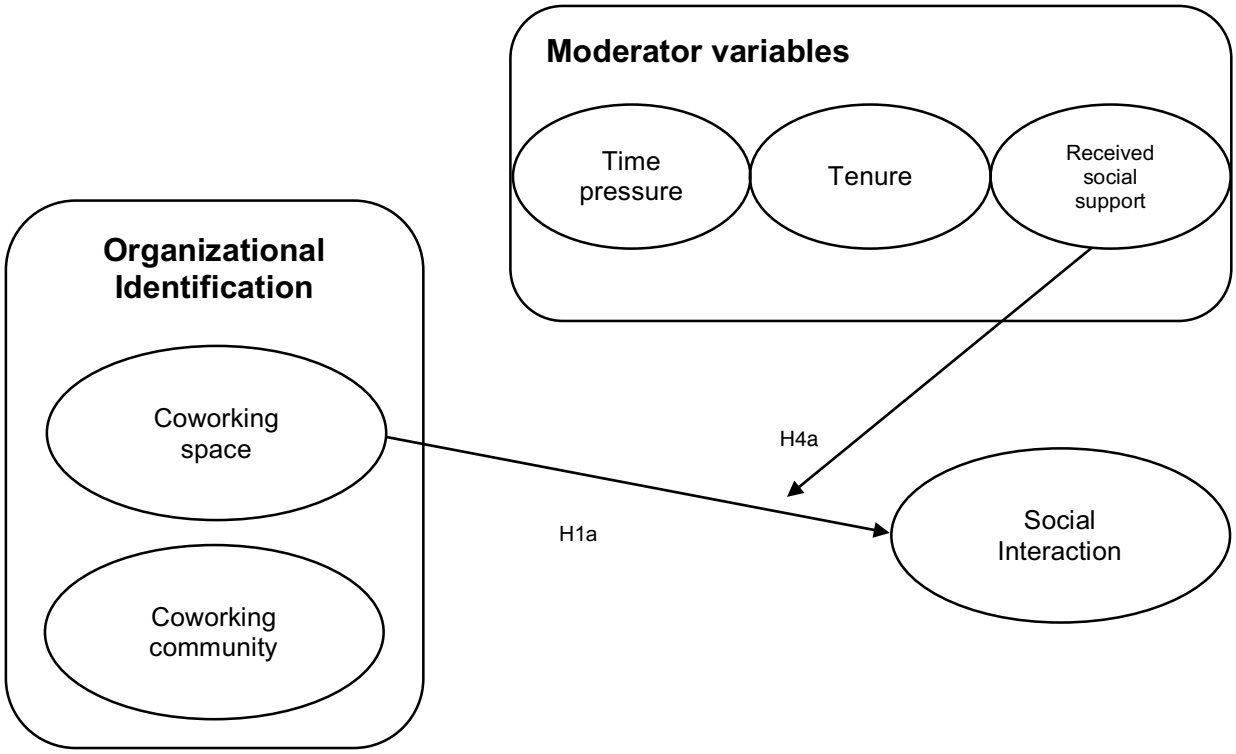


***Figure 4.*** Research model with the supported hypotheses.

As seen, regarding Hypothesis 1, only the main effect of identification with the coworking space on social interaction was significant. Out of the three moderator variables only *received social support from coworkers* had a significant moderating effect on the relationship of identification with the coworking space and social interaction. Therefore, hypothesis 4 could be partially supported. The moderator variables *time pressure* and *tenure* had no significant effect on the relationship, hence, hypotheses 2 and 3 had to be rejected entirely.

### 4.3.3. Explorative research results

This thesis was, to the best of my knowledge, the first quantitative research on coworking that has examined the two constructs of *coworking space* and *coworking community* separately. Since the two constructs were highly correlated, but demonstrated different results in the main regression analysis, an explorative analysis was added to the study. Identification with the coworking community had no significant results in the main effect condition when identification with the coworking space was added, therefore, a mediation analysis was performed. Identification with the coworking space was hypothesized to mediate the relationship between identification with the coworking community and social interaction. The regression coefficient for the mediator *identification with the coworking space* was significant when regressed on the predictor *identification with the coworking community* ($\beta = .801$, $p < .001$), as well as the regression coefficient when the outcome *social interaction* was regressed on the mediator ($\beta = .339$, $p = .011$). The effect of the predictor on the outcome weakened and became non significant ($\beta = .122$, $p = .344$) when the mediator was added to the equation, hence, the direct effect disappeared. Additionally, there was a significant indirect effect of identification with the coworking community on social interaction mediated by identification with the coworking space ($\beta = .272$, BCa CI [.030, .526]). This indicated a full mediation. A Sobel test (Sobel, 1982) was performed to confirm the results by bootstrapping and was found to be significant ($\beta = .272$, $p = .011$). Table 12 summarizes the results of the mediation analysis.

**Table 12**
*Mediation analysis for the relationship between identification with the coworking community and social interaction mediated by identification with the coworking space*

| Pathway | β | SE B | t | p |
|---|---|---|---|---|
| Path a (Ident. cw community -> Ident. cw space) | .801 | .058 | 13.893 | p < .001 |
| Path b (Ident. cw space -> social interaction) | .339 | .131 | 2.586 | .011 |
| Total effect, path c (Ident. cw community -> social interaction) | .394 | .076 | 5.214 | p < .001 |
| Direct effect, path c' (Ident. cw community on social interaction including ident. cw. space) | .122 | .128 | .952 | .344 |
| | Effect | Boot SE | LLCI | ULCI |
| Indirect effect, paths a x b (Ident. cw. community on social interaction via ident. cw. space) | .272 | .128 | .030 | .526 |

*Note.* ident. = identification; cw = coworking; LL = lower limit; UL = upper limit; CI = confidence interval; number of bootstraps: 1000;

The full mediation effect of identification with the coworking space in the relationship between identification with the coworking community and social interaction is graphically depicted in figure 5.

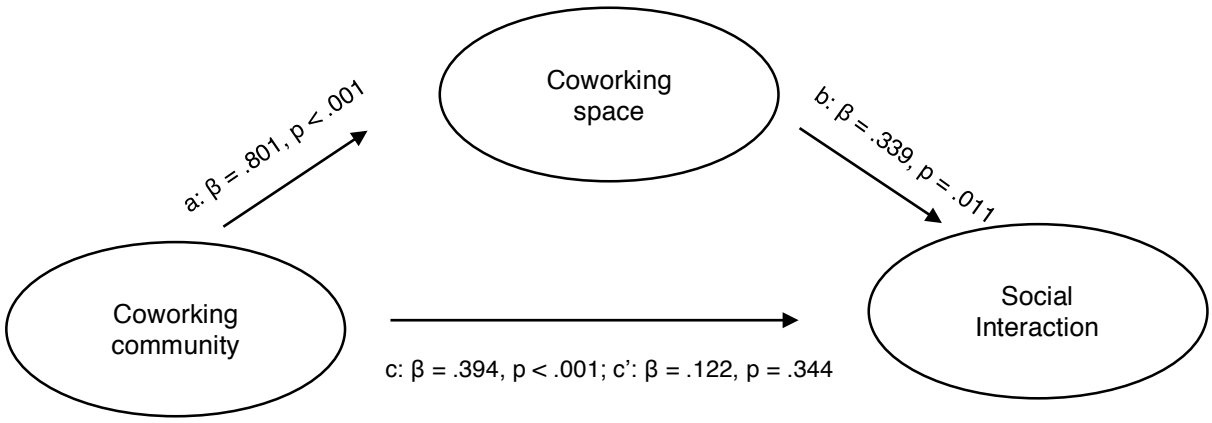


***Figure 5.*** Relationship between identification with the coworking community and social interaction, fully mediated by identification with the coworking space.

