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The need to belong and work performance: Exploring the moderating effect of extraversion

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Abstract

The need to belong is a powerful motivational basis for interpersonal behaviour (Baumeister et al., 2007). Previous research has mainly addressed negative outcomes when the need to belong is thwarted by social exclusion and rejection. However, there is little research looking at employee's need to belong and how it is related to organisational outcomes. Building on Baumeister & Leary's (1995) belongingness theory, the present study explores the relationship between employee's need to belong and work performance. Drawing on personality scholars, it was also hypothesised that facets of extraversion (i.e., warmth and sociability) would moderate this relationship. Survey data was collected from 226 employees working within the sales department at a Norwegian telecom company. The initial hypothesis was not supported; however, this study conducted a multiple ordinary least square for further exploration and revealed a significant two-way interaction: As hypothesised, individual's need to belong predicted better performance, but this effect was only evident for individuals with high belonging needs and low scores on extraversion facet warmth. Limitations and suggestions for future research are discussed.

Introduction

Human beings are among the most social of all animals. Not only do people typically live together in groups, but they also spend much of their daily lives interacting or coacting with others. That is, people work together, eat together, play together, and sleep together (Leary et al., 2013). In fact, evidence suggests that people possess a “need to belong” that motivates them to seek and maintain some minimum number of strong and abiding relationships with both individuals and groups (Baumeister & Leary, 1995). As pointed out by Leary & Hoyle (2009), this motive has been referred to by a number of terms such as the need to belong, motivation for acceptance, and belonging motivation.

Because much of all human life seems to focus on the efforts to foster and maintain a certain number of supportive interpersonal relationships (Tooby & Cosmides, 1996), we have a natural tendency to seek and thrive in intimate, coherent, and meaningful relationships. Indeed, this desire for social connections is argued to be a fundamental human motivation (Baumeister & Leary, 1995). Put differently, the need to belong entails that relationships are desired: a lack of belongingness constitutes severe deprivation and can result in a variety of ill effects (Baumeister & Leary, 1995) such as depression, anxiety, and stress (Cockshaw, Shochet, & Obst, 2014).

Although all normal individuals desire to be accepted and to belong to social groups, people differ in the strength of their desire for acceptance and belonging (Leary et al., 2013). This desire varies across people such that some individuals are strongly motivated to foster and maintain belonging and acceptance across a variety of people, groups, and situations. They seek a larger number of relationships and also worry about how others value them. Additionally, they put a great deal of effort into sustaining interpersonal relationships (Kelly, 2001). By contrast, others might manifest a weaker desire to establish and maintain social connections (Leary & Hoyle, 2009), have only a few relationships and do not concern themselves with being valued and accepted by others outside this circle. Yet, they have their belonging needs satisfied.

Researchers have been interested for many years in personality variables such as extraversion and the need for affiliation, which involves the degree to which people are motivated to interact with others, and the ways in which people seek approval and affirmation from others (Leary & Hoyle, 2009). Studies have shown that extraversion, need for affiliation, and sociability involve the inclination to seek out and interact with other individuals (Cheek & Buss, 1981; Eaton & Funder, 2003; Hill, 1987). Additionally, findings demonstrate that extraverted individuals are more inclined to seek the company of other people and interact at a higher rate (John, 1990) as compared to introverted people. There is, however, nothing in the conceptualization of extraversion suggesting that extraverted individuals necessarily desire to be especially valued or accepted by other people (Leary et al., 2013). But, these variables do not capture the desire for acceptance and belonging which is central to the construct of this need to belong (Leary & Hoyle, 2009).

To Baumeister (2012), building social bonds is one of the processes that are in the base of all human motivation. Morrison and Matthes (2011) conclude that individuals who attribute a main role to other's opinions in relation to themselves, have a high need to belong. This indicates that although the need to belong influences people, it also makes them sharper on the social perceptions of certain dimensions such as decoding verbal cues and recognition of the opinion of their peers. Arguably, people are motivated to build the social environment in a way that suits their need to belong (Leibovich, Schmid, & Calero, 2018). In this view, emphasis is put on the proposition that all individuals desire to be accepted and belong to a social group (Leary et al., 2013). At work, for instance, employees seek to belong - and seek to enhance their sense of belongingness (Green, Gino, & Staats, 2017). Given that the need to belong could have two facets: interpersonal acceptance and belonging, both being at the "heart" of the same construct, the need to belong is an important construct to be evaluated and investigated, because the inter-individual differences in relation to the need to belong are connected to a wide variety of traits, values, emotions, and behaviours that have important implications for social and emotional life (Leibovich et al., 2018). Thus, our study adds unique information to existing literature by exploring the relationship

between the differences in the need to belong and how it may be related to employee performance, but moderated by the personality trait extraversion.

Theoretical background

The desire for social connection and acceptance

Baumeister and Leary (1995) posit that a need to belong is a fundamental human motivation: human beings have a pervasive drive to form and maintain strong, stable interpersonal relationships. They define the need to belong as a “need for frequent, nonaversive interactions within ongoing relational bonds”. Similar to self-determination theory (SDT; Deci & Ryan, 2000), the need to belong can significantly impact people’s cognitions, emotions, and behaviours (Baumeister & Leary, 1995). As previously mentioned, a lack of belongingness may also result in a variety of ill effects such as severe deprivation, depression, anxiety, and stress (Cockshaw, Shochet, & Obst, 2013). In this view, studies have shown that thwarted belonging can motivate self-defeating behaviours at work (Blackhart, Baumeister, & Twenge, 2006; Baumeister et al., 2007). Consistent findings are provided by laboratory studies: people who are socially excluded, and thereby have their belongingness needs thwarted, are more aggressive (Twenge et al., 2001) and display less prosocial behaviour (Twenge et al., 2007) as compared to people who feel that they are socially included. Indeed, this desire for social connections appears to be so fundamental that a simple rejection can invoke neural reactions similar to those involved in actual physical pain (MacDonald & Leary, 2005). However, it should be noted that the need to belong and achieved belonging are distinct from each other. See for example the investigation by Malone, Pillow, and Osman (2012) who were the first to document this.

Different Approaches to the need to belong

Self-determination theory (SDT): Relatedness Satisfaction

SDT (Deci & Ryan, 2000) posits that there is a basic universal psychological need for relatedness. People need to feel connected, (i.e., to care for and be cared for by

significant others) in order to function optimally. Indeed, the literature demonstrates consistent findings that there is a positive influence of the need for relatedness' satisfaction on cognitive, affective, and behavioural outcomes (Lavigne, Vallerand, & Crevier-Braud, 2011). For example, Gagne (2003) found that female gymnasts' reports of experiencing relatedness need satisfaction during a workout session, predicted increases in positive affect, vitality, and self-esteem from before and after their practice sessions. This suggests that fluctuations in the relatedness need satisfaction from session to session will change well-being accordingly. Moreover, when the need for relatedness satisfaction is prevented, people report higher levels of distress and ill being, e.g., being ostracized or excluded seems to trigger "social pain" which involves some of the same neural activation patterns as physical pain (Eisenberg, Lieberman, & Williams, 2003). Notably, within the SDT tradition, it is believed that there exist individual differences in strength in the need for relatedness. However, from the perspective of SDT, these differences are not considered important and thus not addressed (Lavigne et al., 2011).

Belongingness theory

The need to belong is arguably among the most powerful sources of human motivation (Baumeister & Leary, 1995; Maslow, 1943), and states that people will always search for social contact and try to maximize the value of being part of a group (ten Have, & Westhof, 2018). Contrasting SDT, the need to belong is considered to be a variable in strength from one individual to the next. That is, there exist some individual differences in the strength of people's need for social connections (Lavigne et al., 2011). Leary and colleagues (2006) developed the need to belong scale (NTBS) to measure individual differences in the strength of the need to belong. The scale focuses specifically on the strength or intensity of people's need to be accepted or not rejected by others, conveying a sense of deficit rather than focusing on the satisfaction of the belongingness need as generally understood within the SDT's tradition. This indicates that a deficit in the need to belong motivates a desire for closeness with others, that is, people with a strong need to belong search for other people's acceptance to feel more secure (Lavigne et al., 2011). Accordingly, we argue that exploring the differences in the

need to belong provides a point of departure for understanding why it is important to consider this strength as this may complement and advance organisational scholarship on topics such as employee behaviour, HRM interventions, and leadership.

