The Moderating Role of Existential Isolation in the Relationship between Secure Base Activation and Loneliness

Anne Hoogendoorn

S4342615

Department of Psychology, University of Groningen

PSB3E-BT15: Bachelor Thesis

Group number: 10

Supervisor: prof. dr. M. van Zomeren

Second evaluator: dr. N. Koudenburg

In collaboration with: Jannis Vollbrandt, Ema Oravcova, Luisa Wienkoop,

Michelle Douma, Mark den Boer

June, 25 2023

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Abstract

Loneliness has a major negative impact of human's health and is a universal experience for a part of the population. Therefore, it is important to explore effective ways to decrease feelings of loneliness. This thesis will offer one such way by implementing insights from attachment theory to explore whether secure base activation decreases feelings of loneliness. Moreover, the present study examines *existential isolation* as a possible individual difference that moderates this relationship. Existential isolation describes a worldview in which an individual feels separated from the world, which signals for a stronger need for a secure base. Testing these hypotheses, we conducted an experimental study with a secure vs. insecure base activation manipulation among UK participants (N = 401). We found support that a secure base activation buffered against loneliness and that this relationship was moderated by existential isolation, in such a way that only people with high feelings of existential isolation reduced loneliness after secure base activation. These findings, when replicated and strengthened, could be implemented in counselling psychology in which therapy could be more effective by focusing on secure base activation for those who need it most.

Keywords: Existential isolation, loneliness, secure base, attachment styles

The Moderating Role of Existential Isolation in the Relationship between Secure Base

Activation and Loneliness

Loneliness has major negative consequences for individuals' cognition, emotion, behaviour and health, both physical and mental. For example, longitudinal research has shown that loneliness predicts increased mortality and accelerate physiological ageing (Hawkley & Cacioppo, 2007; Shiovitz-Ezra & Ayalon, 2010). Moreover, higher feelings of loneliness predict increased morbidity, especially cardiovascular health seems to be at risk (Caspi et al., 2006). Furthermore, Cacioppo et al. (2015) found that loneliness has negative consequences for diminished immunity, obesity and elevated blood pressure. In terms of mental health loneliness increases depressive symptoms, perceived stress, (social) anxiety, substance abuse and lower optimism and self-esteem (Cacioppo et al., 2006, 2015). Moreover, Hawkley and Cacioppo (2010) found that loneliness heightens feelings of vulnerability, increases the vigilance for threat and raises the desire to reconnect. This influences psychological processes, functioning and sleep quality in a negative way. These serious consequences on broad domains mentioned above suggest that loneliness indeed has major negative consequences for the individual. Hence, reducing loneliness is considered an important goal.

The present study aims to help achieve this goal by (1) testing whether secure base activation (i.e., thinking of someone who was there for you in times of need) reduces loneliness and (2) exploring a possible moderating effect on this relationship through existential isolation (defined as the idea of separation of the individual and the world; Yalom, 1980). Given that previous research has found initial support for the first aim (Kroker et al., 2022), it is particularly important to move beyond previous work and also investigate *for whom* secure base activation is especially relevant. I[1] focus on existential isolation as an individual difference variable. People who experience high feelings of existential isolation

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[1] The first aim will be the hypothesis we will investigate as a group, whereas the second aim will be my individual hypothesis of the present study.

have an isolated worldview and therefore need deep and meaningful social connections in order to cope with this existential reality. Hence, it is particularly relevant to investigate if individuals with high feelings of existential isolation are in need for a stronger secure base, since those individuals are more vulnerable for threatening social situations because of their worldview.

Moreover, since loneliness predicts negative health consequences it is important to investigate possible psychological buffers against loneliness. One of such buffers could be secure base activation, which will be manipulated in the present experiment. We examined in this study whether reminding people of a secure base may be serving as a buffer against loneliness. Specifically, I explore whether those higher on existential isolation will be more sensitive to secure base activation such that they benefit most from it.