# 5. Discussion

## 5.1. Summary of Results

The first aim of this thesis was to contribute to a better understanding of the still poorly studied field of coworkers and their working habits. In specific, the thesis investigated the forms social interaction can take in coworking spaces and examined whether casual forms of social interaction can turn into social support amongst coworkers. Spinuzzi (2012) established that social interaction was a common characteristic in coworking, hence, coworking spaces can be an alternative to home offices and a potential solution to professional isolation. However, a clear distinction of the various forms social interaction can take was not made. This study investigated the various forms and assessed whether fellow coworkers could become a new source of social support for independent professionals. A qualitative approach was selected to gather as much information as possible.

The second aim was to investigate the relationship between the identification coworkers have with their respective coworking spaces and their social interaction. The Organizational Identification model (Ashforth & Mael, 1989) was used as a theoretical framework and adapted to fit the cohort of coworkers. The framework proposed that an identification with the organization people work for has several effects on the behavior they demonstrate at the workplace, including a positive effect on social interaction (Ashforth & Mael, 1989; Patchen, 1970). For the first time, this study applied the framework to coworkers and assessed their identification with their respective coworking space and community, while expanding it with three moderator variables. Alarcon (2011) found time pressure to have an effect on social interaction of employees, hence, it was included into the study model, as well as the factors tenure (Maden, 2014) and received social support (Rhoades & Eisenberger, 2002). The study was conducted with an online survey and a paper-pencil questionnaire and was designed as a cross-sectional study, embedded in a longitudinal research project. An essential characteristic of the study was the representative sample of 104 coworkers as their sociodemographic data was aligned with the results of the global coworking community (Foertsch, 2012a; 2017). The current study about coworking spaces comprises four main findings.

The first finding concerns the way coworkers interact with each other. The study gives a deeper insight into the nature of social interactions in coworking spaces. As expected, many interactions that occur between coworkers can be describes as informal social interactions. Almost half of all described situations (85 out of 178) could be categorized as such. As previous literature suggested (Spinuzzi, 2012; Pohler, 2012), social interactions in form of short conversations over coffee and lunch as well as small talk when greeting a fellow coworker, could be detected. Those social interactions are suggested to enable coworkers to create a social network. Many coworkers in the sample are self-employed or work as freelancers (71.1%), which might lead to a small group of people they can interact with or receive support from. Hence, fellow coworkers can become a social support network in their work environment. In fact, the study found collaboration amongst coworkers. Contrary to the belief that coworkers would view each other as rivals and felt in direct competition with each other, there were social situations reported that described working on joined projects or taking over each others tasks. When asked to rate the benefits of working in a coworking space, only half of the participants (52.9%) rated collaboration as being important or very important. However, the qualitative analysis proved that collaboration is part of the coworking culture. Most interestingly, the analysis was able to show that supportive behavior indeed takes place in coworking spaces. Hence, the proposition that social interaction can, in fact, turn into social support was confirmed. Coworkers reported asking for feedback or helping fellow coworkers with their projects in form of coaching or brainstorming. As assumed, fellow coworkers have become a new source of social support for independent professionals and have the potential to fill the gap for a support network usually provided by colleagues and superiors.

The second finding concerns the main effect - identification with the coworking space has a positive impact on social interaction for the target group of coworkers. Riketta (2005) performed a meta analysis on organizational identification and demonstrated how it affects workplace behavior. Similar results were expected. Therefore, the main effects of identification with the coworking space and coworking community on social interaction were analyzed in a hierarchical regression model. The analysis showed that identification with the coworking space significantly related to social interaction, whereas identification with the coworking community was not significantly related to social interaction when both predictors were included in the

analysis. Congruent to the findings of Haslam (2004) in a traditional work setting, high organizational identification leads to high social interaction, the results could successfully be replicated. Garrett, Spreitzer and Bacevice (2014) could observe similar results in their qualitative study on coworking spaces. Members showed a higher participation rate in community activities as well as more social interaction when identifying with the community's vision.

Due to the findings in this study, hypothesis 1a was supported, whereas 1b had to be rejected. These results are an indication that the Organizational Identification framework (Ashforth & Mael, 1989) can be adapted to the coworking cohort and can serve as a tool to better understand the behavior of coworkers in the work context.

The third finding of the present study refers to the moderating effect of external variables like time pressure, tenure and received social support from coworkers. All three were hypothesized to have a moderating effect on the relationship between identification with the coworking space as well as with the coworking community and social interaction. The results partially resemble findings of previous research in traditional work settings. As suggested by Alarcon (2011), time pressure was expected to act as a moderator for the relationship between identification with the coworking space as well as coworking community and social interaction. When an employee is pressed for time, they might reach out for help to finish their tasks (Eckenrode, 1983). Whereas, when the workload is manageable, they engage in more informal settings of social interaction (Eckenrode, 1983). The same behavior could not be found amongst coworkers in coworking spaces. Time pressure did not significantly moderate the relationship between organizational identification and social interaction, hence the hypotheses 2a and 2b had to be rejected. One explanation could be the different state of mind people experience when under stress. Sudden feelings of anxiety and stress can lead to a different form of interaction behavior and might not be steered by more constant traits of identification.

Contrary to the formulated hypotheses, tenure did not show any significant effect as a moderator variable. The duration coworkers spent as a member of a coworking space had no influence on the relationship between their identification with the coworking space as well as community and their social interaction. Previous findings in traditional office settings showed different outcomes (Hall et al., 1970; Mael & Ashforth, 1992). One explanation for the contrary findings could be the different

working relationships independent professionals have with their fellow coworkers compared to colleagues. Colleagues usually get to know each other better over time and build a trusted relationship as they work together, whereas coworkers are mostly independent in their tasks and projects. Hence, when they decide to interact with a fellow coworker it is not based on the amount of time they worked together, but on other factors such as for example an already received act of social support. Another explanation for these findings could be derived from the short tenure coworkers have in coworking spaces. In this study, the average time people worked in their respective coworking space was found to be 16.78 months. This might be a too short period of time to be a factor that significantly influences social interaction in coworking spaces.

As hypothesized, received social support from coworkers moderated the relationship between identification with the coworking space and social interaction. When coworkers identified strongly with their respective coworking spaces, their level of social interaction was not influenced by receiving social support from fellow coworkers. However, when the identification was low or non existent, received social support from coworkers influenced their social interaction significantly. Previous research supports the findings. Strong social identification with a group is known to predict greater perceived social support (Guan & So, 2016). As social support is based on the principle of reciprocity, if coworkers perceive more social support they, in return, will also interact with their fellow coworkers more. Additionally, these results can be viewed in relation to perceived organizational support (POS) which employees experience from their organizations. Studies have shown that for people with high identification with or even commitment to their organization, the effects of POS are neglectable and do not effect their performance satisfaction nor their interaction behavior with their colleagues (Eisenberger, Cummings, Armeli, & Lynch, 1997). However, with low levels of identification, the support had a significant effect on their performance, behavior and turnover intentions (Eisenberger, et al. 1997). Social support from coworkers can have a similar value to POS and, therefore, influence working habits in a similar way.

