Don’t Fake It If You Want to Make It: The Relationship Between Need to Belong, Emotion Regulation Strategy Choice, and Loneliness at Work

Sarah L. Nutbrown

Department of Psychology, University of Auckland

A thesis submitted in fulfilment of the requirements for the degree of Master of Organisational Psychology from the University of Auckland, 2022.

Abstract

Loneliness can be a serious condition that has been found to be linked to several negative physical and mental health outcomes, as well as several negative work outcomes. Loneliness can be the result of a thwarted need to belong, which is a fundamental human need to have sufficient consistent, lasting relationships of mutual concern. This need motivates people to moderate their behaviour to strive for these relationships. Although loneliness has been well studied in general, further research specifically on loneliness at work is needed, which this study does by investigating the mediating role that emotion regulation has on the relationship between need to belong and loneliness. We also examine the moderating role of social support on the relationship between emotion regulation and loneliness. For this study, we use data from 156 employees who participated in a daily diary design study conducted in Aoteatoa New Zealand. We found a significant positive relationship between need to belong and surface acting, and between surface acting and loneliness, and mediation analysis found that surface acting was a significant mediator of the relationship between need to belong and loneliness. We also found a significant moderation effect of social support on the relationship between deep acting and loneliness, specifically that people who engage in deep acting and perceive there to be low social support at work feel significantly more lonely than people who perceive social support to be high. There was no significant relationship between need to belong and deep acting or between deep acting and loneliness and no moderating effect of social support on the relationship between surface acting and loneliness. Our study shows that engaging in surface acting to try to fit in better at work is counter-productive and results in people feeling more lonely. It also highlights the importance of social support at work for people to feel the benefits of deep acting.

Keywords: need to belong, emotion regulation, emotional labour, surface acting, deep acting, loneliness, social support

Acknowledgements

Firstly, immense gratitude to my supervisor, Dr. Zitong Sheng. Thank you for your patience, for your encouragement, and for your extensive feedback. I have thoroughly enjoyed and appreciated working with you. Many thanks also go to course director Dr. Lixin Jiang, for your support, and for your clear and thorough instruction on working through the production of a Master's thesis, which made the whole process much less daunting and achievable.

To my fellow MOrgPsych cohort members, Amy, Charlotte, Daryna, Jade, Liam, Niamh, and Ravnil, thank you for the constant support, encouragement, laughs and friendship. It has been a pleasure and privilege studying with you all. You are all brilliant people, and I am sure you will all go on to do fantastic things.

To the participants in our study, thank you for so generously taking the time to respond to our questionnaires which made this study possible.

To friends and family, thank you for your support, and for listening to the trials and tribulations of completing this thesis. I really appreciate your support and encouragement and promise to now talk about other things. Extra special thanks go to Rachelle and Caroline, who have been my constant study companions during my time at the University of Auckland. Thank you for all the support, the sympathetic ears, the encouragement, the shut-up-and-writes, and for helping me get this far.

And last, but definitely not least, thank you to my wonderful partner, Chris, who has supported me emotionally, financially, and with countless cups of tea during the process of studying for my Master's degree and writing this thesis. I will be forever grateful.

Don’t Fake It If You Want to Make It: The Relationship Between Need to Belong, Emotion Regulation Strategy Choice, and Loneliness at Work

"I used to think that the worst thing in life was to end up all alone, it's not. The worst thing in life is to end up with people that make you feel alone." - Robin Williams

Loneliness is one of the most detrimental feelings to people’s health and well-being. In their review of the consequences of loneliness, Hawkley and Cacioppo (2010) found that loneliness is associated with an increase in physical health risks like cardiovascular disease, high blood pressure and mortality, as well as increased mental health risks such as depressive symptoms, psychoses, cognitive decline, and suicide. It has been identified as a concerning epidemic for decades (see, for example, Killeen, 1998), and is still considered to be a growing issue worldwide (Cacioppo & Cacioppo, 2018). Concerns have grown further over the past couple of years with some studies indicating that the COVID-19 pandemic has further isolated people (Groarke et al., 2020; Hwang et al., 2020).

Although there is a significant body of literature on loneliness in general, researchers have called for more research to be done on loneliness specifically at work (Ozcelik & Barsade, 2018; Wright & Silard, 2021). Work is a place where people spend a significant amount of time and forge important connections (Murthy, 2020) and research that has been done in this area has identified that loneliness is negatively related with job performance, organisational citizenship behaviours (OCBs), leader-member exchange and organisation-member exchange (Lam & Lau, 2012; Ozcelik & Barsade, 2018). It is, therefore, an important topic for organisations to consider in terms of creating workplaces where their employees can thrive and perform well. There are several antecedents to loneliness, among which a key reason is a thwarted need to belong, which is a fundamental human need (Baumeister & Leary, 1995). To meet this need, and avoid feelings of loneliness, people are

motivated to adapt their behaviours in order to try to fit in (Baumeister & Leary, 1995). At work, this means adapting behaviours to fit in better with colleagues.

In this study, we focus on an important factor that has implications for workplace loneliness, emotional regulation, as emotion is one of the key elements of the formation and maintenance of groups, such as work teams or work friendship groups (Kelly & Barsade, 2001). Specifically, we draw from need-to-belong theory (Baumeister, 2012; Baumeister & Leary, 1995) and argue that, driven by the need to belong, people engage in surface and deep acting in order to match their displayed and felt emotions to those of the implicit and explicit emotional norms of their workgroups. The two emotional regulation behaviours then have differential implications for felt loneliness. We also evaluate the moderation effect of social support on the relationship between emotion regulation and loneliness and argue that people who feel that they have more social support at work will experience less loneliness. Our study therefore adds to the literature firstly by answering the call for further research on loneliness at work by using a daily diary design to investigate the relationship between need to belong and loneliness and whether emotion regulation mediates this. We also contribute to the literature on emotional labour by studying need to belong as an antecedent that has, thus far, received little attention. Emotional labour research also often focuses on emotional exhaustion and burnout as outcomes, so we contribute to the literature by studying the relationship with loneliness, and we also look at relationships between colleagues as opposed to service industry relationships which have been more thoroughly studied. Finally, much of what research has been done to date studying emotional labour between colleagues has focused on the antecedents and outcomes of surface acting so we add to this body of literature by including deep acting in our study.

Theoretical Background and Hypothesis Development

Need to Belong and Emotion Regulation

The need to belong is a “pervasive drive to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships” (Baumeister & Leary, 1995, p. 497). These are relationships where someone perceives there to be mutual concern and anticipates that the relationship will be ongoing. As a fundamental need, the need to belong is inherent within all humans and will remain stable across situations, although the strength of the need to belong will differ between individuals (Baumeister & Leary, 1995). According to the need-to-belong theory (Baumeister & Leary, 1995), people do not need to experience strong, lasting relationships with everyone in their lives, but a minimum number of such relationships is needed to meet one’s psychological need. The number of relationships needed will differ from person to person. At the point where this need is satiated, the effect of further relationships on people’s well-being is weakened (Baumeister & Leary, 1995). The need to belong evolved as an outcome of being a social species where cooperation and the development of relationships resulted in a range of benefits from hunting success to safety, and more successful reproduction (Baumeister & Leary, 1995). In today’s world, although belonging to a group may not be necessary for the procurement of food or physical safety, the sense of belonging is still important as it constitutes a positive experience and has been found to have a substantial impact on people’s health and well-being, including happiness, contentment, and satisfaction with life (Baumeister & Leary, 1995; Mellor et al., 2008). Conversely, the feeling that one does not belong to one’s social group may result in negative health and well-being outcomes such as anxiety, depression, loneliness, stress, burnout and dissatisfaction with life (Baumeister & Leary, 1995; Coissard et al., 2017; Mellor et al., 2008). Need-to-belong theory thus argues that everyone strives to achieve a sense of belongingness in the social groups that are important to them, more so for people who have a strong need to belong.

As an activity that fills a significant amount of life, work is often an activity that we identify strongly with and is an important source through which people seek a sense of belonging (Michaelson et al., 2014). It is also an area of life where people have a history, and expected future, of consistent interactions with others. However, the satisfaction of one's need to belong depends on more than simple affiliations and spending regular time with people, such as work colleagues. A feeling of warmth and care towards one another is also needed. A strong need to belong, therefore, will motivate people to engage in behaviours that are perceived to help them achieve stronger relationships where there is mutual concern between parties.

Within a work environment, fitting into the organisation's norms and culture is important for inclusion, and workers who do not comply are likely to be ostracised, whether purposefully or non-purposefully (Robinson et al., 2013). We suggest that driven by a need to belong, people will engage in emotional regulation behaviours to fit in their work group, as emotion is one element that plays an important role in group dynamics and cohesion. Shared group emotion, which individual group members contribute to both implicitly and explicitly (Kelly & Barsade, 2001), has been posited to be a key element in the formation of a group (Moreland, 1987; as cited in Baumeister & Leary, 1995). In a work context, if an individual's emotion does not align with the group emotion within a work team, it may lead to a feeling of alienation, or they may be excluded from the formation of a social group because their emotions do not align with those of other founding members. Organisations also usually have implicit and explicit emotional norms (Ashforth & Humphrey, 1995). These emotional norms define the affective context of a group and lay the foundation for group emotion (Kelly & Barsade, 2001). For example, within an accountancy firm, it may be more normal for employees to work quietly and exhibit stable emotions, whereas within a creative agency, it may be more encouraged to show passion for the projects that employees are engaged in, and

a variety of emotions may be displayed more frequently. In both examples, employees are expected to comply with these emotional expression norms. If they are seen to ‘fit in’, they may reap benefits such as being included in social groups, colleagues acting more warmly towards them, and receiving financial rewards through promotions. The opposite may be true for employees who do not fit in (Kerr & Slocum, 2005; Williams & Sommer, 1997). In sum, to meet their need to belong, people are motivated to fit in their work group by expressing emotions in a way that is aligned with group norms.

