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Germany“

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Abstract

Social structures are an omnipresent factor in a society and can play an important role in labor markets. As information asymmetries represent an obstacle to job allocation, often information on job opportunities flows through social channels. Leveraging the endowment within social structures in job allocation processes might be argued to improve the efficiency in labor markets, yet other implications might also exist. Understanding factors impacting job satisfaction could help to enhance firm and employee performance, therefore job satisfaction can be argued to be a highly important topic. This thesis aims to investigate the implications of social structures in labor markets onto job satisfaction, with employed students in Austria and Germany as the focus group. Previous research has investigated the impacts of job finding ways on attitudinal factors either for very specific groups of workers or for broader national samples. By exploring possible effects of job allocation means on job satisfaction of employed students in Austria and Germany, a research gap is therefore explored. To gain insight into these implications, an online survey directed at employed students both in Austria and Germany was conducted, which yielded N=159 valid datasets. When analyzing the data, no statistically significant difference was found between the job satisfaction of employed students which used different job finding ways. Also, no statistically significant different impacts of social networks on job satisfaction of employed students in Austria than on job satisfaction of employed students in Germany was found. Furthermore, the perception of job satisfaction did not significantly differ between the two groups. Differences were argued to be found between the proportion of social networks when finding a job as an employed student between employed students in Austria and Germany, since around twice as many Austrian students leveraged social networks when finding a job compared to German students. Satisfaction with the facet “pay” moreover did significantly differ between all employed students of groups Austria and Germany ($p=0,0018$). Further research on a larger scale might therefore lead to broader insights of these dynamics, which might help to enhance the performance of workers and ultimately of firms in the long run.

Zusammenfassung

Soziale Strukturen sind ein allgegenwärtiger Faktor in einer Gesellschaft und können eine wichtige Rolle auf Arbeitsmärkten spielen. Da Informationsasymmetrien ein Hindernis bei der Arbeitsplatzvergabe darstellen, fließen Informationen über Beschäftigungsmöglichkeiten häufig über soziale Kanäle. Es könnte argumentiert werden, dass die Nutzung sozialer Strukturen bei der Arbeitsplatzvergabe die Effizienz der Arbeitsmärkte verbessert, allerdings könnte es auch andere Auswirkungen geben. Das Verständnis der Faktoren, die sich auf die Arbeitszufriedenheit auswirken, könnte dazu beitragen, die Leistung von Unternehmen und Arbeitnehmern zu verbessern, was die Arbeitszufriedenheit zu einem äußerst wichtigen Thema für Arbeitnehmer und Unternehmen macht. Ziel dieser Arbeit ist es, die Auswirkungen sozialer Strukturen auf dem Arbeitsmarkt auf die Arbeitszufriedenheit zu untersuchen, wobei erwerbstätige Studenten in Österreich und Deutschland als Fokusgruppe dienen. Bisherige Forschungsarbeiten haben die Auswirkungen der Art und Weise, wie ein Arbeitsplatz gefunden wird, auf Faktoren wie Arbeitszufriedenheit entweder für sehr spezifische Gruppen von Arbeitnehmern oder für breitere nationale Stichproben untersucht. Durch die Untersuchung möglicher Auswirkungen von Arbeitsvermittlungsmethoden auf die Arbeitszufriedenheit von erwerbstätigen Studenten in Österreich und Deutschland wird daher eine Forschungslücke geschlossen. Um einen Einblick in diese Implikationen zu erhalten, wurde eine Online-Befragung unter erwerbstätigen Studierenden in Österreich und Deutschland durchgeführt, die N=159 gültige Datensätze ergab. Bei der Analyse der Daten wurde kein statistisch signifikanter Unterschied zwischen der Arbeitszufriedenheit erwerbstätiger Studenten festgestellt, die verschiedene Wege der Arbeitssuche nutzten. Es wurde auch kein statistisch signifikanter Unterschied zwischen den Auswirkungen sozialer Netzwerke auf die Arbeitszufriedenheit erwerbstätiger Studenten in Österreich und auf die Arbeitszufriedenheit erwerbstätiger Studenten in Deutschland festgestellt. Auch in der Wahrnehmung der Arbeitszufriedenheit gab es keine signifikanten Unterschiede zwischen den beiden Gruppen. Unterschiede wurden zwischen dem Anteil sozialer Netzwerke bei der Stellensuche als erwerbstätiger Student zwischen erwerbstätigen Studenten in Österreich und Deutschland vermutet, da etwa doppelt so viele österreichische Studenten soziale Netzwerke bei der Stellensuche nutzten wie deutsche Studenten. Die Zufriedenheit mit der Facette "Bezahlung" unterschied sich darüber hinaus signifikant zwischen allen erwerbstätigen Studierenden der Gruppen Österreich und Deutschland ($p=0,0018$). Weitere Untersuchungen in größerem Maßstab könnten daher zu umfassenderen Erkenntnissen über diese Dynamik führen, die dazu beitragen könnten, die Leistung der Arbeitnehmer und letztlich der Unternehmen langfristig zu verbessern.

1. Introduction

The aim of this thesis is to answer the research question: How are social referral networks associated with job satisfaction of student workers in Austria and Germany?

To reach this goal, the following pages are structured as followed. First, the motivation behind the thesis will be explored to show, that dealing with the topic of social networks in an economic context can be favorable for firms, as the effect of job allocation on job satisfaction will be explored, which is an omnipresent topic with arguably many implications on the performance of firms. Secondly, a theoretical analysis will be conducted to shed light on the academic landscape around the two main topic of this thesis, being job satisfaction and social networks in an economic context, which aims to help the understanding of the topic in general and paves the way to the argumentation of the hypotheses. Next, the empirical analysis will be described, since findings in this thesis are based on an online survey conducted in 2022. The hypotheses will be tested and furthermore discussed and also further findings will be discussed which came up when analyzing the data gathered within the online survey. Lastly, limitations will be discussed and a conclusion will be drawn with recommendations for further research.

1.2 Motivation

With Facebook, LinkedIn, Xing and co. on the surge, social networks have become an omnipresent topic within modern society. Yet the term “social networks” originally does not refer to the aforementioned digital networks but to a natural phenomenon in the modern world. Accordingly social networks are nowadays studied by economists, as economic action might arguably be coined by influences from social interaction. This view has not been consistent throughout economic research though, as economists arguably focused on two extremes prior to acknowledging the role of social structures on economic action. In one of these extremes interaction in large groups is emphasized. The other extreme focuses on small groups, such as in game theoretical approaches. It might be argued, that social networks can be placed in between these two extremes, since a network typically consists out of many individuals which each have interactions with a limited set of other individuals (Scott & Carrington, 2011).

Already in 1985, Granovetter argued in favor of combining the two different schools of thought, by reasoning that research on economic behavior is focusing too much on under-socialized behavior in economic theory and over-socialized behavior in sociological theory. According to Granovetter, a middle ground must be found since economic behavior is embedded within a

social structure. When looking e.g. at issues of trust and malfeasance, purely economic argumentation would assume a “gentleman actor”, whereas sociological argumentations would assume complete morality, both most likely being far off from the situation found in actual market exchange (M. Granovetter, 1985). By granting social networks their space within economic analysis and by acknowledging the embeddedness of economic behavior within social structure, a broad spectrum of viewing angles opens. One of these angles is the analysis of the effects of social structures on labor markets and job allocation mechanisms. As labor markets tend to suffer from asymmetric information problems, meaning that information to employers and employees is not equally accessible which leads to frictions in matching workers to jobs (Kar & Datta, 2015), workers which are searching for jobs might leverage their endowment within omnipresent social structures. On the other hand, firms looking for workers might leverage social structures by implementing e.g. referral programs. An extensive body of research on these phenomena has been elaborated to this day, including work from Schmutte (2016), who e.g. argues that the use of social networks in labor markets help labor markets become more efficient (Schmutte, 2016). On the contrary side, Bentolila et al. (2004) argue that leveraging social networks in job allocation mechanisms might lead to an overall decrease in aggregate productivity, as workers are less likely to be allocated to jobs which actually help them to exploit their comparative productive advantage (Bentolila et al., 2010). These two examples only shed light on the importance of social structures within economies but demonstrate the possible influences of social structures onto individual outcomes within firms.

Another central topic in economic research discussed in this thesis is the topic of job satisfaction, more specifically the effects of job satisfaction on e.g. employee turnover and employee performance and consequently the economic performance of firms. Some researchers go as far as referring to the relationship between job satisfaction and job performance as the “holy grail of organizational behavior research” (Fisher, 2010, p. 400), as job satisfaction criteria can be used as predictors for the abovementioned factors around employee performance or e.g. employee tenure.

With social structures being omnipresent in modern society, and firms and workers arguably leveraging them within the domain of job allocation, it can be of interest to analyze the effects of social structures in labor markets onto job satisfaction of workers, since job satisfaction is argued to have effects on factors such as productivity of workers or employee turnover propensities (Fisher, 2010). If leveraging the endowment within social structures in job allocation mechanisms does have effects on workers job satisfaction, ultimately the overall

economic performance of firms might be influenced in contrast to standard means of job allocation which do not largely rely on an individual's endowment within social structures. This thesis thus aims to investigate the effects of social structures on job allocation mechanisms in labor markets and the subsequent effects of these allocation mechanisms on job satisfaction.

2. Theoretical Analysis

2.1 Social structures in economic and sociologic schools of thought

The analysis of social structures, such as social networks in labor markets, has long been a topic mainly discussed by sociologists. Until the mid-1980s, economic theory largely ignored the role of social structures in economic analysis and explained economic action with centralized approaches (Scott & Carrington, 2011). To be able to distinguish economic and sociologic approaches of social network analysis in more detail, Rauch and Podolny (2007) investigate network formation and network decay which they then define into three phases. Firstly, the authors name an initial state, or a “state of nature”, which exists at the start of every network formation or decay. Secondly comes a mechanism which underlies the change of a networks pattern. Thirdly and lastly follows a developed state, which describes a social network after the aforementioned mechanism has operated on the first described state (Rauch, 2007). Rauch and Podolny argue, that economists and sociologists theorized each of these states differently. A main difference can be found in the view of the described “state of nature”. Economists described this state to consist out of atomized actors which act independently and decide rationally with which actors to form or not to form links, which is consisted with economic explanations of e.g. labor markets, in which atomistic individuals and firms match. Sociologists on the other hand see this atomistic view as analytical fiction, as it disguises the fact that individuals cannot exist or find each other outside a social network (Rauch, 2007). This idea was pioneered by Granovetter (1985), who phrased the idea of the necessity of networks as social embeddedness and further called for a combination of both the sociological and economic views of social network analysis. Considering the second phase of social network formation and decay, economic analysis suggested an agent-based approach, in which ex ante conditions of atomized actors exist, meaning that actors with certain characteristics and environmental conditions are given and are explanatory for the social ties which will arise. In contrast, sociologists did not look at the ex-ante conditions of actors to explain social networks formation or decay, but at the state of the network these actors where embedded in, meaning the position of an actor within an existing network was argued to be from importance (Rauch, 2007). Bearing in mind different “states of nature” and different mechanism regarding economic and sociologic views of formation and decay of social ties within social networks, it becomes clear that also the end- or developed state differs within these schools of thought. The main difference is here that economic argumentation leads to an equilibrium state, which presents the evolution of the social structure into a stable pattern. Sociologic argumentation on the other hand rather looks into the change of networks instead of the final equilibrium state (Rauch, 2007). Even though both

schools of thought have different views on the described three stages of network development, both can learn from each other. Sociologists might recognize the given heterogeneity of agents and the dynamics of self-selection when analyzing social structures, economists might want to consider the idea of embeddedness further, in which past interaction of individuals have impacts on current states within networks. By combining both approaches, theoretical explanations might be more satisfying and econometric analysis of network effects might be more accurate (Rauch, 2007).

By looking into the evolution of social networks from both the economic and sociologic perspective, it becomes clear that both schools of thought can benefit from each other. As this thesis has an economic focus, including sociological reasoning might lead to a better understanding of the impacts of social structures on job satisfaction, since social networks are endemic to all economic action and social context can be seen as a primary driver of behaviors and outcomes (Rauch, 2007).

2.2 Social network analysis in an economic context

As explored in the previous sections, social structures are omnipresent and can argued to be endemic to economic action. Jackson (2007) raises the point, that the analysis of the importance of social networks in an economic context comes from the fact, that many economic models have been pushed to their limits when explaining economic phenomena in a real world context (Jackson, 2007). The aforementioned combination of different schools of thought, such as sociology and economics, is now found to help to explain observable economic phenomena (Rauch, 2007). It might be worth mentioning, that the combination of different fields of research is not exclusive to social networks analysis and economic reasoning, but can e.g. also be found in behavioral economics which demonstrates, that a better understanding of human action can also lead to improved economic modelling (Rauch, 2007). This matter will not be explored further in this section but will come to light in the following theoretical part about job satisfaction.