Loneliness

Humans are thoroughly social creatures that are embedded in social connections in all kinds of social relationships, networks and collectives. As a social species, human beings survive and flourish because of this strong need to belong (van Zomeren, 2016). Indeed, the reproductive success of the human species is due to social connections and behaviour which is evolved for humans to survive and reproduce (Cacioppo et al., 2007). Loneliness is therefore viewed as a functional signal of lack of connectedness to motivate people to (re)connect. Against this backdrop, it is interesting to observe that loneliness is a universal and painful experience (Van Staden & Coetzee, 2010), and for 15 – 30% of the general population a chronic state (Heinrich & Gullone, 2006; Theeke, 2009). Loneliness can be defined as a distressing feeling because of the perceptions that one's social needs are not met, either in the quantity or the quality of the relationships (Hawkley & Cacioppo, 2010). The latter explains why loneliness is different from objective social isolation, which does not necessarily mean that one's social needs are not met (i.e., one can be alone because one wants to).

Successful loneliness interventions have thus far been focussing on mainly four types of interventions: (1) enhancing social skills, (2) providing social support, (3) increasing opportunities for social interaction and (4) addressing maladaptive social cognition (Hawkley & Cacioppo, 2010). In this thesis, we examine the potential of secure base activation to psychologically buffer against loneliness, which can be considered as in line with interventions type 2 (providing social support). Specifically, we utilize insights from attachment theory (Mikulincer et al., 2001; Mikulincer & Shaver, 2003; Wei et al., 2005) about the psychological power of secure base activation to help understand how to reduce loneliness, so that in the future we can build secure-base interventions that reduce loneliness.

Attachment theory and the importance of a secure base

According to Bowlby (1984) the attachment system is an innate regulatory system that in part explains why humans have a need to belong and can be viewed as social animals. The attachment system is related to the primal form of emotional bonding between humans (Nisa et al., 2021) and thus has strong implications for whether and how they engage in social relationships, and whether these are experienced as high- or low-quality.

Important for the present purposes, the attachment system guards against situational threats (Mikulincer & Shaver, 2003). Whenever threats or dangers are perceived, the system becomes activated and strives towards safeguarding, which includes that the threatened individual starts searching for proximity by protecting and caring for others. This explains why the functioning of the attachment system is most relevant during stressful periods and traumatic experiences. As a result, the threatened individual benefits from positive representations of relationships including the involved partners and feelings such as relief and security. Moreover, they gain a positive influence on coping with and adjustment of the threatening situation. Healthy functioning of this system is very important for the maintenance of emotional stability and mental health (Bowlby, 2005). Research has shown that the system

remains active and stable during the lifespan and has influence on the thoughts and behaviours regarding the proximity to others especially in time of need (Fraley, 2002). In this sense, the system revolves around a secure base which offers protection but also scope for exploring the social world and thus is likely to increase social interaction and reduce loneliness.

The importance of having an internalized secure base is also indicated by the notion of attachment security (as an attachment style; Mikulincer et al., 2001). If one is securely attached, this means that one feels less threatened in most situations and can find protection and comfort by others when in times of need. This is because securely attached individuals have internalized a secure base, based on their positive experiences with security and safety in the past (Mikulincer & Shaver, 2003). On the other hand, people with an insecure attachment style do not have this so-called secure base to go to. They are dealing with experiences and feelings of being rejected or ignored in those crucial times of distress. This results in a tendency to be reluctant towards creating close relationships (known as attachment avoidance), or a tendency towards fearfulness of social rejection (known as attachment anxiety; Fraley et al., 2011) or both.

This is important because there is consistent evidence that a more secure attachment in adults is associated with positive outcomes, such as better mental health, higher feelings of trust, more satisfied with relationships and more caring behaviours (Mikulincer & Shaver, 2003; Shaver et al., 2019). Whereas a secure attachment has positive outcomes, less secure attachment has all kinds of negative outcomes. Literature shows, for example, that attachment anxiety and avoidance are positively related with different psychological distresses. One of such distresses is increased feelings of loneliness (Hecht & Baum, 1984; Wei et al., 2005). Attachment theory's insights can therefore be utilized to explain the development of feelings of loneliness in terms of the absence of a secure base. Therefore, it would be interesting to

investigate if reminding people of a secure base in times of need could reduce loneliness. Such secure base activation is the focus of the present study.