The fourth rather unexpected finding involves the identification with the coworking space and the coworking community. As presented above, the survey to measure organizational identification by Ashforth and Mael (1989) was adapted to suit the coworking cohort and divided into two constructs, whereby, the coworking space

was separated from the coworking community and assessed independently. Currently, no scientific paper has made this distinction in the identification context and many studies use the terms space and community synonymously (e.g., Spinuzzi, 2012). Similar outcomes for both constructs were expected. However, in the hierarchical regression analysis the construct identification with the coworking community was not significant. Therefore, a mediation analysis was performed to see if the relationship between identification with the coworking community and social interaction can be mediated by identification with the coworking space. Hence, fully or at least partially explain the predictor. The mediation analysis was found to be significant and, therefore, the construct identification with the coworking community could be fully explained by the construct of identification with the coworking space. The results suggest that participants of the study view the coworking community as part of their coworking space, thus, when asked about the coworking space, they do not simply refer to the physical space, but to a bigger construct. As more and more studies are conducted on this fast growing cohort of coworkers, it will be essential to make this distinction and understand the different constructs coworking is made of.

Concluding the results, organizational identification proofed to be a strong concept to be used for research on coworking spaces as it gave a better insight into the social interaction of coworkers. Furthermore, the proposition that informal social interaction can turn into instrumental social support in coworking spaces could be effectively demonstrated.

## 5.2. Strengths and Limitations

All results presented and discussed in this thesis have to be assessed under the following strengths and limitations of the study. The primary strength of this thesis was the double-sided study design, as it incorporated quantitative as well as qualitative data analysis. Studies on populations that have not yet been researched extensively profit greatly from insights through both approaches, as quantitative results are claimed to have more external validation, whereas, qualitative analysis elicits deeper insights into the target group (Rahman, 2016). The study contributed in a great deal to better understand the forms of social interaction that are taking place in coworking spaces, which was possible by an extensive qualitative analysis. Whereas the quantitative results gave a better insight into the concept of coworking and the functioning of this

new way of working together. The combination of the two methods fostered a more holistic understanding of the target group.

Furthermore, the participants of the study were found to be representative of the global coworking community, as their descriptive data showed a resembling overlap with the results of Deskmag's annual coworking survey. The fact that the study was made available online, as well as on paper, enabled a wider reach into the coworking community. Simply providing an online link would not have encouraged enough people to take part in the study and, therefore, would not have translated into a sufficient sample size.

Another strength of this study lies in the application of the organizational identification framework to the coworking cohort. Well studied frameworks in new and emerging office settings can provide new insights into the way people work and interact. Understanding that coworking spaces are more to their coworkers than simply a provider of infrastructure, can have many implications and can contribute to the role coworking spaces will play in future work arrangements.

Despite the affirmative strengths portrayed above, the study did have some limitations. Firstly, the cross-sectional design has drawbacks as it does not allow casual interferences. This could be solved by conducting a longitudinal study. However, coworkers illustrate short tenure, which does not allow for extensive longitudinal study. As the concept of coworking matures and the population grows, the possibility for such studies will increase. Additionally, the sample size for this study could have been bigger. Especially for the quantitative analysis, a greater sample size can lead to more representative results. As the overall population size of coworkers is still growing, it was a challenge to recruit enough people to fill in the questionnaire. One reason for this could be the factor *time*. Independent professionals are mostly self-employed or work as freelancers, hence, the time they use to fill in the survey is effectively lost on projects and they would have to stay longer to fill that gap. Whereas, people working in an office as employees, can take the time without necessarily having to substitute for it later. A solution for future research could be working together with events for coworkers, where filling in the survey could be included in the agenda.

Secondly, there is the assumption that coworkers who are already more engaged are also more likely to partake in a survey like this to promote their coworking space. This creates a certain bias, as there are mostly people surveyed who are already scoring high on a certain scale. Even though it is a valid argument, the research

tried to counteract this limitation by approaching coworkers individually and ask them to take the survey rather than waiting for proactive participation. Future research could include observation and other objective instruments to collect un-bias data.

Another challenge self-reported questionnaires face, is social desirability – participants giving answers that are sought to be favorable by others. The study used well-validated and published instruments to minimize this effect. The self-reported questionnaire is still viewed as one of the best instruments, as it provides the participants with anonymity.

### 5.3. Contribution and Implications for Future Research

The concept of this innovative workplace arrangement - coworking - is rapidly growing and spreading around the world. However, scientific research is still lacking behind on understanding the role coworking spaces play in the work life of independent professionals. The Social Identity Theory (Tajfel & Turner, 1985) was a great addition to the research on the phenomenon of *coworking,* as it provides an insight into intra- and intergroup behavior. Adapting the well-researched Organizational Identification model (Ashforth & Mael, 1989) and applying it to the cohort of coworkers to understand their social behavior is regarded to be the main contribution of the present study. Previous literature has shown that social interaction is part of coworking (Pohler, 2012; Spinuzzi, 2012), but has yet missed to identify factors that influence this behavior. The present study identified unexplored predictors that influence social interaction in coworking spaces, such as the degree to which coworkers identify with their coworking space as well previously received social support from fellow coworkers. This research expanded the purview of exploring social interaction in coworking spaces and serves as a basis for future research in this field.

Furthermore, the results effectively demonstrate that coworking spaces can be a solution to professional isolation which independent professionals experience when working from home (Spinuzzi, 2012). Acts of social support and collaboration could be found in the answers of the qualitative analysis, demonstrating that coworking spaces are more than a place for casual encounters. The results showed that informal social interaction can turn into social support and coworkers can become each other's support network.

After having identified key factors that are relevant to working in this new office environment, the findings can now be used to strengthen the role of coworking spaces

and enhance the membership experience. As social interaction is key for people working in a coworking space, it could become the focus for operators. Many coworking spaces seem to struggle to be financially sustainable and, therefore, they try several measures to attract and retain as many members as possible (Moriset, 2014). Building on the results of this study, a practical implication would be to foster the engagement with their members. The more coworking members are engaged with the space, the more they will interact with their fellow coworkers. Programs, events, room structure, etc. can play an essential role in fostering social interaction. These and many more possibilities can be explored to create an even better fitting and more attractive work environment.

Additionally, identification with the coworking space was proven to have an effect on how people interact with each other, therefore, organizational identification should be assessed for a broaden array of outcomes. This thesis was focused on analyzing whether the construct of organizational identification can be applied to coworking spaces and, in addition, focused on the effects identification with the coworking space can have on social interaction behavior. However, now that the model is effectively proven to fit the research on coworking spaces, a variety of other relevant factors for independent professionals can be assessed.

