



**The effect of Perceived Organizational Support on Knowledge Hiding:
The moderating roles of agreeableness, conscientiousness and
need for power.**

Joey Onderwater

EMPLID: 1277020

Supervisors: prof. dr. R.F. Poell. & dr. S. Batistič

Project Period: January – August 2017

Project Theme: Knowledge Hiding

Abstract

Although knowledge has always been important for businesses to thrive, it is nowadays more crucial than ever. However, theory suggests that hiding knowledge is common practice in organizations. This paper tries to create a better understanding of when knowledge is hidden, by drawing on the organizational support theory to argue that perceived organizational support diminishes knowledge hiding behavior. Furthermore, it is argued that agreeableness, conscientiousness and need for power are individual characteristics that could strengthen or attenuate this relationship. Analyzing data of 134 employees working in teams within organizations confirmed that perceived organizational support negatively relates to knowledge hiding. Agreeableness significantly moderated this relationship, in a way that when perceived organizational support and agreeableness are high, most knowledge is hidden. Conscientiousness and need for power appeared to have no influence on this relationship. However, an individual's need for power was directly positively related to knowledge hiding. This paper expands the current literature in the area of knowledge hiding, and offers practical implications to help organizations diminish the prevalence of knowledge hiding behavior.

Keywords: knowledge hiding, perceived organizational support, agreeableness, conscientiousness, need for power.

Introduction

In today's world, knowledge is a critical element for organizations and can deliver a sustainable competitive advantage (Grant, 1996; Wang & Yang, 2007). Witherspoon, Bergner, Cockrell, and Stone (2013) even label knowledge as the most important component of organizational growth and economic performance. Since most knowledge of an organization is possessed by individuals, organizations that strive for success rely on the willingness of individuals to share this knowledge (Kelloway & Barling, 2000). However, apart from knowledge sharing, a study by Connelly, Zweig, Webster and Trougakos (2012) demonstrated that knowledge hiding is also quite common in organizations. In recent years, research on knowledge hiding has become increasingly popular, with the paper of Connelly et al. (2012) being the one to establish the dimensionality of this novel construct. The outputs of this behavior may be detrimental (Connelly & Zweig, 2015), as for example the obstruction of the knowledge stream might cause to decrease an organization's innovativeness and competitiveness (Serenko & Bontis, 2016). Moreover, knowledge hiding also damages the relationship between the hider and target (Connelly & Zweig, 2015), and can diminish the creativity of the hider, via a reciprocal distrust loop by the knowledge seeker (Černe, Nerstad, Dysvik, & Škerlavaj, 2014). However, even though the field of knowledge hiding is getting more attention, research is still fairly limited and lots of the field remains unexplored (Connelly et al., 2012; Connelly & Zweig, 2015; Webster et al., 2008).

Past research by Tsay, Lin, Yoon and Huang (2014) highlighted the importance of social exchange variables in relation to knowledge withholding intentions. Perceived organizational support has shown to be the strongest predictor in their study. Even though an intention is different from actual hiding knowledge, the constructs are related. Nevertheless, this study will focus on actual knowledge hiding, and thereby contribute to literature by broadening the knowledge regarding the relationship with perceived organizational support. Thus, this study explores whether perceived organizational support can predict if people engage in knowledge hiding or not.

Moreover, Webster et al. (2008) identified a lack of knowledge regarding individual characteristics that relate to knowledge hiding. They stated that "few studies have specifically examined what aspects of people's personalities and other characteristics might predict whether or not someone will engage in behaviors such as knowledge hiding." (p. 14-15). Tsay et al. (2014) noticed this gap in literature as well. In addition, Connelly et al. (2012) raised attention to examine moderators that may increase or decrease the tendency towards

knowledge hiding. Therefore, this paper will focus on individual characteristics that could affect the relationship between perceived organizational support and knowledge hiding. For instance, personality could be of particular interest in relation to knowledge hiding behavior, since personality explains certain behavior (Maddi, 1980). Especially agreeableness and conscientiousness, as previous studies (Cabrera, Collins, & Salgado, 2006; Matzler, Renzl, Mooradian, von Krogh, & Mueller, 2011; Wang & Yang, 2007) showed that these are most often used of the Big Five in relation to knowledge sharing. Further, an individual's need for power should be a relevant variable that could affect this relationship, noticing that knowledge can be a source of power (O'neill & Adya, 2007; Webster et al., 2008).

Thus, the second contribution of this paper is that this research is one of the first that empirically studies individual characteristics, more specifically; agreeableness, conscientiousness, and an individual's need for power as explanatory moderating mechanisms influencing knowledge hiding behavior. With this, this paper addresses the gap in literature by exploring individual characteristics that may predict whether an individual will hide knowledge or not. With the results and findings of this study, both research and practice can benefit from the insights in the causes of knowledge hiding, and of variables that can attenuate or strengthen this relationship. This can help practice to diminish the prevalence of knowledge hiding in organizations.

For these reasons, the research question of this study is as follows:

To what extent does perceived organizational support relate to knowledge hiding, and to what extent is this relationship moderated by agreeableness, conscientiousness, and need for power?

Theoretical Framework

Knowledge Hiding and Perceived Organizational Support

In their influential paper about knowledge hiding, Connelly et al. (2012) defined this construct as the “intentional attempt by an individual to withhold or conceal knowledge that has been requested by another person.” (p. 65). Moreover, they argued and empirically showed that knowledge hiding and knowledge sharing represent different constructs. Whereas knowledge hiding is likely to be motivated by anti-social drives or instrumentality, a lack of sharing might be caused solely by the absence of knowledge. Connelly et al. (2012) also studied the frequency that knowledge hiding occurs in organizations. The results demonstrated that out of the 113 knowledge transfer events, over ten percent was recognized

as knowledge hiding. However, the authors noticed that this percentage might be even higher, as knowledge hiding may be an under-reported low-base-rate event.

Perceived organizational support, on the other hand, is a relevant variable in understanding organizational behavior. The origins in clarifying this behavior lie in the organizational support theory of Eisenberger, Huntington, Hutchison and Sowa (1986). This theory suggests that “employees develop global beliefs concerning the extent to which the organization values their contributions and cares about their well-being” (Rhoades & Eisenberger, 2002, p. 698). This is called ‘perceived organizational support’. This is an exchange relationship between the individual and the organization. Based on the norms of reciprocity, perceived organizational support generates a feeling of obligation towards the organization to care about its welfare and to help the organization to reach its goals (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001). This reasoning is based on the social exchange theory (Blau, 1964), which states that, if one does someone else a favor, it is expected that this favor will be returned in some form. In the case of a high-quality relationship, that is characterized by trust, affect, and mutual respect, individuals act in ways that enhances and benefits the other, and it also motivates to decrease effort withholding (Murphy, Wayne, Liden, & Erdogan, 2003).

Knowledge hiding can also be seen as a form of effort withholding (Tsay et al., 2014). Therefore, the relationship you have with the organization does impact the tendency to engage in knowledge hiding behavior. However, research on the effects of perceived organizational support is very limited. Tsay et al. (2014) studied the effect of perceived organizational support on knowledge withholding intentions, and found a significant negative relationship. Regardless, the theoretical reasoning is profound. In exchange for the perceived support by the organization, individuals would minimize effort withholding (knowledge hiding) and try to put greater effort in helping the organization to reach its goals. Helping the organization could be done effectively by sharing knowledge instead of concealing it. Hence, it is expected that people that perceive high levels of organizational support are less likely to hide knowledge. It is therefore hypothesized that:

H1: Perceived organizational support is negatively related to knowledge hiding.