In other words, the attachment theory offers the notion of a secure base, which insecurely attached individuals lack and hence feel lonelier. This suggests that activating a secure base may buffer against loneliness. In fact, two recent studies (Kroker et al., 2022) found support for such a buffering effect, and for the idea that secure base activation is most beneficial for those who do not have a secure base (i.e., insecurely attached individuals). This suggests that there are individual differences between the effectiveness of the manipulation. In the current study we investigate if feelings of existential isolation could be such a difference in the way that people with more existential isolation are in more need of a secure base and hence will find a stronger buffer against loneliness in secure base activation.

Existential isolation as a potential moderator

Existential isolation refers to the "inherent unbridgeable gap between any two beings and the impossibility of knowing with certainty how anyone else experiences the world" (Helm et al., 2022 p. 95). When an individual is feeling existentially isolated, they feel lonely in their experience and feel that no one else is able to share the same experience or is able to understand how they are feeling (Pinel et al., 2017). Even though the most widely investigated form of isolation is loneliness, there is a classification of different forms of isolation, namely intrapersonal, interpersonal and existential (Yalom, 1980). Within the classification, existential isolation is considered the most fundamental form of isolation, namely "a separation between the individual and the world" (Yalom, 1980, p. 355).

The existential perspective argues that there is no inherent purpose to life, therefore humans build social constructions to give meaning to life and offer social validation of their abstract representations of the world (Helm et al., 2022). Since human beings as a social species constantly rely upon these symbolic representations of the world, the awareness of

this separation and isolation is problematic (Becker, 1971). This awareness therefore is a threat for the protective nature of social constructed beliefs, social validation for meaning and psychological security (Pinel et al., 2004). Previous research suggest that high feelings of existential isolation have a negative impact on mental health; it leads to feelings of uncertainty and vulnerability, a weakened anxiety buffer, more death thoughts and lower self-esteem and it correlates positively with depression (Constantino et al., 2019; Echtergoff et al., 2009; Helm et al., 2019;).

Moreover, research has shown relationships between insecure attachments styles and existential isolation. Helm et al. (2020) found that existential isolation positively predicts both attachment avoidance and attachment anxiety, whereas a secure attachment style is consistently reported with low existential isolation. In particular, existential isolation was found to be more related to avoidant than to anxious attachment. Interestingly, these relationships remained consistent when controlling for another form of interpersonal isolation in terms of loneliness. Together, these findings suggest that secure attachment and by extrapolation an internalized secure base may provide a psychological buffer that enables people to cope with the shared existential reality of isolation in order to make deep and meaningful social connections. In other words, individuals with high feelings of existential isolation are more vulnerable for threatening social situations because of their worldview, signalling for a stronger need for a secure base.

The present study and hypotheses

The current research seeks to replicate previous studies (Kroker et al., 2022) that found that secure base activation decreases loneliness, and particularly for those in need of a secure base. The present study moves beyond previous work by examining a possible moderating effect of existential isolation on the buffering effect of the secure base manipulation on loneliness. By investigating this potential moderation effect, we can take a closer look at for

whom a secure base buffers best against loneliness. Figure 1 shows the conceptual model of the present study. I predict the following:

Hypothesis 1: People in the secure base activation condition will report less loneliness than those in the insecure base activation condition (i.e., the secure base serves as a healthy buffer against loneliness).

Hypothesis 2: This effect is moderated by existential isolation in the way that the effect is stronger for people with higher feelings of existential isolation. People who score higher on existential isolation will be more sensitive to the secure base activation condition. This is because they are in more need for a secure base, since those individuals are more vulnerable for threatening social situations because of their worldview (i.e., the separation of the individual and the world).