Individual differences in the need to belong

Building on the above, all normal human beings desire belonging and social acceptance to some degree. However, as mentioned earlier, people's need to belong appears to vary across individuals. Whereas some people manifest weak desires to establish social connections, others are strongly motivated to achieve acceptance and belonging across a variety of people and groups. That is, people differ in the strength of their desire for belonging and acceptance (Lavigne et al., 2011; Leary et al., 2007).

At its most basic level, the need to belong stimulates people to establish and maintain relationships with other individuals and groups. Given this, it is expected that people with a strong belonging need is linked with larger social networks (Leary & Hoyle, 2009). Unpublished data suggests that individuals who score high on the NTBS report having more close friends and a larger social support network. Additionally, studies also report that these people are more likely to use Facebook as a social networking tool (Carton, Young, & Kelly, 2008; Kelly, 2008). These findings clearly demonstrate a focus on one's social connections and that feelings of belonging and acceptance coincide within the need for belonging.

Elaborating on this, individuals with a high need to belong are characterized by a strong need for acceptance and desire the physical presence of others. They also show strong negative affective reactions to real or anticipated exclusion (Pickett, Garner, & Knowles, 2004). As scores on the NTBS are normally distributed around a "moderately high" level of the need to belong, it is assumed that people need to be moderately motivated to maintain acceptance and belonging in order to fare well in their everyday lives. Thus, from a functional perspective, healthy people should have at least a moderate desire for acceptance and belonging, whereas a person who has no desire for this (e.g., low scores on NTBS) would

fare poorly in most social, occupational, as well as romantic pursuits (Leary & Hoyle, 2009). Supporting this, individuals with a strong need to belong and need to be accepted may indeed react more aversely to being excluded than those who are not as concerned about belonging (Scott et al., 2014).

The effects of social exclusion and thwarted belonging: enhanced sensitivity to social cues

Empirical evidence shows us that people who score high on the need to belong are more attuned to cues involving evaluation and rejection. For instance, employees with a higher need to belong, as compared to those with lower need to belong, are more sensitive to cues that indicate social inclusion or exclusion (De Cremer & Blader, 2006; Gardner, Pickett, & Brewer, 2000; Pickett et al., 2004). In other words, the need to belong is associated with social sensitivity and emotional indicators reflecting concern about acceptance as well as other people's evaluations and impressions (Funder & Dobroth, 1987). In this view, findings reveal that scores on the need to belong scale are correlated with the tendency to experience social anxiety when speaking in front of other people, along with feelings of shyness and embarrassability in social encounters (Leary et al., 2008; Leary et al., 2013). Overall, such emotions reflect concerns that one will make undesired impressions on others, which might lead to rejection (Findley & Kelly, 2008; Leary & Buckley, 2000). Indeed, some people even hesitate to seek interactions with others as they are afraid to be rejected (Leary et al., 2013).

Moreover, studies on social exclusion demonstrate that when a person's need to belong is thwarted through a simulated rejection manipulation in a chat room, people attend more to social connection information when reading about other people's connection and exclusion experiences (Gardner et al., 2000). This suggests that people are motivated to build the social environment in a way that suits their need to belong (Leibovich et al., 2018). Further, this heightened interest can also be interpreted as reflecting an increased desire to form new relationships (Baumeister et al., 2007), consistent with Baumeister & Leary (1995) who posit that building social bonds is one of the processes that are at the base of all human motivation.

As argued by Gagné (2014), what appears to be differences in need strength may indeed be compensations for prior thwarting of the needs. For instance, many of the items on the NTB scale (i.e., Leary et al., 2006) imply that the participants' need for belongingness has been thwarted or that the individuals are fearful that it will be – such as, “I try hard not to do things that will make other people avoid or reject me”. This item suggests insecurity that comes from having the basic need thwarted (Gagné, 2014). Given this, one may argue that, in general, the degree to which basic needs are more satisfied, more positive outcomes are predicted. Likewise, to the degree that the needs are more thwarted, more negative outcomes are predicted (Gagné, 2014). This suggests that individuals with a high need to belong are more prone to fear rejection, and thus tend to strive more for social acceptance to avoid rejection (Ferry, 2005; Funder & Dobroth, 1987), than those individuals low in the need to belong.

The need to belong and organisational outcomes

Indeed, a sense of social connectedness predicts favourable outcomes (Walton & Cohen, 2007). With regard to the organisational literature, the need to belong might explain why many employees often prefer to work in groups rather than alone (Alderfer, 1972); why employees cooperate with others (Kramer, 1993); and why employees refrain from engaging in actions that can harm their coworkers (Thau, Aquino, & Poortvliet, 2007). Further, people with a high need to belong will attempt to increase their feelings of unclosing by focusing more on collective interests and cooperate with others (De Cremer & Leonardelli, 2003).

Given the above, people with a strong need to belong should cooperate the most, possibly because this may satisfy their need to belong (De Cremer & Leonardelli, 2003). It is argued that cooperation can increase feelings of inclusion and, hence, satisfy the need to belong (De Cremer, 2002). For instance, Rego and colleagues (2009) found that employees with a lower need to belong did not perceive perceptions of a strong spirit of camaraderie as a source of valuable and satisfying social and emotional resources. This can be explained by the fact that these

employees are less prone to cooperate (De Cremer 2002; De Cremer & Leonardelli, 2003), and will also receive fewer reciprocal cooperation acts, and lower satisfaction as well as other positive emotions than those employees with a high need to belong (Rego et al., 2009).

What is known about the need to belong and performance?

The literature is limited as it focuses on measures of general belongingness in the workplace (Pearce & Randel 2004; Prusak & Cohen, 2001). However, findings from one study show that participants with a high need to belong and low achievement aspirations, perform better on achievement-relevant tasks, when their mothers had achievement goals for them (Ricco, McCollum, & Schuyten, 2003). This suggests that people with a high need to belong may be especially willing to strive to meet the goals, particularly on achievement-relevant tasks set by others (Leary & Hoyle, 2009).

Further insight on the need to belong and potential organisational outcomes (e.g., employee performance) comes from research investigating loneliness in the workplace, suggesting that lonely people will be less willing to emotionally invest themselves in their organisation through affective commitment when their affiliation and social needs are not met (Thibaut & Kelly, 1959, cited in Ozelik & Barsade, 2011). Consequently, this influences employee performance, e.g., employees with greater affective commitment work harder and perform more effectively than those with weaker affective commitment (Bycio, Hackett, & Allen, 1995). One explanation here might be that a strong need for mere affiliation stimulates a drive toward true acceptance by others, and the need to belong motivate individuals to invest time and energy to continuously develop high-quality social relationships with coworkers (Rego et al., 2009).

Extraversion as a moderator

As earlier mentioned, the preponderance of research has focused on personality variables such as extraversion and the need for affiliation, which involves an individual's level of motivation to interact with other people, as well as the ways

in which they seek affirmation and approval. However, these variables are conceptually distinct from the desire for acceptance and belonging, which is considered the central construct of the need to belong. Specifically, “the need to belong is an important attribute that relates to emotion and social behaviour in ways that differ from more widely studied constructs such as affiliation motivation” (Leary & Hoyle, 2009. pp. 400). Notably, an individual with a strong desire for belonging is not simply an affiliating extravert (Leary & Hoyle, 2009).

That being said, it is evident that social acceptance is usually facilitated by personal contact, such that individuals will find it difficult to achieve belonging without affiliating with others. Hence, it is particularly challenging for introverted people to achieve belonging, as they are less engaged in the social behaviours that can provide opportunities to establish close relationships (Mehl, Gosling, & Pennebaker, 2006; Rusting & Larsen, 1995). Presumably, it might be easier for extraverted people with a strong affiliation motivation to obtain belongingness due to their social skills. Given that extraversion then might play an important role in satisfying the need to belong, we consider extraversion as a potential moderating factor.