2.2.1 Early works of social networks in an economic context

Most of the early literature in the context of social networks in an economic context has been conducted by labor economists which primarily tried to understand the dynamics of unemployment or labor shortages. The studies focused thereby mainly on blue collar workers (M. Granovetter, 1995). One of these early works of social networks in an economic context can be found in the works of Myers and Shultz (1951), which interviewed employers and employees

of a textile mill that was shut down and led to many workers being unemployed. The authors concluded from the undertaken interviews, that most of the displaced workers did find new jobs, yet the majority found these jobs based on information from acquaintances or relatives, which the authors described as a great informality characteristic of human contacts in labor markets (Bone, 1952). Other studies carried out in the time on blue collar workers in different cities and in different socioeconomic contexts mainly come to the same conclusions. Formal ways of job placement rarely accounted for more than 20% of all placements, leaving an average of 60-90% to informal modes of job allocation (M. Granovetter, 1995). In contrast, studies concerning blue collar workers have been scarce. However, the few conducted studies come to similar findings as to which the blue collar studies do. Informal networks seem to be of high importance both for college professors and for engineers when looking at the modes of job allocation (M. Granovetter, 1995).

2.2.2 Informal and formal networks in labor markets

Taking these early works on unemployment and labor shortages into consideration it becomes apparent, that a definition of informal and formal networks within a labor market might be needed to gain a better understanding of the dynamics of social structures in labor markets. According to Rees (1966), formal information networks include e.g. state employment services or fee charging employment agencies, whereas informal networks include e.g. social referrals from employees' social environments. At the time Rees published his work in the late 60s, these informal networks were largely ignored in economic reasoning. Rees explores, that especially in labor markets informal networks, such as social referral networks, can be of high importance. He argues, that in any market the search for information, such as an employer searches for workers or vice versa, has both an extensive margin and an intensive margin. By drawing an analogy to the car market, Rees reasons that the labor market might be compared to a used car market, where the intensive margin is in the forefront. This is because in a used car market, a rational buyer might not invest much in obtaining a large number of offers but more into examining each offer very carefully. Prices in used car markets represent the condition a car comes in and information on the previous owner and his/her habits of using the car account for major differences in the quality of the used car. If a rational buyer knows the seller well and is sure about the quality of the offered car, it makes sense for the rational buyer to pay a higher price for this car than for another. In contrast, in a market for new cars the rational buyer would not care if he/she bought the car off a friend or an unknown dealership, as the commodity is traded at a certain quality standard that the producer of the good ensures by e.g. quality guarantees. Hiring an employee in a labor market might now be compared to buying a car in

a used car market, as there is variation in the quality and fit of different applicants for a certain job, meaning that the exploration and understanding of informal networks in labor markets might help to facilitate the allocation of employees and employers, as these informal networks might present a way to leverage the intensive margin in information search. This could be the case because e.g. informal networks are usually costless to employers and provide more detailed information about the applicant, as self-selection processes are in place, since applicants have more detailed information about the desired job from their endowment in a social network (Rees, 1966).

Acknowledging the role of informal and formal networks within labor markets, Granovetter first published his work “Getting a job. A Study of Contacts and Careers” in 1974, which then was republished in 1995. The starting point for his reasoning were the findings of the abovementioned studies, which argue that informal networks play a major role in job allocation processes. Granovetter’s main idea is, that job allocation processes are more than rational economic processes and heavily depend on the social embeddedness of the individual actors (M. Granovetter, 1995). It becomes apparent, that the ideas of embeddedness led to the predominant article “Economic Action and Social Structure: The Problem of Embeddedness”, published in 1985. To test his argumentation, Granovetter conducted an empirical study¹ in the suburbs of Boston, in which he identified workers which recently moved between employers and thus jobs, to assess, how workers leverage their endowment in social networks. The study concentrated on highly skilled workers (white collar workers), referred to as professional, technical and managerial workers (PTM) and included workers, which did not explicitly look for different jobs. In accordance with the findings of Rees (1966), Granovetter distinguishes between three modes of job allocation: formal methods, personal contacts and direct application (M. Granovetter, 1995). It transpired in the study, that the majority of the workers in the target group found employment via personal contacts whereas both only 20% used formal methods or direct application. Importantly, the study also included questions regarding the job satisfaction or income of the participants. Participants of this study that leveraged social networks when looking for jobs were found to be more satisfied with their work² and had higher incomes. During the study it also transpired, that social networks in job allocation mechanisms seem to be from higher importance for workers from a higher age group (M. Granovetter, 1995). Another interesting finding of Granovetter’s study is, that around one third of the

¹ Granovetter conducted 100 interviews and received 182 valid questionnaires sent out to workers in scope for the research

² PTM workers job satisfaction was found to be positively influenced using social networks in job allocation processes

participants where not actively looking for jobs when ultimately changing jobs. This phenomenon was found to be from importance especially for workers with higher wages, e.g. managers (M. Granovetter, 1995). Also preceding his own future research, Granovetter argues that the lengths of links³ between individuals in a social network are from importance when it comes to job allocation processes. He argues that more individuals in a chain of information led to more informed individuals about job openings, yet individuals that got information about job vacancies from long information chains ended up being unhappier with their work and got paid less. It might be worth mentioning, that these longer information chains were rather leveraged by younger workers. Analyzing the results of the study with regard to the types of relationships that led to the transmission of information within a network, the study found weak ties to be the main source of information flow (M. Granovetter, 1995). As argued in his article “The strength of weak ties” in 1973, weak ties are characterized by less contact, less time invested into the relationship and less intimacy between the individuals. In his paper on weak ties and strong ties, Granovetter already argued for weak ties to be stronger than strong ties, since they allow distinctive networks to connect and thus lead to better information flow (by e.g. providing non redundant and highly relevant information (Lutter, 2017)), whereas strong ties are certainly important, yet more focused on a microcosm of connections within a greater network (Granovetter, 1973).

2.2.3 Controversies of analysis of social structures in an economic context

Before discussing further research on the topic of social networks in an economic context, it should be mentioned that the analysis of social networks especially in the context of labor markets comes with certain limitations. Mouw (2003) points out, that numerous research comes to the finding that the use of networks in a labor market have only little impact on the outcomes of a labor market⁴, meaning that the notions of embeddedness might not be needed to ensure explanatory power of economic models. Mouw indicates, that the causality from studies results regarding social capital and labor markets should be looked at carefully. He argues, that one of the basic social ties is the tie of friendship, which is not acquired randomly. Proven by various studies, individuals tend to choose friends who are similar to them. This means, that shown correlations between endowment in social networks and e.g. income might not be due to effects of the entire social network, but rather to the fact, that people are endowed in homogenous peer groups. Within Meow’s study four different data sets are being analyzed, with the result that

³ Referring to the temporal characteristic of information transmission

⁴ While acknowledging that numerous research also argues in favor of embeddedness and social networks to understand labor market dynamics

indeed the effects described in the literature on social capital can be explained with the tendency of people to choose likeminded people as their friends (Mouw, 2003). Certainly, these findings do not render all other theories and studies obsolete, but the mentioned caveat with causality should be taken into consideration when analyzing effects of social networks on labor market outcomes.

With these caveats in mind, it is apparent that the tone setting hypotheses of Granovetter from his work “Getting a job: a study of contacts and careers” are being discussed controversially in the literature. Especially the hypotheses, that weak ties and the leveraging of an individual’s endowment within a social network lead to better job satisfaction and higher wages of the individuals which use social networks to find jobs, have been rejected by researchers, such as by Mouw (2003) or by Lin (1999) who even goes as far as stating that “It is clear by now that use of informal channels itself offers no advantage over other channels especially formal channels in attained status” (p. 481). Granovetter finds in his study, that 54% of the individuals who found employment via social networks are satisfied with their job, whereas only 30% of individuals which use formal methods of job search are satisfied with their job. Also individuals that uses social networks are more likely to be in a higher wage group (Granovetter, 1995). Similar findings were also presented in other studies (e.g. Jann, 2003) yet a larger number of studies also explicitly did not approve these findings (e.g. Mau and Kopischke, 2001) and some studies even find a loss of income when leveraging the endowment within social structures (Franzen & Hangartner, 2005). In a more recent paper from Franzen and Hangartner (2005) the authors discuss the hypotheses of Granovetter critically, having the disapproval of the abovementioned studies as a motivation, since the hypotheses of Granovetter seem to be disapproved by many researchers or at least seen critically in the wider literature. To understand the disapproval of Granovetter’s intuitively convincing hypotheses and the findings of the aforementioned studies, Franzen and Hangartner (2005) take an excursion into the connections of economic job search models and social network analysis. According to job search models, job offers usually do not arise simultaneously, but sequentially. This implies, that job seeking individuals must decide whether to take an offer or to invest more time in searching for another offer. Choosing to keep looking for other offers bears uncertainty whether a better job offer will arise or not. This means, that searching for a job implies costs, both the direct search costs and opportunity costs of potentially missed offers. A utility maximizing, job seeking individual would thus decide for a job if the offer covers both the direct search costs and the opportunity costs of finding a better offer. Fully rational individuals would therefore only search as long as they found a job that fulfills the mentioned conditions, meaning that a certain reservation wage is

being covered. Individuals with a higher reservation wage would thus have a longer job search period as individuals with a lower reservation wage would have, which leads to individuals with higher reservation wages to ultimately receive in average better offers. The reservation wage is also depending on the possibilities an individual has on the job market. A higher rate of job offers thus implies a higher reservation wage and thus a longer job search period. When thinking back of Granovetter's weak tie hypothesis, individuals with more weak ties and thus a bigger and more heterogenous network can expect a higher number of job offers, which ultimately leads to a higher reservation wage. This means, that social networks in this sense would have impacts only due to the adapted expectations of individuals instead of the direct effects that Granovetter describes (Franzen & Hangartner, 2005). Another simpler explanation with job search theory in mind might be different search strategies of individuals, which might present an explanation of negative income effects of social networks in labor markets, caused by either the length of the search period or the number of offers received. If two individuals both use social networks and formal methods to find a job, they would, in accordance with Granovetter who argues for social network to be faster in job allocation, sequentially first receive offers from social networks and then offers from formal methods. An individual that decides quickly would thus accept an offer from the social network, an individual that invests more time in the search process would be then able to compare offers from both the social network and formal methods. A rational and value maximizing individual would decide for the better offer, if this offer is the one from formal methods, this would *ceteris paribus* imply that the formal method led to a higher offer than the social network. This means, that when a formal offer is being accepted, a longer search period might be the background. Looking at the implications of the number of offers received, it becomes apparent, that individuals with more offers would more likely also receive offers from formal methods, as they are rarer compared to social network offers. If both offers are received, individuals could then choose between offers and decide for the better one (Franzen & Hangartner, 2005).

This line of argumentation illustrates a conflict between economic and sociologic schools of thought, but once more indicates, that solely economic or sociologic reasoning might not be apt to explain real world phenomena in their entirety. This becomes clear, when acknowledging the fact, that the aforementioned job search model implications on Granovetter's hypotheses are only argued in the context of pecuniary job characteristics. In reality, jobs are not only characterized by pecuniary, but importantly also by non-pecuniary characteristics, such as job satisfaction or as coined by Franzen and Hangartner, the training adequacy, meaning how well a certain training or qualification fits the actual job. It might be assumed, that individuals obtain

qualifications that fit their interests and would thus, next to wage considerations, prefer jobs that fit their training. It might furthermore be assumed, that within these jobs, skills obtained during training or qualifications, might be used more efficient. When considering these non-pecuniary job characteristics, social networks might play an important role, as information on non-pecuniary job characteristics can be difficult to access via formal job searching methods. In social networks, individuals know about each other and therefore knowledge about interests and skills exists, which might help to filter job offers for individuals looking for jobs⁵ (Franzen & Hangartner, 2005). The authors hypothesize, that jobs found through social networks differ in their non-pecuniary characteristics to those jobs found by formal methods, mainly in the aspect of the mentioned training adequacy. They also hypothesize, that the use of social networks in job markets leads to lower search costs and faster job allocation and that jobs found through formal methods and social networks do not differ in spite of wages if the search time is being held constant (Franzen & Hangartner, 2005). To test their hypotheses, Franzen and Hangartner (2005) examine the outcomes of the yearly survey of Swiss university graduates. Analyzing the results of the study, the authors conclude, that individuals who used social networks to find jobs had a 5% loss of income compared to those individuals which used formal methods. An explanation might be, that individuals with social network offers received less offers via formal methods and thus were not able to compare offers. Furthermore the study comes to the result, that leveraging social networks in the job allocation process leads to subjectively more adequate jobs for job seeking individuals, meaning that social networks have a positive impact on non-pecuniary characteristics. According to the findings of the study, social networks also led to a shorter job searching period. It should be mentioned, that female graduates reported more frictions during job search than male graduates, which sensitizes for the question whether certain labor market segments or professional groups are affected differently by social networks and also demonstrates, that the labor market cannot be seen as homogenous when it comes to the impacts of different job searching methods (Franzen & Hangartner, 2005). The article demonstrates that the use of social networks in job searching processes in labor markets might not only be associated with advantages, but also with disadvantages for job seeking individuals. In the case of the study of Swiss university graduates both advantages and disadvantages were identified.