Big Five Personality Traits

Besides perceived organizational support that is expected to explain knowledge hiding behavior, there are individual characteristics that may influence this relationship. For instance, the Big Five. The Big Five personality traits are five broad domains (extraversion,

neuroticism, openness to experience, agreeableness and conscientiousness) that explain individual differences in personality (Marsh, Nagengast, & Morin, 2013). Traits are specified as stable habits that characterize a person and influence behavior (Maddi, 1980). The Big Five were fundamental in studies of various organizational criteria and turned out to be good predictors of important organizational outcomes (Salgado, 2002). For example, conscientiousness has been shown a valid predictor of job performance (Salgado & De Fruyt, 2005) and emotional stability, extraversion and openness predicted turnover (Salgado, 2002). Moreover, personality is found to be related to a vast variety of human behaviors and choices (Landers & Lounsbury, 2006).

One of the behaviors that personality is related to is knowledge sharing. For example, Wang and Yang (2007) found that agreeableness, conscientiousness and extraversion are positively related to knowledge sharing. The authors also compared their results with two other papers (Cabrera et al., 2006; Matzler et al., 2011), which showed consistency. Both papers studied agreeableness and conscientiousness and found a positive relationship with knowledge sharing as well. This points out that agreeableness and conscientiousness are the most predominant factors of the Big Five in explaining knowledge sharing and may therefore also be of interest in exploring knowledge hiding. However, the effects of the Big Five personality traits on knowledge hiding have only been subject of very limited examination. Anand and Jain (2014) provided a theoretical framework for explaining the relationship between the Big Five personality traits and knowledge hiding, but did not provide empirical evidence. They proposed, for example, a negative relationship between agreeableness and knowledge hiding. Nonetheless, since the Big five traits explain behaviour (Maddi, 1980), we have reasons to believe that they can also affect knowledge hiding behavior. To create a deeper understanding of how these variables may affect the relationship between perceived organizational support and knowledge hiding, it is necessary to create an in-depth insight in these two personality domains first.

Agreeableness. Agreeableness is also recognized as likability (Conley, 1985). Traits that can be identified within this domain are being altruistic, courteous, good-natured, trusting, forgiving, and soft-hearted (Barrick & Mount, 1991). Agreeable people are eager to help others and seek cooperation in preference to competition (Liao & Chuang, 2004). Moreover, they would not like to make others feel uncomfortable (Markman, 2013). Agreeable people as well have a tendency to restrain from behaviors that can harm an organization or individual (Peng, 2012; Sackett & Devore, 2001).

Since knowledge hiding can be seen as harmful for organizations (Connelly & Zweig, 2015; Serenko & Bontis, 2016), it is expected that people high on agreeableness are less prone to engage in knowledge hiding behavior, as they tend to restrain from these harmful behaviors. Furthermore, personality represents a readiness to respond in particular manners to the environment (Tellegen, 1991), and for agreeableness this is being altruistic, cooperative and good-natured. Agreeable people show consideration and provide help to others (Major, Turner, & Fletcher, 2006). This makes that individuals that score high on agreeableness are expected to be less likely to hide knowledge, as this does not match the personality of agreeable people; they prefer to be supportive towards others. Hiding knowledge is not seen as positive behavior, and can create distrust between seeker and hider (Černe et al., 2014). Together with high levels of perceived organizational support, it is expected to be the scenario in which the least knowledge hiding occurs. Thus, it is hypothesized that:

H2: Agreeableness moderates the relationship between perceived organizational support and knowledge hiding, in such a way that this relationship will be most negative when an individual scores high on agreeableness and high on perceived organizational support.

Conscientiousness. Conscientious people can be described as persistent, planful, careful, responsible, and hardworking (Barrick & Mount, 1991). Liao and Chang (2004) conclude that as a result of these attributes, people that score high on conscientiousness are likely to do what is expected to accomplish work. They also have the natural tendency to exert effort (Mount & Barrick, 1995). Further, they tend to meet expectations of others and follow norms and rules (Roberts, Jackson, Fayard, Edmonds, & Meints, 2009). Likewise, conscientious people naturally withhold from counterproductive behavior, just as individuals who score high on agreeableness (Sackett & DeVore, 2001).

Since conscientious people naturally withhold from counterproductive behavior, it is expected that they will be less inclined to hide knowledge and will follow the norms and share knowledge. This assumption is strengthened by the fact that Connelly et al. (2012) acknowledged that there exists conceptual overlap between knowledge hiding and counterproductive behavior. Besides, individuals that have a tendency to meet expectations of others and follow norms and rules, should be able to avoid situations in which they do act unfavorably (Noftle & Robins, 2007). Conscientious individuals also have a stronger knowledge of behavioural ideals (Tracy & Robins, 2004), and therefore know that hiding the requested knowledge is non-desirable behavior. Additionally, because conscientious people behave in ways that are careful and responsible, and have a tendency to exert extra effort to

contribute to the organization, it is presumed that individuals that score high on conscientiousness are less sensitive to engage in knowledge hiding behavior. Accordingly, we hypothesize that:

H3: Conscientiousness moderates the relationship between perceived organizational support and knowledge hiding, in such a way that this relationship will be most negative when an individual scores high on conscientiousness and high on perceived organizational support.

Need For Power

The need for power is one of the three social motives of McClelland's (1961) theory of needs and can be defined as an internal urge to influence and control others (McClelland, 1975). Motives are the representation of the goals that an individual favors (Cantor & Zirkel, 1990), which can explain behavior (Winter, John, Stewart, Klohnen, & Duncan, 1998). Veroff (1982) stated that this power motive directs people to doing whatever draws most attention to their own effect on the world. This indicates that individuals with a need for power engage in self-interested behavior to reach their own goals. Individuals with a need for power are control and influence oriented, would think about ways how to acquire power, and will persuade others in order to reach positions in which they can exercise power (McClelland, Burnham, & McClell, 2008).

Turning to knowledge hiding, knowledge can be seen as a source of power, especially in the knowledge economy (Webster et al., 2008). It can have strategic or political value, result in rewards, and benefit the owner (Clegg, 1989). In addition, Webster et al. (2008) claimed that knowledge is a resource that could be used to increase status. Hence, as individuals with a need for power strive for influence and control over others and will engage in behavior to attain this, it is assumed that these people will hide knowledge; with exclusive knowledge they can become more powerful. Consequently, it is hypothesized that:

H4: Need for power moderates the relationship between perceived organizational support and knowledge hiding, in such a way that this relationship will be most negative when an individual has a low need for power and scores high on perceived organizational support.

To illustrate how all variables relate to each other, Figure 1 presents the conceptual model of this study.

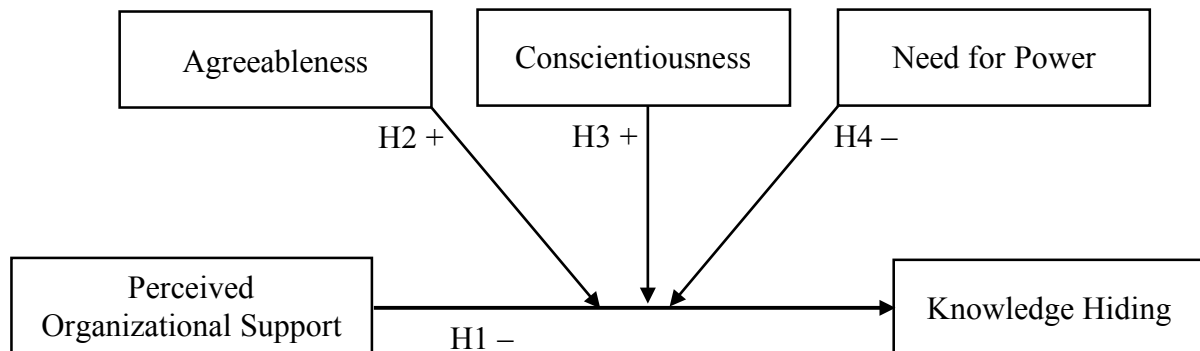


Figure 1. Conceptual model

Methods

Research design and procedure

To test the conceptual model as presented in the theoretical framework, this study made use of a quantitative cross-sectional research design. Data were gathered using a questionnaire. To collect a substantial set of data, the data were collected in collaboration with eight other master students. Therefore, multiple variables that were not a subject in this study were included in the questionnaire. Since multi-level variables were part of the study of other students, questionnaires for line-managers and for HR-managers were created as well. The questionnaires were set out in teams within organizations with a minimum team size of five. An additional prerequisite was that Human Resource activities are employed by the organization, as questions regarding these activities were included in the questionnaire for HR-managers. Therefore, a minimum of 50 employees working for the company was set as a precondition. Organizations were contacted based on the personal networks of the master students, also known as the convenience sampling method.