However, in situations where people do not naturally feel the emotion that others are expecting them to express, they have to engage in emotion regulation, whereby they match the expression of their emotion to the perceived expectation rather than to what they authentically feel. It is worth noting that emotion regulation in the workplace has traditionally been studied within the service industry, where display rules are often explicitly specified to dictate which emotions employees should show to customers. Hochschild (1983) termed this as ‘emotional labour’. More recently, researchers have pointed out that emotion regulation is not only limited to service workers, and that employees also engage in emotion regulation behaviours when interacting with organisational insiders like supervisors or coworkers where emotional expression norms also exist (Gabriel et al., 2020; Ozcelik, 2013). The ongoing nature of relationships with coworkers is likely to make the motivation to fit in even more important than within transactional relationships, as coworker relationships are more likely to satisfy the long-term, significant aspects of relationships needed to gain a sense of belonging (Baumeister & Leary, 1995). The current study therefore focuses on the relationships between employees’ need to belong and them regulating their emotions to fit in with their work group, and thus focuses on emotion regulation towards supervisors and coworkers instead of customers.

Specifically, people can use two distinct strategies to regulate their emotions, namely, surface acting and deep acting (Hochschild, 1983). Surface acting refers to "disguising what we feel [or] pretending to feel what we do not…we deceive others about what we really feel, but we do not deceive ourselves" (Hochschild, 1983, p. 36). Employees have been found to engage in surface acting when there is an incongruence between their own traits and goals, and the work environment (Ozcelik, 2013). Awareness of this incongruence leads to discomfort as it is a sign of not belonging. In this case, a person is motivated to adjust their behaviour to align themselves more closely to the work environment in an effort to fit in better (Ozcelik, 2013). This may mean, for example, that an employee expresses interest in a project assigned by a supervisor, even if they do not feel interested, or that they suppress their anger at a coworker's remark because it would not be professional to express that anger. Using the surface acting strategy means that the actor fakes an expected emotion and/or suppresses, rather than changes, their original, underlying emotion. Deep acting, on the other hand, refers to when a "display is a natural result of working on feeling; the actor does not try to *seem* happy or sad but rather expresses spontaneously…a real feeling that has been self-induced" (Hochschild, 1983, p. 38). For example, if a coworker says something unkind, which could result in feelings of sadness, the actor could reappraise the situation and realise that their coworker seems to be having a bad day and, therefore, conclude that the comment should not be taken personally. Deep acting in this case could help the actor change their initial feeling of sadness for themself into compassion for their coworker. The distinction between surface and deep acting has been well supported by research (e.g., Grandey, 2003) and an actor may engage in different strategies in different situations, use both strategies simultaneously, or use deep acting to modify negative feelings for the most part then surface acting to hide any remaining negativity from the receiver (Grandey, 2003).

Taken together, we argue that the need to belong should be positively related to both surface and deep acting. As presented above the need to belong is motivational, in that people who feel a strong need to belong are motivated to engage in behaviours that they feel are likely to increase their belongingness (Baumeister & Leary, 1995). Research has shown, for example, that a strong need to belong leads people to strongly commit to social norms for greater acceptance (Yagil & Medler-Liraz, 2017), conform to group behaviours to try to fit in (Williams et al., 2000), and engage in self-regulation to gain greater inclusion (Baumeister et al., 2005). We argue that the need to belong would result in a willingness to regulate emotions in order to mimic the group emotion, comply with organisational norms, and gain greater acceptance from the people that they work with. Surface and deep acting are different strategies of emotion regulation, and may both be considered an effective tool to secure social acceptance by one's work group and to avoid exclusion, as one works to display an emotion that meets the group emotion norm. Thus, we propose,

Hypothesis 1a. Need to belong is positively related to one's daily engagement in surface acting.

Hypothesis 1b. Need to belong is positively related to deep acting on a daily basis.

Emotional Regulation and Loneliness

One's engagement in surface and deep acting, in turn, has different implications for loneliness. The experience of loneliness results from an unsatisfied need to belong and a lack of acceptance by social circles (Baumeister & Leary, 1995; Leary et al., 2013; Mellor et al., 2008). In a work environment, Wright and Silard (2021) defined loneliness as "the psychological pain of perceived relational deficiencies in the workplace" (p. 1064). They argue that "loneliness is an inherently subjective and individual experience (Erlich, 1998), that *evolves* from cognitive, emotional, and behavioural elements rooted in the need to meaningfully connect with others" (p. 1064). Researchers throughout the years have argued

that it is not just the number of relationships people have that determines loneliness, but the perceived quality of those relationships (Baumeister & Leary, 1995; Lam & Lau, 2012; Perlman & Peplau, 1981). At work someone may, therefore, be surrounded by colleagues all day, but they may still feel lonely if they do not perceive their relationships with others to be strong.

As discussed, people may use emotion regulation strategies like surface and deep acting to try to fit in better with colleagues, as feeling more accepted and part of the team could help ameliorate loneliness. However, research has shown that the outcomes of emotion regulation may not always align with the actor's desired outcome. Surface acting has been found to be positively related to emotional exhaustion (Ozcelik, 2013), stress (Grandey, 2003), and depersonalisation (Wang et al., 2011). It has also been found to be negatively related to job performance (Ozcelik, 2013), job satisfaction (Bhave & Glomb, 2013), and relationship satisfaction (Bakker et al., 2019). The key difference between surface and deep acting is that surface acting involves acting inauthentically as one is expressing an emotion that is not felt. Research has shown that this inauthenticity can be identified by the interaction partner, which may result in their negative responses to the actor. For example, Krumhuber et al. (2007) found that people who are perceived inauthentic are perceived as less likeable, less trustworthy, less cooperative, and are less likely to be chosen as an interaction partner in the future. During interactions with coworkers, acting inauthentically can be seen as an attempt to control others or a display of lack of care (Huppertz et al., 2020) and is negatively related to the interaction partners' satisfaction with the actor (Hu & Shi, 2015). Therefore, one's engagement in surface acting may lead to low quality relationships and negative reactions from interaction partners, which is likely to lead to higher loneliness instead of a higher sense of belongingness. We therefore propose that:

Hypothesis 2. Surface acting is positively related to feelings of loneliness on a daily basis.

In comparison, outcomes of deep acting have been found to be more beneficial to the actor. Rather than focusing on how an emotion is displayed, as is the case with surface acting, deep acting is a focus on how an emotion is felt which in turn leads to the emotion that is consequently displayed being more authentic. Gabriel et al. (2020) found that deep actors experienced reduced feelings of inauthenticity, greater perception of reciprocity within relationships, and higher trust that their coworkers will be considerate towards them, than those who use surface acting more often. Deep acting has also been shown to be positively associated with how appropriate interaction partners perceive the actor's emotional display to be, with more appropriate emotional displays improving rapport between interacting parties (Hülsheger and Schewe, 2011) and resulting in more positive feedback from interaction partners (Alabak et al., 2020). Feelings of reciprocity within relationships, belief that others will be considerate, having good rapport with another person, and receiving positive feedback are likely to result in the actor evaluating those relationships positively. A deep actor who uses cognitive change strategies is, therefore, more likely to be able to develop stronger relationships (Alabak et al., 2020). As strong relationships help to fulfil a person's need to belong, thus reducing feelings of loneliness, we hypothesis that:

Hypothesis 3. Deep acting is negatively related to feelings of loneliness on a daily basis.

Emotion Regulation as a Mediator

As discussed, the need to belong motivates people to act in a way that will satisfy that need. One aspect of a group that can lead to belonging is the sharing of group emotions and compliance with implicit and explicit emotional norms. If someone does not authentically feel the same emotion as the rest of the group, they may engage in surface acting to outwardly display the group emotion, or deep acting to reappraise their own felt emotion and work to change this to become more in line with the group emotion. These strategies are likely to then be related to their feelings of loneliness. Surface actors are likely to experience

greater feelings of loneliness due to the inauthenticity of the emotion that they display, which leads to a reduction in quality of the relationship. We thus hypothesise that:

Hypothesis 4a: Surface acting will mediate the relationship between the need to belong and loneliness.

Engaging in deep acting to satisfy a need to belong and fit in better with a group is also likely to impact on people's feelings of loneliness. The more authentic display of emotions from deep acting (rather than surface acting) is likely to result in the relationship being strengthened and, as a result, a reduction in loneliness. We therefore hypothesise that:

Hypothesis 4b: Deep acting will mediate the relationship between the need to belong and loneliness.

Social Support as a Moderator

We argue that the effects of surface and deep acting on loneliness depends on how much social support at work is available to the employee. There are various forms of social support (see Jolly et al., 2021 for further discussion) but as we are concerned with the strength of people's relationships, we focus on emotional support. Emotional support at work relates to the connections and friendships that people have the opportunity to develop in the workplace and provides important cues for an employee to understand their social reality at work (Ng & Sorensen, 2008). As discussed, the need to belong is satisfied by someone having a sufficient number of long-term relationships of mutual concern with others. Emotional support is indicative of this kind of relationship as it demonstrates care and concern for another and having emotional support available at work provides a cue to employees that they are welcome there, and that coworkers care about each other's welfare. If colleagues are perceived to be emotionally supportive, therefore, the quality of those relationships is likely to be judged as high, and people are likely to feel that they belong and, therefore, to not feel lonely. When someone uses emotion regulation strategies to attempt to

fit in better with a group, this can lead to greater or lesser feelings of loneliness, depending on the strategy employed. As discussed above, someone who engages in surface acting is vulnerable to experiencing the negative effects of this due to the inauthenticity of the interaction and the breakdown in relationship that can result from this. However, if the person who has engaged in surface acting already feels that they are part of a supportive group at work, and that they are welcome there and others care about them, this could compensate for the potential negative effects of surface acting and mean that they do not feel so lonely. The moderating effect of social support on the relationship between surface acting and loneliness has not yet been tested, but Yue et al. (2015) found that coworker support weakened the relationship between surface acting and negative affect. They argued that the availability of social support can help people to engage in problem-solving behaviour such as engaging in reappraisal, which in turn leads to reduced negative affect because people then do not ruminate on the negative effects of surface acting as much. The relationship between social support and increased problem-solving behaviour has also been found in further studies (DeLongis & Holtzman, 2005; Dunkel-Schetter et al., 1987), and problem-solving behaviour has been shown to be negatively associated with loneliness (O'Day et al., 2019; Preece et al., 2021; Rodriguez et al., 2020). We therefore hypothesise that;

Hypothesis 5a. The positive relationship between surface acting and loneliness will be stronger among employees who perceive that they have low social support compared to employees who perceive that they have high social support.