⁵ Self selection processes of social network analysis are discussed in other literature as well, such as Bentolila et al. 2010; Schmutte, 2016

2.2.4 Effects of social networks within labor market analysis

Having the argumentation of the previously analyzed paper in mind, it becomes clear that social structures in labor markets can be analyzed with different aspects in mind, such as job tenure or wage disparity of individuals leveraging their endowment within social networks to find employment.

Looking at the aspect of job tenure more carefully might be important to further understand social network analysis in an economic context, especially having the associations of job tenure and job satisfaction, which will be discussed in the following parts of this thesis, in mind. Two main ideas behind prolonged employee tenure can be seen in the “good matches” hypothesis and the “limited choices” hypothesis. The “good matches” hypothesis is thereby based on the information asymmetries that exist in labor markets, meaning that employers and workers have imperfect information of the availability of either workers or jobs. Social networks now might reduce this uncertainty, as some job characteristics, especially non-pecuniary characteristics, are difficult to communicate and thus lead to higher uncertainty since workers might not be able to assess all job characteristics correctly before starting a new job. If information is provided through a social network, uncertainty might be reduced and match quality might thus be enhanced. With match quality between jobs and workers being higher when leveraging social structures, also job tenure was shown to be prolonged (Loury, 2006).

Longer job tenure due to social networks in labor markets can also be explained by the “limited choices” hypothesis. This theory suggests, that workers remain in jobs and have longer job tenure simply because they do not have any other fitting job offers available (Loury, 2006). Additionally, the source of job changes might be a factor influencing wages, as involuntary job changes might lead to lower wages and voluntary job changes lead to higher wages. Lower wages might also be a consequence for those individuals who use contacts as a last option when looking for jobs (Loury, 2006). Contacts in social networks might now be divided into high wage offers and low wage offer sources. When connecting this idea with the good matches and limited choices hypotheses, it could be assumed, that contacts within the good matches theory are focused on informal contacts as sources of high wage job offers, which means that workers who find jobs through leveraging contacts might earn more, have higher levels of job satisfaction and have lower turnover rates as job and worker matches are improved. Contrary, with limited choices theory, contacts might be rather a source of low wage offers. Workers which receive offers from low wage contacts might accept these offers, but only if the likelihood of receiving high wage offers is low. This might be especially true for younger workers which are not yet well connected within social networks, as this restrains the possibility of receiving high wage offers

(Loury, 2006). Parallels can be seen in the strong tie and weak tie hypotheses from Granovetter (1973). Within this argumentation, the connection of strong ties being family and friends and weak ties being other acquaintances is drawn, and it is argued in accordance with Granovetter that weak ties have a larger impact on workers wages than strong ties, since more non-redundant information on jobs can be conveyed (Loury, 2006).

Using these low wage offers signals a limited range of job alternatives, which might lead to workers using these contacts to earn less, have lower levels of job satisfaction and also change jobs less often (Loury, 2006). This argumentation makes clear, that longer job tenure of individuals which are using their endowment within social networks should be differentiated, as the type of connection leading to a match in the labor market implies different reasons for longer job tenure.

As the previously discussed literature shows, social referral networks can be argued to have both positive and negative influences when analyzing them in the context of labor markets. As touched upon by previously discussed research, a distinction between types of contacts within a network might be helpful to further understand these implications, such as the distinction between strong tie and weak tie contacts as mentioned before. Strong tie contacts are thus described as closer relationships of individuals which are in a regular exchange, such as friends or family (M. Granovetter, 1973). Bentolila et al. (2010) analyze the effects of social referral mechanisms with a focus on strong tie relationships, meaning family and friend contacts which were used in job allocation. According to their argumentation, social contacts are not primarily obtained for the purpose of finding a job, especially not for finding specific jobs in specific segments of the labor market. Yet, accompanying research⁶ shows that social contacts are frequently used when it comes to job allocation. This implies, that the availability of social contacts facilitates the job search for workers and might lead to workers choosing jobs which do not perfectly fit their abilities, meaning that social contacts might lead to a mismatch between the comparative advantages of workers and their job obtained through social networks. This effect can even be increased if certain social norms, such as family traditions or social conventions come into play, since these might lead to individuals explicitly choosing jobs which are closer to them and thus come from strong tie relationships (Bentolila et al., 2010).

⁶ E.g. the in this thesis mentioned study of Granovetter (1974); Bentolila et al. (2010) acknowledge the wide range of the share of workers finding jobs through social referral by citing Montgomery (1991) who found 24-74% of all workers to leverage social contacts, depending on type of job and locality of reference. The wide range of the share of individuals found to leverage social contacts in this study is peculiarly interesting, as it might showcase the impact of demographic situations

By creating a mismatch between the occupational choice and the individual comparative advantage of workers, ultimately a depressed aggregate productivity of a labor market might be the result. The authors assume within their model, that each worker has an individual productive advantage within a certain occupation and a certain endowment within a social network which might be useful to find jobs in their preferred profession or any other profession. Given a labor market with search frictions, some workers then might have to choose between an occupation that fits their interests or between leveraging their endowment within a social network. The larger the endowment within a social network, the larger is the needed productive advantage for a worker to choose his/her position over choosing to leverage the social network. Given these circumstances, the authors argue for social networks to have a large distortionary impact on aggregate net incomes in connection with the aggregate endowment within social networks (Bentolila et al., 2010). Especially in difficult economic times the labor market might become more challenging. This might then lead to job seeking individuals to rely on their endowment within social structures to find jobs even more, leading to the labor market potentially being stuck within a trap in which workers do not exploit their comparative advantage since the economy is depressed and they rely more on social networks which in turn leads to poorer economic performance (Bentolila et al., 2010). The authors analyze two data sets, one from the US and one from the EU. The US data being from a survey conducted between 1992 and 1994 in four US cities (Atlanta, Boston, Detroit and Los Angeles), the EU data being from the European Household Panel between 1995 and 2001 corresponding to 13 member states. For both data sets, individuals younger than 35 were in the focus, as the study aimed to assess the role of contacts which are not acquired through professional life, thus targeting young workers in an early career stage. Analyzing both data sets yielded, that jobs found through contacts had roughly a 2,5% to 3,5% wage discount, even after controlling for characteristics such as economic or family background or cognitive abilities. The empirical results also support the hypotheses, that a trade-off between facilitated job search through social networks and wages exists and that social contacts induce mismatches with workers occupational choices and their comparative advantages (Bentolila et al., 2010).

The previously discussed study by Bentolila et al. (2010) argues for social referral networks to have rather negative effects on the labor market. Franzen and Hangartner (2005) also report a loss of income due to the use of social networks in recruiting processes. These findings might create the impression, that social networks are negatively connoted in the context of labor markets. Yet other research also comes to more positive findings when analyzing social networks within a labor market context. Schmutte (2016) takes a summarizing approach in his policy

advising paper on how social networks affect labor markets and comes to mixed findings, yet concludes, that social networks particularly improve labor market efficiency and lead to longer job tenure of those workers who are being referred. Schmutte (2016) acknowledges the widespread use of social referral networks, stating that researchers argue that between 30-50% of all workers found their jobs through social networks (Schmutte, 2016). As argued by Mouw (2003) in the context of social networks in an economic surrounding and largely discussed in sociology, Schmutte (2016) recognizes the causality of socialization mechanism, such as that individuals tend to choose friends which are similar to them when it comes to e.g. character traits. This leads to homophily, which there is a strong tendency for in social networks, especially on the basis of socio- economic status or ethnicity (Schmutte, 2016). When analyzing homophily in the context of social networks that exchange job information, two main implications can be observed. Firstly, since homophily also accounts for unobservable characteristics, productive workers might refer other productive workers, which can be seen as a certain self-selection mechanism which might save screening tasks on the side of the firm. Secondly, if a social network is based on e.g. ethnicity or race, inequality between different groups can be increased. Both effects might also appear simultaneously, meaning networks act as a screening mechanism, but only for a select group which would further enhance inequality (Schmutte, 2016). The caveat of causality brought up by Mouw (2003) is also discussed by Schmutte (2016), as he argues that the sorting mechanism due to homophily might lead to a correlation between an individual's labor market outcome and the labor market outcomes of the people within the individuals network, meaning that the effects of social networks are dampened, since the exchange of job related information do not have to be of importance in this case (Schmutte, 2016).

A critical point taken by Schmutte (2016) targets the empirical evidence used by researchers to assess the role of social networks in labor markets. The main point hereby is, that most studies use data that was not originally collected to gain insight into the role of social networks in labor markets. Insights about the role of social networks in labor markets was rather inferred from administrative record data obtained e.g. from survey supplements. More recent research tries to learn from these mistakes by collecting more detailed information on e.g. the nature of contacts that led to information which helped to find jobs or by analyzing data from firms which keep track of their referrals (Schmutte, 2016).

Regarding effects on the aggregate economy, Schmutte (2016) recognizes the possibly big role social contacts might play, as research has shown a wide use of social contacts in job allocation within labor markets (see e.g. (M. Granovetter, 1995). Schmutte argues, that social referral

significantly boosts efficiency within a labor market, by alleviating search frictions and leading to faster job allocation. Also he reasons, that the value of referral networks dilutes when being used extensively by a large number of individuals (Schmutte, 2016). Furthermore, the study comes to the finding, that when the rate of hiring within a labor market is high, the use of social referral networks to find jobs is low. Labor market conditions might thus be a predictor for the use of social referral networks in labor markets (Schmutte, 2016).

When analyzing the role of referrals within a company, Schmutte refers to a study conducted by Brown et al. (2016), which shows that workers who were referred by another employee have longer job tenure and a higher starting wage though the wage advantage does dissipate over time. Additionally, it was found that referrals within a firm were less important when it came to the elimination of information asymmetries (Brown et al., 2016). These findings are consistent with the ideas of self-selection leading to the firm finding more productive workers with investing less into direct screening activities (Schmutte, 2016).

When talking about the role of social referral network in labor markets, often the labor market is unified to one homogenous entity. As the labor market is very complex, it must be added, that social networks might play a different role when analyzing them from the point of view of a trucking company or from the view of the financial sector (Schmutte, 2016). Findings of studies trying to assess the aforementioned roles must therefore be interpreted carefully. Also the fast changes in the use information technology in labor markets is difficult to grasp and might have implications on the role of social referral networks in a labor market context (Schmutte, 2016).

2.3 Introduction and definition of job satisfaction

This thesis aims to analyze possible effects between social referral networks in labor markets and the job satisfaction of employed students both in Austria and in Germany, therefore the second central theoretical building block will now be discussed.

Job satisfaction is a highly debated topic, being one of the most researched topics in organizational theory. Spector (2022) analyzed, that in June 2021 there were 36,653 publications found on Clarivate Analytics on the topic of job satisfaction, spreading across multiple research disciplines, such as behavioral economics, business or social sciences (Spector, 2022). Spector (2022) also demonstrates that there is a constantly rising interest in the topic of job satisfaction, as the number of publications is continually rising per decade. Starting from 8 publications in the 1930s to alone 4,188 publications in 2020, which would have taken scholars from 1936 to 1988 to accumulate this number of research, the sharply risen interest in this field is becoming clear (Spector, 2022). The beginning of research regarding job satisfaction might be attributed to Hoppock (1935), who provided first measurement instruments in his book “Job satisfaction”. Other prominent research in the 1930s was conducted by Kornhauser and Sharp (1932), who started to acknowledge the importance of workplace health and well-being (Spector, 2022). As the topic of job satisfaction can be described as comprehensive, the reasons for researching it vary considerably from the effect of job satisfaction on employee attitudes or to simply understand the experiences people make at work better (Spector, 2022).