Taking part in the study was completely anonymous. In order to increase the perceived anonymity, the questionnaires were distributed online. Since knowledge hiding is undesired behavior and is therefore sensitive, employees may be more likely to underreport this (Webster et al., 2008; Connelly, 2012). Social desirability bias could also occur, as answers are self-reported by respondents (Austin, Deary, Gibson, McGregor, & Dent, 1998). By distributing the questionnaire online, it is attempted to counteract these concerns, as web-based reporting has shown to increase perceived levels of anonymity, which is important for

collecting sensitive information (Webster et al., 2008). Participants also received a cover letter, explaining the purpose of the study, emphasizing confidentiality and providing a brief explanation about the questionnaire. This cover letter is included in Appendix A. Considering that the questionnaire was distributed to Dutch as well as to international companies, the original English scales were translated to Dutch using the Brislin model (1970) for instrument translation. Participants were able to choose their preferred language.

For this study, the unit of analysis was the individual employee. Therefore, only the employee questionnaire was used, containing 99 items. However, as the data from individuals in teams and organizations is nested, only data from one employee per company could be used. Thus, one employee per company was randomly selected using Google's random number generator, resulting in a sample of 33. To boost these numbers, the employee questionnaire was also distributed to individual people, without the necessity for the other team members, manager and HR to fill in the questionnaires as well. This resulted in 101 additional respondents.

Sample

In total, the sample consisted of 134 employees. Since the employee questionnaire was also distributed on social media and the team size of the team-distributed questionnaire was unknown, there was not a clear view on the response rate. Out of the 134 respondents, 65 were male (48.5 percent) and 69 were female. The average age was 35.5 years ($SD=12.2$). The youngest person was 20 years old, the oldest person 65. The age of two respondents has not been recorded. The average tenure of the respondents was 7.3 years ($SD=9.1$). One response for tenure level was not recorded. The average level of education lay in the group of higher professional education, with a mean score of 4.2 and a standard deviation of .80. However, the answer category with the highest frequency was university level, with 59 respondents having a university level degree. 82.1 percent of the sample was highly educated (Higher Professional education or University level). No respondent had only finished elementary school.

Measures

This research used existing scales to measure the constructs. The validity of every single scale was not estimated using confirmatory factor analysis (CFA), since in this study two scales consisted of a three-indicator, one-factor model, namely agreeableness and conscientiousness. In this case the model fit would be just-identified (0 degrees of freedom)

and yield a perfect fit (Wolf, Harrington, Clark, & Miller, 2013). The results of the CFA for the whole measurement model can be found in the analysis paragraph. Every scale was measured on a 7-point Likert scale that ranged from 1 (strongly disagree) to 7 (strongly agree), except where otherwise noted.

Knowledge hiding. Knowledge hiding was measured using a 12-item scale developed by Connelly et al. (2012; $\alpha = .89$). The scale starts with the following lead sentence: “In a specific episode in which a particular co-worker requested knowledge from you and you declined...”. An item of this is: “I agreed to help him/her but never really intended to.” The scale was assessed on a seven-point Likert scale, ranging from 1 (not at all) to 7 (to a very great extent). This study reported a Cronbach’s alpha of .92. Four items of the knowledge hiding scale revealed common method bias, indicating that the variance in those items were attributable to the method instead of to the construct itself. However, as Connelly (2012) noticed, the nature of knowledge hiding requires the use of self-reported data, as it is problematic for managers and colleagues to estimate knowledge hiding behaviors of others. Using other methods to avoid common method bias, thus, was not viable. Since knowledge hiding is the principal construct in this study, the scale is kept intact so that this research is comparable with other research regarding the concept of knowledge hiding. However, it does limit the conclusions that can be drawn from the findings to some extent.

Perceived organizational support. Perceived organizational support was assessed using the 4-item scale of Eisenberger et al. (1986). An example of an item is “My organization really cares about my well-being.” Alfes, Shantz, Truss and Soane (2013), who used the same scale in their study, reported an internal consistency of .95. This study reported a Cronbach’s alpha of .92

Agreeableness and Conscientiousness. To measure agreeableness and conscientiousness, 6 items of the short Big Five Inventory (BFI-S) scale (15-items) of Lang, John, Lüdtke, Schupp and Wagner (2011) were used. Both agreeableness and conscientiousness were measured with three items, such as “Has a forgiving nature” for agreeableness, and “Does things efficiently” for conscientiousness. Items of each subscale were selected to encompass a maximum width of every personality trait, and thus focussed on heterogeneity rather than homogeneity. Considering that Cronbach’s alpha is concerned with the interrelatedness of items, heterogeneous items can result in a moderate internal consistency, especially with a small number of items (Tavakol & Dennick, 2011). Cronbach’s Alpha values for both subscales were, as expected, low in the study of Lang et al. (2011) (agreeableness, $\alpha = .50$; conscientiousness, $\alpha = .60$). Test-retest stability, therefore, is a more

appropriate reliability indicator. Test-retest stability coefficients across a 5-year interval were .85 for agreeableness and .70 for conscientiousness, indicating acceptable stability (Lang et al., 2011). Thus, the scale was concluded to be robust enough and to deliver reliable estimates of the Big Five traits. The present study reported a Cronbach's alpha of .64 for agreeableness, and .52 for conscientiousness. The alpha of agreeableness would be .70 when item 2 was deleted. However, when a complex construct as agreeableness is brought back from 3 to 2 items, it is likely to lose valuable parts of the construct. Therefore, this item was kept in.

Need for power. To measure an individual's need for power, the Manifest Needs Questionnaire (MNQ) of Steers and Braunstein (1976) was utilized. For this research, only the 5 items that assess the need for power were used. An example of a question is "I strive to gain more control over the events around me at work." Steers and Braunstein (1976) demonstrated a Cronbach's Alpha of .85 for the need for power subscale. This study reported a Cronbach's Alpha of .71, with an increase to .84 when item 2 is deleted. Given the strong increase in the alpha value, item 2 was deleted. Hence, this study measures a slightly different construct than in the paper of Steers and Braunstein (1976). The findings in this study, thus, cannot be uniformly compared with other findings concerning need for power.

Control variables. Prior research has shown that some demographic variables could be of influence on our conceptual model. For instance, Hershcovis et al. (2007) found support that gender predicts workplace aggression, with men turning out to be more aggressive. Connelly et al. (2012) included gender as a control variable in their study on knowledge hiding as well. Further, Gruys and Sackett (2003) demonstrated that age and tenure were of negative influence on counterproductive behavior in organizations. Since counterproductive behavior has potential overlap with the construct of knowledge hiding (Connelly et al., 2012), both age, tenure and gender were added as control variables in this study. To be able to analyze the possible influence of these variables, age and tenure were codified as continuous variables and gender as a dummy variable. When transferring the data into SPSS, it was codified so that a 1-score represents male and a 2-score represents female.