In terms of deep acting, we expect that deep acting will be a more effective tool to reduce loneliness when one has a lot of social support at work. As discussed earlier, the need to belong motivates people to behave in ways that will build and maintain strong relationships with others, and when people have these relationships in their lives, they experience a variety of benefits (Baumeister & Leary, 1995). If employees who feel that they

are part of a supportive work group then engage in deep acting, which helps them to maintain those strong relationships, they are likely to experience further feelings of belongingness and, therefore, reduced loneliness. Partial support for this is provided by Kim et al. (2017), who found that perceived support from supervisors and coworkers strengthened the positive relationship between deep acting and job satisfaction (which is an aspect of well-being at work). Another recent study by Shoshan and Venz (2021) found that deep acting was positively associated with emotional support, which in turn was positively associated with end-of-day positive affect. Although these studies looked at different outcomes to ours, namely job satisfaction and positive affect, we argue that as relationships with supportive colleagues are satisfying a need to belong, we can also assume that they will further strengthen the negative relationship between deep acting and loneliness. On the other hand, we anticipate that low perceived social support at work will have less of an effect on the relationship between deep acting and loneliness. If someone does not feel that their colleagues are supportive, it may be less satisfying to engage in deep acting and try to fit in with them than if they were supportive. Reciprocity is an important part of strong relationships and the satisfaction of a need to belong (Baumeister & Leary, 1995) and in a low support environment, a deep actor may not feel that the work that they are doing to reappraise their own emotions to help understand and meet those of others is being reciprocated. We therefore hypothesise that:

Hypothesis 5b. The negative relationship between deep acting and loneliness will be stronger among employees who perceive that they have high social support compared to employees who perceive that they have low social support.

Method

The data used for this study is part of a larger dataset collected to satisfy the research requirements of the Master of Organisational Psychology programme at the University of

Auckland. Eight students collaborated with two supervising staff to devise the questionnaires and recruit participants. Ethics approval for this research was provided by the University of Auckland Human Participants Ethics Committee on 16/08/2021, reference number UAHPEC22761.

Survey Design

This study uses a five-day daily diary design. Much organisational research is conducted using a cross-sectional design, which assumes construct stability over time (Ohly et al., 2010). However, strategies such as surface and deep acting to regulate emotions are used based on situational context, i.e., interactions with others. As it is possible that those interactions, and the feelings of loneliness that may be related to them, will be different day-to-day, a daily diary design allows us to account for these daily changes (Ohly et al., 2010).

People who were interested in participating were first asked to fill in a qualification questionnaire to confirm that they were over the age of 18, were resident in Aotearoa New Zealand, worked in a paid position at least 30 hours per week between the hours of 7 a.m. and 7 p.m. Monday to Friday, and had been working at the same organisation for at least six months. Those who fulfilled the qualification criteria were then invited to fill in a baseline questionnaire, which included demographic information such as age, gender and tenure, as well as this study's interest areas of need to belong and social support at work as these are both stable variables that are unlikely to vary day-by-day. The daily diary surveys were sent three times a day (at 11 a.m., 4 p.m. and 8 p.m.) for a period of five consecutive workdays. Each survey was open for a specified period (two hours for the lunchtime and afternoon surveys, and three and a half hours for the evening survey). For this study, the questions about emotion regulation were asked in the afternoon (4 p.m.) survey, and questions about loneliness were asked in the evening (8 p.m.) survey. All survey invitations were sent by

email, and surveys were conducted online using Qualtrics. Reminders were also sent to people by SMS if they had provided a mobile phone number.

Participants and Procedure

Participants were recruited using convenience sampling. The Masters students used word of mouth as well as social media (Facebook, Instagram) to recruit. Three hundred and twenty people who fulfilled the research criteria were invited to fill in a baseline survey. The data was being collected during the COVID-19 pandemic, when different areas of Aotearoa New Zealand were under different restriction levels. Participants were therefore invited to fill in the daily diary questionnaires in different stages, which corresponded to their region being at a COVID-19 alert level that allowed people to work from their usual place of work rather than being restricted to work from home. One hundred and ten participants who were based outside of the Auckland region were invited to participate in October 2021, of whom 105 completed data on at least one day of the five-day data collection period (95.5% response rate). Restrictions in Auckland lifted in December 2021, so the remaining 210 participants were sent a questionnaire to check their continued qualification and availability for the research. One hundred and fifty-seven people completed the survey (74.8% response rate), of whom 113 (72%) still qualified and were invited to participate in the daily diary surveys. Seventy-four people completed data on at least one day of the five-day collection period (65.5%). In summary, 320 people completed the baseline survey and a total of 179 people submitted responses during at least one day of the daily diary surveys (55.9% response rate). The data was checked again to ensure that they were non-duplicates, and that they met the research project requirements. Outliers were then identified using the Mahalanobis distance multivariate outlier detection method and removed. The final participant sample totalled 156 people. Of these, 135 participants (86.5%) identified as female and 21 (13.5%) identified as male, the majority (64.1%) identified as New Zealand European and they were aged from 20

to 64 (*M* = 38.04, *SD* = 10.47). Participants worked an average of 40.28 hours in a typical week (SD = 5.69) and mostly held full-time (93.6%), permanent (92.9 %) contracts. Tenure at their organisation ranged from six months to 34 years (*M* = 62.90 months, SD = 69.66).

Measures

As participants were asked to fill out surveys three times a day for five days, the research team was mindful of the demands on participants' time that were being made. As the length of survey is related to survey fatigue, with longer surveys resulting in increased fatigue (Galesic & Bosnjak, 2009), the scales used to measure the different constructs were shortened wherever possible. All items were measured on a five-point scale from 1 (strongly disagree) to 5 (strongly agree).

Need to Belong

Participants' need to belong was measured in the baseline questionnaire. Four top-loaded items were used from Leary et al.'s (2013) need to belong scale. These were "I try hard not to do things that will make other people avoid or reject me", "I need to feel that there are people I can turn to in times of need", "I want other people to accept me", and "I do not like being alone". Scale analysis showed the reliability to be unsatisfactory (α = .52). Eventually, based on face validity we selected the single item of "I want other people to accept me" for this study.

Social Support

Perception of social support at work was also measured in the baseline questionnaire. The items to measure social support were taken from Morgeson and Humphrey's (2006) Work Design Questionnaire. The items we used were "I have the opportunity to develop close friendships in my job", "I have the chance in my job to get to know other people", "I have the opportunity to meet with others in my work", "People I work with take a personal

interest in me", and "People I work with are friendly". The scale had a satisfactory reliability of α = .79.

Surface Acting and Deep Acting

Emotion regulation was measured in the afternoon questionnaires, which were sent at 4 p.m. daily. Gabriel et al.'s (2020) scale of emotion regulation with coworkers was used in the current study, which was adapted from Diefendorff et al.'s (2005) scale. Specifically, we used the referent 'other people in my workplace' to capture interactions with coworkers and supervisors. The four items used to measure surface acting asked people to rate whether during that day at work, they had "Put on an act in order to deal with other people in my workplace in an appropriate way", "Faked a good mood when interacting with other people in my workplace", "Put on a 'show' or 'performance' when interacting with other people in my workplace", and "Showed feelings that were different from what I felt inside to other people in my workplace. The reliability of this scale was analysed on a day-by-day basis and ranged from α = .91 to α = .93 across the five days.

The three items used to measure deep acting asked people to rate whether during that day at work, they had "Tried to actually experience the emotions that I showed to other people in my workplace", "Made an effort to actually feel the emotions that I displayed toward other people in my workplace", and "Worked hard to feel the emotions that I needed to show to other people in my workplace". The reliability of this scale was analysed on a day-by-day basis and ranged from α = .80 to α = .87 across the five days.

Loneliness

Loneliness was measured in the evening questionnaires, which were sent at 8 p.m. daily, using three items from Buecker et al.'s (2020) study. The items were "I felt lonely today", "I felt left out today", and "I felt isolated from others today". The reliability of this scale was analysed on a day-by-day basis and ranged from α = .88 to α = .94 across the five

days.

Analytic Approach

As our dataset contained daily response data nested within individual participant data, we conducted multilevel modelling using the 'lme' function within the 'multilevel' package for R version 4.1.2 to analyse it. The moderator (social support) and predictors (surface acting and deep acting) were grandmean centred when conducting moderation analysis. We included the control variables of age, gender, and tenure in all analyses, although all these effects were non-significant.