Personality traits

Extraversion is considered one of the core traits in the five-factor model (FFM), and has been emphasized as a higher-order factor in almost every taxonomic scheme of personality that has been developed (Digman, 1990; Goldberg, 1993; Costa & McCrae, 1992; Johnson, Briggs & Hogan, 1997). Funder (2001) suggests that extraversion has the potential to explain the covariation of a wide variety of behaviours, which is a central concern for the field of personality. More specifically, extraversion has emerged as an individual difference variable that exerts an influence on a large number of employee behaviours (Costa & McCrae, 1992; Judge et al., 2002; Ozer & Benet-Martinez, 2006).

Extraversion measures the degree of social orientation, that is, the degree to which one thrives in; gets energy from; and searches for social interactions. Additionally, extraversion measures the degree of positive emotions, warmth, and social

dominance/self-assertion (Costa & McCrae, 1992). The extraverted character is generally described as one who seeks out and enjoys companionship of others, - one who is confident, talkative, and facile in social situations. Other descriptions that are commonly recognized to characterize the extravert include assertive, bold, energetic, lively, optimistic and enthusiastic. Conversely, the characterological opposites of extraverts are described as introverts, and are typically sketched as more quiet and reserved, less interpersonally effective, and more socially aloof (Costa & McCrae, 1995; Johnson et al., 1997). The lexical literature further suggests that individuals low in extraversion can be described as shy, retiring, and withdrawn (John & McCrae, 1990).

Facets of Extraversion

Costa & McCrae (1992) state that the five-factor model describes our personality by dividing the 5 main categories (domains) into 30 underlying facets. This provides a more detailed description of our traits. Arguably, extraversion is a broad, multifaceted construct composed of more specific, primary traits (e.g., sociability, warmth, assertiveness, activity, excitement seeking and positive emotions). The overall extraversion score is a summary of these 6 different, but co-varying facets. It is however possible to score either high or low on certain facets compared to others, demonstrating clear personal differences within the extraversion domain. When investigating extraversion as a potential moderator, more powerful and specific associations might exist at the lower levels in the personality trait hierarchy (Soto & John, 2017). Indeed, there is general agreement that the facet-level traits capture more meaningful information about personality and demonstrate distinctive developmental trends. Moreover, the underlying facets relate to important behaviours and life outcomes (Ashton et al., 1995; Costa & McCrae, 1995; Hirsh et al., 2010; Soto et al., 2011; Terracciano et al., 2005). Specifically, we consider sociability and warmth as the most relevant facets to investigate as they involve the general quality of interpersonal relationships. Arguably, these facets should be considered as important factors in belongingness theory because they are both at “the heart” of the need to belong construct and reflect people's motivation to build social bonds.

Sociability. Sociability has been described as the tendency to affiliate and to prefer being with others, i.e., a motivation (Rai, 2011). Previous studies have assessed sociability using the 5-item CBSS (Cheek & Buss, 1981); an example item includes: “I find people more stimulating than anything else”. Items are scored on a 5-point scale ranging from 0 (“not at all characteristic”) to 4 (“extremely characteristic”). Reliability and validity data are presented elsewhere (Bruch et al., 1989; Cheek & Buss, 1981).

The literature consistently demonstrates that social people have a strong need and desire for socializing with other people. They find the company of others pleasantly stimulating and rewarding, as they enjoy the excitement of crowds. The more people, the better. On the other hand, low scorers do not seek out strong social stimulation. They tend to feel overwhelmed by, and therefore avoid large crowds. However, this doesn’t mean that low scorers necessarily dislike being with people, rather, they have a greater need for privacy and time for themselves (Costa & McCrae, 1992).

Warmth. High scorers on warmth indicate that individuals genuinely like other people, and openly demonstrate positive feelings towards others. They are friendly and tend to make friends quickly, which makes it is easy to form close and intimate relationships. Low scorers on warmth are not necessarily cold or hostile. However, they are perceived as more reserved and distant as they don’t reach out to others. Hence, they are hard to get to know (Costa & McCrae, 1992).

According to Rohner (2016), the warmth dimension of interpersonal relationships is formed by interpersonal acceptance and rejection. That is, it deals with the quality of the affectional bonds between individuals, and focuses on the verbal, physical, and symbolic behaviours that individuals use to express their caring or lack of caring for other people. One side of the dimension is marked by interpersonal acceptance, including the warmth, care, affection, concern, comfort, support, nurturance that people can express to or experience from others. The other side is marked by interpersonal rejection, which involves significant withdrawal or absence of these positive behaviours and feelings (Rohner, 2016).

The present research

Previous research has demonstrated consistent evidence that individuals who score high on measures of the need to belong show greater prosocial behaviour as this can satisfy their need to belong (De Cremer, 2002; DeCremer & Leonardelli, 2003; Rego et al., 2009). Further, individuals with a strong desire to be accepted (high need to belong) tend to seek opportunities for social interaction more often than those individuals who desire belonging and acceptance to a lesser extent (Leary & Hoyle, 2009). Although this argument seems to be intuitively correct across contexts, previous studies are limited such that they only measure the relationship between general belonging and rejection (De Cremer & Blader, 2006; Gardner, Pickett, & Brewer, 2000; Pickett, et al., 2004), and the need to belong and outcomes related to interpersonal behaviour (e.g., Twenge et al., 2001; Twenge et al., 2007) rather than focusing on organisational outcomes.

As such, we propose that there is a gap in the literature. There is a lack of research investigating specifically individual differences in the need to belong and the relationship with organisational outcomes. The present research will apply the framework proposed by Baumeister & Leary (1995) as opposed to SDT, as we are interested in exploring individual differences in the strength of the need to belong. The need to belong is assessed by means of the individual-difference variable, and as argued by Baumeister and Leary (1995), although this need should be pervasive among most people, “naturally one would expect there to be individual differences in strength and intensity” (p. 499). From the functional perspective that healthy people should have at least a moderate desire for acceptance and belonging (Leary & Hoyle, 2009), we expect that individuals with a high need to belong perform better, because they might strive more for social acceptance to avoid rejection, than those individuals low in this belonging need.

H1: The need to belong is positively associated with employee performance

On the basis of the extraversion literature, we also suggest that the role of extraversion may be a suitable variable to further investigate. For instance, earlier

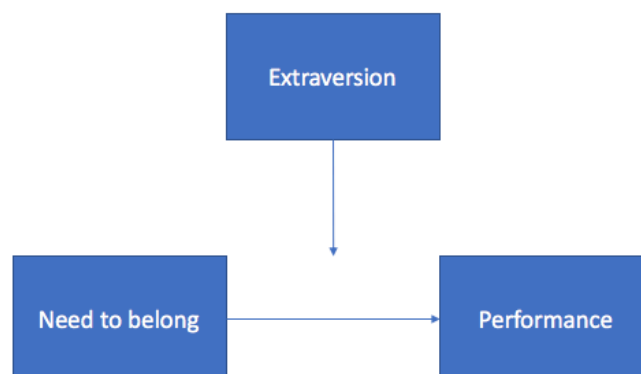
studies have shown that individuals with a stronger desire to be socially accepted (e.g., high need to belong) tend to seek opportunities for social interaction more often (Leary & Hoyle, 2009), and these individuals are characterized as extraverted (Leary et al., 2008). We propose that extraversion moderates the relationship between need to belong and employee performance, because extraverted individuals can satisfy their need to belong more easily through social interaction. Furthermore, it is this achieved belongingness that should predict better performance.

Hence, the objective of this research is to explore the extent to which extraversion moderates the relationship between an individual's need to belong and job performance. More specifically, we explore the moderating effect of extraversion on facet-level, as this allows insights to be gained at different levels of personality domains.

H2a: The relationship between the need to belong and employee performance is positively moderated by sociability

H2b: The relationship between the need to belong and employee performance is positively moderated by warmth

Research Model



Method

Participants and Procedure

Data was collected from a Norwegian telecom company. Participants were recruited by email which was distributed to 839 employees from the sales department. A total of 226 employees voluntarily chose to participate in this research and filled out the online survey. Response rate was 26,94%. A total of 69 of the participants were females (30,5%) and 151 participants were male (66,8%) with a mean age of 35-44 years ($SD = 1,04$). Gender data was missing from six people (2,7%).