Analysis

A CFA was conducted to check the validity of the scales, using all scales together to check for model fit, in AMOS 21 software. The modification indices were used to find the model with the best fit. CFA reported a chi-square value of 380.65, with 263 degrees of freedom. The relative chi-square value, that is less sensitive to sample size, was below 2 (CMIN/DF=1.45), which indicates the model is acceptable according to the criteria of

Ullman (2001). The SRMR reported a value of .0597, which is below the level of .08 that Brown and Cudeck (1993) set for representing good model fit. RMSEA is .058, 90% CI [.05, .07] (PCLOSE = .15), which is considered as a close to reasonable fit. Furthermore, CFI, which is not very sensitive to small sample size (Fan, Thompson, & Wang, 1999), reported a value of .94 (IFI = .95, TLI = .93), which shows acceptable model fit. Standardized regression weights range from .34 to .89 for the items of Knowledge Hiding, .80 to .93 for perceived organizational support, .42 to .88 for agreeableness, .21 to .92 for conscientiousness, and .56 to .88 for need for power. Even though one could argue that CFA is not essential for such a complex model with five latent variables and numerous indicators, while having a small sample size (Wolf et al., 2013), the indicators demonstrate acceptable fit of the measurement model. The fact that the CMIN/DF and CFI values showed acceptable fit strengthens this conclusion, as these indices are not sensitive to small sample sizes.

To test the hypotheses in this study, the statistical program SPSS, version 24 was used. Before the hypotheses were analysed, the data were explored for the assumptions necessary for the use of Pearson's correlation and regression analysis. However, multiple violations were revealed, as is explicated in Appendix B. The consequence of these violations is that the results from Pearson's correlation and linear regression could not be assured to be valid. Despite this, the data were analysed using Pearson's correlation and linear regression. In social science studies, it often happens that assumptions are not met (Pallant, 2016). When interpreting the results, as well as with generalizing these, this should be kept in mind and be done with caution. This research, thereby, is more exploratory in nature.

The effect of perceived organizational support on knowledge hiding was assessed using hierarchical multiple regression analysis, to investigate what perceived organizational support adds to the prediction of knowledge hiding after having controlled for age, gender and tenure. The moderating effects of agreeableness, conscientiousness and need for power on the relationship between perceived organizational support and knowledge hiding were analyzed using the conditional PROCESS analysis of Hayes (2013), model 1. The advantage of this SPSS macro is that it provides many of the capabilities of existing programs and tools, while being easy to use. Additionally, PROCESS generates conditional effects in moderation models. For every proposed moderating effect, a moderation analysis was performed. The control variables were added to check for any influence. In the case of a significant moderation, the interaction was plotted to visualize the effect. In addition, the slope differences were tested for as well, to examine the scenario's in which the least knowledge hiding occurs. The interpretation of the results is done in the next section of this paper.

Results

Table 1 presents the descriptives of all variables analysed in this study, as well as their correlations. The results regarding hypothesis testing are presented in Table 2. In the first step (Model 1), only the control variables were added. All control variables were significantly related to knowledge hiding. Gender reported a b value of $-.45$ ($p < .05$), indicating that women hide less knowledge compared with men. Age demonstrated a b value of $-.03$ ($p < .01$), which indicates that on average, older people hide less knowledge. Finally, tenure was positively related to knowledge hiding ($b = .03$, $p < .05$), indicating that people with a longer employment relationship hide more knowledge. In step 2 (Model 2), perceived organizational support was added ($b = -.18$, $p < .01$). Perceived organizational support explained an additional 5% of the variance in knowledge hiding, $\Delta R^2 = .05$, $F(1, 127) = 7.41$, $p < .01$. Thus, hypothesis 1, which suggested a negative relationship between perceived organizational support and knowledge hiding, is supported.

In Model 3, hypothesis 2 was tested using Conditional PROCESS analysis. The second hypothesis stated that agreeableness moderates the relationship between perceived organizational support and knowledge hiding. It was expected that knowledge hiding was most negative in a situation of high perceived organizational support and high agreeableness. The interaction term between perceived organizational support and agreeableness indeed accounted for a significant proportion of variance explained in knowledge hiding, $\Delta R^2 = .04$, $p < .05$. This interaction term is significant as well ($b = .13$, $p < .05$). To be more precise about the nature of this relationship, the interaction was plotted following the technique as described by Dawson (2014). The plotted interaction can be seen in Figure 2. The plot indicates that for individuals that score high on agreeableness, the slope representing the relationship between perceived organizational support and knowledge hiding is more positive. Performing a simple slope analysis, the slope of the line ‘high agreeableness’ was significantly different from zero (gradient = 0.72 , $p < .05$) and the slope of the line that represents low agreeableness was marginally significantly different from zero (gradient = 0.43 , $p < .10$). The interaction pattern demonstrates that a situation in which an individual perceives high organizational support and scores high on agreeableness, knowledge hiding will be highest. This is contrary to what was expected. Hence, hypothesis 2 is rejected. The least knowledge hiding behavior occurs in a situation with low perceived organizational support and where an individual scores low on agreeableness.

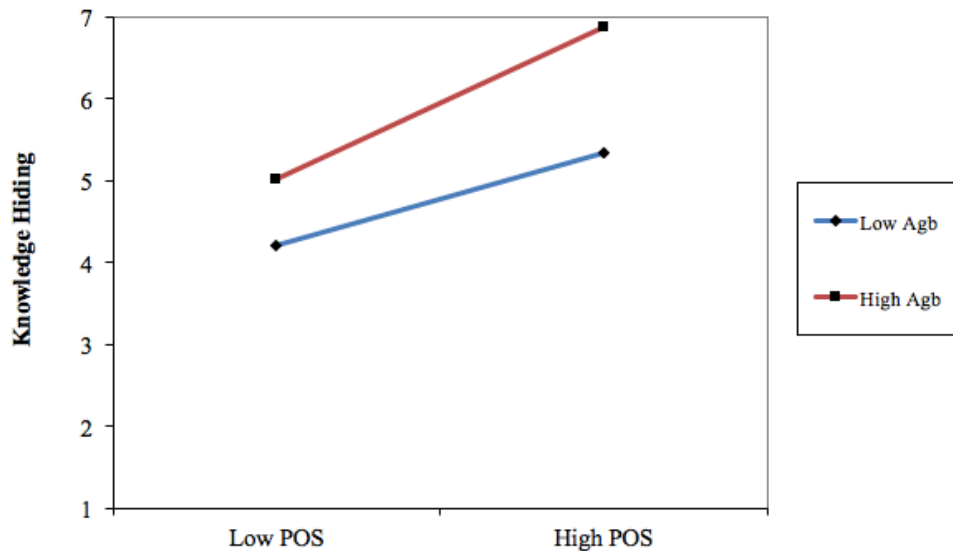


Figure 2. Interaction effects between perceived organizational support and agreeableness in predicting knowledge hiding.

Further, hypothesis 3 suggested that low knowledge hiding behavior is related to a situation with perceived organizational support and individuals scoring high on conscientiousness. This moderation effect was examined in Model 4. The results reported an insignificant interaction term between perceived organizational support and conscientiousness ($b = -.00, p = .97$), which does not explain any additional variance, $\Delta R^2 = .00, F(1, 130) = .00, p = .97$. Thus, hypothesis 3 is not supported.

Hypothesis 4 stated that low knowledge hiding behavior is related to the interaction of low need for power and high perceived organizational support. However, this hypothesis is not supported by the results, as can be seen in Model 5. The interaction term between perceived organizational support and need for power did not account for additional variance in knowledge hiding, $\Delta R^2 = .01, F(1, 130) = 1.23, p = .27$, and was not significant ($b = -.07, p = .27$). Although not hypothesized, the direct effect of need for power on knowledge hiding appeared to be positive and significant ($b = .17, p < .01$).