Results

Means, standard deviations and correlations are presented in Table 1 and multilevel modelling results are shown in Table 2 and Figure 1. Hypothesis 1 proposed that need to belong would positively relate to both daily surface acting and daily deep acting. Results showed that need to belong is significantly and positively related to daily surface acting (γ = .17, *SE* = .08, $p < .05$). The relationship between need to belong and daily deep acting was non-significant (γ = .09, *SE* = .06, $p > .05$), although in the hypothesized direction. Hypothesis 1a was therefore supported but Hypothesis 1b was not. Hypothesis 2 proposed that daily surface acting would be positively related with daily loneliness. Results supported this hypothesis, showing the relationship to be strongly positive (γ = .31, *SE* = .04, $p < .001$). Hypothesis 3 proposed that daily deep acting would be negatively related to daily loneliness. Our results failed to support this hypothesis, showing a weak positive but non-significant relationship (γ = .06, *SE* = .05, $p > .05$). Hypothesis 4a proposed that surface acting would mediate the relationship between need to belong and loneliness. Monte Carlo results based on 5,000 simulations indicated that surface acting during the workday mediated the effect of need to belong on loneliness: indirect effect = .05, 95% CI = [.00, .10], p = .05. Results also showed that 36% of the total effect between need to belong and loneliness was mediated

through surface acting. Hypothesis 4a was therefore supported. Hypothesis 4b proposed that deep acting would mediate the relationship between need to belong and loneliness but as the relationships between need to belong and deep acting, and between deep acting and loneliness were non-significant, this hypothesis was not supported.

We then added social support as a moderator into the model to test Hypothesis 5, which proposed that a) the positive relationship between surface acting and loneliness would be stronger among employees who perceive that they have low social support compared to employees who perceive that they have high social support, and that b) the negative relationship between deep acting and loneliness would be stronger among employees who perceive that they have high social support compared to employees who perceive that they have low social support. Results showed that the moderation effect of social support on the relationship between surface acting and loneliness was non-significant (γ = .05, *SE* = .06, p > .05). Hypothesis 5a was therefore not supported. In comparison, social support significantly moderated the relationship between daily deep acting and daily loneliness (γ = -.12, *SE* = .06, p < .05). To investigate this moderation effect further, we conducted a simple slopes analysis as shown in Figure 2. Results showed that the effect of deep acting on loneliness was only significant when social support is low (γ = .17, p < .05). This effect became non-significant when social support was high (γ = .01, p > .05). Taken together, Hypothesis 5b was supported.

Discussion

To examine the relationship between need to belong and loneliness in the workplace, we developed and tested a multilevel model by specifying the mediating effect of emotion regulation (i.e., surface and deep acting) and the moderating effect of social support. Results from our daily diary study show that need to belong is significantly positively related to daily surface acting, which in turn is significantly and positively related to evening loneliness.

Mediation analysis revealed a significant mediation effect of surface acting on the relationship between need to belong and loneliness. This suggests that people engage in surface acting to try to fit in with their work groups, but that faking their emotions in this way is counter-productive and by engaging in this strategy, they not only do not feel that they fit in better, but actually become more lonely. On the other hand, we did not find any significant relationship between need to belong and deep acting, or between deep acting and loneliness. Although there has not been research done to date on the effect of deep acting on feelings of loneliness, the literature shows that deep acting generally has more positive outcomes for the actor than surface acting, such as greater feelings of authenticity, more rewarding interactions, reduced stress, and better overall well-being (Alabak et al., 2020; Gardner et al., 2009; Grandey, 2003). Therefore, our study at least aligns with this line of research showing that deep acting, unlike surface acting, does not lead to higher levels of loneliness.

Our study also showed a significant moderating effect of social support on the relationship between deep acting and loneliness, specifically that people need to perceive that they have high levels of social support from colleagues for them to benefit from deep acting and feel less lonely. We found no moderating effect of social support on the negative relationship between surface acting and loneliness. Social support has previously been found to be associated with lower levels of loneliness (Wright, 2005), but it does not appear to be sufficiently beneficial to counteract the negative effects of surface acting.

Theoretical Implications

Our research drew on need-to-belong theory that posits that people have an inherent drive to fit into social groups, and that the strength of this drive will motivate people to engage in behaviours to adapt to their social group. We focused on emotion regulation as implicit and explicit group emotions play an important part in the formation and maintenance of groups (Ashforth & Humphrey, 1995; Kelly & Barsade, 2001). Our research adds to both

the literature on the need to belong and the way it influences behaviours in the workplace, and on the emotional labour literature.

There has been little research done to date exploring the relationship between the need to belong and emotion regulation between colleagues, but our study supported the work done by Yagil and Medler-Liraz (2017), which identified a positive relationship between the need to belong and surface acting with customers, as well as the negative outcomes this can have for the actor. We extended Yagil and Medler-Liraz's (2017) work in several ways. Firstly, we focussed on intra-organisational interactions rather than those with customers. The service industry has historically been the main focus of emotional regulation research, and so our study adds to the growing body of research on emotion regulation between colleagues. Gabriel et al. (2020) suggested that, as the relationships between colleagues are generally longer-term than the relationships between employees and customers, colleagues would be more likely to engage in deep acting rather than surface acting when regulating their emotions. Our research shows that people do still engage in surface acting with colleagues, particularly when considered in relation to their need to belong. We also looked at a different outcome from that of Yagil and Medler-Liraz (2017), namely loneliness, which is an important area to consider due to the vulnerability of lonely people to experience negative physical and mental health, as well as negative work outcomes. Finally, we included deep acting as another potential mediator, which has previously not been investigated in relation to someone's need to belong as far as we know. Our finding, that surface acting is a significant mediator of the relationship between need to belong and loneliness, suggests that not only are people who engage in surface acting at risk of the negative outcomes such as emotional exhaustion, stress, and depersonalisation that are associated with this strategy (Grandey, 2003; Ozcelik, 2013; Wang et al., 2011), but they are also likely to feel more lonely. Engaging in surface acting, therefore, seems to be counter-productive if people are doing it to

try to fit in better. Deep acting, on the other hand, has previously been found to be linked to more positive outcomes, such as higher levels of social capital, higher trust in coworkers, more rewarding interactions and better rapport between interaction partners (Alabak et al., 2020; Gabriel, 2020; Hülsheger and Schewe, 2011), all of which may contribute to greater feelings of belongingness. However, our research shows that people do not seem to use deep acting as an emotion regulation strategy in order to try to fit in. Our non-significant results regarding the relationships between need to belong, deep acting and loneliness deserve further investigation. Previous literature on emotional labour strategies has identified that surface acting and deep acting are often used together, with high levels of surface acting often combined with high levels of deep acting (Fouquereau et al., 2019; Gabriel et al., 2020). Our results are not consistent with this research suggesting that perhaps different antecedents to, or motivations for, emotional labour can result in strategies being engaged in different ways. Diefendorff et al. (2005), for example, found that the personality traits of extraversion and neuroticism were predictive of surface acting, and that positive and negative display rules were positively related to deep acting and surface acting respectively. They also found that routineness and duration of interactions were positively related to deep acting. Our research suggests that need to belong could be another important predictor. In summary, previous literature has identified that people with a strong need to belong may be more willing to modify their behaviours in order to conform with group norms so that they feel that they belong (Baumeister et al., 2005; Robinson et al., 2013; Williams et al., 2000), but to our knowledge, little is known about the effectiveness of these modifications. Our findings suggest that different strategies of behaviour modification may have differential success in terms of meeting this need.

In terms of the moderating effect of social support, we found that social support was a significant moderator on the relationship between deep acting and loneliness, but not on the relationship between surface acting and loneliness. One potential explanation for this, provided by need-to-belong theory, could be that people who are surface acting have not yet reached a level of satiation with their relationships that satisfies their need to belong. Need-to-belong theory states that people need a certain amount (this number is subjective and differs from person to person) of lasting, strong relationships to feel that they belong (Baumeister & Leary, 1995; Baumeister 2012). These relationships need to be made up of consistently non-negative interactions. Therefore, despite perceiving colleagues to be supportive, the person may not feel that they have sufficient strong relationships at work and that they therefore do not belong, and a negative interaction with someone could reinforce this feeling. Related to this could be that our survey asked about the perception of social support being available, as opposed to levels of social support received, so it could be that receiving social support is more important in terms of meeting the need to belong and addressing loneliness than simply the perception that it is available if needed. Furthermore, suppressing one's true feelings, as people do when they engage in surface acting, may reduce people's capability to engage in supportive relationships (Butler et al., 2003) so although our participants who engaged in surface acting may have perceived that the people that they work with are supportive, they may not have had the resources needed to reach out and access that support.

Practical Implications

Employees' need to belong, and the extent to which that is satisfied, is something that it would be valuable for organisations for consider. Individuals' feelings of belongingness are related to the perceived cohesiveness of teams (Bollen & Hoyle, 1990), and team cohesiveness been found to be related to performance behaviours and efficiency (Beal et al.,

2003), both of which may be important to organisations. Furthermore, if employees' need to belong is not met and they then experience loneliness, this can be related negatively to work outcomes such as job performance, OCBs, intra-organisational relationships, and work engagement (Gabriel et al., 2021; Lam & Lau, 2012; Ozcelik & Barsade, 2018). It is, therefore, in an organisation's best interest to address these issues in order to optimise performance. As our findings suggest that people may engage in surface acting to try to fit in better, but that this strategy is likely to be counter-productive and lead to further loneliness, it would be beneficial for organisations to identify if their employees are surface acting and address this. Organisations could engage in psychoeducation about the ways in which people regulate their emotions, encouraging people to pay attention to the ways that they interact with people and then educating on ways to regulate emotions in the most beneficial way, This could include, for example, educating on how to engage in cognitive reappraisal of situations as people who do this have been found to develop closer relationships in the long-term (English et al., 2012). The organisation can also work to identify ways in which they can facilitate more authentic connections between their staff by assessing the organisational climate and finding ways to help employees to fit in better.

Our finding that social support moderates the relationship between deep acting and loneliness also has important implications for organisations. It would be beneficial for organisations to assess the levels of social support that are available to employees, both formally and informally, and identify ways to create an environment that encourages and enhances this. In all cases where organisational outcome improvements are dependent on employee behaviour change, it is important to not only train and educate employees in order for them to be able to engage in beneficial behaviours, but to also ensure that the organisational climate supports those behaviours (Hu et al., 2014).