Figure 1

Conceptual Model of the Research Design

Method
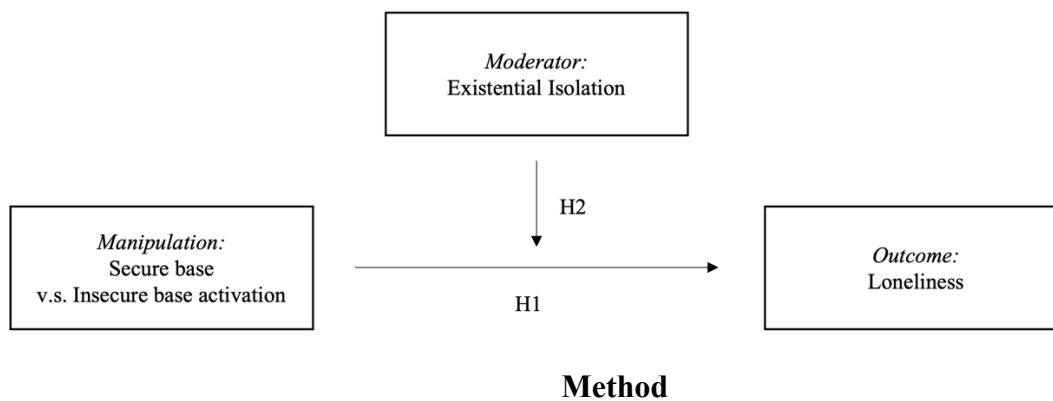
Participants, Design and Sample Size

Using the crowdsourcing data collection service Prolific Academic, 401 individuals from the UK between the ages of 18-60 took part in the experiment (M age = 25.414, SD = 3.398). The design of the study was experimental, which means that we randomly allocated participants to one of the two experimental conditions (secure vs insecure base activation). The questionnaire was available in English, so participants had to be able to understand English fluently in order to take part. Participation was voluntary, preceded by informed

consent ensuring anonymity and safety of the participants, and compensated with 1.5£ that was received by the participants through Prolific Academic.

The previous studies (Kroker et al., 2022) that investigated the effect of insecure base activation on loneliness used sample sizes of 289 and 295. To maintain statistical power when adding a possible moderator variable, the targeted sample size was set for 400, a decision that also included budget considerations. From to Prolific we initially received 420 participants in total. After data collection, we excluded participants who did not give consent, who used an invalid Prolific code and who did not complete all questions. After these exclusion criteria we ended with a total number of participants of 401, which was in line with our target number. We incorporated attention checks in order to ensure data quality.

Procedure

Following Kroker et al. (2022), in this study participants filled out a 20-minute online survey. Prior to the start, informed consent was acquired. The questionnaire first asked about basic demographics and then possible moderators were measured. After this, participants were randomly assigned into either the secure base activation condition or to the insecure base activation condition. Lastly, participants had to answer loneliness and wellbeing scales. In line with Kroker et al. (2022), we included wellbeing as a secondary outcome measure. At the end of the survey, a debriefing was presented, offering help to cope with loneliness.

Manipulation and Measures

Existential Isolation

To measure existential isolation (EI), the 6-item Existential Isolation Scale was used (Pinel et al., 2017). For each item participants had to indicate their agreement with the statement from point 1 (strongly disagree) to point 7 (strongly agree). Examples of the statements are "People do not often share my perspective" and "People around me tend to react to things in our environment the same way I do." The latter is an example of a reverse

coded item. The scale shows good internal reliability ($\alpha = 0.831$). Exploratory factor analysis (principal components analysis with oblique rotation) indicated a one-factor structure indicating a good construct validity, therefore no items were excluded from the scale for our analyses.

Other moderators (not used for this thesis)

Moreover, other measurements were included in this part of the survey. However, those scales are not relevant for the present thesis. These measurements used can be found in Appendix A.