Table 1
Means, Standard Deviations, and Correlations^a

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Gender	1.51	.50	–								
2. Age ^b	35.51	12.24	-.11	–							
3. Tenure ^c	7.27	9.05	-.09	.70**	–						
4. Education	4.23	.80	-.10	-.23**	-.24**	–					
5. Knowledge Hiding	1.86	1.70	-.19**	-.16	.02	.02	(.92)				
6. Perceived Organizational Support	4.89	1.30	.09	-.01	-.05	.01	-.24**	(.92)			
7. Agreeableness	5.25	1.11	.11	.23**	.14	-.07	-.26**	.36**	(.64)		
8. Conscientiousness	5.50	.92	.22*	.22**	.20**	-.11	-.31**	.27**	.18*	(.52)	
9. Need for Power	4.67	1.27	.09	-.06	-.00	.03	.22**	.16	.02	.20*	(.84)

Note: Cronbach's alphas are on the diagonal in parentheses. For gender, 1 = male, 2 = female.

^a $n = 134$. ^b $n = 132$. ^c $n = 133$.

* $p < .05$, ** $p < .01$

Table 2.
Results from Hierarchical Multiple Regression and Conditional PROCESS Analysis.

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	2.99** (.34)	3.83** (.45)	3.11** (.42)	3.04** (.46)	3.33** (.43)
Gender	-.45* (.18)	-.41* (.18)	-.37* (.17)	-.30 (.20)	-.39* (.18)
Age	-.03** (.01)	-.03** (.01)	-.03** (.01)	-.03** (.01)	-.03** (.01)
Tenure	.03* (.01)	.03* (.01)	.03** (.01)	.03* (.01)	.03* (.01)
Perceived Organizational Support		-.18** (.07)	-.10 (.09)	-.14 (.08)	-.20* (.09)
Agreeableness			-.11 (.09)		
Conscientiousness				-.25 (.14)	
Need for Power					.17** (.06)
<i>Interaction effects</i>					
Perceived Organizational Support X Agreeableness			.13* (.06)		
Perceived Organizational Support X Conscientiousness				-.01 (.12)	
Perceived Organizational Support X Need for Power					-.07 (.06)
R^2 -change	-	.05	.04	.00	.01
F-test	-	7.41**	5.15*	.00	1.23

Note. $n = 132$

* $p < .05$, ** $p < .01$

Discussion

This study investigated the role of perceived organizational support in the prevalence of knowledge hiding behavior in organizations. This is critical, since knowledge is essential in creating a sustainable competitive advantage (Grant, 1996; Wang & Yang, 2007). Moreover, it studied the role of individual characteristics as agreeableness, conscientiousness and the need for power, that could attenuate or strengthen the relationship between perceived organizational support and knowledge hiding. In general terms, the results showed that perceived organizational support is negatively related to knowledge hiding. Conscientiousness and need for power demonstrated to have no influence on this relationship. Regarding agreeableness, on the other hand, some interesting results were found. In contrast to what was expected, the interaction between perceived organizational support and agreeableness related positively to knowledge hiding, meaning that high levels of both result in higher levels of knowledge hiding. Further, while not moderating the relationship between perceived organizational support and knowledge hiding, need for power did positively affect knowledge hiding. Below, the theoretical contributions are presented and discussed.

Theoretical Contributions

First of all, by examining the effect of perceived organizational support on knowledge hiding, our research contributes to the fairly new field of knowledge hiding. The results in this study confirm the findings of Tsay et al. (2014), that argued social exchange relationships play an important role in knowledge withholding. In accordance with hypothesis 1 of our study, high levels of perceived organizational support showed to be related with low levels of knowledge hiding behavior. Thus, now it is evident that perceived organizational support could also explain actual knowledge hiding, compared to solely knowledge withholding intentions in the study of Tsay et al. (2014). Drawing on the social exchange theory (Blau, 1964), individuals tend to reciprocate perceived support from the organization by decreasing their knowledge hiding behavior. This is congruent with the statement of Murphy et al. (2003), who argued that in a high-quality relationship, individuals act in manners that decrease effort withholding, which also encompasses knowledge hiding (Tsay et al., 2014). The findings also indicated that knowledge hiding is one of the responses of individuals to little perceived support from the organization.

Secondly, this paper is one of the first that empirically studied individual characteristics as explanatory moderating mechanisms that could influence knowledge hiding

behavior. The present literature on knowledge hiding lacks insights in the effect of individual characteristics (Webster et al., 2008), while individual characteristics have previously showed to significantly influence knowledge sharing (e.g. Cabrera et al., 2006; Matzler et al., 2011; Wang & Yang, 2007). Our research extends the literature in this area by demonstrating that high levels of agreeableness, in combination with high levels of perceived organizational support can harm organizations, as knowledge hiding is highest in this scenario. These findings contradict with literature on counterproductive work behavior. A study by Weldadi and Lubis (2016) demonstrated that agreeable people are less likely to engage in interpersonal deviant behaviors, even when they do not experience organizational support. Thus, existing literature does not clarify our findings. When we look at the findings from another perspective, it can be relevant that although agreeable people have a very pleasing character, a study by Kammrath and Scholer (2011) proposed that agreeable people are also far more judgemental. They also judge more extremely compared to people who score low on agreeableness. Theorizing on this, it could be that when an agreeable person (person A) holds a strong negative judgement against someone (person B), and when person B requests for knowledge, a dilemma arises for person A. Feeling obligated to reciprocate the perceived organizational support, person A might pretend to be happily willing to share the requested knowledge, while in reality they might intentionally hide this. For example, they might tell they would be very happy to share the knowledge, if it were not for confidentiality to restrict them, or they could provide them with different information instead. Future research could reveal if our findings are related to a specific type of knowledge hiding as described by Connelly et al. (2012).

By contrast, conscientiousness did not moderate the relationship between perceived organizational support and knowledge hiding, even though it was hypothesized that conscientiousness could strengthen the negative effect perceived organizational support has on knowledge hiding. The findings in this study demonstrate that neither conscientiousness, nor the interaction term of perceived organizational support and conscientiousness play any role in explaining knowledge hiding. Two propositions could explain the non-significant findings in this study regarding conscientiousness. On the one hand, conscientious people act in ways that are careful and responsible, and have a natural tendency to exert effort and withhold from counterproductive behavior (Barrick & Mount, 1991; Mount & Barrick, 1995; Sackett & DeVore, 2001). Hence, it could be assumed that conscientious people also withhold from knowledge hiding. On the other hand, they are very achievement oriented (Barrick & Mount, 1991; Matzler et al., 2011). Because of this achievement orientation,

Anand and Jain (2014) hypothesized that conscientious people are more likely to hide knowledge, as this could help them achieve targets. However, this is not tested empirically. Both propositions could exist alongside, and thus explain the non-significant findings in this study, as there is no clear perception on how conscientiousness does affect knowledge hiding.

Regarding need for power, although not hypothesized, a direct positive relationship was found with knowledge hiding. Nevertheless, the theoretical reasoning might be comparable to the proposed moderating effect of need for power on the relationship between perceived organizational support and knowledge hiding. Webster et al. (2008) already referred to political gain and power as the most obvious and simplest reason to hide knowledge. A striking example is given by Pfeffer (1981), who observed how machine experts got rid of their manuals, doing so to safeguard their position as operators of their machines. Knowledge, thus, can certainly be seen as a source of power (Webster et al., 2008). Considering that having a high need for power drives individuals in self-interested behavior to reach this goal (Veroff, 1982), keeping knowledge for themselves can result in the attainment of this. Webster et al. (2008) likewise suggested that “those with higher need for power may try to control knowledge more through territorial behavior” (p. 15). As such, this might explain the positive relationship between need for power and knowledge hiding.

However, when perceived organizational support comes into play, need for power seems to have no significant effect on the relationship between perceived organizational support and knowledge hiding. This signals that here is no difference in knowledge hiding levels between individuals with a high need for power compared to people with a lower need. The obligation to reciprocate and to care for the organization when perceiving support might be stronger than the drive to engage in self-interested behavior to gain power. This could clarify the findings in this study. Hence, this study also broadens the organizational support theory, in that negative relationships, such as need for power has on knowledge hiding, can be diminished as a result of the existence of perceived organizational support.