Limitations and Future Directions

As with all research, there were some limitations to our study. Firstly, due to the unreliability of the scale items that we used to measure need to belong, we had to base our findings on a single item, i.e. a scale of 1 (strongly disagree) to 5 (strongly agree) on the statement of "I want other people to accept me". Although we feel that this is a suitable question to measure people's need to belong, and that one-item measures are typical in daily diary designs, using a more comprehensive scale such as the 10-item scale used by Leary et al. (2013) may give a more nuanced understanding of the effect of someone's need to belong on their emotion regulation strategies and feelings of loneliness.

Secondly, self-reported measures can be subject to common methods bias (Podsakoff et al., 2003). However, the constructs of need to belong and loneliness are inherently personal and subjective and so self-reported measures are the most appropriate method for them. Similarly, the perception of how one has regulated emotions using strategies such as surface and deep acting is also personal and subjective and so self-reported measures are also appropriate here. To add further depth to our findings in future research, interaction partners could also be surveyed about their views on the interaction and how authentic they felt the actor was being, or observers could code for how interaction partners react to the actor and cross-reference this with reported feelings of loneliness to try to provide further insight into the mechanisms of how different strategies affect outcomes. Furthermore, social support could be measured more objectively in terms of how many times employees receive support, or from observation within the workplace as to instances of support being provided if that was possible. Despite there being ways in which our research findings could be strengthened, we feel that our measures were appropriate for the questions asked, and the experience sampling method we used, asking people to fill in daily diary studies for a period of five days, also helps to mitigate common methods bias (Fisher & To, 2012).

Next, although we used an experience sampling method to explore the predictive capacity of a person's need to belong on their emotion regulation strategies, and feelings of loneliness, our results show correlation and cannot be used to assume causation. We cannot, therefore, rule out that someone's feelings of loneliness are affecting their need to belong and subsequent behaviour, rather than the other way around. We attempted to mitigate this by including questions regarding need to belong in the baseline questionnaire, which was completed in advance of the week when participants filled in the daily diary studies. However, loneliness can be either situational or chronic (Hawkley & Cacioppo, 2010). Experiences of chronic loneliness could have impacted on people's feelings of need to belong in the baseline survey, which could also have impacted on emotion regulation strategies and perceptions of social support, as people who are chronically lonely have been found to find it harder to form strong relationships (Lam & Lau, 2012). Other research has also shown that people whose need to belong has been thwarted are less able or willing to engage in work behaviours that would increase feelings of belongingness (Thau et al., 2007) so people who already feel lonely may not be able or willing to engage in deep acting strategies. People who experience feelings of loneliness have also been found to perceive lower levels of social support available to them (Mohapatra et al., 2020) so the correlation found in our study could mean the reverse of our hypothesis is true, in that greater loneliness predicts lower perceived support for deep actors rather than the other way around.

Finally, our research took place during extraordinary circumstances. Workplace experiences changed significantly for many due to the COVID-19 pandemic. Many aspects of people's relationships with colleagues have changed and little is yet known about the lasting impact of this (Kniffin, 2021). Although we attempted to mitigate the effect of this by asking people to only participate if they had returned to usual work patterns, it is unlikely that the work experience was the same as prior to the pandemic. For example, we asked people about

their perceptions of the availability of social support rather than whether they had received it, and the events of the past two years may have meant that perceptions, possibly based on historic interactions, were not being matched by people's experiences at the time that they participated in our study. Similarly, as time has gone on, restrictions have eased, and people have become more accustomed to the current situation, work is likely to be different again to how it was when our data was collected. Our results, therefore, may show an interesting perspective of a unique period of time, but they may not be generalisable.

As far as we are aware, there has been little research into the relationships between need to belong, emotion regulation and loneliness and there are further areas of investigation that would be valuable to pursue, including further moderators and ways of measuring the variables. Our research, for example, investigated the strength of a person's need to belong, but not the extent to which the person felt that the need was being met. As discussed, a thwarted need to belong can result in people being unwilling or unable to engage in certain behaviours which could have a bearing on the findings. Future research could, therefore, also include measures that assess how well a participant's need to belong is being met. One variable that may affect this is if a person experiences chronic loneliness. It would therefore be interesting to measure baseline levels of loneliness to investigate whether this has a bearing on the strength of their need to belong and the types of emotion regulation they may employ. It could also be interesting to ask about people's relationships outside of work. Despite work often being a place where people form significant relationships and an activity that contributes to their sense of identity, this may not be true for everyone. If someone has sufficient significant relationships outside of work, their need to belong may be satisfied and interactions at work may not be as important as for someone who relies more on the workplace as somewhere to form significant relationships. This may then have a bearing on emotion regulation strategies used and feelings of loneliness at work.

Our nonsignificant finding on the relationship between deep acting and loneliness may also be related to the type of deep acting strategy that someone employs. The questions in our survey related mostly to positive reappraisal of the situation. However, in their study looking at different deep acting strategies by service industry workers, Alabak et al. (2020) found that perspective taking was more effective in mitigating the negative effects of emotion regulation. Investigating the different ways in which someone engages in surface or deep acting with colleagues in order to meet their need to belong, and the effects of these could be a focus of further research.

Finally, as discussed, our study took place under the extraordinary circumstances of a global pandemic, so it would be valuable for our hypotheses to be tested under more usual work conditions to assess the generalisability of our findings. Similarly, we had a reasonably small sample size and used convenience sampling to recruit our participants, which could have resulted in some bias in our results. Conducting further research with a wider range of participants would also help to assess generalisability.

Conclusion

Our study set out to find out how the need to belong motivates people to use emotion regulation strategies when interacting with colleagues, and how these strategies influence felt loneliness in the workplace. We also explored whether social support moderates that relationship between emotional regulation and loneliness. Our findings suggest that surface acting served as a significant mediator of the relationship between need to belong and loneliness. In comparison, we found no significant mediation effect of deep acting on this relationship. Further, social support significantly moderated the relationship between deep acting and loneliness, such that deep acting only significantly reduces loneliness when one feels supported in the workplace. We did not, however, find a significant moderating effect of social support on the relationship between surface acting and loneliness. These findings are

important in that they tell us that people may engage in counter-productive emotion regulation behaviours that in fact lead to more loneliness when they are trying to fit in their workgroups. Further, the benefits of deep acting can only be achieved with a high level of social support in the workplace. Practically, our study suggests that employees should be cognisant that surface acting may appear a way to fit in but nonetheless leads to greater loneliness. Organisations also need to find ways to support employees and help them feel more included.

References

Alabak, M., Hülsheger, U. R., Zijlstra, F. R. H., & Verduyn, P. (2020). More Than One Strategy: A Closer Examination of the Relationship Between Deep Acting and Key Employee Outcomes. *Journal of Occupational Health Psychology, 25*(1), 32-45. https://doi.org/ 10.1037/ocp0000152

Ashforth, B. E., & Humphrey, R. H. (1995). Emotion in the Workplace: A Reappraisal. *Human Relations, 48*(2), 97-125. https://doi.org/10.1177/001872679504800201

Bakker, A. B., Sanz-Vergel, A. I., Rodríguez-Muñoz, A., & Antino, M. (2019). Ripple Effects of Surface Acting: A Diary Study Among Dual-Earner Couples. *The Spanish Journal of Psychology, 22*(e7), 1-12. https://doi.org/ 10.1017/sjp.2019.6

Baumeister, R. F. (2012). Need-to-Belong Theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of Theories of Social Psychology* (pp. 121–140). Sage Publications Ltd. https://doi.org/10.4135/9781446249222.n32

Baumeister, R. F., DeWall, C. N., Ciarocco, N. J., & Twenge, J. M. (2005). Social Exclusion Impairs Self-Regulation. *Journal of Personality and Social Psychology, 88*(4), 589-604. https://doi.org/10.1037/0022-3514.88.4.589

Baumeister, R. F., & Leary, M. R. (1995). The Need to Belong: Desire for Interpersonal Attachments as a Fundamental Human Motivation. *Psychological Bulletin, 117*(3), 497-529. https://doi.org/10.1037/0033-2909.117.3.497

Beal, D. J., Cohen, R. R., Burke, M. J., & McLendon, C. L. (2003). Cohesion and Performance in Groups: A Meta-Analytic Clarification of Construct Relations. *Journal of Applied Psychology, 88*(6), 989-1004. https://doi.org/10.1037/0021-9010.88.6.989

Bhave, D. P., & Glomb, T. M. (2013). The Role of Occupational Emotional Labor Requirements on the Surface-Acting-Job Satisfaction Relationship. *Journal of Management, 42*(3), 722-741. https://doi.org/10.1177/0149206313498900

Bollen, K. A., & Hoyle, R. H. (1990). Perceived Cohesion: A Conceptual and Empirical Examination. *Social Forces, 69*(2), 479-504. https://doi.org/10.1093/sf/69.2.479

Buecker, S., Horstmann, K. T., Krasko, J., Kritzler, S., Terwiel, S., Kaiser, T., & Luhmann, M. (2020). Changes in Daily Loneliness for German Residents During the First Four Weeks of the COVID-19 Pandemic. *Social Science & Medicine, Vol. 265*, p. 113541. https://doi.org/10.1016/j.socscimed.2020.113541

Butler, E. A., Egloff, B., Wilhelm, F. H., Smith, N. C., Erickson, E. A., & Gross, J. J. (2003). The Social Consequences of Expressive Suppression. *Emotion, 3*(1), 48-67. https://doi.org/10.1037/1528-3542.3.1.48

Cacioppo, J. T., & Cacioppo, S. (2018). The Growing Problem of Loneliness. *The Lancet, 391*(10119), p.426. https://doi.org/10.1016/S0140-6736(18)30142-9

Coissard, F., Ndao, M-L., Gilibert, D., & Banovic, I. (2017). Relationships at Work and Psychosocial Risk: The Feeling of Belonging as Indicator and Mediator. *European Review of Applied Psychology/Revue Européene de Psychologie Appliqué, 67*(6), 317-325. https://doi.org/10.1016/j.erap.2017.10.003

DeLongis, A., & Holtzman, S. (2005). Coping in Context: The Role of Stress, Social Support, and Personality in Coping. *Journal of Personality, 73*(6), p.1633. https://doi.org/10.1111/j.1467-6494.2005.00361.x

Diefendorff, J. M., Croyle, M. H., & Gosserand, R. H. (2005). The Dimensionality and Antecedents of Emotional Labor Strategies. *Journal of Vocational Behavior, 66*(2), 339-357. https://doi.org/10.1016/j.jvb.2004.02.001

Dunkel-Schetter, C., Folkman, S., & Lazarus, R. S. (1987). Correlates of Social Support Receipt. *Journal of Personality and Social Psychology, 53*(1), 71-80. https://doi.org/10.1037/0022-3514.53.1.71

Eisenberger, R., & Stinglhamber, F. (2011). *Perceived Organizational Support: Fostering Enthusiastic and Productive Employees*. American Psychological Association.