Measures

Strength of the need to belong

The strength of need to belong was measured developing an adapted version of the Need to Belong scale (NTBS; i.e., Leary et al., 2013). Previous findings demonstrate acceptable inter item reliability of the NTBS with Cronbach's alpha generally exceeding .80 (Kelly, 1999; Leary, 1997; Leary & Cottrell, 2001). Alpha coefficients for measures in the present study are presented in Table 1. Furthermore, the NTBS has been used fruitfully in several studies (see for example: Carvallo & Pelham, 2006; Gardner, Pickett, & Knowles, 2005; Reichl, Schneider, & Spinath, 2013). Items address individual differences in the need to belong.

Table 1
Descriptive Statistics, Correlations, and Scale Reliabilities

Variable	M	SD	1	2	3	4	5	6	7	8
1. Gender	1.36	0.53								
2. Age	3.07	1.04	.01							
3. Face-to-face interactions	45.01	32.14	.06	.04						
4. The need to belong	2.60	0.68	-.25**	-.11	-.11					
5. Employee performance	1.95	1.69	-.11	.03	.18	.01				
6. Extraversion	2.38	0.62	-.11	-.07	-.14*	.37**	-.05			(.83)
7. Extraversion warmth	2.25	0.64	-.17**	.01	-.12	.32**	-.02	.82**		(.73)
8. Extraversion sociability	2.50	0.81	-.03	-.11	-.12	.313**	-.06	.89**	.47**	(.83)

Note. N = 226. Coefficient as are displayed on the diagonal. Gender was coded 1 = male, 2 = female, 3 = prefer not to say; Age was coded 1 = 18-24, 2 = 25-34, 3 = 35-44, 4 = 45-54, 5 = 55-64, 6 = 65-74, 7 = prefer not to say; Face-to-face interactions = average amount of time spent weekly on face-to-face interactions at work in percentage; The need to belong scale; Employee performance = performance rating was coded as 1 = poor, 4 = excellent; Extraversion scale.
* p < .05. ** p < .01.

To create the adapted version of NTBS, all 10 items were adapted from NTBS to the workplace context. Responses were measured using a five-point Likert scale, ranging from “strongly agree” (1) to “strongly disagree” (5). Sample items from the NTBS include «If people at work don’t seem to accept me, I don’t let it bother me» (R) and «My feelings are easily hurt when I feel that my colleagues and manager/supervisor do not accept me” (See Appendix A). Specifically, «manager/supervisor» and «at work» were added to the sentences respectively.

Performance rating

Performance rating was measured by asking participants to report their most recent overall performance rating which was received from their leaders/supervisors (1 = Poor, 4 = Excellent). Of the 226 participants, 137 (60,6%) provided their performance evaluations. There are strict guidelines and standards that leaders and supervisors must follow when evaluating employees on their performance.

Extraversion

Two facets were chosen from Extraversion NEO-PI-3 (McCrae, Costa, & Martin, 2005): *sociability* and *warmth*. Five items were identified to measure sociability and five items were identified to measure warmth (See Appendix A). Sample items measuring sociability include “Usually I feel bored in social settings” (R) and “I don’t get much pleasure from chatting with other people”, whereas sample items measuring warmth include “People think I am cold and distant” (R) and “I am known as a warm, friendly person”.

The NEO-PI-3 scale is the revised version of NEO-PI-R (Costa & McCrae, 1992), designed to measure the five-factor model of personality (McCrae, Costa, & Martin, 2005). Responses were measured using a five-point Likert scale, ranging from “strongly disagree” (1) to “strongly agree” (5). The scale was reversed during the initial data analysis, to obtain consistency across the scales used (i.e., Reversed scale, 1 = “strongly agree” and 5 = “strongly disagree”).

Statistical analysis

Principal component analysis (PCA)

Principal component analysis (PCA) is a dimension-reduction tool for reducing a large set of variables to a smaller set. This increases interpretability and at the same time minimizes information loss. More specifically, the technique converts a set of possibly correlated observations into a new set of values of linearly uncorrelated variables that successively maximizes variance (Jolliffe & Cadima, 2016). This approach seemed suitable for the purpose of testing our hypotheses, to further investigate the moderating effects of extraversion facet warmth and sociability. To enhance discriminant validity, items were excluded from the subsequent analysis for factor loadings lower than .50 (Nunnally & Bernstein, 2007).

Applying the strict rule of thumb outlined earlier, two out of the 10 items from the NTBS (Leary et al., 2006) were removed (Items 2 and 3). One out of the five items (Item 1) was excluded from the Extraversion warmth scale, and one out of the five items (Item 2) was excluded from the Extraversion sociability scale. Internal consistency measuring the sub-dimensions of extraversion was strong ($\alpha = .82$).

Results

The purpose of this study was to examine the relationship between individual differences in the need to belong and how it predicted employee performance. Further analyses were conducted to explore whether this relationship was moderated by personality trait extraversion.

Direct effects

Hypothesis 1 proposed a relationship between the need to belong and employee performance. Surprisingly, as seen in Table 2, the relationship between need to belong and employee performance was non-existing ($p > .05$). This indicates that,

in general, variations in individual's need to belong (high vs. low) is not related to their work performance.

Table 2
Dependent variable: Employee performance

Variable	Employee performance	
	Model 1	Model 2
Gender	-.36	-.36
Age	.05	.04
Face-to-face interactions	.01**	.01**
The need to belong		.05
Extraversion warmth		-.01
Extraversion sociability		-.09
Total R ²	.03	.02
F value	3.50*	1.79

Note. $N = 225$; Gender coded 1 = male, 2 = female; Coefficients are unstandardised.

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

Moderating effects

Hypothesis 2a proposed that sociability moderates the need to belong and employee performance, whereas Hypothesis 2b proposed that warmth moderates the need to belong and employee performance. To test these hypotheses, we conducted a multiple ordinary least square using Process for SPSS.

Extraversion sociability. Model 1 contained control variables, Model 2 contained control variables and the main variables, and model 3 consisted of controls, main variables, and the interaction effect. Hypothesis 2a was not supported, as findings revealed a non-significant interaction term (Table 3a), $F(6, 218) = 1.9, p > .05$. One possible explanation might be that this particular facet-level construction of extraversion does not necessarily entail a desire for acceptance and belonging (Leary & Hoyle, 2009), suggesting that this facet level may not be appropriate for the present research.

Table 3a
Dependent variable: Employee performance

Variable	Extraversion sociability		
	Model 1	Model 2	Model 3
Controls			
Gender	-.36	-.35	-.38
Age	.05	.04	.04
Face-to-face interactions	.01**	.01**	.01*
Direct effects			
The need to belong		.05	.40
Extraversion sociability		-.09	.28
Interaction effects			
The need to belong x Extraversion sociability			-.14
Total R ²	.03	.03	.05
F	3.50*	2.16	1.89

Note. $N = 225$; Gender coded 1 = male, 2 = female; Coefficients are unstandardised.

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

Extraversion warmth. Model 1 contained control variables, respectively.

Hypothesis 2b was supported, as the interaction term was significant, $F(6, 218) = 2.6, p < .05$. Findings suggest that individuals with a high need to belong and low scores on extraversion warmth, perform better than individuals with high scores on extraversion warmth (and also have a high belonging need), as shown by the significant interaction term in Figure 1 (Table 3b).

Table 3b
Dependent variable: Employee performance

Variable	Extraversion warmth		
	Model 1	Model 2	Model 3
Controls			
Gender	-.36	-.36	-.36
Age	.05	.050	.04
Face-to-face interactions	.01	.01	.01
Direct effects			
The need to belong		.04	1.26*
Extraversion warmth		-.05	1.34*
Interaction effects			
The need to belong x Extraversion warmth			-.53*
Total R ²	.05	.05	.07
F	3.50	2.10	2.60

Note. $N = 225$; Gender coded 1 = male, 2 = female; Coefficients are unstandardised.