The implications derived from higher identification with the coworking space are manifold, but three factors are strongly recommended to be assessed – job satisfaction, stress and burnout. As known from literature in traditional work settings, high organizational identification can have a significant, positive effect on job satisfaction (Avanzi et al., 2017) and is negatively related to stress and burnout (Avanzi, Schuh, Fraccaroli, & van Dick, 2015; Bizumic, Reynoldy, & Turner, 2009). Furthermore, high organizational identification has not only a significant, negative effect on burnout, but the effect is proven to be mediated by social support from colleagues (Avanzi et al., 2017). As the results of this thesis show, social support is also taking place among independent professionals in coworking spaces, so future research can assess whether these health benefits can be replicated in studies in coworking spaces. Similar results would give coworking spaces even more credibility, as they would not only be a solution for professional isolation, but also be beneficial to counteract work-related health issues.

Next to health benefits, organizational identification is also known to be linked to turnover intentions (e.g., van Dick et al., 2006). In fact, empirical research has shown

that high organizational identification has a significant, negative effect on turnover intentions (e.g., Mael & Ashforth, 1992; van Dick et al., 2006; van Knippenberg et al., 2007) The results are conclusive, since organizational identification ties individual's sense of self to their membership in the organization, individuals are less likely to consider turnover (Tavares, Van Knippenberg, & van Dick, 2016). Building on literature in traditional office settings, which state that identification with an organization enhances support for and commitment to it (Ashforth & Mael, 1989), future research on coworking spaces and organizational identification could assess the relationship between identification with a coworking space and the intention to leave. Do coworkers show the same form of loyalty to their coworking spaces as employees in traditional work settings do to their organizations? Turnover intentions could be measured with items modeled after Tavares et al. (2016). An example for an item could be "I am looking for an opportunity to leave this coworking space". Research in this field would provide more insights into the relationship coworkers have with their respective coworking spaces. In the last two decades, there has been a significant increase in the research interest on organizational identification (Riketta, 2005). Further applying the organizational identification concept to coworking spaces would be an extension to a better understanding of the exact nature it can take in these new work environments.

Finally, in order to interpret the results from coworkers more broadly and apply conclusions to similar occupational groups, a comparative study is recommended. The most fitting group for comparison would be self-employed workers in traditional (e.g. own office) settings who are not part of the coworking community, hence, lack the same sort of social interaction. This comparison would highlight certain features that (may) differ when working in a coworking space and could be solely attributed to coworking spaces.

In conclusion, there is evidence for the positive impact coworking spaces can have for independent professionals as they counteract professional isolation and prove to be a support network in work-related tasks. The results lent support for the importance of social interaction and receiving social support. This study is a valuable staring point for further research on the emerging field of coworking spaces and on understanding what independent professionals need in their work life. Subsequent studies to explore implications on health-related topics are encouraged.

## References

Alarcon, G. M. (2011). A Meta-Analysis of Burnout with Job Demands, Resources, and Attitudes. *Journal of Vocational Behavior, 79.* 549-562. doi:10.1016/ j.jvb.2011.03.007.

Albert, S., Ashforth, B. E., & Dutton, J. E. (2000). Organizational identity and identification: Charting new waters and building new bridges. *The Academy of Management Review, 25,* 13-17. doi:10.5465/AMR.2000.2791600

Albert, S., & Whetten, D. A. (1985). Organizational identity. In L. Cummings & B. Staw (Eds.), *Research in organizational behavior (pp. 95 – 263).* Greenwich, CT: JAI Press.

Andorfer, J. (2013). Personal Resources in the Job Demands-Resources Model: A Study about Coworking Spaces (Master's thesis). Retrieved from http://othes.univie.ac.at/29624/

Ashforth, B. E., & Mael, F. (1989). Social identity theory and the organization. *Academy of Management Review, 14,* 20-39. doi:10.5465/AMR.1989.4278999

Ashforth, B. E., Harrison, S. H., & Corley, K. G. (2008). Identification in organizations: An examination of four fundamental questions. *Journal of Management, 34*(3), 325-374. doi:10.1177/0149206308316059

Avanzi, L., Fraccaroli, F., Castelli, L., Marcionetti, J., Crescentini, A., Balducci, C., & van Dick, R. (2017). How to mobilize social support against workload and burnout: The role of organizational identification. *Teaching and Teacher Education, 69,* 154-167. doi:10.1016/j.tate.2017.10.001

Avanzi, L., Fraccaroli, F., Sarchielli, G., Ullrich, J., & van Dick, R. (2014). Staying or leaving: A combined social identity and social exchange approach to predicting employee turnover intentions. *International Journal of Productivity and Performance Management, 63,* 272-289. doi:10.1108/IJPPM-02-2013-0028

Avanzi, L., Schuh, S. C., Fraccaroli, F., & van Dick, R. (2015). Why does organizational identification relate to reduced employee burnout? The mediating influence of social support and collective efficacy. *Work and Stress, 29,* 1-10. doi:10.1080/02678373.2015.1004225

Bakker, A. B., & Demerouti, E. (2007). The Job Demands- Resources model: state of the art. *Journal of Managerial Psychology, 22*(3), 309-328. doi:10.1108/ 02683940710733115

Baruch-Feldman, C., Brondolo, E., Ben-Dayan, D., & Schwartz, J. (2002). Sources of social support and burnout, job satisfaction, and productivity. *Journal of Occupational Health Psychology, 7*(1), 84-93. doi:10.1037/1076-8998.7.1.84

Bender, D. (2013). Mobile Arbeitsplätze als kreative Räume: coworking Spaces, Cafés und andere urbane Arbeitsorte. Bielefeld: Transcript.

Bilandzic, M., & Foth, M. (2013). Libraries as coworking spaces: Understanding user motivations and perceived barriers to social learning. *Library Hi Tech, 31*(2), 254-273. doi:10.1108/07378831311329040

Bilandzic, M., & Foth, M. (2017). Designing hubs for connected learning: Social, spatial and technological insights from Coworking, Hackerspaces and Meetup groups. In L. Carvalho, P. Goodyear, & M. de Laat (Eds.), *Place-Based Spaces for Networked Learning* (pp. 191-206). Oxon, UK: Routledge.

Bizumic, B., Reynolds, K. J., & Turner, J. C. (2009). The role of the group in individual functioning: School identification and the psychological well-being of staff and students. *Applied Psychology: An International Review, 58*, 171-192. doi:10.1111/j.1464-0597.2008.00387.x

Blanz, M. (2015). *Forschungsmethoden und Statistik für die Soziale Arbeit: Grundlagen und Anwendungen*. Stuttgart: Kohlhammer.

Botsman, R. & Rogers, R. (2010). *What's Mine Is Yours: The Rise of Collaborative Consumption.* New York: HarperCollins.

Botsman, R., & Rogers, R. (2011). *What's mine is yours: how collaborative consumption is changing the way we live.* London: Collins.

Bowerman, B. L., & O'Connell, R. T. (1990). *Linear statistical models: An applied approach* (2nd ed.). Belmont, CA: Duxbury.