Thirdly, where Peng (2013) and Connelly et al. (2012) could not establish relationships between gender, age, tenure, and knowledge hiding, this study demonstrates that gender, age and tenure are significantly related to knowledge hiding. Therefore, our findings extend the knowledge in the field. The results show that females are less likely to hide knowledge, as well as were older people. Tenure is positively related to knowledge hiding. Research on counterproductive work behavior helps clarifying this. In the study by Gruys & Sackett (2003), age and counterproductive work behavior were negatively related, indicating that older people are less prone to engage in different types of negative behavior. Moreover,

the results in the study of Hershcovis et al. (2007) suggested that females are less likely to show these sort of behaviors. For gender and age, the findings are congruent with literature in the field of counterproductive work behavior. For tenure, however, the effect is different compared to findings in this field. While tenure is negatively related to counterproductive work behavior (Gruys & Sackett, 2003), it is positively related to knowledge hiding. In existing literature, we found no clarification for this. This finding is even more surprising given the fact that age and tenure were highly correlated. To speculate on a possible explanation; it might be that being more experienced, and when you have a longer employment relationship, more knowledge is requested compared to people with lower tenure. It is imaginable that in such a situation, a negative affect is developed towards these knowledge requests, and thus results in more knowledge hiding.

Limitations and Suggestions for Future Research

This study has several limitations. First of all, this study made use of a cross-sectional research design. Consequently, causality cannot be inferred. Future research should try to assess causality, by collecting repeated measures of the constructs, with three times as a minimum (Chan, 1998). By measuring the constructs at least three times, it is possible to determine the form of change over time (Singer & Willett, 2003). Moreover, with only two repeated measures it is possible to mistakenly conclude there was true change, while in fact this was caused by measurement error (Singer & Willett, 2003). Regarding the interval between repeated measures, Vancouver, Tamanini and Yoder (2008) noted that it is important to give careful thought to conceptualizing the form of change, prior to making a decision about the moments to carry out the measures.

Secondly, the convenience sampling method is used to gather data. A disadvantage of this method is that it is not probable that the sample is representative of the population that is being studied. Generalizing the study findings should therefore be done with appropriate caution. It is suggested that future research should make use of a simple random sample, that is representative for multiple industries and for the Dutch or international population.

Regarding reliability of the data, especially pertaining to conscientiousness and agreeableness that reported a Cronbach's alpha of .64 and .52 respectively, reliability is relatively low. Even though Lang et al. (2011) concluded that the scale proved to be reliable, valid and robust in a 5-year study, caution is warranted. Further, some of the standardized factor scores in CFA output, specifically the .21 score of item 3 of conscientiousness, are low as well. Nonetheless, indicators demonstrate an acceptable fit of the complete model. It was

also regarded as important to keep the original scale, as deleting 1 of the 3 item-scale would cause a big change in what is measured. As a result, the findings are comparable to other studies on agreeableness and conscientiousness, with appropriate care.

Additionally, whereas our research was limited to only two traits of the Big Five, future studies could examine two additional personality traits, namely: openness to experience and extraversion. Openness to experience was positively related to knowledge sharing in the study of Cabrera et al. (2006), whereas extraversion showed a positive relationship with knowledge sharing in the study of Wang and Yang (2011). Presumably, both could affect knowledge hiding in the same manner. Furthermore, literature would benefit from studying the effect of other social exchange variables in relationship with knowledge hiding. Considering that perceived organizational support proved to significantly influence knowledge hiding behavior based on the norm of reciprocity, other social exchange variables can conceivably explain knowledge hiding in the same way. Lastly, as need for power did not significantly moderate the relationship between perceived organizational support and knowledge hiding, future research could explore whether the actual power of an individual does influence this. People with a low power position might be more inclined to protect their knowledge and use it as an asset (Webster et al. 2008). This could provide further insights into how knowledge hiding is affected by the power position of employees. By following these suggestions for future research, the field of knowledge hiding can be further extended, and practice can benefit from greater knowledge on this phenomenon.

Practical Implications

For practitioners that deal with the prevalence of knowledge hiding, this paper has several meaningful implications. First and foremost, it is suggested that as an organization, high levels of support should be provided to employees, as it proved to be related with low levels of knowledge hiding. When employees perceive support from the organization, they reciprocate this in the form of less knowledge hiding behavior. To promote a good exchange relationship with your employees, Rhoades and Eisenberger (2002) suggested to implement practices that focus on increasing fairness, providing supervisor support, improving rewards and job conditions. To illustrate, organizations can improve job conditions by for example providing job training, which communicates an investment in the employee (Wayne, Shore, & Liden, 1997), or with job security, by assuring that the organization desires to make use of the employee's qualities in the future (Rhoades & Eisenberger, 2002). Further, Rhoades and Eisenberger (2002) proposed to provide discretionary treatment, compared to help that the

organization is forced to provide. The suggestion to implement perceived organizational support is strengthened by the finding that this helps to buffer against the negative effect of need for power. For individuals that strive for power, it carries extra importance to provide support to, as the sole concept of need for power is positively related to knowledge hiding.

Concerning agreeableness and the scenario in which knowledge hiding is highest: in a situation where individuals score high on agreeableness and perceive high organizational support, there is only one conceivable scenario to reduce the prevalence of knowledge hiding. As previous implications and results support the idea of providing employees with high levels of organizational support to counteract knowledge hiding, aiming at reducing this would be unconvincing. Thus, it is suggested to focus on diminishing levels of agreeableness. However, since agreeableness is also related to positive organizational outcomes, such as cooperative and collaborative conflict handling (Digman, 1990), and predicts performance in various interpersonally oriented jobs (Hurtz & Donovan, 2000), this is a very risky scenario. As for certain work domains agreeableness is an important trait to possess, it is suggested to aim to decrease levels of agreeableness in an organization only in situations where knowledge hiding is more likely to occur or problematic. For instance, in a performance climate or in an organization wherein innovation is of major importance (Černe et al., 2014). In such circumstances, individuals could be selected on low agreeableness, among other characteristics that are important for a specific job. This could be tested by adding a personality test to the selection process. Consequently, this can reduce levels of agreeableness that enter the organization, and likewise reduce levels of knowledge hiding in the organization. However, this only holds in a situation in which employees perceive high organizational support. Even though this implication is positive for organizations regarding knowledge hiding, it has additional consequences. A meta-analysis by Peeters, van Tuijl, Rutte, and Reymen (2006) on the effect of team composition in terms of the Big Five personality traits and team performance stated that “teams whose members score both highly and similarly on agreeableness are teams that perform best” (p. 392). Thus, in exchange for less knowledge hiding behavior in the organization, a price has to be paid in the form of a lower team performance. In that sense, it is choosing between two evils; knowledge hiding on the one side, and lower team performance on the other side. This underscores the precariousness of this implication. In conclusion, our findings and suggestions support practice in decreasing knowledge hiding levels across the organization, who thus benefit as knowledge is labelled to be the most important component of organizational growth and economic performance (Witherspoon et al., 2013).