* $p < .05$

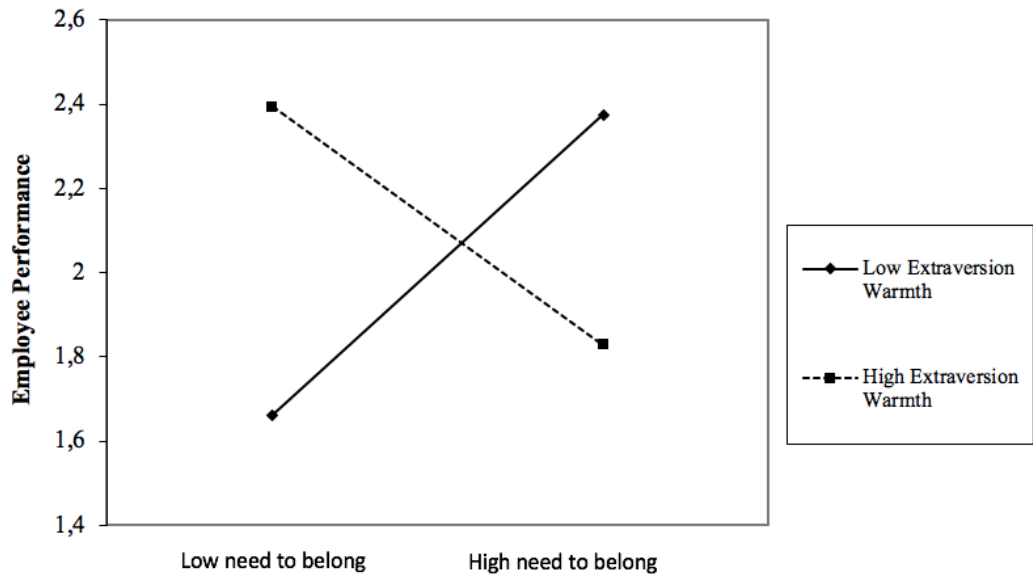


Figure 1. The moderating effects of *extraversion warmth* on the relationship between the need to belong and employee performance.

Discussion

Little is known about individual differences in the need to belong and how it is related to organisational outcomes such as employee performance. Previous research has mainly investigated the need to belong and its relationship with prosocial behaviour (DeCremer & Leonardelli, 2003; Rego et al., 2009; Twenge et al., 2007) social exclusion (De Cremer & Blader, 2006; Gardner et al., 2000; Pickett et al., 2004) and psychological functioning (e.g., Lavigne et al., 2011). These studies are however limited with regard to the work context. Our study aimed to further explore the need to belong and the relationship with employee performance. First, it was predicted that a high need to belong would be associated with better performance. Secondly, we predicted that this relationship is moderated by the personality trait extraversion, as measured by the facets warmth and sociability.

The present research extends organisational literature by shedding light on differences in the need to belong and employee performance at work. Overall, our findings support the notion that the desire for social connections is universal (Baumeister & Leary, 1995), but it can manifest itself differently and may lead to different effects on how people navigate their social world (Lavigne et al., 2011). However, one surprising finding was that sociability did not moderate the relationship between need to belong and employee performance. This finding highlights the important distinction between sociability and warmth, in relation to the need to belong construct: Whereas warm people seek close interpersonal relationships, high scores on sociability differs such that emphasis is put on quantity of social stimulation rather than the quality of interpersonal relationships.

In particular, we argue that our findings provide a unique contribution by demonstrating that there are clear performance differences between individuals with high belonging needs as compared to those with lower belonging needs. Specifically, our data reveals that this relationship is moderated by extraversion: the results indicate that the need to belong is a positive predictor of employee's performance, but only for individuals who score low on warmth.

In terms of work context, there is a widespread assumption that extraverts are the most productive salespeople. However, research show us a weak and conflicting relationship between extraversion and sales performance (Grant, 2013). Indeed, sales require interpersonal skills such as the ability to read social cues. Given that our data reveal that individuals with high belonging needs and low scores on warmth perform better than warm individuals (who have the same belonging needs), we argue that the less warm individuals might compensate for this trait by, for example, being more results-oriented.

In this view, warm extraverted people tend to interact and spend a lot of time nurturing their relationships. Vedel & Poropat (2017) argue that extraverted people are more motivated to explore their social environment, possibly, on the expense of performance. Findings from their study reveal that extraversion and academic performance is reduced at higher academic levels, when students have more responsibility for their own learning. Similarly, the literature states that

whereas warm people value nurturance, cold people seem to appreciate autonomy to a greater extent (Wiggins & Broughton, 1991). Further, cold people also tend to isolate themselves from others. Contrasting this, warm people might become too dependent on others as they are more motivated to please them (Boyd et al. 2013; Wiggins & Pincus, 1989). Because, individuals with high belonging needs, seek a large number of relationships, worry about how they are valued by others, and put greater effort into sustaining interpersonal relationships (Kelly, 2001). This might explain why warm extraverted people perform worse than less warm individuals, perhaps because the latter group of people are more interested in results-oriented performance.

Although the NTBS is the only well-validated measure that was explicitly designed to assess the degree to which people desire acceptance and belonging (Leary & Hoyle, 2009), Pillow et al (2014) argue that NTB data largely captures a neuroticism-driven, avoidance-orientation. NTB research shows us that individuals who score high on the NTBS may have issues in obtaining and maintaining close relationships (i.e., data shows us that high scores on NTB is negatively associated with numbers of whole relationships). Rather, high scores on NTB for these individuals are positively related with numbers of partial relationships (Pillow et al., 2014). This is consistent with the notion that people differ in their strength of their desire for acceptance and belonging. Some people seem content with only a few relationships and do not concern themselves with being valued and accepted by individuals outside this circle (i.e., low belonging needs).

Elaborating on this, Pickett and colleagues (2004) postulated that belonging needs (i.e., high need to belong) should lead to greater social sensitivity such that performance is enhanced on tasks that require individuals to perceive or decode social cues. In other words, enhanced motivation and ability of those individuals with higher belonging needs should be specific to the social nature of the task. With regards to employees working with sales, this would then suggest that those individuals who perform well are individuals with a high need to belong. Again, this notion is partly supported by our data which suggests that the need to belong

predicts performance. Specifically, our data demonstrated that a high need to belong predicts better performance, but only for less warm individuals.

Another explanation for this finding may be provided by the notion that individuals self-regulate to satisfy their belonging needs. Seven different experiments conducted by DeWall, Vohs, and Braumeister, (2008) revealed that social exclusion and social acceptance affected self-regulatory performance through the prospect of future acceptance. As discussed earlier, the previous literature suggests that being socially excluded usually result in self-defeating and prosocial behaviours (Twenge et al., 2001; Warburton, Williams & Cairns, 2006). DeWall, Vohs & Braumeister (2008) further propose that the reason why self-regulating performance generally fails after exclusion/rejection is that individuals no longer perceive that regulating themselves will bring them any benefit. Whereas DeWall and colleagues (2008) found similar results on a general basis, the effect changed when task performance was linked to social acceptance. Hence, although socially excluded participants demonstrated decreases in self-regulatory performance, these decrements were eliminated when the task was presented as a diagnostic indicator of getting along with others. Put differently, participants increased their efforts (self-regulation), and performed better when perceiving that this would lead to opportunities for belongingness and acceptance. In contrast, performance was temporarily reduced when participants felt an achieved sense of belonging (DeWall, et al., 2008). Overall, this generally supports the hypothesis that the need to belong may have a positive effect on performance, when specifically linked to future acceptance. Other researchers, such as Green, Gino, and Staats (2017) further propose that people in general might strive to perform better as a way to gain acceptance and recognition from colleagues, as it strengthens the feelings of belongingness.

Moreover, it should be mentioned that DeWall et al. (2008) found parallels between the basic desire for acceptance and fundamental motivational theory (e.g., Green, 1995). In particular, general motivation theory suggests that when a drive or need is satisfied, it will diminish in strength, whereas it might become more intense when it is thwarted. Furthermore, their study showed basic motivational patterns in the need to belong, such that satiating the need led to

reduction in drive, and thereby decreased performance, whereas thwarting the need intensified it (DeWall et al., 2008). This pattern was however only found when the participants perceived that performance would have positive outcomes in terms of belonging. Hence, one may argue that those low in extraversion warmth might feel an intensified desire to obtain acceptance, as they typically find it more difficult to achieve. In sum, these studies indicate that the motivation to perform well might be facilitated by the need to belong.