Manipulation

After measuring the potential moderators, participants were randomly assigned to one of the two experimental conditions. The first condition represents the activation of a secure base. Participants were asked to think back about someone who was there for them during a recent emotionally difficult period in their lives. In the second condition, the insecure base was activated by asking the participant to think back about a person who was *not* there for then during a recent emotionally difficult period in their lives. Afterwards, a manipulation check was included in which the participants were ask to what extent the person they had in mind was there for them in this time on a Likert scale (1 = never, 5 = always). The text of the manipulation conditions can be found in Appendix B.

Loneliness Scale

To measure our main dependent variable, loneliness, the UCLA loneliness scale by Russel and colleagues (1980) was used to measure participants' level of subjective loneliness. The participants were asked to answer to what extent they might agree or disagree with the statements at that specific moment of filling in the survey (i.e., after the manipulation instructions). The scale includes 20 items, such as "I am unhappy doing so many things alone" or "I feel as if nobody really understands me". Different to the original scale, our study uses a

5-point Likert scale, on which participants were asked to indicate to what degree they agree or disagree with the 20 statements. Internal consistency was evaluated by Cronbach's alpha, which showed a high internal consistency ($\alpha = .961$).

However, exploratory factor analyses (principal components analysis with oblique rotation) indicated a two-factor structure. Further analyses showed that items 3,6,10,14 and 17 belong to factor 2, leaving the other items to factor 1. An overview of the items belonging to each factor is presented in Appendix C. The first factor reflects items such as 'I am unhappy doing so many things alone', whereas the second factor is reflected by items as 'I feel left out'. When analysing the items, no consistent pattern for a theoretical differentiation between the factors appeared. Therefore, I do not assign different kind of loneliness to the two factors in terms of distinct subscales of loneliness. Nevertheless, I will conduct all analyses with three parts of the loneliness scale (i.e., the whole loneliness scale, factor one of the loneliness scale and factor two of the loneliness scale) in order to investigate if there appears a possible distinction in terms of the outcomes.

Well-being

To measure our secondary dependent variable, well-being, we used all 5 items of Satisfaction with life scale by Diener and colleagues (1985). The items include statements such as "The conditions of my life are excellent". We used the original scale system with seven points, ranging from 1 (strongly disagree) to 7(strongly agree). Factor analysis indicated a single factor and reliability analysis showed a Cronbach's alpha of .911. Therefore, no items were deleted from the scale for the analyses.

General Statistical Procedure

For the statistical analysis, SPSS was used. First of all, the data was checked on its quality and whether some data should be excluded according to the exclusion criteria as mentioned before. Secondly, we conducted factor analyses and reliability tests in order to

ensure internal reliability and construct validity and make sure we have valid data and measures to interpret. Descriptive statics is conducted to show the means, standard deviation and correlations between the measured variables. Thirdly, we investigated the effect of the manipulation on the manipulation check in order to make sure the manipulation worked as intended. For hypothesis testing, independent sample t-test will be used to find out if the means from both conditions are significantly different from each other. Furthermore, for testing the first hypothesis we used an independent samples t-test for the manipulation and the loneliness variable as an outcome variable. The effect of the moderating variable is tested through a regression model with the PROCESS macro.

Results

Descriptive statistics

Table 1 gives an overview of the sample description for each measured scale and the correlations between those scales. As can be seen, the mean of loneliness was in between the middle of the scale. The mean of existential isolation was also approximately in the middle of the scale.

Table 1

Descriptive statistics

	Existential isolation	Loneliness	Wellbeing	Loneliness Factor 1	Loneliness Factor 2
Existential isolation $M= 3.36, SD= 0.99$	1	$.491^{**}$	$-.357^{**}$	$.517^{**}$	$.346^{**}$
Loneliness $M= 2.30, SD=0.88$		1	$-.542^{**}$	$.987^{**}$	$.892^{**}$
Wellbeing $M= 4.21, SD= 1,41$			1	$-.547^{**}$	$-.451^{**}$
Loneliness factor 1 $M= 2.27, SD= 0.89$				1	$.806^{**}$
Loneliness factor 2 $M= 2.36, SD=0.97$					1