Job satisfaction is argued to be an attitude that both consists out of affective and cognitive components (Fisher, 2010) and behavioral components (Zhu, 2012). Affective components relate to feelings and emotions, cognitive components to knowledge or opinions and the behavioral components to inclinations by individuals to take actions (Zhu, 2012). By reviewing multiple studies on job satisfaction, Zhu (2012) notes that the institutional concept of job satisfaction, especially with concern paid to the definitions of job satisfaction, evolves gradually (Zhu, 2012). Early works such as the one by Hoppock (1935) describe job satisfaction as an employee’s subjective reflection on work scenarios, which e.g. represents an affective approach (Hoppock, 1935; Zhu, 2012). A widely used definition of job satisfaction stems from Locke (1976), who describes job satisfaction as “a pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences” (Judge & Klinger, 2007; Locke, 1976, p. 1304). Another popular definition of the concept of job satisfaction might be found in the updated version of Spector’s comprehensive book on job satisfaction, in which he defines job satisfaction to be “simply how people feel about their jobs and different aspects of their jobs. It is the extent

to which people like (satisfaction) or dislike (dissatisfaction) their jobs. As it is generally assessed, job satisfaction is an attitude” (Spector, 2022, p.2). As the work by Spector is widely recognized and due to the updated version from 2022 being very recent, this thesis will follow the definition of job satisfaction by Spector (2022).

The analysis of job satisfaction in this thesis focuses on the assessment of job satisfaction of employees and the possible effects on workers attitudes, as this might generate insights into implications for firms which seek to maximize value creation. After agreeing on a definition of job satisfaction, the thesis will elaborate, which implications job satisfaction can have on the value creation of firms. As this thesis has an empirical foundation and the hypotheses stated will be tested by generating data through an online questionnaire, also the possibilities to quantify job satisfaction will be discussed by looking into the different determinants of job satisfaction.

2.4 Importance of job satisfaction in an economic context

The relationship between job performance and job satisfaction has been studied intensively and some researchers even go as far as stating it to be the “Holy Grail” of organizational behavior research (Fisher, 2010; H. M. Weiss & Cropanzano, 1996). Following Spector (2022), the reasons for why to focus on job satisfaction can be classified into two categories, namely with a focus on the employee or a focus on the organization. The first perspective has a main idea, that people deserve fair and respectful treatment. Since work is an important part of an individual’s life, the way individuals are being treated at work might have serious consequences on their physical and psychological wellbeing, granting job satisfaction an important role (Spector, 2022). Considering a broad stakeholder perspective, it might be argued that efforts to enhance job satisfaction can be the right thing to fulfill the responsibility towards all people affected by the organization, including employees (Spector, 2022). The second perspective is rather utilitarian, as the focus is on the impacts of job satisfaction on the behavior of employees, which ultimately influences organizational functioning (Spector, 1985). This thesis will concentrate on the second perspective, meaning the effects of job satisfaction on the behavior of employees and the connected implications on organizational features such as organizational effectiveness.

When analyzing job satisfaction, it might be intuitively assumed that higher job satisfaction leads to better job performance. When imagining happy employees, it comes naturally to link this observation to a boost in effectiveness at work. Meta studies such as one conducted by Judge et al. (2001) do find a correlation between job satisfaction and job performance (Judge et al.,

2001)⁷, yet the dynamics behind these correlation are not explored. It might thus be possible, that indeed job satisfaction does lead to job performance, but it might also be possible that the opposite is the case, meaning that job performance in turn causes job satisfaction (Spector, 2022). Evidence for the direction of job performance influencing job satisfaction exists in research, especially in the direction that people who perform better at their job actually like their jobs better since they are rewarded for their good performance (Spector, 2022). Lawler and Porter (1967) for example argue, that job satisfaction is caused by job performance, arguing for a more targeted approach in maximizing satisfaction. The authors also acknowledge the role of satisfaction on employee turnover and absenteeism, which will be discussed later in this thesis (Lawler & Porter, 1967). Jacobs and Solomon (1977) also argue for job performance leading to job satisfaction, and showed that performance and satisfaction were more strongly correlated if organizations linked good job performance with rewards (Jacobs & Solomon, 1977; Spector, 2022). An indirect connection between job performance and job satisfaction can be found in a work of Caldwell and O'Reilly (1990), which show, that employees in jobs that match their skills better have improved job performance and job satisfaction, which might allow to assume that partly job satisfaction is caused by job performance (Caldwell & O'Reilly, 1990; Spector, 2022). The causality between job satisfaction and job performance should thus be kept in mind when analyzing the importance of job satisfaction in an economic context further, as the simple intuitive notion of satisfaction leading to better performance might be oversimplified in some cases.

Even though a causality between the two concepts of job satisfaction and job performance exists, there are still argued to be correlations between job satisfaction and job performance, which might ultimately be the more interesting direction to look at the issue, since job performance can be more directly connected to the overall organizational performance of a firm and therefore to its overall economic performance. Effects on organizational performance range between different aspects, such as the effects of job satisfaction on e.g. the profitability or the earning per share of company stock (Spector, 2022) or effects of job satisfaction on internal developments of the company, such as the effects of job satisfaction on employee tenure or correlations between pay levels and job satisfaction of employees (Card et al., 2012; Fisher, 2010).

⁷ Mean true correlation between overall job satisfaction and job performance was in this study estimated to be .30 (Judge et al., 2001)

All of the mentioned effects might be important to understand from the perspective of firms, since mentioned before both might alter organizational performance.

A study looking into job satisfaction on organizational performance is a study by Schneider et al. (2003), which explored the possible relationships of financial (by checking for correlations between employee attitudes and ROA⁸) and market performance (by checking for correlations between employee attitudes and EPS⁹) data of organizations to different features of employee attitudes, such as job satisfaction (Schneider et al., 2003). By analyzing data from attitude surveys conducted at multiple U.S. companies gathered between 1987 and 1995, Schneider et al. report that indeed overall job satisfaction was predicted by ROA and EPS and the reverse relationship was found to be significant in some cases as well (Schneider et al., 2003), which allows the interpretation that overall job satisfaction might have effects on both of the financial indicators. It must be mentioned that the authors state as a limitation, that the relationships between employee attitudes, such as job satisfaction, and organizational performance are very complex and it would thus be too simplistic to imply from their findings a general correlation of the two organizational phenomena (Schneider et al., 2003). Nonetheless, the study shows that both features are somewhat correlated and the analysis in the actual organizational situation of a firm might help to maximize value.

Another study dealing with the relationship between employee satisfaction and business outcomes such as productivity or employee turnover can be found in the meta-analysis by Harter et al. (2002). By analyzing 42 studies which were conducted in 36 independent companies, Harter et al. were able to test their hypotheses for 7,939 business units (Harter et al., 2002). The meta-analysis yielded some generalizable relationships that were large enough to have practical value. The true score correlation for e.g. employee turnover and productivity were both found to be in the direction of the hypothesis, that business unit employee satisfaction will have positive correlations with business unit outcomes (Harter et al., 2002). Therefore, the authors conclude, that employee job satisfaction can be related to business outcomes at such an extent that it can be argued to be important to many organizations. Also, the findings were argued to be generalizable across different companies (Harter et al., 2002).

When looking into the mentioned effects of job satisfaction on internal developments of firms and thus on their organizational performance, the effects of job satisfaction on turnover propensities of workers might be seen to be among the most noticeable matters. Employee turnover can be argued to be of high cost for firms, as both direct and indirect costs are incurred,

⁸ ROA: Return on assets

⁹ EPS: Earnings per share

such as recruitment and selection, training and development costs or employee commitment and productivity are affected (Tian-Foreman, 2009). In a wide-ranging meta-analysis Griffeth et al. (2000) explore turnover antecedents and their predictive strength for employee turnover. Within the meta-analysis the authors conclude, that still one of the best predictors of employee turnover is among other things job satisfaction (Griffeth et al., 2000). Even though correlations can be shown between job satisfaction and turnover propensities, it should be mentioned that the ability to find another job might affect actual turnover due to job dissatisfaction. As shown by a meta-analysis by Carsten and Spector (1987), the unemployment rate at the time when satisfaction-turnover studies were conducted has an impact on this relationship. Correlations were stronger in times with low unemployment rates and vice versa (Carsten & Spector, 1987; Spector, 2022). Nonetheless, in general employee turnover can confidently be reported to be an outcome of job dissatisfaction, since the research design of studies looking into the connection allows for an assessment of job satisfaction before an employee would actually change jobs, meaning that the chance that turnover had effects on job satisfaction itself can be ruled out (Spector, 2022).

A highly debated issue in the last two years has certainly been the COVID-19 pandemic. As a factor external to organizations that arguably places employees in stressful situations due to e.g. the constant threat of illness or the loss of jobs due to economic recessions connected with the pandemic, it might be an intuitive idea to think of possible links to this external factor and job satisfaction. As the topic is very actual and still ongoing, studies looking into these recent developments are quite rare. Nonetheless, Möhring et al. (2021) looked at the development of individual satisfaction in a longitudinal study, comparing panel data collected before the lockdowns and during the lockdowns. The study finds that overall work satisfaction declined, especially for some groups of workers, such as mothers or individuals without children having to switch to short time work (Möhring et al., 2021). Next to lockdowns and different modes of employment, the pandemic came with other weighty changes to the way individuals work. The number of employees having to use matters of telework increased heavily (OECD, 2021), meaning that many employees found themselves in situations where supervision by managers had at least changed. This opened a debate of the productivity of workers in telework, as it facilitated e.g. cyberloafing, which is described as the act of individuals to use the online infrastructure of their employers for personal use in times when they are expected to be working for their employer (Lim, 2002). As the first intuition tells that cyberloafing is something employers should avoid due to the possible loss of productivity of their employees. In a literature review Weissenfeld et al. (2019) analyzed findings from multiple papers discussing the issue of

cyberloafing. In the regard of job satisfaction they found that links between job satisfaction and cyberloafing are still rather ambiguous, as on the one hand studies exist that posit that individuals cyberloaf if they have high levels of job satisfaction and on the other hand studies argue for cyberloafing to be a substitution for disliked labor (Weissenfeld et al., 2019).

Card et al. (2012) furthermore looked at the effects the salaries of coworkers have on the job satisfaction of individual workers. Within their study the authors randomly manipulated the access to the salaries of coworkers by informing some university employees about the existence of a website that posts the salaries of government workers. After this information treatment, the employees were surveyed about their job satisfaction and other factors (Card et al., 2012). The experiment yielded, that the information treatment led to reduced level of job satisfaction for those workers earning below median wages and to no significant changes for treatment group members paid above average (Card et al., 2012). Also job search intentions followed according to the same logic, the actual turnover increased especially for those employees who's pay is in the first quartile of their respective units (Card et al., 2012). The effects of disclosing information about wages demonstrates, that job satisfaction can be influenced from many sides and reacts to many factors within organizations.

As described in the previous sections, researchers argue for a connection between job satisfaction and organizational outcomes, as job satisfaction might influence job performance of individuals. Even though this intuitive idea has been discussed intensively and argumentations on the effects differ significantly, meta studies such as a study by Judge et al. (2001) yet argue for a moderately correlated relationship between job performance and job satisfaction (Judge et al., 2001). An overlooked feature in this line of argumentation might be found in the role of different cultures in the performance satisfaction relationship. The majority of research in this thesis for instance was conducted in western cultures, such as in the United States or in the European Union. Since different cultures have a great impact on the way individuals behave e.g. in business, it might be reasonable to suggest that cultures might have a moderating role on the job satisfaction and job performance relationship (Ng et al., 2009). Cultural dimensions are popularly described by Hofstede, for instance in his comprehensive book "Culture's consequences: comparing values, behaviors, institutions, and organizations across nations" from 2001 (Hofstede, 2001). A popular finding of Hofstede from a study he conducted at IBM in 1980 describes four so called cultural dimension. These are power distance, individualism – collectivism, uncertainty avoidance and masculinity – femininity (Hofstede, 1980). In their study Ng et al. (2009) examine if the mentioned cultural dimensions

have impacts on the relationship between satisfaction and performance. By conducting meta-analytical moderator tests, the researchers indeed find support for the influence of culture on the relationship of job satisfaction and job performance. Especially in individualistic cultures, low power distance cultures, masculine cultures and cultures with low uncertainty avoidance the effect size between job satisfaction and job performance is found to be stronger (Ng et al., 2009).