Given the above, we elaborate on possible explanations as to why individuals with low scores on warmth and high belonging needs perform better. As discussed earlier, it is evident that social acceptance is usually facilitated by personal contact, such that individuals will find it difficult to obtain belonging without affiliating with others. Particularly, it is more challenging for those low in extraversion to obtain belonging, as they are less engaged in the social behaviours that provide opportunities to establish close relationships (Mehl, Gosling, & Pennebaker, 2006; Rusting & Larsen, 1995). As described by Costa & McCrae (1992), low scorers on warmth are more reserved and distant, and don't usually reach out to others. They also prefer autonomy to a greater extent. By contrast, warm individuals are friendly and tend to make friends easily, which makes it is easy for them to form close and intimate relationships. Hence, one may assume that individuals who score low on warmth might find it more difficult to achieve belongingness and acceptance through social interaction, which is the most common way to obtain belongingness. Nevertheless, our data shows that individuals with low scores on warmth still have a strong need to belong. From this, it may be argued that this particular group of individuals seek belongingness through performance, rather than social interaction. Put differently, these individuals seem to strive for recognition and social acceptance by focusing on performance. In other words, we propose that these individuals adopt a results-oriented attitude and perform well because it provides the opportunity to satisfy their belonging needs and achieve social acceptance.

Limitations and Future Research

Limitations to this study need to be emphasized. The present study is limited by its reliance on self-reports, which may have elicited social desirability bias (e.g., some people might have provided a false performance rating). Although there was a 60% response rate for performance and an overall survey response rate of 27%, which is a good response to an anonymous survey, it does limit generalizability. Still, validated and reliable instruments were used in the survey and there is a possibility that the use of anonymity in the survey promoted honest and candid responses.

Another notable critique concerns the NTBS. The NTBS assesses motivation to be accepted and avoidance of rejection (Leary et al., 2013), and although the 10-item NTBS possesses acceptable interitem reliability (Cronbach's alpha generally exceeds .80), its relationship to other constructs has not been adequately examined. Because, individual differences in the desire for acceptance and belonging relates to other constructs such as emotion, thought, and behaviour in important ways (Leary et al. 2013). Indeed, it is only by knowing how a construct relates to a wide array of other variables can we precisely understand what the construct in question entails (Cronbach & Meehl, 1955). Further, the NTBS and other measures have been criticized for having negative-worded items. We propose that future studies could benefit from including a scale that balances between negative- and positive-worded items to better account for individual differences in how respondents may interpret an item.

Previous research has discussed the general construct of belongingness and ignored the importance of belongingness in specific context such as workplace settings. Consistently, recent research has shown that general belonging is not adequate to capture the sense of belonging in specific domains. Put differently, it is not possible to capture nuances and subtleties of specific social settings, as different settings have certain non-overlapping and unique attributes or characteristics which can only be measured and captured if the scale is primarily developed for that purpose (Jena & Pradhan, 2017). Malone et al. (2012) acknowledge the fact that most of the instruments measuring belongingness assess

belonging needs met by family members, friends, and teammates, rather than investigating belonging needs in specific context (Jena & Pradhan, 2017). Thus, a notable strength of the present research is the exploration of individual differences in the need to belong (at work), and its relationship to organisational outcomes, i.e., employee performance.

In psychological science, few personality frameworks can compete with the impact of the five-factor model developed by Costa and McCrae (Judge et al., 2013). Although the model remains relatively popular, it has been criticized by several theorists and the construct validity has been queried (Boyle, 2008; Roberts, Walton, & Viechtbauer, 2006). Whereas some argue that the five dimensions are perfectly suited to predict broad criteria (Barrick & Mount, 2005; Ones & Viswesvaran, 1996; Stewart, 2008), others claim that they are too broad, and that other specific dimensions might be more relevant (Boyle, 2008; Tett & Christiansen, 2007). In particular, it is argued that they are too broad to understand work-related criteria (Hough & Oswald, 2005). Similarly, Boyle (2008) suggests that the five factors are heterogeneous, and that they lack specificity to make predictions in real-life settings. Thus, we argue that another strength of this study concerns the measurements used to capture facet-levels of the personality trait Extraversion. However, as Costa and McCrae noted themselves, there is also little agreement regarding the lower order traits (Judge et al., 2013). Moreover, they have acknowledged that it proved to be a difficult task identifying the optimal set of facets, and that the chosen facets appear to be somewhat arbitrary. According to Cooper (2013), facets that belong to different factors turn out to be correlated. In fact, it appears that some of the five factors themselves are highly correlated, suggesting that the five dimensions are not truly independent, as originally supposed by Costa and McCrae (Block, 1995).

Conclusion

The present study has contributed to a gap in the current literature by exploring the need to belong as a predictor of work outcomes such as employee performance, that has not been previously examined. Furthermore, the research measured facets of extraversion as a moderator of this relationship. Results

illustrated that the need to belong predicts performance for those low in extraversion warmth. Specifically, results vary by facets of extraversion. We argue that this finding is particularly interesting as it may highlight how people, for example, self-regulate to perform well, depending on their strength in the need to belong.

Furthermore, our research provides guidance for future theoretical and empirical research on individual differences in the need to belong and how it is related to different performance outcomes at work. We propose that future research should continue to investigate this relationship, in controlled laboratory environments. Future studies could benefit from exploring other personality dimensions of the Big Five such as neuroticism and anxiety, rather than looking at how the need to belong per se is related to job performance (but moderated by an individual's need to belong). In addition, as Hypothesis 2a was not supported, we suggest that future research could benefit from assessing sociability by using the reliable and validated 5-item CBSS (Bruch et al., 1989; Cheek & Buss, 1981).

Given that the need to belong could have two facets, we propose that it is indeed an important construct for further investigation. This may clarify how inter-individual differences in the need to belong are connected to a wide variety of traits, values, emotions, and behaviours that all have important implications for organisational life.

References

- Alderfer, C. P. (1972). *Human needs in Organizational settings*. New York: The Free Press of Clencoe.
- Ashton, M. C., Jackson, D. N., Paunonen, S. V., Helmes, E., & Rothstein, M. G. (1995). The criterion validity of broad factor scales versus specific facet scales. *Journal of Research in Personality, 29*(4), 432-442.
- Barrick, M. R. (2005). Yes, personality matters: Moving on to more important matters. *Human performance, 18*(4), 359-372.
- Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: a meta-analysis. *Personnel psychology, 44*(1), 1-26.
- Barrick, M. R., Mount, M. K., & Judge, T. A. (2001). Personality and performance at the beginning of the new millennium: What do we know and where do we go next?. *International Journal of Selection and assessment, 9*(1-2), 9-30.
- Baumeister, R. F., Brewer, L. E., Tice, D. M., & Twenge, J. M. (2007). Thwarting the need to belong: Understanding the interpersonal and inner effects of social exclusion. *Social and Personality Psychology Compass, 1*(1), 506-520.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological bulletin, 117*(3), 497.
- Blackhart, G. C., Baumeister, R. F., & Twenge, J. M. (2006). Rejection's Impact on Self-Defeating, Prosocial, Antisocial, and Self-Regulatory Behaviors. In K. D. Vohs & E. J. Finkel (Eds.), *Self and relationships: Connecting intrapersonal and interpersonal processes* (pp. 237-253). New York, NY, US: Guilford Press.

Block, J. (1995). A contrarian view of the five-factor approach to personality description. *Psychological bulletin*, 117(2), 187.

Boyd, R. L., Bresin, K., Ode, S., & Robinson, M. D. (2013). Cognitive egocentrism differentiates warm and cold people. *Journal of research in personality*, 47(1), 90-96.

Boyle, G. J. (2008). Critique of the five-factor model of personality. *The SAGE handbook of personality theory and assessment*, 1, 295-312.

Bruch, M. A., Gorsky, J. M., Collins, T. M., & Berger, P. A. (1989). Shyness and sociability reexamined: A multicomponent analysis. *Journal of Personality and Social Psychology*, 57(5), 904.

Bycio, P., Hackett R., & Allen, J. (1995). Further assessments of Meyer & Allen's (1991) three component model of organizational commitment. *Journal of Applied Psychology*, 9: 617- 626.