**. Correlation is significant at the 0.01 level (2-tailed).

Manipulation check

To make sure that the manipulation worked as intended we implemented a manipulation check in the survey. The manipulation divided our sample in two groups, the first group represents the secure base condition (N = 199), and the second group represents the insecure base condition (N = 202). An independent samples t-test showed a significant effect of the manipulation factor on the manipulation check (p = <.001, t = 13.058, df = 399). As expected, in the first condition the mean of the manipulation check was higher (M = 4.523, SD = .797) than in the second condition (M = 3.158, SD = 1.244), indicating that the manipulation worked: the participants in the first condition had an active activation of thinking about someone who was often or always there for them during a difficult period, whereas participants in the second condition had an active activation of thinking about someone who was rarely or not there for them during a difficult period. Thus, the manipulation worked as intended.

Hypotheses testing

Hypothesis 1

For testing our first hypothesis we conducted an independent samples t-test. As expected, we found a significant main effect for the manipulation on loneliness (p = .030, t = -2.173, df = 399). In the secure base activation condition the mean of loneliness was lower (M = 2.202, SD = .844) than in the insecure base activation condition (M = 2.391, SD = .897). This supports the first hypothesis that people in the secure base condition report less loneliness than people in the insecure base condition. Moreover, I conducted independent t-tests for both factors of the scale as well. Only for factor one of the loneliness scale a significant effect remained (p = .012, t = -2.522, df = 399). By contrast, we found no effect for factor two of the loneliness scale (p = .367, t = -.904, df = 399). For both factors the means of loneliness were lower in the secure base activation condition compared to the insecure base

activation condition. In other words, a main effect of the manipulation was only reported for the loneliness scale as a whole and factor one of the loneliness scale.

Hypothesis 2

To test the second hypothesis, I conducted a moderated multiple regression analysis via PROCESS. For the loneliness scale, PROCESS showed a significant interaction effect (b = .159, s.e.= .078, p = .040). The interaction pattern is plotted in Figure 2.

Figure 2

Loneliness as a Function of Manipulation condition
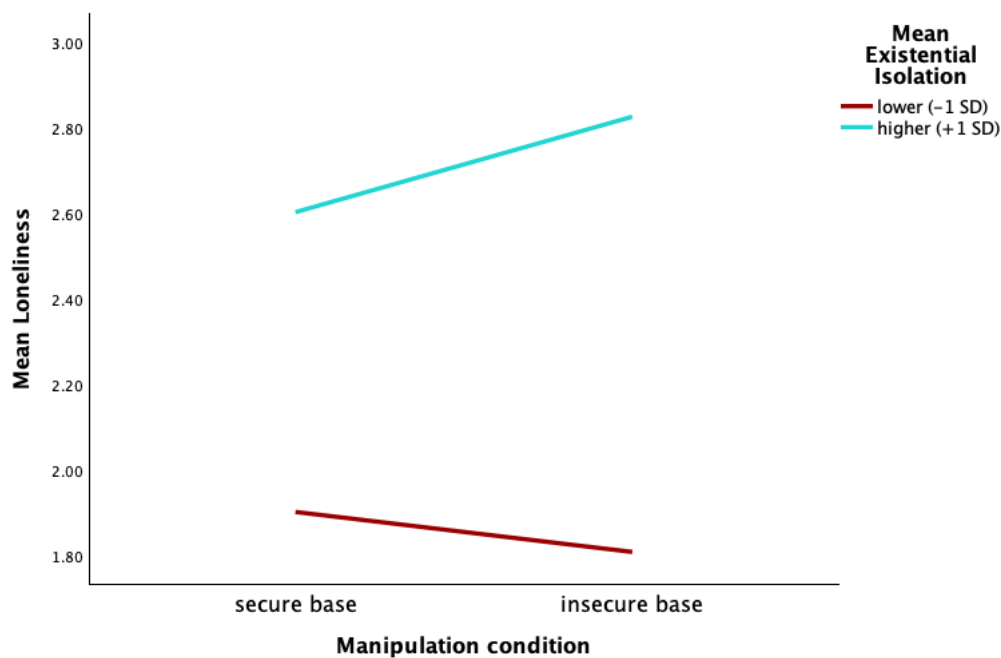
When taking the loneliness factors into account, we found a statistically significant interaction term for the first factor (b = .170, s.e.= .077, p = .029). On the contrast, no significant interaction effect was found on the main relationship for the second factor of loneliness (b = .128, s.e.= .093, p = .167). These results indicate that EI is a significant moderator on the main relationship between the manipulation and the first factor of loneliness. To better understand the nature of this moderating effect, I explored the effect at higher vs lower levels of EI (i.e., -1SD and +1SD from the mean of the scale). For these conditional effects, I found that secure base activation decreased loneliness (factor 1) for