English, T., John, O. P., Srivastava, S., & Gross, J. J. (2012). Emotion Regulation and Peer-Rated Social Functioning: A 4-Year Longitudinal Study. *Journal of Research in Personality, 46*(6), 780-784. https://doi.org/10.1016/j.jrp.2012.09.006

Erlich, H. S. (1998). On Loneliness, Narcissism, and Intimacy. *American Journal of Psychoanalysis, 58*(2), 135-162. https://www.proquest.com/docview/204616834/AC3DEFBD51C84711PQ/1?accountid=8424

Fisher, C. D., & To, M. L. (2012). Using Experience Sampling Methodology in Organizational Behavior. *Journal of Organizational Behavior, 33*(7), 865-877. https://doi.org/10.1002/job.1803

Fouquereau, E., Morin, A. J. S., Lapointe, É., Mokounkolo, R., & Gillet, N. (2019). Emotional Labour Profiles: Associations with Key Predictors and Outcomes. *Work & Stress, 33*(3), 268-294. https://doi.org/10.1080/02678373.2018.1502835

Gabriel, A. S., Koopman, J., Rosen, C.C., Arnold, J. D., & Hochwarter, W. A. (2020). Are Coworkers Getting Into the Act? An Examination of Emotion Regulation in Coworker Exchanges. *Journal of Applied Psychology, 105*(8), 907-929. https://doi.org/10.1037/apl0000473

Gabriel, A. S., Lanaj, K., & Jennings, R. E. (2021). Is One the Loneliest Number? A Within-Person Examination of the Adaptive and Maladaptive Consequences of Leader

Loneliness at Work. *Journal of Applied Psychology, 106*(10), 1517-1538. https://doi.org/10.1037/apl0000838

Galesic, M., Bosnjak, M. (2009). Effects of Questionnaire Length on Participation and Indicators of Response Quality in a Web Survey. *Public Opinion Quarterly, 73*(2), 349-360. https://doi.org/10.1093/poq/nfp031

Gardner, W. L., Fischer, D., Hunt, J. K. (2009). Emotional Labor and Leadership: A Threat to Authenticity? *The Leadership Quarterly, 20*(3), 466-482. https://doi.org/10.1016/j.leaqua.2009.03.011

Grandey, A. A. (2003). When "The Show Must Go On": Surface Acting and Deep Acting as Determinants of Emotional Exhaustion and Peer-Related Service Delivery. *Academy of Management Journal, 46*(1), 86-96. https://doi.org/10.5465/30040678

Groarke, J. M., Berry, E., Graham-Wisener, L., McKenna-Plumley, P. E., McGlinchey, E., & Armour, C. (2020). Loneliness in the UK During the COVID-19 Pandemic: Cross-Sectional Results from the COVID-19 Psychological Wellbeing Study. *PLoS ONE, 15*(9), e0239698. https://doi.org/10.1371/journal.pone.0239698

Hawkley, L. C., & Cacioppo, J. T. (2010). Loneliness Matters: A Theoretical and Empirical Review of Consequences and Mechanisms. *Annals of Behavioral Medicine: A Publication of the Society of Behavioral Medicin, 40*(2), 218-227. https://doi.org/10.1007/s12160-010-9210-8

Hochschild, A. R. (1983). *The Managed Heart: Commercialization of Human Feeling.* University of California Press.

Hu, T., Zhang, D., & Wang, J. (2014). Relation Between Emotion Regulation and Mental Health: A Meta-Analysis Review. *Psychological Reports: Measures & Statistics, 114*(2), 341-362. https://doi.org/10.2466/03.20.PR0.114k22w4

Hu, X., & Shi, J. (2015). Employees' Surface Acting in Interactions with Leaders and Peers. *Journal of Organizational Behavior, 36*(8), 1132-1152. https://doi.org/10.1002/job.2015

Hülsheger, U. R., & Schewe, A. F. (2011). On the Costs and Benefits of Emotional Labor: A Meta-Analysis of Three Decades of Research. *Journal of Occupational Health Psychology, 16*(3), 361-389. https://doi.org/10.1037/a0022876

Huppertz, A. V., Hülsheger, U. R., Velozo, J. D. C., & Schreurs, B. H. (2020). Why Do Emotional Labor Strategies Differentially Predict Exhaustion? Comparing Psychological Effort, Authenticity, and Relational Mechanisms. *Journal of Occupational Health Psychology, 25*(3), 214-226. https://doi.org/10.1037/ocp0000179

Hwang, T., Rabheru, K., Peisah, C., Reichman, W., & Ikeda, M. (2020). Loneliness and Social Isolation During the COVID-19 Pandemic. *International Psychogeriatrics, 32*(10), 1217-1220. https://doi.org/10.1017/S1041610220000988

Jolly, P. M., Kong, D. T., Kim, K. Y. (2021). Social Support at Work: An Integrative Review. *Journal of Organizational Behavior, 42*(2), 229-251. https://doi.org/10.1002/job.2485

Kelly, J. R., & Barsade, S. G. (2001). Mood and Emotions in Small Groups and Work Teams. *Organizational Behavior and Human Decision Processes, 88*(1), 99-130. https://doi.org/10.1006/obhd.2001.2974

Kerr, J., & Slocum Jr, J. W. (2005). Managing Corporate Culture Through Reward Systems. *Academy of Management Executive, 19*(4), 130-138. https://www.researchgate.net/profile/John-Slocum-3/publication/237323314_Managing_Corporate_Culture_Through_Reward_Systems/l

inks/02e7e5260486819dbb000000/Managing-Corporate-Culture-Through-Reward-Systems.pdf

Killeen, C. (1998). Loneliness: An Epidemic in Modern Society. *Journal of Advanced Nursing, 28*(4), 762-770. https://doi.org/10.1046/j.1365-2648.1998.00703.x

Kim, H. J., Hur, W. M., Moon, T. W., & Jun, J. K. (2017). Is All Support Equal? The Moderating Effects of Supervisor, Coworker, and Organizational Support on the Link Between Emotional Labor and Job Performance. *BRQ Business Research Quarterly, 20*(2), 124-136. https://doi.org/ 10.1016/j.brq.2016.11.002

Kniffin, K. M., Narayanan, J., Anseel, F., Antonakis, J., Ashford, S. P., Bakker, A. B., Bamberger, P., Bapuji, H., Bhave, D. P., Choi, V. K., Creary, S. J., Demerouti, E., Flynn, F. J., Gelfand, M. J., Greer, L. L., & Johns, G. (2021). COVID-19 and the Workplace: Implications, Issues, and Insights for Future Research and Action. *American Psychologist, 76*(1), 63-77. https://doi.org/10.1037/amp0000716

Krumhuber, E., Manstead, A. S. R., Cosker, D., Marshall, D., Rosin, P. L., & Kappas, A. (2007). Facial Dynamics as Indicators of Trustworthiness and Cooperative Behavior. *Emotion, 7*(4), 730-735. https://doi.org/10.1037/1528-3542.7.4.730

Lam, L. W. & Lau, D. C. (2012) Feeling Lonely at Work: Investigating the Consequences of Unsatisfactory Workplace Relationships. *The International Journal of Human Resource Management, 23*(20), 4265-4282. https://doi.org/10.1080/09585192.2012.665070

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), 610-625. https://doi.org/10.1080/00223891.2013.819511

Mellor, D., Stokes, M., Firth, L., Hayashi, Y., & Cummins, R. (2008). Need for Belonging, Relationship Satisfaction, Loneliness, and Life Satisfaction. *Personality and Individual Differences, 45*(3), 213-218. https://doi.org/10.1016/j.paid.2008.03.020

Michaelson, C., Pratt, M. G., Grant, A. M., & Dunn, C. P. (2014). Meaningful Work: Connecting Business Ethics and Organization Studies. *Journal of Business Ethics, 121*(1), 77-90. https://doi.org/10.1007/s10551-013-1675-5

Mohapatra, M., Madan, P., & Srivastava, S. (2020). Loneliness at Work: Its Consequences and Role of Moderators. *Global Business Review*, p.097215091989271. https://doi.org/10.1177/0972150919892714

Morgeson, F. P., & Humphrey, S. E. (2006). The Work Design Questionnaire (WDQ): Developing and Validating a Comprehensive Measure for Assessing Job Design and the Nature of Work. *Journal of Applied Psychology, 91*(6), 1321-1339. https://doi.org/10.1037/0021-9010.91.6.1321

Murthy, V. H. (2020). *Together: Loneliness, Health and What Happens When We Find Connection*. Profile Books Ltd.