References

- Alfes, K., Shantz, A. D., Truss, C., & Soane, E. C. (2013). The link between perceived human resource management practices, engagement and employee behaviour: a moderated mediation model. *The International Journal of Human Resource Management*, *24*(2), 330–351. doi:10.1080/09585192.2012.679950
- Anand P., & Jain, K. K. (2014). Big Five personality types & knowledge hiding behaviour: A theoretical framework. *Archives of Business Research*, *2*(5), 47–56. doi:10.14738/abr.25.355
- Austin, E. J., Deary, I. J., Gibson, G. J., McGregor, M. J., & Dent, J. B. (1998). Individual response spread in self-report scales: personality correlations and consequences. *Personality and Individual Differences*, *24*(3), 421–438. doi:10.1016/s0191-8869(97)00175-x
- Barrick, M. R., & Mount, M. K. (1991). The Big Five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, *44*(1), 1–26. doi:10.1111/j.1744-6570.1991.tb00688.x
- Blau, P. M. (1964). *Exchange and power in social life*. New York, NY: John Wiley & Sons.
- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, *1*(3), 185–216. doi:10.1177/135910457000100301
- Browne, M. W., & Cudeck, R. (1989). Single sample cross-validation indices for covariance structures. *Multivariate Behavioral Research*, *24*(4), 445–455. doi:10.1207/s15327906mbr2404_4
- Cabrera, Á., Collins, W. C., & Salgado, J. F. (2006). Determinants of individual engagement in knowledge sharing. *The International Journal of Human Resource Management*, *17*(2), 245–264. doi:10.1080/09585190500404614
- Cantor, N. & Zirkel, S. (1990). Personality, cognition, and purposive behavior. In L. A. Pervin (Eds.), *Handbook of personality: Theory and research*. (pp. 135–164). New York, NY: Guilford Press.
- Černe, M., Nerstad, C. G. L., Dysvik, A., & Škerlavaj, M. (2014). What goes around comes around: Knowledge hiding, perceived motivational climate, and creativity. *Academy of Management Journal*, *57*(1), 172–192. doi:10.5465/amj.2012.0122
- Chan, D. (1998). The conceptualization and analysis of change over time: An integrative approach incorporating longitudinal mean and covariance structures analysis (LMACS)

- and multiple indicator latent growth modeling (MLGM). *Organizational Research Methods*, 1(4), 421–483. doi:10.1177/109442819814004
- Clegg, S. R. 1989. *Frameworks of Power*. London, UK: Penguin Books.
- Colbert, A. E., Mount, M. K., Harter, J. K., Witt, L. A., & Barrick, M. R. (2004). Interactive effects of personality and perceptions of the work situation on workplace deviance. *Journal of Applied Psychology*, 89(4), 599–609. doi:10.1037/0021-9010.89.4.599
- Conley, J. J. (1985). Longitudinal stability of personality traits: A multitrait–multimethod–multioccasion analysis. *Journal of Personality and Social Psychology*, 49(5), 1266–1282. doi:10.1037/0022-3514.49.5.1266
- Connelly, C. E., & Zweig, D. (2015). How perpetrators and targets construe knowledge hiding in organizations. *European Journal of Work and Organizational Psychology*, 24(3), 479–489. doi:10.1080/1359432x.2014.931325
- Connelly, C. E., Zweig, D., Webster, J., & Trougakos, J. P. (2012). Knowledge hiding in organizations. *Journal of Organizational Behavior*, 33(1), 64–88. doi:10.1002/job.737
- Dawson, J. F. (2014). Moderation in Management Research: What, Why, When, and How. *Journal of Business and Psychology*, 29(1), 1–19. doi:10.1007/s10869-013-9308-7
- Digman, J. (1990). Personality structure: Emergence of the 5-factor model. *Annual Review of Psychology*, 41(1), 417–440. doi:10.1146/annurev.ps.41.020190.002221
- Eisenberger, R., Armeli, S., Rexwinkel, B., Lynch, P. D., & Rhoades, L. (2001). Reciprocation of perceived organizational support. *Journal of Applied Psychology*, 86(1), 42–51. doi:10.1037/0021-9010.86.1.42
- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology*, 71(3), 500–507. doi:10.1037/0021-9010.71.3.500
- Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(2), 109–122. doi:10.1002/smj.4250171110
- Gruys, M. L., & Sackett, P. R. (2003). Investigating the dimensionality of counterproductive work behavior. *International Journal of Selection and Assessment*, 11(1), 30–42. doi:10.1111/1468-2389.00224
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press.
- Herscovis, M. S., Turner, N., Barling, J., Arnold, K. A., Dupré, K. E., Inness, M., LeBlanc, M. M., & Sivanathan, N. (2007). Predicting workplace aggression: A meta-analysis. *Journal of Applied Psychology*, 92(1), 228–238. doi:10.1037/0021-9010.92.1.228

- Hurtz, G. M., & Donovan, J. J. (2000). Personality and job performance: The Big Five revisited. *Journal of Applied Psychology, 85*(6), 869–879. doi:10.1037/0021-9010.85.6.869
- Kammrath, L. K., & Scholer, A. A. (2011). The Pollyanna myth. *Personality and Social Psychology Bulletin, 37*(9), 1172–1184. doi:10.1177/0146167211407641
- Kelloway, E. K., & Barling, J. (2000). Knowledge work as organizational behavior. *International Journal of Management Reviews, 2*(3), 287–304. doi:10.1111/1468-2370.00042
- Kutner, M. H., Nachtsheim, C. J., & Neter, J. (2004). *Applied Linear Regression Models* (4th ed.). New York, NY: McGraw-Hill/Irwin.
- Landers, R. N., & Lounsbury, J. W. (2006). An investigation of Big Five and narrow personality traits in relation to Internet usage. *Computers in Human Behavior, 22*(2), 283–293. doi:10.1016/j.chb.2004.06.001
- Lang, F. R., John, D., Lüdtke, O., Schupp, J., & Wagner, G. G. (2011). Short assessment of the Big Five: robust across survey methods except telephone interviewing. *Behavior Research Methods, 43*(2), 548–567. doi:10.3758/s13428-011-0066-z
- Liao, H., & Chuang, A. (2004). A multilevel investigation of factors influencing employee service performance and customer outcomes. *Academy of Management Journal, 47*(1), 41–58. doi:10.2307/20159559
- Maddi, S. R. (1980). *Personality theories: A comparative analysis* (4th ed.). Homewood, IL: Dorsey Press.
- Major, D. A., Turner, J. E., & Fletcher, T. D. (2006). Linking proactive personality and the Big Five to motivation to learn and development Activity. *Journal of Applied Psychology, 91*(4), 927–935. doi:10.1037/0021-9010.91.4.927
- Markman, A. (2013). *The habits of effective leadership*. London, UK: Hachette Digital
- Marsh, H. W., Nagengast, B., & Morin, A. J. S. (2013). Measurement invariance of Big Five factors over the life span: ESEM tests of gender, age, plasticity, maturity, and la dolce vita effects. *Developmental Psychology, 49*(6), 1194–1218. doi:10.1037/a0026913
- Matzler, K., Renzl, B., Mooradian, T., von Krogh, G., & Mueller, J. (2011). Personality traits, affective commitment, documentation of knowledge, and knowledge sharing. *The International Journal of Human Resource Management, 22*(2), 296–310. doi:10.1080/09585192.2011.540156
- McClelland, D. C. (1961). *The Achieving Society*. New York, NY: Van Nostrand Reinhold.