those who scored higher on EI (b = .260, s.e. = .108, *p* = .017). By contrast, there was no such

effect for those who scored lower on EI (b = -.079, s.e. = .109, *p* = .471). This indicates that

people with higher feelings of EI are more sensitive for the secure base activation

manipulation, which supports the second hypothesis. A visualisation of the conceptual model

including the relevant *p*-values is presented in Figure 4.

Figure 4
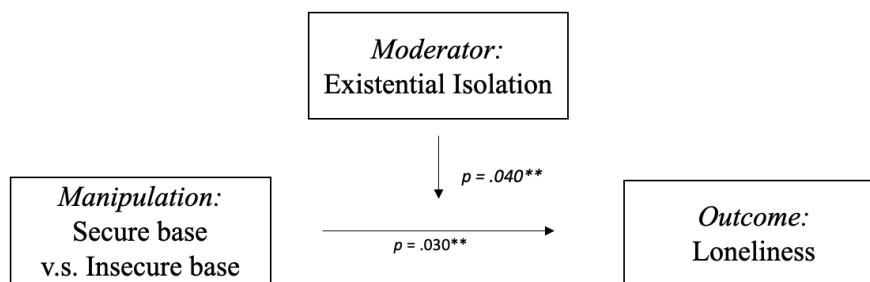
Note. ** is significant at the .050 level. The moderation *p*-value represents the analysis with

the complete loneliness scale.

Exploration of Wellbeing

Since loneliness tend to emphasize a more negative stigma, we included wellbeing in

order to explore more information of the moderation effect without the explicit focus on

loneliness. We explored whether there was an interaction effect of existential isolation on the

relationship between the manipulation and the wellbeing. First, an independent t-test revealed

no significant effect of the manipulation on wellbeing (t = 1.496, df = 399, *p* = .135). Second,

we explored the moderation by existential isolation. The PROCESS analysis showed a

marginally significant moderation effect on the relationship between the manipulation and

wellbeing (*p* = .008). Further exploration revealed a significant effect (b = -.415, s.e. = .186,

p = .026) only for those who score higher on EI (for those lower on EI, this effect was absent:

b = .289, s.e. = .188, *p* = .124). In line with the findings for loneliness, secure base activation

increased wellbeing for those higher on EI, but not for those lower on EI. This interaction is

plotted in Figure 3.