Bowling, N. A., Alarcon, G. M., Bragg, C. B., & Hartman, M. J. (2015). A meta-analytic examination of the potential correlates and consequences of workload. *Work & Stress*, *29,* 95-113. doi:10.1080/02678373.2015.1033037

Bowling, N.A., Beehr, T. A., & Swader, W. M. (2005). Giving and receiving social support at work: The roles of personality and reciprocity. *Journal of Vocational Behavior, 67*(3), 476-489. doi:10.1016/j.jvb.2004.08.004

Brown, J. (2017). Curating the "Third Place"? Coworking and the mediation of creativity. *Geoforum, 82,* 112-126. doi:10.1016/j.geoforum.2017.04.006

Butterfield, L. D., Borgen, W. A., Amundson, N. E., & Maglio, A.-S. T. (2005). Fifty years of the critical incident technique: 1954-2004 and beyond. *Qual. Res., 5*, 475-497. doi:10.1177/1468794105056924

Chattopadhyay, P. & George, E. (2001). Examining the Effects of Work Externalization Through the Lens of Social Identity Theory. *Journal of Applied Psychology, 86*(4), 781-788. doi:10.1037/0021-9010.86.4.781

DeGuzman, G., & Tang, A. (2011). *Working in the 'UnOffice': A guide to Coworking for Indie Workers, Small Business and Nonprofits.* New York: Night Owls Press.

Durbin, J., & Watson, G. S. (1951). Testing for serial correlation in least squares regression, II. *Biometrika*, 30, 159-178. doi:10.2307/2332325

Dutton, J. E., Duckerich, J. M., & Harquail, C. V. (1994). Organizational images and member identification. *Administrative Science Quarterly 39*(2), 239-263. doi:10.2307/2393235

Eckenrode, J. (1983). The mobilization of social supports: some individual constraints. *Am. Journal Community Psychology, 11,* 509-528. doi: 10.1007/BF00896802

Edwards, M. R., & Peccei, R. (2007). Organizational identification: development and testing of a conceptually grounded measure. *European Journal of Work and Organizational Psychology, 16*(1), 25-57. doi:10.1080/13594320601088195

Eisenberger, R., Cummings, J., Armeli, S., & Lynch, P. (1997). Perceived Organizational Support, Discretionary Treatment and Job Satisfaction. *Journal of Applied Psychology, 82*(5), 812 – 820. doi:10.1037/0021-9010.82.5.812

Field, A. (2009). *Discovering statistics using SPSS*. Los Angeles: Sage. doi:10.1002/bjs.7040

Flanagan, J. C. (1954). The critical incident technique. *Psychol. Bull. 51*, 327-358. doi: 10.1037/h0061470

Foertsch, C. (2011). *The coworker's profile.* Retrieved from http://www.deskmag.com/en/the-coworkers-global-coworking-survey-168/

Foertsch, C. (2012a). *Deskmag's 2nd annual global coworking survey* [Adobe Digital Editions version]. Retrieved from https://www.deskwanted.com/coworking/ coworking_survey_booklet.pdf

Foertsch, C. (2012b). *1st Results of the 3rd Global Coworking Survey. Deskmag, November 8, 2012*. Retrieved from http://www.deskmag.com/en/1st-results-of-the -3rd-global-coworking-survey-2012/

Foertsch, C. (2013). *4.5 New Coworking Spaces Per Work Day. Deskmag, March 4, 2013*. Retrieved from http://www.deskmag.com/en/2500-coworking-spaces-4-5- per-day-741/

Foertsch, C. (2015). *First Results of the 2015 Global Coworking Survey. Deskmag, November 20, 2013*. Retrieved from http://www.deskmag.com/en/first-results-of- the-new-global-coworking-survey-2015-16/

Foertsch, C. (2017). *The first results of the 2017 Global Coworking Survey.* Retrieved from https://www.slideshare.net/carstenfoertsch/the-first-results-of-the-2017-global-coworking-survey/

Frese, M. (1989). SzSU - Skala zur sozialen Unterstützung am Arbeitsplatz*. Zeitschrift für Arbeitswissenschaft, 43*, 112-121*.*

Garrett, L. E., Spreitzer, G. M., and Bacevice, P. (2014). Co-constructing a sense of community at work: the emergence of community in coworking spaces. *Acad. Manag. Annu. Meet. Proc.* 1, 14004-14004. doi: 10.5465/AMBPP.2014.139

Gautam, T., van Dick, R., & Wagner, U. (2004). Organizational identification and organizational commitment: distinct aspects of two related concepts. *Asian Journal of Social Psychology, 7*(3), 301-315. doi:10.1111/j.1467-839X.2004.00150.x

Gerdenitsch, C., Scheel, T. E., Andorfer, J., & Korunka, C. (2016). Coworking spaces: A source of social support for independent professionals. *Frontiers in Psychology, 7*. doi:10.3389/fpsyg.2016.00581

Giddens, A. (2006). *Sociology* (rev. 5th edition). Cambridge: Polity Press.

Glynn, M. A., & Abzug, R. (2002). Institutionalizing identity: Symbolic isomorphism and organizational names. *Academy of Management journal, 45*(1), 267-280. doi: 10.2307/3069296

Guan, M. & So, J. (2016). Influence of Social Identity on Self-Efficacy Beliefs Through Perceived Social Support: A Social Identity Theory Perspective. *Communication Studies, 67*(5), 588-604. doi: 10.1080/10510974.2016.1239645

Hall, D. T., Schneider, B., & Nygren, H. T. (1970). Personal factors in organizational identification. *Administrative Science Quarterly, 15*(2), 176-190. doi:10.2307/2391488

Haslam, S. A. (2004). *Psychology in organizations: The social identity approach.* London: Sage. doi:10.4135/9781446278819.

Haslam, S. A., Eggins, R. A. & Reynolds, K. J. (2003). The ASPIRe model: actualizing social and personal identity resources to enhance organizational outcomes. *Journal of Occupational and Organizational Psychology, 76,* 83-113. doi:10.1348/096317903321208907

Haslam, N., Rothschild, L., & Ernst, D. (2000). Essentialist beliefs about social categories. *British Journal of Social Psychology, 39,* 113–127. doi:10.1348/014466600164363

Hogan, R. (1976) *Personality theory: The personological tradition*. Englewood Cliffs, NJ: Prentice-Hall.

House, J. S. (1981). *Work stress and social support.* Reading, MA: Addison-Wesley.

House, J. S., Umberson, D., & Landis, K. R. (1988). Structure and process of social support. *Annu. Rev. Sociol. 14,* 293-318. doi:10.1146/annurev.so.14.080188.001453

Johns, T. & Gratton, L. (2013). The third wave of virtual work. *Harvard Business Review, 91*, 66–73. Retrieved from: https://hbr.org/2013/01/the-third-wave-of-virtual-work

Kadam, P., & Bhalerao, S. (2010). Sample size calculation. *International Journal of Ayurveda Research*, *1*(1), 55–57. doi:10.4103/0974-7788.59946

Kjaerulff, J. (2010). *Internet and Change: An Anthropology of Knowledge and Flexible Work.* Hoejbjerg: Intervention Press.

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33,* 159-174. doi:10.2307/2529310

Lechler, T. (2001). Social Interaction: A Determinant of Entrepreneurial Team Venture Success. *Small Business Economics, 16*(4), 263–278. doi:10.1023/A:1011167519304

Leclercq-Vandelannoitte, A. & Isaac, H. (2016.) The new office: how coworking changes the work concept. Journal of Business Strategy, 37(6), 3-9. doi:10.1108/JBS-10-2015-0105

Levinson, H. (1970). A psychologist diagnoses merger failures. *Harvard Business Review, 48*(2), 139 – 147.