This might be seen as an important element when analyzing job satisfaction in this thesis, as comparisons between employed students in Austria and Germany will be done. Even though Germany and Austria are culturally not highly different, differences on the cultural dimensions by Hofstede still exist. In accordance with the research Ng et al. (2009), the dimensions of individualism, power distance, masculinity and uncertainty avoidance might be of interest when analyzing for impacts on the relationship of job satisfaction and job performance. When looking into a country comparison tool offered by Hofstede Insights, a consulting company based on the works of Hofstede, especially differences in the dimensions of individualism and masculinity become apparent when comparing Austria and Germany. Germany scores 66 (out of 100) on masculinity and is already considered a masculine society where performance is highly valued. Austria on the other hand scores 79 which is considerably higher, meaning that the Austrian society according to this theory places even more focus on success orientation and conflicts are resolved by fighting them out (Hofstede Insights, 2022b). Also the score on the cultural dimension of individualism differs significantly between the two neighboring countries, with Austria scoring 55 and Germany 67, meaning that in German society communication for example might be more direct and loyalty is rather based on a sense of duty and responsibility and in Austrian society individuals are expected to look out for themselves and immediate family (Hofstede Insights, 2022b).

2.5 Surveying job satisfaction

The concept of job satisfaction is commonly assessed with the help of questionnaires filled out by employees, which represents an easily standardizable and quantifiable measure that is also cost efficient. Interviews are also being used, yet they are more costly and thus less efficient in assessing job satisfaction, but allow researchers to elaborate on points that have not been preplanned or can serve as a starting point to elaborate specific variables which then can be used in broader surveys (Spector, 2022). In the area of job satisfaction surveys many advantages and little disadvantages can be found in the ample research that already has been conducted to set up such surveys. Advantages include the coverage of all major components such as the facets of job satisfaction, which will be explained later in this section, the provision of norms and the reliability and validity due to their ample use in research. A disadvantage of job satisfaction measuring instruments might be seen in the limited choice of facets which have been prechosen by the developers of the instruments (Spector, 2022). As noted in a previous section of this chapter, affect plays a certain role in the concept of job satisfaction. This primes a controversial matter brought up by Judge and Klinger (2007), who argue that the existing measures for job satisfaction might not be suited to assess the affective components of job satisfaction since the separation of affect and cognition can be very difficult. Even in neuroimaging such as magnetic resonance imaging (MRI), the separation between the two is not possible as these measures were not sensitive enough, which allows to doubt the precision of empirical methods such as surveys (Judge & Klinger, 2007). The authors importantly point out, that they do not argue against studying affect and cognition when looking into job satisfaction as they are both immanently important features, but rather that new measures should be thought of which distinguish better between cognition and affect (Judge & Klinger, 2007).

Being aware of some of the strengths and limitations of job satisfaction surveys, the actual measuring process can be discussed. There are multiple widely used job satisfaction instruments, with the Job Descriptive Index (JDI) (Smith et al., 1969), the Minnesota Satisfaction Questionnaire (MSQ) (Weiss et al., 1967) and the Job Satisfaction Survey (JSS), (Spector, 1985) being among the most commonly used ones. All of these instruments are assessing specific facets of a job, the JSS additionally assesses a global score. Assessing job satisfaction facets or a global score are two different methods of quantifying job satisfaction and it is being debated whether measuring facets or a global score yields better results. Job satisfaction facets, such as pay, promotions, coworkers, working conditions or supervision, are being summed up to an overall score in the end to assess overall job satisfaction, whereas a global score asks for an overall opinion on a workers job satisfaction (Judge & Klinger, 2007). Critical voices, such as Scarpello

and Campbell (1983) argue, that outcomes of individual questions regarding various job aspects do not correlate well with the global job satisfaction score and thus conclude that the faceted and the global measure cannot be compared (Judge & Klinger, 2007; Scarpello & Campbell, 1983). Considering this criticism, Judge and Klinger (2007) argue for it to be too premature, as in general it might be said that individual items and independent measures of the same construct do not correlate highly. When using facets though (instead of job satisfaction items), the correlations would be much higher (Judge & Klinger, 2007). In a more recent study, Bowling and Zelazny (2021) conducted an in-depth comparison between global and facet measures of job satisfaction and found, that both are highly correlated (Bowling & Zelazny, 2021). This allows for the conclusion, that summing different facets of job satisfaction to derive a global score might not be the complete alternative for global scores, but it still might be a very close approximation (Spector, 2022). Also faceted approaches might be tailored more to the needs of the individual research. When surveying employees to assess their level of job satisfaction, one also needs to consider appropriate measures within the survey. The two main measures in job satisfaction surveys are single item measures and multiple item measures, which both come with advantages and disadvantages. For single item measures simplicity and the applicability to different occupational groups might be seen as a major advantage, leading to a well-suited measure when comparability between different occupational groups or even between occupations in different countries is desired by the researcher. Disadvantages can be seen in the briefness of information which are obtained with the help of single item measures. Especially for managers who seek to tackle specific problems within their company a single item measure might be too simplistic (Oshagbemi, 1999). Multiple item job satisfaction measures on the other hand deliver more detailed information for specific questions, since they are in many cases tailor made to fit the given circumstances, but are more difficult to conceptualize and might thus be more costly (Oshagbemi, 1999). Also they are argued to be more reliable compared to single item measures, since the impact of human error when filling out surveys is being reduced by not relying on a correct answer on one single item and can yield a more complete assessment of job satisfaction facets, especially for facets that are very general and have many sub-facets, such as pay (Spector, 2022). Given these and other not in this thesis mentioned advantages and disadvantages, Oshagbemi (1999) argues for multiple item measures to be accompanied by single item measures, since the simple and short single item measure might lead to overall enhanced studies (Oshagbemi, 1999).

2.6 Previous research on job satisfaction and social referral networks

Even though the individual areas of job satisfaction and social networks are being researched intensively and comprise an extensive body of literature, research on the combination of these two topics appears to be significantly thinner.

Research on the effects of social structures on job satisfaction within firms has been granted more attention, such as in an article of Flap and Völker (2001), which deals with the question to which degree job satisfaction can be explained as an outcome of social structures within a company. The researchers acknowledge, that social capital is goal specific rather than universally fitting, leading to different kinds of networks affecting different kinds of job aspects, e.g. job satisfaction. This implies, that influencing job satisfaction requires specifically structured networks with particular content (Flap & Völker, 2001). Acknowledging the, even though very specific, impact of social structures onto job satisfaction, it might be argued to be a foundation for more specific research of the combination of both topics.

Acknowledging the attention social structures and job satisfaction as a combination have experienced, a better foundation for a deeper dive into the existing research can be established.

A research paper that specifically deals with the impact of social referral networks onto employee attitudes, such as job satisfaction, is found in the work of Vecchio (1995), in his contribution “The impact of Referral Sources on Employee Attitudes: Evidence from a National Sample”. Within this study, the author conducted interviews with a national sample of employees, to establish, whether the form of recruitment had an impact on work related attitudes, such as job satisfaction (Vecchio, 1995). As a motivation for his research, the author states, that previous research rather focused on behavioral outcomes of referral sources than on attitudinal outcomes, meaning a focus on factors such as employee tenure. A further motivation to conduct the study with a national sample is found in other preceding research dealing with attitudinal outcomes due to the social referral source. Breugh (1981) conducted a similar study on the effects of referral source onto e.g. job satisfaction, yet the sample used in this study only consisted out of research scientists from one single organization. Breugh (1981) acknowledges this caveat of using a quite homogenous sample in his concluding remarks and argues for referral sources to have implications on a variety of factors, such as work attitudes (Breugh, 1981). Interestingly, Breugh (1981) decided to not place any a priori hypotheses, as the body of research on this specific topic was too slim at the time to build a solid foundation for hypotheses (Breugh, 1981). A study in a similar direction can be found in the work of Latham and Leddy (1987), who also empirically investigated the effects of recruitment methods onto

work attitudes. As in the previously discussed study by Breugh (1981), Latham and Leddy choose a sample from a fairly specific job category, in this case an auto dealership (with a sample size of 68 employees from two different cities) (Latham & Leddy, 1987). The authors came to the finding, that the recruitment source indeed was related to work attitudes. Employees who came by their jobs through social referral for example showed significantly higher levels of job satisfaction than employees who came by their jobs through rather formal methods (Latham & Leddy, 1987). Being aware of the limiting factors to the predictive value of these studies, as stated before Vecchio (1995) conducted his study with a national sample rather than a specific sample. Within this national sample, the author found the recruitment source to not influence job attitudes, even after adjusting for demographic factors and differences of job quality, arguing for no detectable impact for employees (Vecchio, 1995). Nonetheless, Vecchio found that demographic categories were differentially affected by recruitment sources, meaning the impact of different sources is not equivalent for all groups of applicants (Vecchio, 1995). Regarding the difference of a national sample and a specific sample from e.g. a specific company, Vecchio argues for certain recruitment sources to tap into different segments of the work force (Vecchio, 1995).

Another study that deals with the effects of social networks on earnings and attitudinal factors of employees can be found in the work of Cheung and Gui (2006), who analyze the advantages of strong ties in the Chinese job markets. As social networks and attitudinal factors might be argued to be coined by cultural influences, findings from this study should be looked at with a couple of remarks. Firstly, Spector (2022) argues that there might be cultural differences in how people use rating scales. In East Asia for example, a modesty bias might be found which leads to participants of surveys to avoid the best ratings in e.g. job satisfaction surveys (Spector, 2022). When comparing job satisfaction scores from East Asia with e.g. scores from Europe, East Asian's might seem to be less satisfied when not accounting for the cultural differences. Secondly, when recalling the cultural dimension coined by Hofstede, a country like China might be described as highly collectivist, meaning that e.g. in-group considerations have a high effect on hiring decisions or promotions and generally people act more in the interest of a group instead of their own interests (Hofstede Insights, 2022a). Another cultural particularity that is of importance in the study of Cheung and Gui (2006) is the concept of "Guanxi", which the authors define as "a special type of kinship or acquaintance that involves mutual favors" (Cheung & Gui, 2006, p. 847). Generally, guanxi is argued to be the key to understand business relationships in China, as the term can be argued to describe a variety of personal or social network connections, from the exchange of favors to long lasting social capital build between

different parties (Chang et al., 2014). The paper of Cheung and Gui (2006) thus analyzes the impacts of guanxi and the impacts of strong ties, by conducting a random sample with 835 working people in China and by conducting a follow up household survey. The data revealed, that job referral by a matchmaker or by the use of guanxi was the most common job allocation method (Cheung & Gui, 2006). The study also showed, that job satisfaction, which was measured as a faceted score with five different facets, of people who got by their job with the help of guanxi was higher than of people who got to their jobs through e.g. work experience (Cheung & Gui, 2006). In their concluding remarks, the authors furthermore point out the importance of understanding implications on job satisfaction, as the promotion of job satisfaction is shown to enrichen e.g. organizational commitment, which means that the shown effects of social networks on job satisfaction can have important implication on organizational effectiveness (Cheung & Gui, 2006).

3. Empirical Analysis

3.1 Methodology

The basis of this thesis is a pretested survey to anonymously collect data which was created in ScoSci, which was both tested for desktop and mobile to reduce compatibility problems. The survey was available from 08.09.22 to 7.10.22. To reach individuals, a link¹⁰ with a short description was sent out via various channels. As this thesis aims to assess how social referral networks are associated with overall job satisfaction of employed students in Austria and Germany, the author leveraged his own endowment within social networks to reach as many students as possible. This means the link was posted in different WhatsApp groups and in the enterprise social network of employed students of a major industrial engineering company. The survey was also posted on digital social networks and friends offered to repost the link in their respective social media groups. The sample collected in this thesis is thus a convenience sample, which means that the sample is not purely random. Random sampling is described to be very difficult and costly (Lunneborg, 2007). The non-randomness of the obtained sample should be kept in mind and will be picked up within the discussion of the limitations of this thesis, yet it does not prevent to gain scientific knowledge (Lunneborg, 2007). The survey and description can be found in the annex. As the study aims to assess job satisfaction of employed students which leveraged social referral networks to get to their job, the survey also asks to reflect on previous positions held when studying, as graduated students or students who were employed previously would otherwise be excluded and the sample size reduced.

To facilitate data analysis, a filter question was introduced at the first page of the survey to exclude participants that do not belong to the target group. With the filter question an info box was placed, as the survey attempts to reach “employed students”. This term might be misunderstood or interpreted subjectively different, thus a definition was given to avoid confusion. The first section of the survey asks for demographic data which are needed to distinguish between different subgroups within the target group. Information was collected on age, gender, nationality, country of residence, occupation and level of education. Furthermore, within the survey participants were asked to state their annual gross income, the last attended university and the number of hours worked next to studying.