Cheek, J. M., & Buss, A. H. (1981). Shyness and sociability. *Journal of personality and social psychology*, 41(2), 330.

Cockshaw, W. D., Shochet, I. M., & Obst, P. L. (2013). General belongingness, workplace belongingness, and depressive symptoms. *Journal of Community & Applied Social Psychology*, 23(3), 240-251.

Cockshaw, W. D., Shochet, I. M., & Obst, P. L. (2014). Depression and belongingness in general and workplace contexts: A cross-lagged longitudinal investigation. *Journal of Social and Clinical Psychology*, 33(5), 448-462.

Costa Jr, P. T., & McCrae, R. R. (1992). Four ways five factors are basic. *Personality and individual differences*, 13(6), 653-665.

Costa Jr, P. T., & McCrae, R. R. (1995). Domains and facets: Hierarchical personality assessment using the Revised NEO Personality Inventory. *Journal of personality assessment*, 64(1), 21-50.

Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological bulletin*, 52(4), 281.

DeWall, C. N., Baumeister, R. F., & Vohs, K. D. (2008). Satiated with belongingness? Effects of acceptance, rejection, and task framing on self-regulatory performance. *Journal of personality and social psychology*, 95(6), 1367.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological inquiry*, 11(4), 227-268.

De Cremer, D. (2002). Respect and cooperation in social dilemmas: The importance of feeling included. *Personality and Social Psychology Bulletin*, 28(10), 1335-1341.

De Cremer, D., & Blader, S. L. (2006). Why do people care about procedural fairness? The importance of belongingness in responding and attending to procedures. *European Journal of Social Psychology*, 36(2), 211-228.

De Cremer, D., & Leonardelli, G. J. (2003). Cooperation in social dilemmas and the need to belong: The moderating effect of group size. *Group dynamics: Theory, research, and practice*, 7(2), 168-174.

Duffy, M. K., Ganster, D. C., & Pagon, M. (2002). Social undermining in the workplace. *Academy of management Journal*, 45(2), 331-351.

Eaton, L. G., & Funder, D. C. (2003). The creation and consequences of the social world: An interactional analysis of extraversion. *European Journal of Personality*, 17(5), 375-395.

Eisenberger, N. I., Lieberman, M. D., & Williams, K. D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science*, *302*(5643), 290-292.

Funder, D. C. (2001). Personality. *Annual Review of Psychology*, *52*, 197-221.

Funder, D. C., & Dobroth, K. M. (1987). Differences between traits: Properties associated with interjudge agreement. *Journal of personality and social psychology*, *52*(2), 409.

Gagne, M. (2003). Autonomy support and need satisfaction in the motivation and well-being of gymnasts. *Journal of Applied Sport Psychology*, *15*(4), 372-390.

Gardner, W. L., Pickett, C. L., & Brewer, M. B. (2000). Social exclusion and selective memory: How the need to belong influences memory for social events. *Personality and Social Psychology Bulletin*, *26*(4), 486-496.

Geen, R. G. (1995). *Human motivation: A social psychological approach*. Thomson Brooks/Cole Publishing Co.

Green, P., Gino, F., & Staats, B. R. (2017). *Seeking to Belong: How the Words of Internal and External Beneficiaries Influence Performance*. Working Paper No. 17-073. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2912271 (Accessed 23 June 2019).

Hill, C. A. (1987). Affiliation motivation: people who need people... but in different ways. *Journal of personality and social psychology*, *52*(5), 1008.

Hirsh, J. B., DeYoung, C. G., Xu, X., & Peterson, J. B. (2010). Compassionate liberals and polite conservatives: Associations of agreeableness with political ideology and moral values. *Personality and Social Psychology Bulletin*, *36*(5), 655-664.

Hogan, J., & Roberts, B. W. (1996). Issues and non-issues in the fidelity–bandwidth trade-off. *Journal of Organizational Behavior*, 17(6), 627-637.

Hough, L. M., & Oswald, F. L. (2005). They're right, well... mostly right: Research evidence and an agenda to rescue personality testing from 1960s insights. *Human Performance*, 18(4), 373-387.

Jena, L. K., & Pradhan, S. (2018). Conceptualizing and validating workplace belongingness scale. *Journal of Organizational Change Management*, 31(2), 451-462.

Johnson, J. A., Briggs, S. R., & Hogan, R. (1997). *Handbook of personality psychology*. Elsevier.

Judge, T. A., Bono, J. E., Ilies, R., & Gerhardt, M. W. (2002). Personality and leadership: a qualitative and quantitative review. *Journal of applied psychology*, 87(4), 765.

Judge, T. A., Rodell, J. B., Klinger, R. L., Simon, L. S., & Crawford, E. R. (2013). Hierarchical representations of the five-factor model of personality in predicting job performance: integrating three organizing frameworks with two theoretical perspectives. *Journal of Applied Psychology*, 98(6), 875.

Kelly, K. M. (1999). *Measurement and manifestation of the need to belong*. Unpublished doctoral dissertation, University of Tennessee, Knoxville, TN.

Kelly, K.M (2001). Individual differences in reactions to rejection. In M.R. Leary (Ed.), *Interpersonal rejection* (pp. 291-315). New York, NY: Oxford University Press.

Kramer, R. M. (1993). Cooperation and organizational identification. In J. K. Murnighan (Ed), *Social psychology in organizations: Advances in theory and research* (pp. 244-268). Englewood Cliffs, NJ: Prentice Hall.

Lavigne, G. L., Vallerand, R. J., & Crevier-Braud, L. (2011). The fundamental need to belong: On the distinction between growth and deficit-reduction orientations. *Personality and Social Psychology Bulletin*, 37(9), 1185-1201.

Leary, M. R., Cottrell, C. A., & Phillips, M. (2001). Deconfounding the effects of dominance and social acceptance on self-esteem. *Journal of personality and social psychology*, 81(5), 898.

Leary, M. R., & Buckley, K. (2000). Social anxiety as an early warning system: A refinement and extension of the self-presentational theory of social anxiety. In S. G. Hofman & P. M. DiBartolo (Eds.), *social phobia and social anxiety: An integration*, pp.321-334. New York: Allyn & Bacon.

Leary, M. R., & Hoyle, R. H. (Eds.). (2009). *Handbook of individual differences in social behavior*. Guilford Press.

Leary, M.R., Kelly, K.M., Cottrell, C.A., & Schreindorfer, L.S. (2006). Individual differences in the need to belong: Mapping the nomological network. Unpublished manuscript, Wake Forest University.

Leary, M. R., Kelly, K. M., Cottrell, C. A., & Schreindorfer, L. S. (2013). Construct validity of the need to belong scale: Mapping the nomological network. *Journal of personality assessment*, 95(6), 610-624.

Leibovich N, Schmid V, Calero A. (2018). The Need to Belong (NB) in Adolescence: Adaptation of a Scale for its Assessment. *Psychology and Behavioural Science International Journal*, 8(5).

Locke KD. Interpersonal circumplex measures. In: Strack S, editor. *Differentiating normal and abnormal personality*. 2nd ed. New York: Springer Publishing Company; 2006. pp. 383–400.

-
- Malone, G. P., Pillow, D. R., & Osman, A. (2012). The general belongingness scale (GBS): Assessing achieved belongingness. *Personality and Individual Differences, 52*(3), 311-316.
- Markey, P. M., & Markey, C. N. (2007). Romantic ideals, romantic obtainment, and relationship experiences: The complementarity of interpersonal traits among romantic partners. *Journal of social and Personal Relationships, 24*(4), 517-533.
- Martin, R., Watson, D., & Wan, C. K. (2000). A three-factor model of trait anger: Dimensions of affect, behavior, and cognition. *Journal of personality, 68*(5), 869-897.
- Mehl, M. R., Gosling, S. D., & Pennebaker, J. W. (2006). Personality in its natural habitat: Manifestations and implicit folk theories of personality in daily life. *Journal of personality and social psychology, 90*(5), 862.
- Morrison, K. R., & Matthes, J. (2011). Socially motivated projection: Need to belong increases perceived opinion consensus on important issues. *European Journal of Social Psychology, 41*(6), 707-719.
- Moskowitz, D. S. (2010). Quarrelsomeness in daily life. *Journal of Personality, 78*(1), 39-66.
- Ones, D. S., & Viswesvaran, C. (1996). Bandwidth–fidelity dilemma in personality measurement for personnel selection. *Journal of organizational behavior, 17*(6), 609-626.
- Ozcelik, H., & Barsade, S. (2011). Work loneliness and employee performance. In *Academy of management proceedings* (Vol. 2011, No. 1, pp. 1-6). Briarcliff Manor, NY: Academy of Management.
- Ozer, D. J., & Benet-Martinez, V. (2006). Personality and the prediction of consequential outcomes. *Annu. Rev. Psychol., 57*, 401-421.