Luchman, J. N., & Gonzalez-Morales, M. G. (2013). Demands, control, and support: A meta-analytic review of work characteristics interrelationships. *Journal of Occupational Health Psychology, 18,* 37-52. doi:10.1037/a0030541

Maden, C. (2014). Impact of fit, involvement, and tenure on job satisfaction and turnover intention. *The Service Industries Journal, 34*(14), 1113-1133. doi:10.1080/02642069.2014.939644

Mael, F., & Ashforth, B. E. (1992). Alumni and their alma mater: A partial test of the reformulated model of organizational identification. Journal of Organizational Behavior,13, 103–123. doi:10.1002/job.4030130202

Martens, M. P., Smith, A. E., & Murphy, J. G. (2013). The efficacy of single-component brief motivational interventions among at-risk college drinkers. *Journal of Consulting and Clinical Psychology, 81*(4), 691-701. doi:10.1037/a0032235

Mayring, P. (2008). *Qualitative Inhaltsanalyse: Grundlagen und Techniken [Qualitative Content Analysis: Basics and Techniques].* Weinheim: Deutscher Studien Verlag.

McGregor, D. (1967). The professional manager. New York: McGraw-Hill.

Melewar, T. C., & Jenkins, E. (2002). Defining the corporate identity construct. *Corporate Reputation Review, 5*(1), 76-90. doi:10.1057/palgrave.crr.1540166

Menard, S. (1995). *Applied logistic regression analysis.* Sage University Paper Series on Quantitative Applications in the Social Sciences, 07-106. Thousand Oaks, CA: Sage.

Mikl-Horke, G. (2000). Industrie- und Arbeitssoziologie. 5. Vollständig neu bearbeitete Aufl. München: Oldenbourg.

Moran, M., & Sussman, S. (2014). Translating the link between social identity and health behavior into effective health communication strategies: An experimental

application using antismoking advertisements. *Health Communication, 29*(10), 1057-1066. doi:10.1080/10410236.2013.832830

Moriset, B. (2014). Building new places of the creative economy. The rise of coworking spaces. *Paper presented at the 2nd Geography of Innovation International Conference 2014*. Utrecht.

Myers, R. (1990). *Classical and modern regression with applications* (2nd ed.). Boston, MA: Duxbury.

Nelson, B. R. (2015). *New Developments in Social Identity Research.* Hauppauge, New York: Nova Science Publishers, Inc.

Parrino, L. (2013). Coworking: assessing the role of proximity in knowledge exchange. *Knowledge Management Research & Practice.* doi: 10.1057/kmrp.2013.47

Patchen, M. (1970). *Participation, achievement and involvement on the job.* Englewood Cliffs, NJ: Prentice-Hall.

Pohler, N. (2011). *Neue Arbeitsräume für neue Arbeitsformen: Coworking Spaces.* (Master's thesis). Wien: Wirtschaftsuniversität.

Pohler, N. (2012). Neue Arbeitsräume für neue Arbeitsformen: Coworking Spaces. *Österreichische Zeitschrift für Soziologie, 37*(1), 65-78. doi:10.1007/s11614-012-0021-y

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behav. Res. Methods Instrum. Comput., 36,* 717–731. doi:10.3758/BF03206553

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: theory, methods, and prescriptions. *Multivar. Behav. Res., 42,* 185-227. doi: 10.1080/00273170701341316

Rahman, M. (2016). The Advantages and Disadvantages of Using Qualitative and Quantitative Approaches and Methods in Language "Testing and Assessment" Research: A Literature Review. *Journal of Education and Learning, 6,* 102. doi:10.5539/jel.v6n1p102

Riketta, M. (2005). Organizational identification: a meta-analysis. *Journal of Vocational Behaviour, 66,* 358-384. doi:10.1016/j.jvb.2004.05.005

Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: a review of the literature. *Journal of Applied Psychology, 87*, 698 – 714. doi: 10.1037//0021-9010.87.4.698

Schaubroeck, J., & Jones, J. R. (2000). Antecedents of workplace emotional labor dimensions and moderators of their effects on physical symptoms. *Journal of Organizational Behavior, 21*, 163-183. doi:10.1002/(SICI)1099-1379(200003)21:2<163::AID-JOB37>3.0.CO;2-L

Schürmann, M. (2013). *Coworking Space: Geschäftsmodell für Entrepreneure und Wissensarbeiter.* Wiesbaden: Springer Fachmedien.

Schwarzer, R., & Knoll, N. (2007). Functional roles of social support within the stress and coping process: A theoretical and empirical overview, *International Journal of Psychology, 42*(4), 243-252. doi:10.1080/00207590701396641

Schwarzer, R., & Leppin, A. (1991). Social Support and Health: A Theoretical and Empirical Overview. *Journal of Social and Personal Relationships, 8(*1), 99-127. doi:10.1177/0265407591081005

Semmer, N. K., Zapf, D., & Dunckel, H. (1998). *Instrument Zur Streßbezogenen Tätigkeitsanalyse ISTA [Instrument for Stress-Related Job Analysis ISTA].* Zürich: Verlag der Fachvereine Hochschulverlag.

Seyranian, V. (2014). Social identity framing communication strategies for mobilizing social change. *The Leadership Quarterly, 25*(3), 468-486. doi:10.1016/j.leaqua.2013.10.013.

Shinn, M., Lehmann, S., & Wong, N. W. (1984). Social interaction and social support. *J. Soc. Issues* 40, 55–76. doi:10.1111/j.1540-4560.1984.tb01107.x

Singh, P., Bhandarker, A., & Rai, S. (2012). *Millennials and the Workplace: Challenges for Architecting the Organizations of Tomorrow*. New Delhi: Sage.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equations models. In S. Leinhart (Ed.), Sociological methodology 1982 (pp. 290–312). San Francisco: Jossey-Bass. doi:10.2307/270723

Spinuzzi, C. (2012). Working alone together: coworking as emergent collaborative activity. J. Bus. Tech. Commun. 26, 399-441. doi: 10.1177/1050651912444070

Spinuzzi, C. (2015). *All Edge: Inside the New Workplace Networks*. Chicago: University of Chicago Press.

Sundsted, T., Jones, D., & Bacigalupo, T. (2009). *I'm Outta Here: How Co-Working Is Making the Office Obsolete.* Brooklyn: Lulu.

Tajfel, H. (1981). *Human groups and social categories: Studies in social psychology.* Cambridge, UK: Cambridge.

Tajfel, H. & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-47). Monterey, CA: Brooks/Cole.

Tajfel, H. & Turner, J. C. (1985). The social identity theory of intergroup behavior. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations* (2nd ed., pp. 7-24). Chicago: Nelson-Hall.

Tavares, S. M., Van Knippenberg, D., & van Dick, R. (2016). Organizational identification and “currencies of exchange”: integrating social identity and social

exchange perspectives. *Journal of Applied Social Psychology, 46*(1), 34-45. doi:10.1111/jasp.12329

ten Brummelhuis, L. L., Bakker, A. B., Hetland, J. & Keulemans, L. (2012). Do new ways of working foster work engagement? *Psicothema, 24*(1), 113-120.