The next section of the survey dealt with the job satisfaction of employed students. First, participants were asked to rate their general satisfaction with their job as an employed student. A single item measure was chosen to assess the global score, since single item measures are

¹⁰ <https://sosci.univie.ac.at/networksatisfaction/>

widely argued to be of advantage, e.g. due to their faster completion or greater validity compared to multiple item measures (Dolbier et al., 2005). Additionally for the concept of job satisfaction, single item measurement is explicitly argued to be acceptable, as this concept might be placed between simple and complex psychological constructs (Wanous et al., 1997). Single item scores are also argued to be a better fit if a comparison of workers of different occupations has to be undertaken (Oshagbemi, 1999). Since the survey addresses employed students with many different occupations, this might be a strong advantage. Ironson et al. (1989) also argue for global scale measures to be a better fit, if a general feeling of a job should be assessed (Ironson et al., 1989).

Even though a global single item scale can be argued to be of advantage when looking into the overall job satisfaction of employed students, the survey also asks for different facets of job satisfaction in the next question. Ironson et al. (1989) explore, that facet scales are of advantage when analyzing satisfaction with different job aspects (Ironson et al., 1989). To get a more detailed picture of job satisfaction of employed students, the survey therefore asks for five different job facets, as done within the Job Descriptive Index (JDI) by Smith et al. (1969).

The facets from the JDI (Coworkers, Pay, Promotion, Supervision and Work) were slightly altered to better fit the target group of employed students. The facet of promotion was changed to professional growth opportunities, as this factor might also have significant influence on job satisfaction (Kolnitys, 2015). Also, for employed students the outlook into their future employment after graduating might be of higher importance than being promoted within the job they are doing next to their studies. A combination of both a global and a facetted score might be of advantage, as combining only the facetted scores from the five facets is not recommended (Ironson et al., 1989) and a combination of facetted and global scores is also argued to enhance the predictive quality of studies (Oshagbemi, 1999). To check the hypothesis on differences in perception of job satisfaction between employed students in Austria and Germany, a further question on the perceived importance of job satisfaction was introduced.

The last section of the survey assesses the social network situation of the participants. As this thesis tries to investigate the effects of social networks on job satisfaction of employed students, the way these students got to their job next to their studies is of interest. Therefore, in accordance with Granovetter (1995), participants were presented with three different ways of how they got to their jobs: Firstly formal means, meaning e.g. job advertisement or public and private employment agencies, or more generally the service of an impersonal intermediary. Secondly personal contacts, where an individual, with which the respondent primarily got acquainted with outside of a job search context and personally known to the respondent, facilitated the job searching process for the job seeking individual by either direct or indirect

referral. Thirdly direct application, where a job seeking individual directly contacts a firm without using a formal or personal intermediary (e.g. unsolicited application) without having heard about a specific job opening (M. Granovetter, 1995).

When choosing the tools for data analysis for the dataset this study is based on, decisions on how to treat the data had to be made. There is a great discussion about the statistical evaluation of Likert-type rating scales, which are strictly methodologically defined as ordinal data, meaning there is a rank order in the response categories, though these intervals between the values cannot be assumed to be equal (Jamieson, 2004). Being clear about the classification of data is important, since theoretically ordinal and interval data require different statistical analysis. In practice, the theoretical rules, such as that the calculation of means for ordinal data is inappropriate, are commonly ignored. As the choice between the mean and the median seems to be a rather technical issue within this study, the choice of parametric or non-parametric analysis tools appears more important, as parametric tools such as ANOVA or t-tests assume e.g. normally distributed data. To check whether the use of parametric tests for e.g. skewed data, small samples or ordinal data leads to wrong conclusions, Norman (2010) analyzed the robustness of these statistical tools. He came to the finding, that parametric tests may be used with Likert data or non-normal distributions, and provides evidence for the robustness of modern statistic methods, even in the case that statistical assumptions are violated to an extreme grade (Norman, 2010). Carifio and Perla (2008) furthermore state, that it is “perfectly appropriate to summarise the ratings generated from Likert scales using means and standard deviations, and it is perfectly appropriate to use parametric techniques...” (Carifio & Perla, 2008, p. 1151). Analysis of data in this paper will thus be done under the assumption of interval data and with parametric analysis.

The survey link received 596 clicks, with 212 participants starting to fill out the survey and 192 finishing it. 20 participants were either filtered out by the filter question or closed the survey at this stage. After carefully checking the dataset for plausibility and checking for complete datasets¹¹, 159 complete and valid answers remained. Only two participants stated “other” as a job finding way, therefore this group will be excluded from hypotheses testing.

¹¹ 9 stated Universities did not exist, 6 participants stated to be studying in a country other than where they stated to be currently living – since all Universities in these cases are no long-distance Universities, these cases were not considered. Incomplete datasets were omitted from analysis.

3.2 Test of hypotheses

H1: Overall job satisfaction of employed students in Austria and Germany, who found jobs through leveraging social referral networks, is different to job satisfaction of those students who utilized more formal job searching methods

Within this first hypothesis it is assumed, that job satisfaction of employed students in Austria and in Germany differs between those students who found their jobs with the help of social structures and those who used more formal methods to find a job as an employed student.

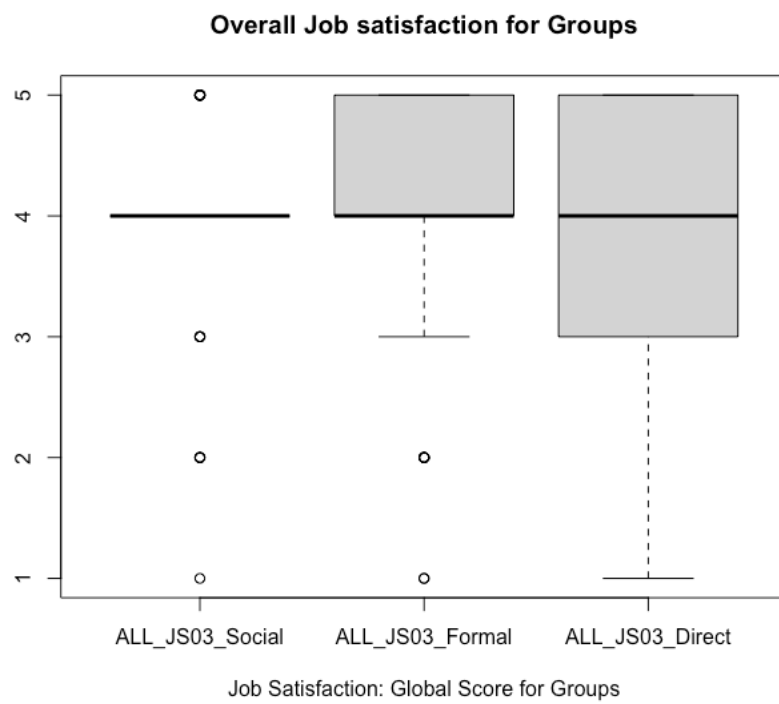
Table 1: Overall job satisfaction of students in Austria and Germany

		N	Mean	Std. Deviation
All	Social	53	3,887	0,934
	Formal	72	3,986	0,986
	Direct	32	3,750	1,191
Sum		157		

Table 1 shows, that there is a difference between the mean global job satisfaction of students who found their jobs with the help of social networks and students who leveraged more formal ways of job allocation, such as formal application and direct application. The least satisfied mean in overall job therefore show students, which used unsolicited applications, followed by students leveraging their endowment within social networks. The highest mean overall job satisfaction can be seen for the group of students using formal job finding ways. A first ANOVA analysis (see Figure 4) revealed that the p-Value is 0,543 and thus $>0,05$. The null hypothesis can therefore not be rejected¹². Figure 1 shows a boxplot of the three means.

¹² In regard the discussion concerning the analysis of Likert scale data, under the alternative assumption of ordinal data a Kruskal-Wallis rank sum test was run and yielded a p-value=0,5539

Figure 1: Boxplot for overall job satisfaction



H2: Social referral networks in job seeking processes are variously pronounced for employed students in Germany and Austria

Table 2 shows, that the proportion of students using social networks to find a job as an employed student differ between the groups in Austria and Germany. 32(n) out of 72(N) participants from the group “AT” stated to have found their job with the help of social networks, which equals about 44 %. Within group “DE” only 21(n) out of 87(N) stated to have used social networks to find their job, which equals about 24%. These results can be seen in Table 2.

Table 2: Share of students using social networks

Share of students using social networks	n	N	%
AT	32	72	44,44%
DE	21	87	24,14%
Sum		159	

For a better overview Table 3 might be consulted. This overview showcases that the main job finding way of all participants were formal ways, followed by personal contacts and direct application. Having the dominance of formal job finding ways in the total population of participants in mind when looking at the proclivity for social job finding ways in group “AT”, H2 might be thus argued to be true.

Table 3: Proportion of job finding ways of sample

	N	%	Cum. %
Formal way	72	45,3%	45,3%
Personal contact	53	33,3%	78,6%
Direct application	32	20,1%	98,7%
Other	2	1,3%	100%
Sum	159	100%	

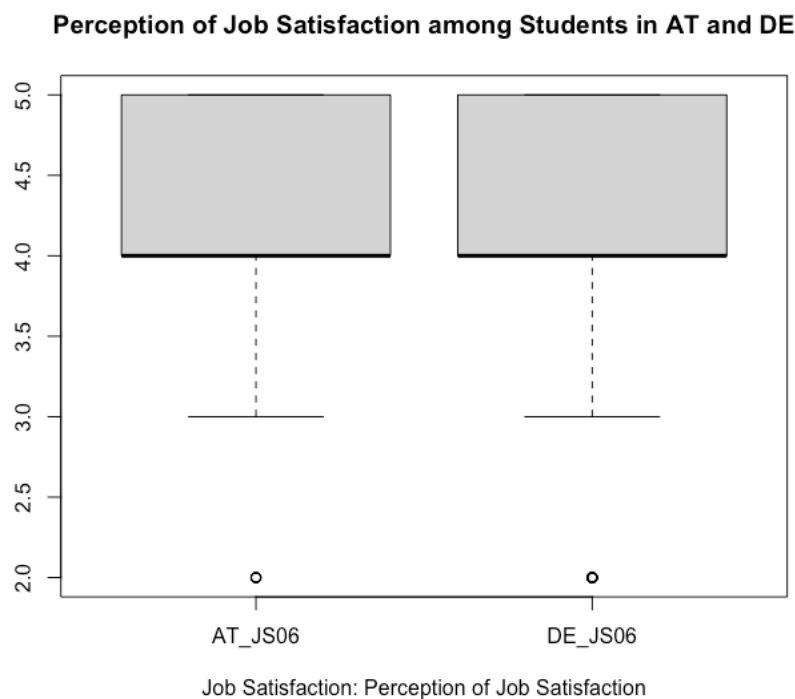
H3: Perception and importance of job satisfaction differs between students in Austria and Germany

Table 4: Importance of job satisfaction

	N	Mean	Std. Deviation
AT	70	4,214	0,797
DE	87	4,149	0,896
Sum	157		

Table 3 showcases that the 70 participants belonging to group “AT” rated the importance job satisfaction has to them while being an employed student with a mean of 4,217. The 87 participants from group “DE” rated the importance of job satisfaction when working next to their studies with a mean of 4,149. Both groups therefore show a very similar perception of job satisfaction when asked how important being satisfied with their job as an employed student is to them (see Figure 2 for a boxplot of both values). When testing for significance, a t-test reveals that there is no significance ($p=0,632$). Therefore, the null hypothesis cannot be rejected¹³.

Figure 2: Boxplot of perception of job satisfaction



¹³ Under the alternative assumption of ordinal data, a Mann-Whitney U test was undertaken which yields a p-value=0,829, meaning also the null hypothesis cannot be rejected using this test

H4: Leveraging social networks within recruitment processes impacts job satisfaction of employed students in Germany differently than job satisfaction of student workers in Austria

Table 5 shows, that overall job satisfaction of the 32 employed students who leveraged social networks to find their jobs has a mean of 3,906 for group “AT” and 3,857 for the 21 participants of group “DE” (see Figure 3 for a boxplot of both values). For a better overview, Table 6 displays the complete overview of overall job satisfaction for groups “AT” and “DE” for social, formal and direct ways of getting to a job as an employed student. A t-test reveals that the difference is not significant ($p=0,862$), ergo the null hypothesis cannot be rejected¹⁴.

For a deeper look into the effects of social networks in job finding processes, an overview of the satisfaction with different job facets can be seen in Table 7.

Participants of the survey were asked to rate their satisfaction with five job facets, being overall work, pay, professional growth opportunities, supervision and coworkers. For employed students who leveraged social structures to get to their jobs in group “AT” the means of the five facets turn out to be different to the means of group “DE”. The biggest difference can be seen for the facet “pay”, as the Δ between “DE” and “AT” is 0,421 ($p= 0.161$), followed by “overall work” ($p= 0.111$) with a Δ of 0,376. Slight differences can also be seen in the facets “supervision” ($p=0.818$) and “coworkers” ($p=0.5154$) with a Δ of 0,058 and 0,177 respectively. The facet “professional growth opportunities” ($p=0.799$) is the only facet where students from group “AT” showed higher satisfaction compared to group “DE” with a Δ of 0,075.