Ng, T. W. H., & Sorensen, K. L. (2008). Toward a Further Understanding of the Relationships Between Perceptions of Support and Work Attitudes. *Group and Organization Management, 33*(3), 243-268. https://doi.org/10.1177/1059601107313307

O'Day, E. B., Morrison, A. S., Goldin, P. R., Gross, J. J., & Heimberg, R. G. (2019). Social Anxiety, Loneliness, and the Moderating Role of Emotion Regulation. *Journal of Social and Clinical Psychology, 38*(9), 751-773. https://doi.org/10.1521/jscp.2019.38.9.751

Ohly, S., Sonnentag, S., Niessen, Cl., & Zapf, D. (2010). Diary Studies in Organizational Research: An Introduction and Some Practical Recommendations. *Journal of Personnel Psychology, 9*(2), 79-93. https://doi.org/10.1027/1866-5888/a000009

Ozcelik, H. (2013). An Empirical Analysis of Surface Acting in Intra-Organizational Relationships. *Journal of Organizational Behavior, 34*(3), 291-309. https://doi.org/10.1002/job.1798

Ozcelik, H., & Barsade, S. G. (2018). No Employee an Island: Workplace Loneliness and Job Performance. *Academy of Management Journal, 61*(6), 2343-2366. https://doi.org/10.5465/amj.2015.1066

Perlman, D., & Peplau, L. A. (1981). Toward a Social Psychology of Loneliness. In S. Duck & R. Gilmour (Eds.), *Personal Relationships in Disorder*. Academic Press.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology, 88*(5), 879-903. https://doi.org/10.1037/0021-9010.88.5.879

Preece, D. A., Goldenberg, A., Becerra, R., Boyes, M., Hasking, P., & Gross, J. J. (2021). Loneliness and Emotion Regulation. *Personality and Individual Differences, 180*, p.110974. https://doi.org/10.1016/j.paid.2021.110974

Robinson, S. L., O'Reilly, J., & Wang, W. (2013). Invisible at Work: An Integrated Model of Workplace Ostracism. *Journal of Management, 39*(1), 203-231. https://doi.org/10.1177/0149206312466141

Rodriguez, M., Bellet, B. W., & McNally, R. J. (2020). Reframing Time Spent Alone: Reappraisal Buffers the Emotional Effects of Isolation. *Cognitive Therapy and Research, 44*(6), p.1052. https://doi.org/10.1007/s10608-020-10128-x

Shoshan, H. N., & Venz, L. (2021). Daily Deep Acting Toward Coworkers: An Examination of Day-Specific Antecedents and Consequences. *Journal of Organizational Behavior, 43*(1), 112-124. https://doi.org/10.1002/job.2555

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), 840-847. https://doi.org/10.1037/0021-9010.92.3.840

Wang, G., Seibert, S. E., & Boles, T. L. (2011). Synthesizing What We Know and Looking Ahead: A Meta-Analytical Review of 30 Years of Emotional Labor Research. In C. E. J. Härtel, N. M. Ashkanasy, & W. J. Zerbe (Eds.), *What Have We Learned? Ten Years On (Research on Emotion in Organizations, Vol. 7)*. Emerald Group Publishing Limited.

Williams, K. D., Cheung, C. K. T., & Choi, W. (2000). Cyberostracism: Effects of Being Ignored Over the Internet. *Journal of Personality and Social Psychology, 79*(5), 748-762. https://doi.org/10.1037//0022-3514.79.5.748

Williams, K. D., & Sommer, K. L. (1997). Social Ostracism by Coworkers: Does Rejection Lead to Loafing or Compensation? *Personality & Social Psychology Bulletin, 23*(7), 693-706. https://doi.org/10.1177/0146167297237003

Wright, S. (2005). Organizational Climate, Social Support and Loneliness in the Workplace. In N. M. Ashkansay, W. J. Zerbe, & C. E. J. Härtel (Eds.), *The Effect of Affect in Organizational Settings: Volume 1*. Emerald Group Publishing Limited.

Wright, S., & Silard, A. (2021). Unravelling the Antecedents of Loneliness in the Workplace. *Human Relations, 74*(7), 1060-1081. https://doi.org/10.1177/0018726720906013

Yagil, D. & Medler-Liraz, H. (2017). Personally Committed to Emotional Labor: Surface Acting, Emotional Exhaustion and Performance Among Service Employees with a

Strong Need to Belong. *Journal of Occupational Health Psychology*, *22*(4), 481-491. https://doi.org/10.1037/ocp0000049

Yue, Y., Wang, K. L., & Groth, M. (2015). The Impact of Surface Acting on Coworker-Directed Voluntary Workplace Behaviours. *European Journal of Work and Organizational Psychology*, *25*(3), 447-458. https://doi.org/10.1080/1359432X.2015.1111874

Table 1

Means, Standard Deviations and Correlations of Study Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8
1. Gender	1.86	.34	-							
2. Age	37.89	10.36	.03	-						
3. Tenure (in months)	64.76	71.68	-.04	.50***	-					
4. Need to belong	3.91	.91	.13***	-.17***	-.01	-				
5. Surface acting	2.56	1.04	.024	-.12***	-.07	.16***	(.91)			
6. Deep acting	2.95	.84	-.02	-.11**	-.09*	.11**	.09*	(.82)		
7. Loneliness	2.32	1.02	.02	-.10*	-.08	.13***	.44***	.09*	(.91)	
8. Social support	3.85	.69	.08*	-.16***	-.02	.15***	-.17***	-.01	-.30***	(.79)

Note. N = 156. Gender was coded as follows: male = 1, female = 2.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2

Multilevel modelling results

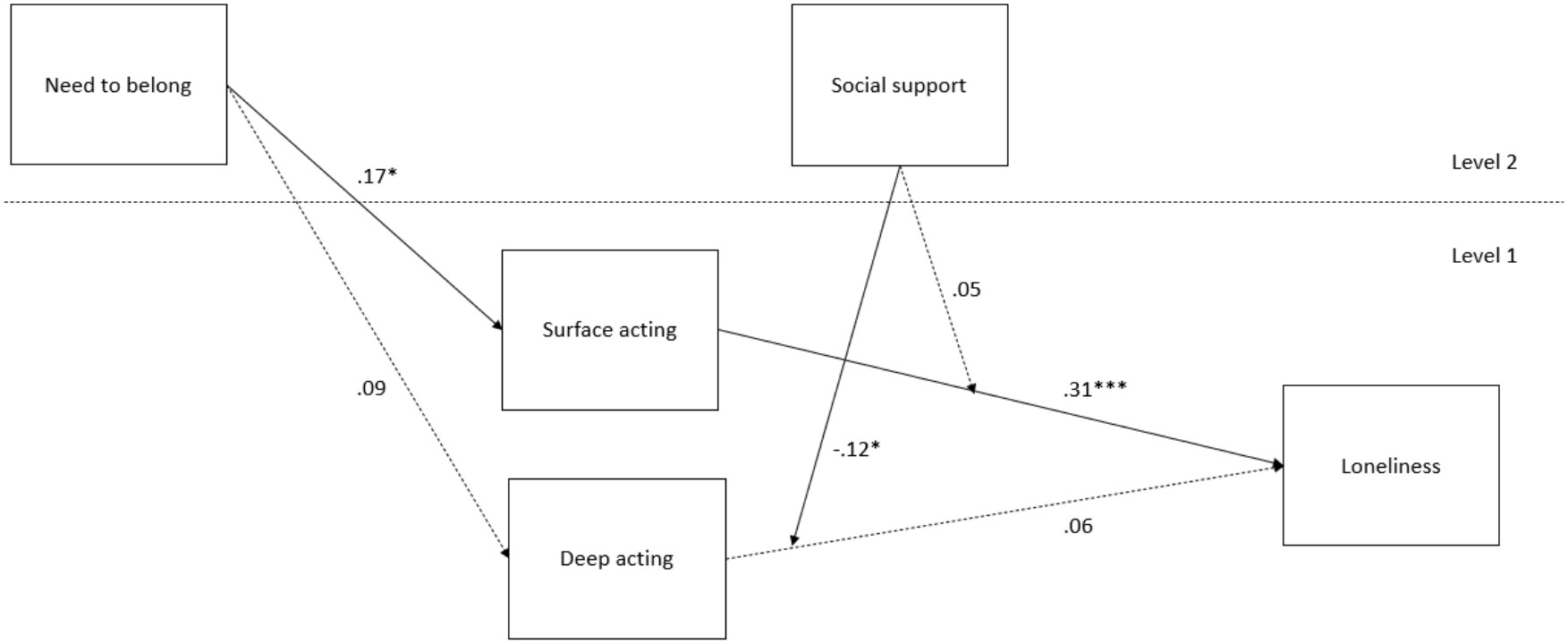
	Surface Acting			Deep Acting			Loneliness		
	$\hat{y}$	*SE*	t	$\hat{y}$	*SE*	t	$\hat{y}$	*SE*	t
Intercept	2.25***	.57	3.94	2.95***	.40	7.33	1.11*	.53	2.10
Control variables									
Gender	.06	.21	.29	-.09	.15	-.59	.02	.19	.10
Age	-.01	.01	-1.38	-.00	.01	-.73	.00	.01	-.09
Tenure	-.00	.00	-.01	-.00	.00	-.77	.00	.00	-.83
Hypothesised predictors									
Need to belong	.17*	.08	2.07	.09	.06	1.62	.08	.07	1.12
Surface acting	-	-	-	-	-	-	.31***	.04	7.61
Deep acting	-	-	-	-	-	-	.06	.05	1.27
Social support	-	-	-	-	-	-	-.41***	.09	-4.76
Surface acting x social support	-	-	-	-	-	-	.05	.06	.93
Deep acting x social support	-	-	-	-	-	-	-.12*	.06	-2.01

Note. Level 1, N = 695; Level 2, N = 156. *SE* = standard error.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 1