-
- Pearce, J. L., & Randel, A. E. (2004). Expectations of organizational mobility, workplace social inclusion, and employee job performance. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 25(1), 81-98.
- Pickett, C. L., Gardner, W. L., & Knowles, M. (2004). Getting a cue: The need to belong and enhanced sensitivity to social cues. *Personality and Social Psychology Bulletin*, 30(9), 1095-1107.
- Poropat, A. (2002). The relationship between attributional style, gender and the Five-Factor Model of personality. *Personality and individual differences*, 33(7), 1185-1201.
- Prusak, L., & Cohen, D. (2001). How to invest in social capital. *Harvard business review*, 79(6), 86-93.
- Ricco, R. B., McCollum, D. G., & Schuyten, S. (2003). College mothers' academic achievement goals as related to their children's attitudes toward learning. *Social Psychology of Education*, 6(4), 325-347.
- Rai, R. (2011). *Shyness and sociability re-examined: Psychometrics, interactions, and correlates* (Doctoral dissertation). McMaster University.
- Roberts, B. W., Walton, K. E., & Viechtbauer, W. (2006). Patterns of mean-level change in personality traits across the life course: a meta-analysis of longitudinal studies. *Psychological bulletin*, 132(1), 1.
- Rusting, C. L., & Larsen, R. J. (1995). Moods as sources of stimulation: Relationships between personality and desired mood states. *Personality and individual differences*, 18(3), 321-329.
- Scott, K. L., Zagencyk, T. J., Schippers, M., Purvis, R. L., & Cruz, K. S. (2014). Co-worker exclusion and employee outcomes: An investigation of the moderating roles of perceived organizational and social support. *Journal of Management Studies*, 51(8), 1235-1256.
-

Smith, T. W., Glazer, K., Ruiz, J. M., & Gallo, L. C. (2004). Hostility, anger, aggressiveness, and coronary heart disease: An interpersonal perspective on personality, emotion, and health. *Journal of personality, 72*(6), 1217-1270

Smith, T. W., Traupman, E. K., Uchino, B. N., & Berg, C. A. (2010). Interpersonal circumplex descriptions of psychosocial risk factors for physical illness: Application to hostility, neuroticism, and marital adjustment. *Journal of Personality, 78*(3), 1011-1036.

Soto, C. J., John, O. P., Gosling, S. D., & Potter, J. (2011). Age differences in personality traits from 10 to 65: Big Five domains and facets in a large cross-sectional sample. *Journal of personality and social psychology, 100*(2), 330.

Soto, C. J., & John, O. P. (2017). The next Big Five Inventory (BFI-2): Developing and assessing a hierarchical model with 15 facets to enhance bandwidth, fidelity, and predictive power. *Journal of personality and social psychology, 113*(1), 117.

Stewart, G. L. (2008). Let us not become too narrow. *Industrial and Organizational Psychology, 1*(3), 317-319.

Strack, S. (Ed.). (2006). *Differentiating normal and abnormal personality*. Springer Publishing Company.

Tett, R. P., & Christiansen, N. D. (2007). Personality tests at the crossroads: A response to Morgeson, Campion, Dipboye, Hollenbeck, Murphy, and Schmitt (2007). *Personnel Psychology, 60*(4), 967-993.

Terracciano, A., McCrae, R. R., Brant, L. J., & Costa Jr, P. T. (2005). Hierarchical linear modeling analyses of the NEO-PI-R scales in the Baltimore Longitudinal Study of Aging. *Psychology and aging, 20*(3), 493.

-
- Thau, S., Aquino, K., & Poortvliet, P. M. (2007). Self-defeating behaviors in organizations: The relationship between thwarted belonging and interpersonal work behaviors. *Journal of Applied Psychology, 92*(3), 840.
- Tooby, J., & Cosmides, L. (1996, January). Friendship and the banker's paradox: Other pathways to the evolution of adaptations for altruism. In *Proceedings-British Academy* (Vol. 88, pp. 119-144). Oxford University Press Inc.
- Twenge, J. M., Baumeister, R. F., Tice, D. M., & Stucke, T. S. (2001). If you can't join them, beat them: Effects of social exclusion on aggressive behavior. *Journal of personality and social psychology, 81*(6), 1058.
- Vedel, A., & Poropat, A. E. (2017). Personality and academic performance. In V. Zeigler-Hill, & T.K. Shackelford (Eds.), *Encyclopedia of personality and individual differences* (pp. 1-9). Springer.
- Walton, G. M., & Cohen, G. L. (2007). A question of belonging: race, social fit, and achievement. *Journal of personality and social psychology, 92*(1), 82.
- Warburton, W. A., Williams, K. D., & Cairns, D. R. (2006). When ostracism leads to aggression: The moderating effects of control deprivation. *Journal of Experimental Social Psychology, 42*(2), 213-220.
- Wiggins, J. S., & Broughton, R. (1991). A geometric taxonomy of personality scales. *European Journal of Personality, 5*(5), 343-365.
- Wiggins, J. S., & Pincus, A. L. (1989). Conceptions of personality disorders and dimensions of personality. *Psychological assessment: A journal of consulting and clinical psychology, 1*(4), 305.

Appendix

The need to belong scale (NTBS, Leary et al., 2006)

«Please indicate the degree to which you agree/disagree with the following statements. The statements are about how you feel at work, in general».

<i>Original</i>	<i>Adapted version</i>
1. If other people don't seem to accept me, I don't let it bother me (R)	If people at work don't seem to accept me, I don't let it bother me (R)
2. I try hard not to do things that will make other people avoid or reject me	At work, I try hard not to do things that will make my colleagues and manager/supervisor avoid or reject me
3. I seldom worry about whether other people care about me (R)	I seldom worry about whether my colleagues and manager/supervisor care about me (R)
4. I need to feel that there are people I can turn to in times of need	I need to feel that there are people at work I can turn to in times of need
5. I want other people to accept me	I want my colleagues and manager/supervisor to accept me
6. I do not like being alone	I do not like being alone
7. Being apart from my friends for long periods of time does not bother me (R)	Being apart from my colleagues and manager/supervisor does not bother me (R)
8. I have a strong "need to belong"	I have a strong "need to belong"
9. It bothers me a great deal when I am not included in other people's plans	At work, it bothers me a great deal when I am not included in other people's plans
10. My feelings are easily hurt when I feel that others do not accept me	My feelings are easily hurt when I feel that my colleagues and manager/supervisor do not accept me

Note. Respondents indicate the degree to which they agree/disagree with each statement on a 5-point scale (1 = *Strongly agree*, 2 = *Somewhat agree*, 3 = *Neither*

agree nor disagree, 4 = Somewhat disagree, 5 = Strongly disagree). (R) Indicates that the item is reverse-scored.

Extraversion

Adapted from the NEO PI-3 Scale (McCrae, Costa, & Martin, 2005)

Extraversion	
<i>Sociability</i>	<i>Warmth</i>
I Enjoy parties with lots of people	I really like most of the people I meet
If I have been alone for a long time, I feel a strong need to be with other people	I am known as a warm, friendly person.
Usually, I feel bored in social settings (R)	I have strong emotional attachments to my friends
I don't get much pleasure from chatting with other people	People think I am cold and distant (R)
I enjoy being around a lot of people	I take personal interest in people I work with

Note. Respondents indicate the degree to which they agree/disagree with each statement on a 5-point scale (1 = Strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = Strongly agree).