Table 5: Overall job satisfaction between students leveraging social networks

		N	Mean	Std. Deviation
AT	Social	32	3,906	0,818
DE	Social	21	3,857	1,108
Sum		53		

¹⁴ Under the alternative assumption of ordinal data, a Mann-Whitney U test was undertaken which yields a p-value=0,847, meaning also the null hypothesis cannot be rejected using this test

Table 6: Overall job satisfaction between AT and DE

		N	Mean	Std. Deviation
AT	Social	32	3,906	0,818
	Formal	25	3,800	1,225
	Direct	13	3,615	1,044
DE	Social	21	3,857	1,108
	Formal	47	4,085	0,830
	Direct	19	3,842	1,302
Sum		157		

Figure 3: Boxplot of overall job satisfaction AT and DE (Social)

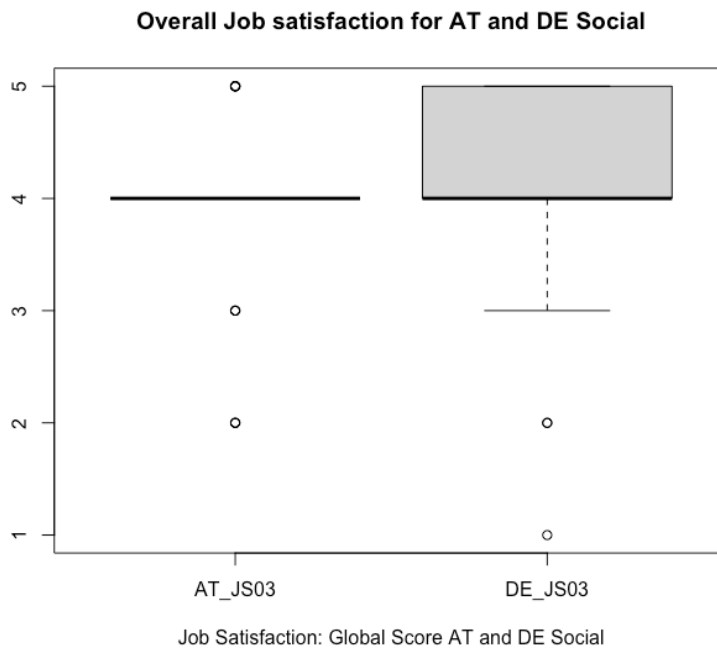


Table 7: Job satisfaction with facets in AT and DE (Social)

		Overall work	Pay	Professional growth opportunities	Supervision	Coworkers
AT	Mean	3,719	3,531	3,313	3,656	4,156
	Std. Deviation	0,818	1,016	0,931	1,035	0,954
	N	32	32	32	32	32
DE	Mean	4,095	3,952	3,238	3,714	4,333
	Std. Deviation	0,831	1,071	1,091	0,784	0,966
	N	21	21	21	21	21

4. Discussion

4.1 Discussion of hypotheses

Regarding H1, the results showed no significant difference in job satisfaction between the participants who leveraged social networks and the participants who used more formal methods to find jobs as employed students. The null hypothesis can therefore not be rejected. These findings are in accordance with the work of Vecchio (1995), who argues for recruitment sources to not influence job attitudes when looking at a non-homogenous sample (Vecchio, 1995). A homogenous sample was analyzed in previous research by Breaugh (1981) or Latham and Leddy (1987), the latter coming to the finding that recruitment sources do have an impact on job attitudes such as job satisfaction, since employees who came by their jobs through the means of social referral showed higher levels of job satisfaction than employees who used formal methods (Latham & Leddy, 1987). The converse findings of Latham and Leddy (1987) or Vecchio (1995) might be explained by the heterogenous sample in the case of Vecchio (1995) or the homogenous sample used by Latham and Leddy (1987). Vecchio (1995) analyzed a national sample, while Latham and Leddy (1987) analyzed a sample from a specific job category within two cities. Having these impacts in mind, it might be underlining the similarity of job satisfaction between social and formal job finding ways in this study, even though having the non-significance of the findings in mind. The sample used in this study included students from Austria and Germany from different vocations, therefore being a heterogenous sample.

When relating to the previous discussed research, some of the methodology from this study might be comparable to the methodology of Vecchio (1995). With the results being in the same direction, it might be argued, that in non-homogenous samples job satisfaction is not significantly influenced by the way of how individuals got to their jobs.

H2 hypothesized the possible different manifestation of social referral networks in Austria and Germany. To test this hypothesis, the share of participants using social structures to get to their jobs were compared in the groups “AT” and “DE”. It showed, that in group “AT” considerably more participants leveraged social structures compared to group “DE” (46,05% and 23,6% respectively). Between the 159 valid answers grouped into group “DE” and group “AT”, both groups slightly differ in size. Group “DE” has 87 participants whereas 72 participants belonged to group “AT”, meaning group “DE” makes out 54% of the total population, group “AT” 46% respectively. A comparison therefore might be undertaken, as both groups are not significantly different in size. A further point supporting H2 might be found in the fact, that within the total population of all participants, social networks to find jobs only make out the second largest

group with about 33%. Acknowledging that formal methods made out about 45%, the significance of the predominance of social contacts within group “AT” becomes even more apparent. A reason for the substantial differences in the share of job finding ways between groups “AT” and “DE” might be seen in the argumentation of Hofstede regarding cultural dimensions. Within the category of individualism Germany and Austria score differently, with Austria scoring 55 and Germany 67. The dimension of individualism is defined as “the degree of interdependence a society maintains among it’s members” (Hofstede Insights, 2022b, para. 5), meaning that within individualist societies people rather look after themselves and their direct family (Hofstede Insights, 2022b). Within the as individualistic defined Austria, according to Hofstede Insights, the “employer/employee relationship is a contact based on mutual advantage” (Hofstede Insights, 2022b, para. 5) and “hiring and promotion decisions are supposed to be based on merit only” (Hofstede Insights, 2022b, para. 5). These characterizations based on cultural dimensions coined by Hofstede could be explanatory for the predominance of social networks in job finding processes of employed students in Austria and Germany. It should be mentioned, that Germany scores higher in the category of individualism (with a score of 67). The given reasoning thus does not dwell on the high individualism score of Austria alone, but on the exact position of Austria on the individualism scale.

H3 hypothesized that the importance and perception of job satisfaction differs between employed students in Austria and Germany. In the analysis of the previous hypothesis, the cultural dimensions by Hofstede were used to seek explanations for the findings. As within this hypothesis no significant difference between the groups can be seen, the argumentation with the help of Hofstede’s cultural dimensions might be criticized. When comparing national cultures, a comparison between indulgent and restrained cultures can be undertaken. This dimension analyzes “the extent to which people try to control their desires and impulses” (Hofstede Insights, 2022b, para. 14). In countries with high indulgence, such as in Austria (63 out of 100) people follow their impulses and place higher importance on leisure time and act more as they please (Hofstede Insights, 2022b). Contrary, Germany scores low on indulgence (40 out of 100), meaning within this culture people less emphasis is placed on leisure time or the control of gratification of desires, seeing social norms as restraining them from their actions (Hofstede Insights, 2022b). When following the argumentation of Hofstede’s cultural dimensions, this could be used as a foundation to argue for different scores for the importance of job satisfaction, yet scores are very similar (acknowledging the non-significance of the findings).

Another issue worth discussing might be found in the possible tendency to choose the midpoint as an answer within Likert scales. As the Likert scale within this survey used five items, from very dissatisfied to very satisfied, the possibility of choosing the midpoint as an answer is given. This might come with the caveat, that respondents use the midpoint answer as a way to evade an answer, e.g. when not knowing enough about the topic or when providing socially acceptable responses that are not in line with their personal opinion (Chyung et al., 2017). There might be no clear arguments for and against a midpoint within scales, as the use of a midpoint can make sense for some target groups and less sense for other target groups (e.g. higher educated target groups react differently to midpoints than target groups with lower levels of education) (Chyung et al., 2017), yet in some scenarios a midpoint might be used as an evasive measure, which in turn might lead to a homogenous response pattern such as in the findings for H3.

H4 hypothesized a different effect of leveraging social networks within job finding processes for employed students from Austria and employed students from Germany. Within the results no significant difference was found between the means of job satisfaction of employed students from the abovementioned groups. In accordance with the argumentation of H3, the explanatory power of cultural dimensions might be questioned and the tendency towards midpoints in 5 item Likert scales could be taken into consideration. Since next to a global job satisfaction score the survey also enquired job satisfaction scores for different job aspects, a look into the job satisfaction of employed students in Austria and Germany with the five surveyed facets might be helpful to discuss H4. Differences in the means of the five facets exists between the groups “AT” and “DE”, yet none of these differences are significant. Nonetheless, for the facets “overall work” and “pay”, scores differ with comparably low p-values. For the facet “overall work”, a Δ of 0,376 can be seen within the means between the two groups, with a p-value of 0,111. For the facet “pay”, the Δ is 0,421 with a p-value of 0.161. It must be acknowledged, that these p-values are still far off the 0,05 boundary for significance. Within the further discussion the satisfaction with facets of the entire population of employed students in groups “AT” and “DE” will be briefly analyzed, which show findings in a similar direction, yet these finding are statistically significant. Nonetheless it must be noted, that for H4 the null hypothesis cannot be rejected and no significant difference of job satisfaction of those employed students in Austria and Germany that leveraged social networks can be found within this research.

4.2 Further discussion

When analyzing the means of the job satisfaction with the five facets (overall work, pay, professional growth opportunities, supervision and coworkers) for all participants of groups “AT” and “DE”, significant differences between the two groups showed (see Table 14). For the facet “pay” the null hypothesis can be rejected, as $p=0,0018$. Employed students from group “DE” were significantly more satisfied with their pay when working next to their studies (with a score of 3,851, see Table 14) as employed students from group “AT” (with a score of 3,319). A possible explanation could be the general dissatisfaction of workers with their pay in Austria (Miller, 2006), yet this explanation fails to justify the differences between groups “AT” and “DE”. An explanation for the differences between the two groups might be found in the fact, that Germany has a minimum wage¹⁵ whereas Austria has no such regulation. Austria relies on so called “collective agreements” which regulate wages for certain groups of employees, which can be argued to be a well working mechanism, as wages are not de jure regulated but are de facto rarely under a certain threshold (WKO, 2022). Since employed students are often working in less formal jobs (such as in gastronomy etc.), they might in some cases not be subject to any collective agreement or are subject to less favorable agreements and are thus paid less. As there is argued to be a connection between the introduction of minimum wages and pay satisfaction (Bossler & Broszeit, 2017), this might be argued to be a reason for the difference in satisfaction scores for the facet “pay” for groups “AT” and “DE”.

5. Limitations

The research conducted in this thesis comes with certain limitations. Firstly, as mentioned in the section methodology, the target group for the questionnaire led to a non-random sample or a convenience sample. By sending out the survey link to members of WhatsApp groups and other channels, there is also no guarantee that the participants are genuinely students or actually did work next to their studies. When arguing about limitations within the study linked to the survey, also the sample size should be mentioned. Over 200 people filled out the survey and 159 complete and valid answers remained, which might be seen as sufficient for the scope of this thesis. Due to the separation of the participants into different groups, these groups turned out to be rather small though, possibly contributing to mostly insignificant results. Within the survey participants were furthermore asked to rate their satisfaction with different job satisfaction aspects on a scale from 1-5, which led to the possibility of choosing a midpoint¹⁶.

¹⁵ 12,00€ as of the 01.12.2022

¹⁶ as discussed within the section „Discussion”

Since participation was voluntarily, the possibility remains that participants might have chosen midpoints to evade thinking into the topic or to quickly get the survey done.

As a foundation for the three job finding ways presented to participants in the survey works from Granovetter were chosen. Granovetter's publication "Getting a job: A study of contacts and careers" (1995) is a highly re-cited work within this field of research, yet the study is focused on so called "PTM" (professional, technical, managerial) workers, which refers to professionals already established in their jobs (M. Granovetter, 1995). Since the target group of this survey were students that work next to their studies, this might be seen as a caveat.

6. Conclusion

The aim of this thesis was to assess, whether social networks are associated with the job satisfaction of employed students in Austria and Germany.