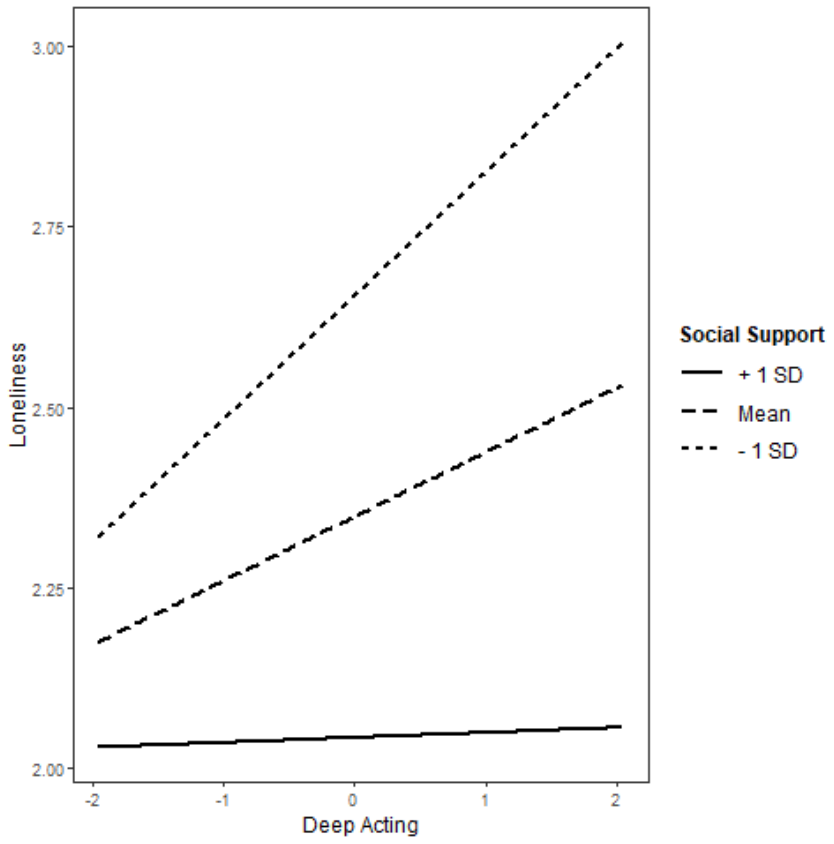
Multilevel Path Model Results.



Note. * $p < .05$, ** $p < .01$, *** $p < .001$, control variables are not shown for clarity, solid lines indicate significant paths, dashed lines indicate insignificant paths.

Figure 2

Social support moderates the relationship between deep acting and loneliness



Appendix A: Participant Recruitment Poster

THE UNIVERSITY OF AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

SCIENCE
SCHOOL OF PSYCHOLOGY

Participants needed for a workplace study!

ABOUT THE STUDY

We are looking for participants for a 5-day survey study examining how daily work experiences may impact employee family/home life outside the workplace. This will involve completing a daily diary three times a day (they should take around 5 minutes each) over five working days (Mon - Fri) about your work experiences. If you are interested in how daily work experiences affect your life outside of work, then we would love to hear from you!

ELIGIBILITY

- Over the age of 18
- Are in paid employment for at least 30 hours per week between the hours of 7am - 7pm Monday to Friday
- Have worked at the same organisation for more than 6 months

Participants will receive up to $60 in vouchers (choice of petrol or grocery) to thank you for your time

If you are interested in participating or would like more information, please contact me at **snut089@aucklanduni.ac.nz**

This study has been approved by the University of Auckland Human Participants Ethics Committee on 16/08/2021 for three years (16/08/2024). Reference number UAHPEC22761
Image retrieved from https://www.pexels.com/

Appendix B: Participant Information Sheet

THE UNIVERSITY OF AUCKLAND
NEW ZEALAND

SCIENCE
SCHOOL OF PSYCHOLOGY

Science Centre
23 Symonds Street, Auckland,
New Zealand
T +64 9 923 8557
W auckland.ac.nz

The University of Auckland
Private Bag 92019
Auckland 1142 New Zealand

Participant Information Sheet

Date:	June, 2021
Title of Project:	A daily diary study of work-home interface among employees
Principal Investigator:	Senior Lecturer Dr Lixin Jiang School of Psychology, University of Auckland Science Centre, Building 301, Room 235B Phone: 09 923 9278 E-mail: l.jiang@auckland.ac.nz
Co-Investigator:	Lecturer Dr Zitong Sheng School of Psychology, University of Auckland Science Centre, Building 301, Room 211 E-mail: zshe257@uoa.auckland.ac.nz

Researcher Introduction
You are invited to participate in a research study being conducted by Senior Lecturer Lixin Jiang, Lecturer Zitong Sheng, and Master's Students of Organisational Psychology from the School of Psychology at the University of Auckland. The data collected in this study will be used for students' Masters' theses/dissertations as well as academic publications. The purpose of this sheet is to provide you with information about the study to help you decide if you would like to be a part of the study.

The Study Purpose
Adults employed full time in New Zealand work an average of 40 hours per week, which is a big part of our waking life. Our daily work experiences have a significant impact on our family/home life. This research study is to examine how daily work experiences may impact employee family/home life outside the workplace.

To be eligible, participants must be 18 years of age or older, work at least 30 hours per week between the hours of 7 a.m. and 7 p.m. Monday—Friday at a paid job, and work at the same organisation for more than 6 months.

Project Procedures
All questionnaires are web-based and hosted by Qualtrics. If you are interested in participating, please register your interest via the survey link where we ask you to provide us with your email address (any email address that you have access to; not necessarily your work email). We will then send you the *pre-diary questionnaire* via the email. In this pre-diary questionnaire, you will be asked to complete a variety of measures assessing a range of individual differences and general work experiences. You will also have the option to provide your cell phone number if you prefer to provide your daily diary responses via your phone. This pre-diary questionnaire will take around 15 minutes of your time.

Once you have completed the pre-diary questionnaire, you will then be asked to complete a *daily diary* three times a day over five working days (Monday — Friday). Specifically, we ask you to report on your work experiences around lunch time (around 11 a.m.) and before you get off work (around 4 p.m.), and on your family experiences before you go to bed (around 9 p.m.). Each diary entry should take about 5 minutes of your time to complete; together, three diaries (i.e., at 11 a.m., 4 p.m., and 9 p.m.) will take about 15 minutes of your time each day. The resulting data from both the pre-dairy questionnaire and the daily diary will be combined across the entire sample.

Benefits of Participation
Your participation in this study will contribute to our understanding of the work-home interface. Eventually, the knowledge gained will allow us to design better work life and improve employee work and home life.

Your participation will also help our Master's students to complete their degree as they will analyse the data collected in this study to write up their theses or dissertations.

Finally, to thank you for your time and effort as well as your contribution to the study, you will receive up to $60 (petrol or grocery gift vouchers) for completing the study in full. Specifically, participation in the pre-diary questionnaire will lead to a $10 voucher, while participation in three daily diaries each day will lead to a $10 voucher (for a total of $50 for Monday to Friday). Finally, you can choose either petrol or grocery gift vouchers. Upon request, a summary of the results will be shared with you via your email.

Confidentiality and Privacy
No one in your workplace will ever see your individual responses. All surveys will be handled by University of Auckland lecturers, Master's students, and research assistants. Your answers will be coded and kept at University of Auckland.

Please note that all of your responses are strictly confidential and private. We will not ask your name at any point. To link your questionnaire responses to your diary records, you will be asked to answer a set of questions as your personal ID code that only you will know. Your responses and diary data will be converted to anonymous numbers in a secure data file, and your identity will never be associated with your pre-diary questionnaire or diary responses at any time. Your responses will be stored on password-protected files in a University managed server. Only Dr Jiang, Dr Sheng, and Master's students of Organisational Psychology will have access to the aggregated data.

Data storage/future use
At the end of the 5-day data collection period, all data will be combined across the sample, preserving the anonymity of each participant's data. All data will be stored indefinitely for research purposes but will at no time be identifiable as yours. Finally, in addition to the Master's theses or dissertations by Master's students, the results of this study may also be published or presented at professional meetings, but the identities of all research participants will remain confidential.

Right to Withdraw from participation
Your participation in this research study is completely voluntary. Prior to beginning the questionnaires, you are invited to practice any tikanga Māori protocols that you deem to be appropriate. You may choose not to be a part of this study. There will be no penalty to you if you choose not to take part. You may choose not to answer specific questions or to stop participating at any time without giving reason. Please note that you will have till *1st Dec 2021* to withdraw any information provided to the researchers. If you wish to do so, please email Dr Jiang. You will be asked to enter your personal code so that we can identify your responses.

Potential risks
The potential risks from taking part in this research are discomfort resulting from answering questions that remind you of negative work experiences. This research is designed to minimize risks and discomfort, but if you experience any distress, you may feel free to *skip* any question that you don't feel comfortable answering, or you may *quit* your participation at any time with no repercussions in respects to your current or future employment.

THIS STUDY IS APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE ON 16/08/2021. Reference Number UAHPEC22761.

If you need further support, please use these links below.

- The Ministry of Health (Mental Health Services): https://www.health.govt.nz/your-health/conditions-and-treatments/mental-health
- Worksafe: https://worksafe.govt.nz/managing-health-and-safety/
- Māori health service: https://www.raukura.org.nz/?url=/
- Youthline (0800 376 633)
- The Depression Helpline (0800 111 757)
- Healthline (0800 611 116)
- Lifeline (0800 543 354)

Contact details
For any questions regarding this project, please contact Dr Jiang (l.jiang@auckland.ac.nz), Dr Sheng (zshe257@uoa.auckland.ac.nz), or the Head of the School of Psychology, Professor Suzanne Purdy, The University of Auckland, Private Bag 92019, Auckland. Phone 373 7599, extn 82073.

UAHPEC Chair contact details
For any queries regarding ethical concerns you may contact the Chair, The University of Auckland Human Participants Ethics Committee, Office of Research Strategy and Integrity, The University of Auckland, Private Bag 92019, Auckland 1142. Telephone 09 373-7599 ext. 83711. Email: humanethics@auckland.ac.nz

We thank you for your help and hope that you will find this study interesting.

THIS STUDY IS APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE ON 16/08/2021. Reference Number UAHPEC22761.