Tse, H., & Chiu, W. (2014). Transformational leadership and job performance: A social identity perspective, *Journal of Business Research, 67*(1), 2827-2835, doi:10.1016/j.jbusres.2012.07.018

van Dick, R. (2001). Identification in organizational contexts: linking theory and research from social and organizational psychology. *International Journal of Management Reviews, 3*(4), 265-283. doi:10.1111/1468-2370.00068

van Dick, R., Grojean, M. W., Christ, O., & Wieseke, J. (2006). Identity and the extra mile: relationships between organizational identification and organizational citizenship behavior. *British Journal of Management, 17,* 286-301. doi:10.1111/j.1467-8551.2006.00520.x

Van Knippenberg, D., van Dick, R. & Tavares S. (2007). Social identity and social exchange: identification, support, and withdrawal from the job. *Journal of Applied Social Psychology, 37*(3), 457-477. doi:10.1111/j.1559-1816.2007.00168.x

Van Knippenberg, D. & Van Schie, E. C. M. (2000). Foci and correlates of organizational identification. *Journal of Occupational and Organizational Psychology, 73,* 137-147. doi:10.1348/096317900166949

Van Knippenberg, D. & Van Sleebos, E. (2006). Organizational identification versus organizational commitment: self-definition, social exchange, and job-attitudes. *Journal of Organizational Behavior, 27,* 571-584. doi:10.1002/job.359

Vanselow, A. (2003). *Neue Selbstständige in der Informationsgesellschaft.* Gelsenkirchen: Institut für Arbeit und Technik.

Whetten, D. A. (2006). Albert and Whetten revisited: Strengthening the concept of organizational identity. *Journal of Management Inquiry, 15*(3), 219-234. doi:10.1177/1056492606291200

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**Appendix A - Questionnaire**

# Study about Coworking Spaces

Dear participant!

First of all, we thank you very much for your willingness to take part in this scientific study. This survey is about the **social aspect in Coworking Spaces,** and will take approximately 10 minutes.

Your participation is completely anonymous and your answers will be treated with absolute confidentiality. Please take into consideration that we can only use thoroughly and completely filled out questionnaires for the data analysis. Therefore, we ask you to answer **every question** and to respond spontaneously.

If you are interested in the study's results, please email us (reka.artner@gmail.com) and we will provide you with a summary of the present study.

We thank you in advance for your participation,
**Réka Artner & Cornelia Gerdenitsch**

# Coworking Spaces

We are interested in the **project you are currently working on**. Therefore, we kindly ask you to describe this project in a few words (business category, position, scope of functions, aim, etc.).

Furthermore, we would be grateful to get information about your **use of a Coworking Space**.

**Name** of the Coworking Space you are currently working at: _____

**Location** of this Coworking Space (City):_____

Does this Coworking Space have a **community aspect**? yes no

For **how long** have you been working in a Coworking Space? _____ months

| **Please indicate, how much of your working time per week you spend at the following places: (in percentage)** | % |
|---|---|
| in a Coworking Space | |
| in my office | |
| in a friend's office | |
| in home office | |
| at other places (coffeehouse, train, etc.) | |
| | Σ 100 |

Please indicate your **preferred times of working** in a Coworking Space:
(multiple options possible)

full-time (e.g. 9 to 5, 10 to 6 etc.)
for some hours a day
on the weekend
at night
sporadically
other _____

| | **How important are the following reasons for your decision to work in a Coworking Space?** | un-important | rather unimportant | moderately important | important | very important |
|---|---|---|---|---|---|---|
| | structure in one's work day | | | | | |
| | collaboration | | | | | |
| | flexible working | | | | | |
| | networking | | | | | |
| | social interaction | | | | | |
| | productivity | | | | | |
| | provision of infrastructure | | | | | |
| | locational advantages | | | | | |
| | cost-efficiency | | | | | |
| | start-up programs and initiatives | | | | | |

## Working Conditions

In the following section you will find questions about your work.
Please relate them to **your current work.**

| | **Please indicate how strongly you agree with the following statements and refer to the coworking space you are mainly working at.** | very weak | | | | very strong |
|---|---|---|---|---|---|---|
| | When someone criticizes the coworking space, it feels like a personal insult. | | | | | |
| | I am very interested in what others think about the coworking space. | | | | | |
| | When I talk about the coworking space, I usually say ‚we' rather than ‚they'. | | | | | |
| | The coworking space's successes are my successes. | | | | | |
| | When someone praises the coworking space, it feels like a personal compliment. | | | | | |
| | If a story in the media criticized the coworking space, I would feel embarrassed. | | | | | |

| | **Please indicate how strongly you agree with the following statements and refer to the coworking community you are mainly involved in.** | very weak | | | | very strong |
|---|---|---|---|---|---|---|
| | When someone criticizes the coworking community, it feels like a personal insult. | | | | | |
| | I am very interested in what others think about the coworking community. | | | | | |
| | When I talk about the coworking community, I usually say ‚we' rather than ‚they'. | | | | | |
| | The coworking community's successes are my successes. | | | | | |
| | When someone praises the coworking community, it feels like a personal compliment. | | | | | |
| | If a story in the media criticized the coworking community, I would feel embarrassed. | | | | | |

| | **To what degree do the following statements apply to you?** | not at all true | hardly true | moderately true | exactly true |
|---|---|---|---|---|---|
| | I am confident that I could deal efficiently with unexpected events. | | | | |
| | Thanks to my resourcefulness, I know how to handle unforeseen situations. | | | | |
| | I can solve most problems, if I invest the necessary effort. | | | | |
| | If I am in trouble, I can usually think of a solution. | | | | |

| | How often do you have to **work faster** than normal in order to complete your work? | | | | |
|---|---|---|---|---|---|
| | **very rarely/never** | **rarely (approx. once a week)** | **occasionally (approx. once a day)** | **often (several times a day)** | **very often (several times an hour)** |

| | How often are you **pressed for time?** | | | | |
|---|---|---|---|---|---|
| | **very rarely/never** | **rarely (approx. once a week)** | **occasionally (approx. once a day)** | **often (several times a day)** | **very often (several times an hour)** |

| | How often do you **miss or delay a break** because of having too much to do? | | | | |
|---|---|---|---|---|---|
| | **very rarely/never** | **rarely (approx. once a month)** | **occasionally (approx. once a week)** | **often (several times a week)** | **very often (daily)** |

| | How often do you have to **finish work later** because of having too much to do? | | | | |
|---|---|---|---|---|---|
| | **very rarely/never** | **rarely (approx. once a month)** | **occasionally (approx. once a week)** | **often (several times a week)** | **very often (daily)** |

| | How satisfied are you with the **quality of your work?** | | | | |
|---|---|---|---|---|---|
| | **not at all satisfied** | **slightly satisfied** | **moderately satisfied** | **satisfied** | **extremely satisfied** |

| | How satisfied are you with the **achievement of the goals** you have set for your work? | | | | |
|---|---|---|---|---|---|
| | **not at all satisfied** | **slightly satisfied** | **moderately satisfied** | **satisfied** | **extremely satisfied** |