Within the theoretical background, it became apparent, that a better understanding of human action might also lead to improved economic modelling (Rauch, 2007) and that especially highly social processes such as job allocation in labor markets might heavily depend on the social situation of individual actors (M. Granovetter, 1995). Social networks might also have both positive and negative influences in a labor market context. Furthermore, in many cases research unifies labor markets to a homogenous entity, which might be seen as a caveat, since labor markets can be highly complex and diverse (Schmutte, 2016). Combining economic and sociologic schools of thought might help to enhance the predictive quality of economic modelling, since economic models might have been pushed to their limits (Jackson, 2007).

The concept of job satisfaction can be described as a highly researched topic which has received a lot of attention in the last years (Spector, 2022). Job satisfaction has thus been analyzed from various angles, also including the effects on employee and firm performance. Research does show correlations between job satisfaction and job performance (Judge et al., 2001), yet these finding should be treated carefully, as the causality between job satisfaction and job performance is not entirely clear. More clear implications of job satisfaction can be seen in organizational factors such as turnover propensities of workers, which can be seen to be correlated with job satisfaction (Griffeth et al., 2000; Harter et al., 2002). When interpreting possible implications of job satisfaction, cultural differences should not be overlooked, as the concept of job satisfaction might be seen as a subjective matter also influenced by cultural aspects (Ng et al., 2009).

After giving an overview of the academic surrounding of the two main topics of this thesis, attempting to answer the research question, four hypotheses were proposed and tested with the data gathered in an online survey conducted with individuals, that either are studying and working or did study and worked at a certain point in time.

Overall job satisfaction of employed students that leveraged their endowment in social networks to get to their jobs was not found to be significantly different than job satisfaction of those students that got to their jobs with the use of more formal methods. The individual perception of job satisfaction of employed students in Austria and Germany furthermore did not significantly differ. Also, the use of social networks in job allocation did not have significantly different effects on employed students in Austria than on employed students in Germany.

When analyzing the proportion of employed students that leveraged social networks to get to their jobs, employed students from Austria showed a considerably higher proportion of the use of social networks than employed students from Germany. From the gathered sample, it might thus be deduced, that social networks play a more important role in Austria than in Germany when finding a job as an employed student.

When going beyond the testing of hypotheses and analyzing the data on different levels, a significant difference between the satisfaction with the facet “pay” was found between all the employed students from Austria and the employed students from Germany.

In conclusion, social networks do not show a significant influence on job satisfaction of employed students when analyzing the gathered data from the survey conducted for this thesis. Between the groups of employed students in Austria and Germany, only the proportion of students that leveraged their social network endowment to get to their job differed considerably. Even though previous studies in this direction did find influences of recruitment sources on job satisfaction in a homogenous sample (Breaugh, 1981; Latham & Leddy, 1987), research by Vecchio (1995) conducted with a broader, heterogenous sample did not find any significant influences on job attitudes such as job satisfaction (Vecchio, 1995). Since the sample from this survey is heterogenous in regard to the fields of work, findings from this thesis might be argued to be in accordance with findings from the research Vecchio (1995) conducted.

6.1 Suggestion for further research

Combining the academic fields of social networks in an economic context and job satisfaction opens a fruitful research area that has not been explored too deeply up to this moment. The analysis of the collected data led to the assumption, that a larger dataset might help to find out

more about the implications of social network endowment on job satisfaction of employed students. By enhancing the size of the dataset, also homogeneity within the data might be further reduced, which in accordance with Vecchio (1995), might lead to a better insight into the dynamics of social structures and job satisfaction. A larger study could therefore help to understand these dynamics further and to find ways to enhance job satisfaction of employees, which arguably influences the economic performance of firms.

7. Literature

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8. Appendix

8.1 Descriptive results

8.2 Demographic data

Table 8: Age

	N	Median	Max	Min
AT	72	26	49	22
DE	87	25	64	20
All	159	26	64	20

Table 9: Gender

	N	%	Cum. %
Male	57	36%	36%
Female	102	64%	100%
Other	0	0%	
Total	159	100%	

Table 10: Current occupation

	N	%	Cum. %
Student	17	10%	10%
Student and employed	114	72%	82%
Employed	25	16%	98%
Other	3	2%	2%
Total	159	100%	

Table 11: Salary

	N	%	Cum. %
< 10.000€	40	25%	25%
10.001€ - 15.000€	46	29%	54%
15.001€ - 20.000€	22	14%	68%
20.001€ - 25.000€	7	4%	72%
25.001€ - 30.000€	6	4%	76%
30.001€ - 35.000€	4	3%	79%
> 35.000€	23	14%	93%
do not want to say	11	7%	100%
Total	159	100%	

Table 12: Work volume

	N	%	Cum. %
< 4h/w	4	3%	3%
5h - 8h/w	18	11%	14%
9h - 12h/w	21	13%	27%
13h-16h/w	29	18%	45%
17h-20h/w	51	32%	77%
>20h/w	35	22%	99%
none	1	1%	100%
Total	159	100%	

Table 13: Education

	N	%	Cum. %
High school graduate	19	12%	12%
Bachelor's degree	108	68%	80%
Master's degree	30	19%	99%
Doctorate degree	2	1%	100%
Total	159	100%	

8.3 Job satisfaction

Overall job satisfaction among all valid responses (N=159) showed a mean of 3,906 with a standard deviation of 1,005. The distribution of ratings can be seen in Figure 1.

Figure 4: Histogram of overall job satisfaction

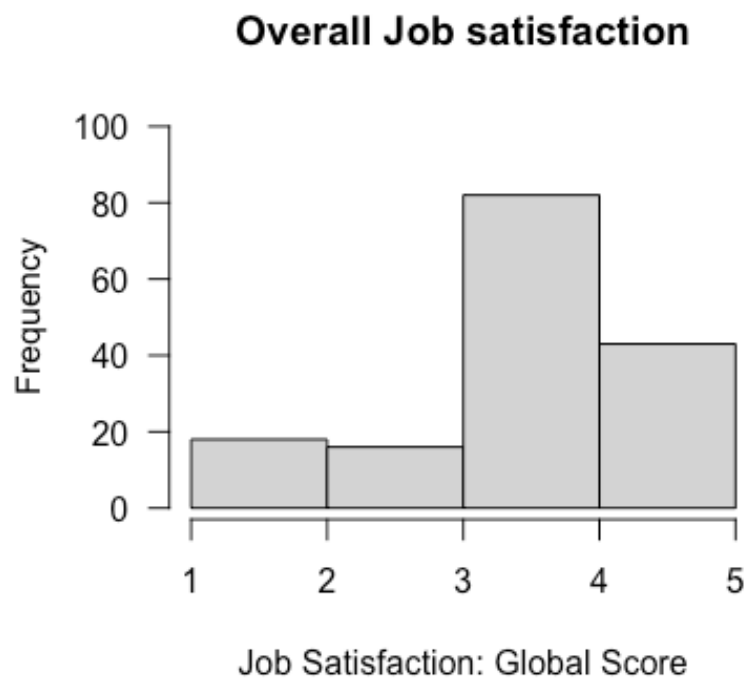


Table 14: Job satisfaction with facets: AT and DE (total)

		Overall work	Pay	Professional growth opportunities	Supervision	Coworkers
AT	Mean	3,847	3,319	3,250	3,625	3,944
	Std. Deviation	0,867	1,072	1,135	1,119	0,977
	N	72	72	72	72	72
DE	Mean	3,943	3,851	3,540	3,793	4,195
	Std. Deviation	0,812	1,018	0,938	0,954	0,900
	N	87	87	87	87	87
	p-Value	0,479	0,0018	0,085	0,316	0,097

The satisfaction with the different job facets across all valid responses within the survey can be seen in Table 15.

Table 15: Job satisfaction with facets

	N	Mean	Std. Deviation	Min	Max
Overall work	159	3,899	0,836	1	5
Pay	159	3,610	1,073	1	5
Professional growth opportunities	159	3,409	1,039	1	5
Supervision	159	3,717	1,032	1	5
Coworkers	159	4,082	0,941	1	5

Table 16: ANOVA for overall job satisfaction (social)

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
ALL_JS03 Social	53	206	3,887	0,872
ALL_JS03 Formal	72	287	3,986	0,972
ALL_JS03 Direct	32	120	3,750	1,419

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	1,26001315	2	0,630	0,613	0,543	3,055
Within Groups	158,306866	154	1,028			
Total	159,566879	156				

8.4 Survey

Welcome to my survey!

My name is Gerrit Muellmaier, I study International Business Administration

and I am currently writing my final thesis.

For this purpose, I would like to know more about job satisfaction and job

finding modes of students that were employed during their studies.

This survey will take no more than 5 minutes to complete.

All data is collected anonymously, it cannot be assigned to your person and will be treated strictly confidential.

Thank you for your participation.

If you have any questions, please contact me: a12000717@unet.univie.ac.at

All the best!

Info

This questionnaire aims to assess job satisfaction and job finding modes of employed students in Austria and Germany.

"Employed students" refers to students working next to studying. This includes **all jobs held next to studying**, such as "Werkstudent*in", Bartender or Cashier.

If you had multiple studies and jobs or already graduated, please refer to **your last studies** and to **your last job** as an employed student.

This questionnaire addresses students that work or worked during their studies either in Austria or in Germany.

Are you / were you a student who studies / studied in Austria or Germany and works / worked next to your studies?

Yes

No

1. What is your age?

Free input (integer)

2. To which gender identity do you most identify?

female
male
non-binary

3. What is your country of nationality?

Dropdown menu

4. What is your country of residence?

Dropdown menu

5. Please select your current occupation.

Student
Student and Employed
Employed
Other

6. If you are working next to your studies or have worked next to your studies, please indicate how many hours per week you work / have worked.

< 4h/w
5h – 8h/w
9h – 12h/w
13h-16h/w
17h-20h/w
>20h/w
none

7. What is your highest level of education?

High school graduate
Bachelor's degree
Master's degree
Doctorate degree

8. If you are a Student, please choose your current University.

If you graduated University, please indicate your alma mater (or last University attended).

If you did not attend University, please choose – NO UNIVERSITY -

(University names are displayed in German)

Dropdown menu

9. What is your annual gross income?

< 10.000€

10.001€ - 15.000€

15.001€ - 20.000€

20.001€ - 25.000€

25.001€ - 30.000€

30.001€ - 35.000€

> 35.000€

do not want to say

Info

The next questions deal with the concept of **job satisfaction**.

All questions regarding job satisfaction aim to assess job satisfaction of **jobs of employed students**.

If you have already graduated but had a job when studying, please try to remember the job and fill in the questionnaire accordingly.

If you do / did not work while studying, please skip both non-mandatory questions on job satisfaction and recruitment

modes.

10. How satisfied are you / were you with your job as an employed student in general?

with 1 (Very Dissatisfied) to 5 (Very Satisfied)

1 – Very Dissatisfied

2 – Somewhat Dissatisfied

3 – Neutral

4 – Somewhat Satisfied

5 – Very Satisfied

11. How satisfied are you / were you with the stated aspects of your job as an employed student?

with 1 (Very Dissatisfied) and 5 (Very Satisfied).

1 – Very Dissatisfied

2 – Dissatisfied

3 – Neither

4 – Satisfied

5 – Very Satisfied

Overall work

Pay

Professional growth opportunities

Supervision

Coworkers

12. Please indicate, how important being satisfied with your job as an employed student is / was to you personally by selecting a number from 1 (not important at all) to 5 (very important).

- 1 – Not important at all
- 2 – Somewhat unimportant
- 3 – Can't say
- 4 – Somewhat important
- 5 – Very important

Info

The next question deals with how you got your job as a student.

There are **three options** to choose from:

- 1) **Formal ways**, such as through job ads, public or private employment agencies, committees, etc.
- 2) **Personal contacts**, i.e. through a person who is known to you personally and with whom you originally got acquainted unrelated to your job search. Recommendations from such a person to an employer etc. also fall under this category.
- 3) **Direct application**, i.e. direct contact with an employer without using formal or personal channels. Example: Unsolicited application (Initiativbewerbung)

If you cannot clearly distinguish between the three options, please choose the **closest** one.

13. How did you get your job, which you did alongside your studies?

- 1) Formal ways, such as through job ads, public or private employment agencies, committees, etc.
- 2) Personal contacts, i.e. through a person who is known to you personally and with whom you originally made acquaintance unrelated to the job search. Recommendations from such a person to an employer etc. also fall under this category.
- 3) Direct application, i.e. direct contact with an employer without using formal or personal channels. Example: Unsolicited application

Formal way
Personal contact
Direct application
Other

Last Page

Thank you again for taking the time to complete this questionnaire.

All the best!

Gerrit

a12000717@unet.univie.ac.at

Your answers have been saved, you may close the browser window now!