- McClelland, D. C. (1975). *Power: The inner experience*. New York, NY: Irvington Publishers.
- McClelland, D. C., Burnham, D. H., & McClell, D. C. (2008). *Power is the great motivator*. Boston, MA: Harvard Business Review Press.
- Mount, M. K., & Barrick, M. R. (1995). The Big Five personality dimensions: Implications for research and practice in human resources management. In G. R. Ferris (Eds.), *Research in personnel and human resources management*. (pp. 153–200). Greenwich, CT: JAI Press.
- Murphy, S. M., Wayne, S. J., Liden, R. C., & Erdogan, B. (2003). Understanding social loafing: The role of justice perceptions and exchange relationships. *Human Relations*, 56(1), 61–84. doi:10.1177/0018726703056001450
- Noftle, E. E., & Robins, R. W. (2007). Personality predictors of academic outcomes: big five correlates of GPA and SAT scores. *Journal of personality and social psychology*, 93(1), 116-130. doi: 10.1037/0022-3514.93.1.116
- O'Neill, B. S., & Adya, M. (2007). Knowledge sharing and the psychological contract. *Journal of Managerial Psychology*, 22(4), 411–436. doi:10.1108/02683940710745969
- Pallant, J. (2016). *SPSS Survival Manual* (6th ed.). New York, NY: Open University Press.
- Peeters, M. A. G., van Tuijl, H. F. J. M., Rutte, C. G., & Reymen, I. M. M. J. (2006). Personality and team performance: a meta-analysis. *European Journal of Personality*, 20(5), 377–396. doi:10.1002/per.588
- Peng, H. (2012). Counterproductive work behavior among Chinese knowledge workers. *International Journal of Selection and Assessment*, 20(2), 119–138. doi:10.1111/j.1468-2389.2012.00586.x
- Pfeffer, J. (1981). *Power in organizations*. Boston, MA: Pitman Publishing, Inc.
- Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, 87(4), 698–714. doi:10.1037/0021-9010.87.4.698
- Roberts, B. W., Jackson, J. J., Fayard, J. V., Edmonds, G. W., & Meints, J. (2009). Conscientiousness. In: Leary, M. R., & Hoyle, R. H., (Eds.), *Handbook of individual differences in social behavior*. (pp. 369-381). New York, NY: Guilford Press.
- Sackett, P. & DeVore, C. (2001). Counterproductive behaviors at work. In N. Anderson, D. S. Ones, H. K. Sinangil, & C. Viswesvaran (Eds.), *Handbook of industrial, work & organizational psychology - volume 1: Personnel Psychology*. (pp. 145-164). London, UK: Sage Publications.

- Salgado, J. F. (2002). The Big Five personality dimensions and counterproductive behaviors. *International Journal of Selection and Assessment*, 10(1-2), 117–125. doi:10.1111/1468-2389.00198
- Salgado, J. F. & De Fruyt, F. (2005). Personality in personnel selection. In A. Evers, O. Schmit-Voskuyl, & N. Anderson (Eds.). *Handbook of personnel selection*. Oxford, UK: Blackwell.
- Serenko, A., & Bontis, N. (2016). Understanding counterproductive knowledge behavior: antecedents and consequences of intra-organizational knowledge hiding. *Journal of Knowledge Management*, 20(6), 1199–1224. doi:10.1108/jkm-05-2016-0203
- Singer, J. D., & Willett, J. B. 2003. *Applied longitudinal data analysis*. New York, NY: Oxford University Press.
- Steers, R. M., & Braunstein, D. N. (1976). A behaviorally-based measure of manifest needs in work settings. *Journal of Vocational Behavior*, 9(2), 251–266. doi:10.1016/0001-8791(76)90083-x
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53–55. doi:10.5116/ijme.4dfb.8dfd
- Tellegen, A. (1991). Personality traits: Issues of definition, evidence, and assessment. In: Cicchetti, D. & Grove, W. M. (Eds.), *Thinking clearly about psychology: Essays in honor of Paul E Meehl*. (pp. 10-35). Minneapolis, MN: University of Minnesota Press.
- Tracy, J. L., & Robins, R. W. (2004). *Putting the Self into Self-Conscious Emotions: A Theoretical Model*. *Psychological Inquiry*, 15(2), 103–125. doi: 10.1207/s15327965pli1502_01
- Tsay, C. H.-H., Lin, T.-C., Yoon, J., & Huang, C.-C. (2014). Knowledge withholding intentions in teams: The roles of normative conformity, affective bonding, rational choice and social cognition. *Decision Support Systems*, 67, 53–65. doi:10.1016/j.dss.2014.08.003
- Ullman, J. B. (2001). Structural equation modeling. In: Tabachnick, B. G. & Fidell, L. S. (Eds.), *Using Multivariate Statistics* (pp. 653- 771). Needham Heights, MA: Allyn & Bacon.
- Vancouver, J. B., Tamanini, K. B., & Yoder, R. J. (2008). Using dynamic computational models to reconnect theory and research: Socialization by the proactive newcomer as example. *Journal of Management*, 36(3), 764–793. doi:10.1177/0149206308321550

- Veroff, J. (1982). Assertive motivations: Achievement versus power. In A. J. Stewart (Eds.), *Motivation and society: A volume in honor of David C. McClelland*. San Francisco, CA: Jossey-Bass.
- Wang, S., & Noe, R. A. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review*, 20(2), 115–131. doi:10.1016/j.hrmr.2009.10.001
- Wang, C. C., & Yang, Y. J. (2007). Personality and intention to share knowledge: An empirical study of scientists in an R&D laboratory. *Social Behavior and Personality: An International Journal*, 35(10), 1427–1436. doi:10.2224/sbp.2007.35.10.1427
- Wayne, S. J., Shore, L. M., & Liden, R. C. (1997). Perceived organizational support and leader-member exchange: A social exchange perspective. *Academy of Management Journal*, 40(1), 82–111. doi:10.2307/257021
- Webster, J., Brown, G., Zweig, D., Connelly, C. E., Brodt, S., & Sitkin, S. (2008). Beyond knowledge sharing: Withholding knowledge at work. *Research in Personnel and Human Resources Management*, 27, 1–37. doi:10.1016/s0742-7301(08)27001-5
- Weldali, L. M. S. A., & Lubis, Z. (2016). Personality traits and counterproductive work behavior: Moderator effect of perceived organizational support. *Imperial Journal of Interdisciplinary Research*, 2(5), 521-530. Retrieved from <http://imperialjournals.com>
- Winter, D. G., John, O. P., Stewart, A. J., Klohnen, E. C., & Duncan, L. E. (1998). Traits and motives: Toward an integration of two traditions in personality research. *Psychological Review*, 105(2), 230–250. doi:10.1037/0033-295x.105.2.230
- Witherspoon, C. L., Bergner, J., Cockrell, C., & Stone, D. N. (2013). Antecedents of organizational knowledge sharing: a meta-analysis and critique. *Journal of Knowledge Management*, 17(2), 250–277. doi:10.1108/13673271311315204
- Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample size requirements for structural equation models. *Educational and Psychological Measurement*, 73(6), 913–934. doi:10.1177/0013164413495237

Appendix A

Cover Letter Employee Questionnaire

Dear Sir / Madam,

We are students from Tilburg University who are conducting research about knowledge sharing in organizations.

You are being approached to participate in this research together with other colleagues from your organization. For us as students, collecting and analyzing data is a compulsory part of our MSc in Human Resource Studies. Strict anonymity of your answers is guaranteed. Nobody other than the research team of Tilburg University will have access to your answers. Your (team) name will not be identified anywhere. The data will be used for education and research purposes only.

In the questionnaire, you will find statements about your work and some general questions. Please choose the answer which best represents your opinion and carefully read the instruction with each set of questions before filling out your answers. It will take you approximately 15 minutes to complete the questionnaire.

Thank you very much for your participation!

On behalf of the research team,

Kind regards

Appendix B

Violations of assumptions

Knowledge hiding, agreeableness and perceived organizational support reported a couple of outliers. However, when comparing all mean scores and the 5% trimmed means, the outliers did not have a strong influence on the mean scores. Since all variables can be seen as sensitive, especially in teams and in organizations, all scores carried important information. The scores represent an honest opinion or judgement about the variables. For these reasons, no outlier was deleted from the sample. When looking at the normality of the distribution of scores, all scores had a significant Kolmogorov-Smirnov statistic, indicating no normality (Knowledge hiding: $D(134) = .211, p < .001$; Perceived organizational support: $D(134) = .124, p < .001$; Agreeableness: $D(134) = .131, p < .001$; Conscientiousness: $D(134) = .147, p < .001$; Need for power: $D(134) = .101, p < .01$). Collinearity diagnostics revealed no multicollinearity was present between variables, as VIF values ranged from 1.093 to 2.108, that is well less than 10 (Kutner, Nachtsheim, & Neter, 2004). Further, after all variables were plotted against each other, weak linear relationships appeared. Almost all plots showed heteroscedasticity, thereby violating the homoscedasticity assumption.