# Social Interaction

| | How often do you **engage in social interactions** with coworkers? | | | | |
|---|---|---|---|---|---|
| | **very rarely/never** | **rarely** | **occasionally** | **often** | **very often** |

| | How often do you engage in social interactions with coworkers **compared to others** in your coworking space? | | | |
|---|---|---|---|---|
| | | **less often** | **same as others** | **more often** |

| | **In the following section we have identified social interaction situations from 'short' encounters to 'long' interactions. Please indicate how often you encounter the following situations:** | very rarely/ never | rarely | occasionally | often | very often |
|---|---|---|---|---|---|---|
| | Greeting a coworker. | | | | | |
| | Having a short conversation. | | | | | |
| | Sitting down and having coffee/tee with a coworker. | | | | | |
| | Hanging out with a coworker. (e.g. playing table tennis, computer games, etc.) | | | | | |
| | Having lunch together with a coworker. | | | | | |
| | Sitting down and having a longer conversation with a coworker. | | | | | |
| | Supporting a coworker with his/her job inquiry. | | | | | |
| | Getting support from a coworker for own job inquiry. | | | | | |
| | Working on a project together with a coworker. (e.g. brainstorming, event organization, etc.) | | | | | |

## Social Interaction (2)

Please think of **3 situations** in your coworking space when you interacted with coworkers.
One situation with a **short/casual** social interaction, one with a **medium** length and one situation with a **long/intensive** social interaction.
Please briefly describe the situations in the following paragraphs. (approx. 5 sentences each)

Please describe a **‚short/casual'** social interaction.

Why did you **(shortly/casually)** interact with your coworker(s)?
(multiple options possible)

- to exchange information.
- because I wanted to be part of the coworking group.
- to develop my own competencies.
- to help others develop their competencies.
- because I simply wanted to.
- because I wanted to take a break and relax.
- because I wanted to impress my coworkers.
- other _____

Please describe a **‚medium'** social interaction.

Why did you interact with your coworker(s)?
(multiple options possible)

- to exchange information.
- because I wanted to be part of the coworking group.
- to develop my own competencies.
- to help others develop their competencies.
- because I simply wanted to.
- because I wanted to take a break and relax.
- because I wanted to impress my coworkers.
- other _____

Please describe a **‚long/intensive'** social interaction.

Why did you (intensively) interact with your coworker(s)?
(multiple options possible)

- to exchange information.
- because I wanted to be part of the coworking group.
- to develop my own competencies.
- to help others develop their competencies.
- because I simply wanted to.
- because I wanted to take a break and relax.
- because I wanted to impress my coworkers.
- other _____

# Social Interaction (3)

| | **To what degree do the following statements apply to your fellow coworkers and (other) friends?** | fellow coworkers | | | | (other) friends | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | not at all | a little bit | con-sider-ably | comp letely | not at all | a little bit | con-sider-ably | compl etely |
| | How much can you rely on the following persons when the job gets tough? | | | | | | | | |
| | How willing are these persons to listen to your problems with the job? | | | | | | | | |
| | How much do these persons support you so that your work is easier? | | | | | | | | |
| | How willing are these persons to listen to your personal problems? | | | | | | | | |
| | How easy is it to talk to these persons? | | | | | | | | |

## Personal Information

**Age** _____ years

**Gender** female male other

**Nationality** _____

**Highest education level completed**

compulsory education
apprenticeship diploma
vocational school
high school level
university degree (bachelor)
university degree (masters)
university degree (PhD)
other

**Employment status**
(multiple options possible)

full-time employee
part-time employee
self-employed
freelancer
student
others

---

Thank you for your participation!

# Appendix B - Sample Description

| Employment status[8] | % | Workplaces used[9] | Mean (SD) |
|---|---|---|---|
| Self employed | 47.1 | Coworking space | 62.65 (28.10) |
| Full-time employee | 31.7 | Home office | 19.88 (21.08) |
| Freelancer | 24.0 | Other third places (café, etc.) | 10.60 (15.13) |
| Part-time employee | 14.4 | One's own office | 4.32 (13.67) |
| Student | 10.6 | A friend's office | 1.89 (5.47) |
| Other occupational contracts | 0 | | |
| Frequency of using a coworking space | % | | |
| Full-time | 63.5 | | |
| A few hours a day | 33.7 | | |
| Sporadically | 9.6 | | |
| On weekends | 3.8 | | |
| At night | 3.8 | | |
| Other time preferences | 5.8 | | |

[8] Multiple options possible.
[9] Reported means and standard deviations are related to the percentage of the respective working time at the different places.

## Appendix C – German Abstract

Coworking Spaces werden von Selbständigen und Freelancern vermehrt als Alternative zu traditionellen Büroräumlichkeiten genutzt. Für das steigende Interesse gibt es zahlreiche Gründe, wie flexible Mietverhältnisse und ein Netzwerk von Gleichgesinnten. Unklar ist hierbei noch, wie die Interaktion miteinander in diesen Coworking Spaces abläuft, ob sich Coworker gegenseitig unterstützen und wie sie ihr soziales Netzwerk aufbauen. Gemäß des Organizational Identification Modells hat die Identifikation mit dem Arbeitsplatz einen Einfluss auf die soziale Interaktion. Dieser Effekt wurde bisher nicht an Coworkern erforscht. Diese Studie nimmt an, dass die Identifikation mit dem Coworking Space zu mehr sozialer Interaktion mit anderen Coworkern führt und Faktoren wie Zeitdruck, Dauer der Mitgliedschaft und empfangene soziale Unterstützung einen Moderator in diesem Verhältnis darstellen. Zusätzlich wurde die Studie mit einer qualitativen Untersuchung ergänzt, um einen besseren Einblick in die genaue Form der sozialen Interaktion in Coworking Spaces zu bekommen und zu evaluieren, ob aus informellem Austausch auch tatsächliche, soziale Unterstützung werden kann. Hierfür wurde ein Fragebogen für Coworker adaptiert und anschließend 104 von ihnen damit in Österreich befragt. Ergebnisse zeigten die positive Wirkung von Identifikation mit dem Coworking Space auf soziale Interaktion und eine Moderation von empfangener sozialer Unterstützung auf diese Beziehung. Bei schwacher Identifikation mit dem Coworking Space hat der Faktor empfangene soziale Unterstützung einen Einfluss auf die soziale Interaktion. Die Analyse deutet darauf hin, dass soziale Interaktion zu sozialer Unterstützung werden kann und Selbstständige somit ein Netzwerk füreinander werden können, welches sonst KollegInnen darstellen. Weitere Studien, vor allem in Bezug auf gesundheitliche Auswirkungen sind empfohlen.

Schlüsselbegriffe: Coworking Spaces, Soziale Interaktion, Soziale Unterstützung, organizational identification, new ways of working

## Eidesstattliche Erklärung

Ich versichere, dass ich die Masterarbeit ohne fremde Hilfe und ohne Benutzung anderer als der angegebenen Quellen angefertigt habe, und dass die Arbeit in gleicher oder ähnlicher Form noch keiner anderen Prüfungsbehörde vorgelegen hat. Alle Ausführungen der Arbeit, die wörtlich oder sinngemäß übernommen wurden, sind als solche gekennzeichnet.

Wien, am Unterschrift:_____

Réka Artner