Figure 3

Wellbeing as a Function of Manipulation condition
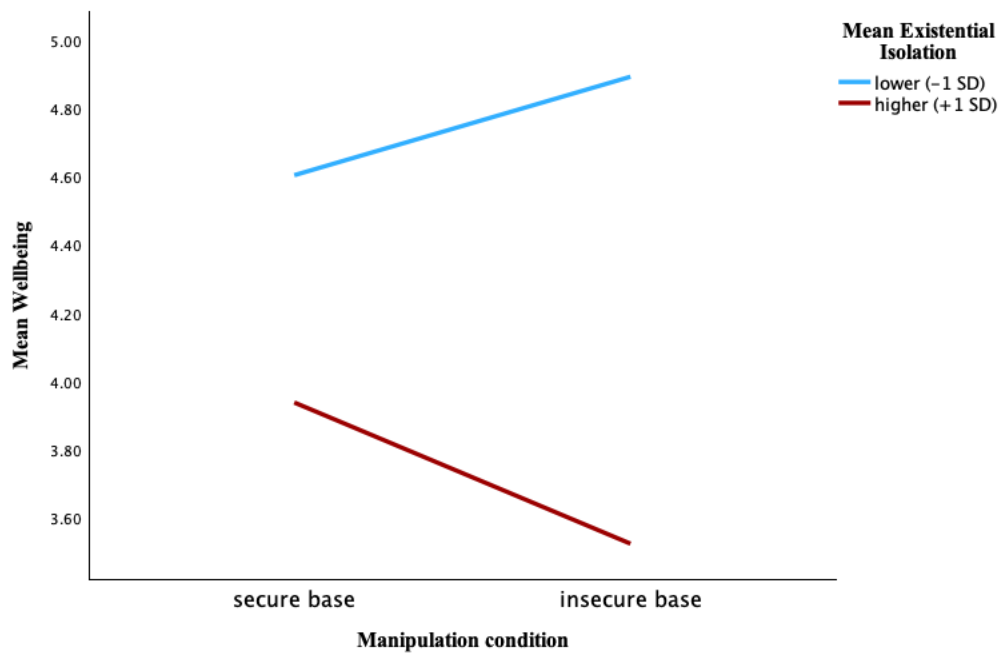
Discussion

In the present study (N = 401), we investigated whether secure base activation reduces loneliness (hypothesis 1) and whether existential isolation is a moderator in this relationship (hypothesis 2). The aim was thus to explore *for whom* a secure base is especially relevant. On a broader scale, the present study aims at exploring possible bases for effective interventions for reducing loneliness, since loneliness is associated with major negative consequences on physical and mental health (Cacioppo et al., 2006, 2015; Shiovitz-Ezra & Ayalon, 2010). We have used insight from attachment theory about the psychological power of secure base activation (Mikulincer et al., 2001; Mikulincer & Shaver, 2003; Wei et al., 2005) by experimentally manipulating the activation of either a secure or insecure base. We were able to replicate support for the first hypothesis that secure base activation decreases loneliness, as we found a significant main effect for the manipulation on loneliness. This is in line with our expectations (hypothesis 1) and with previous findings that a secure base can have a buffering effect against loneliness (Kroker et al., 2022). Nevertheless, we find that this significant effect

particularly occurs for the first factor of the loneliness scale (and not for the second factor).

Even though I did not assign distinct subscales of loneliness to the factors, these results show

that the secure base has a significant buffering effect on one particular part of loneliness and

not on another part of loneliness. This indicates that, despite that we could not find an obvious

distinction between the factors, there is in the end some difference between the factors. One

theoretical speculation would be that the first factor tends more towards emotional loneliness

(i.e., defined as the absence of subjectively experienced intimate relations; Weiss & Bowlby,

1973), whereas the second factor tends more towards social loneliness (i.e., defined as the

absence of a social network of substantial subjective quantity and quality; Weis & Bowlby,

1973). However, since we do not know this future research should investigate this.

Moreover, for the second hypothesis I found that existential isolation is indeed a

significant moderator on the main effect of the manipulation on loneliness (and also on the

relationship between the manipulation and wellbeing). These buffering effects of secure base

activation were only found for people with higher scores on EI, confirming my second

hypothesis. This means that those who scored higher on EI reported lower loneliness in the

secure base condition compared to those in the insecure base condition. In other words, they

were more responsive to the secure base manipulation. This indicates that those people are in

more need for a secure base. The reasoning behind this is that a secure base provides them a

psychological buffer in order to cope with the awareness of the separation and isolation (i.e.,

their existential isolated world; Helm et al., 2022; Pinel et al., 2004) and because they are

more vulnerable for threatening social situations (Helm et al., 2020). The secure base

activation fulfils this need and hence they feel less lonely. Therefore, focusing on a secure

base will be especially beneficial for reducing loneliness for people with high feelings of EI.

Theoretical and Practical Implications

This study offers an exploration of theoretically grounded and evidence-based interventions for reducing loneliness. On a theoretical level, the present results confirm previous loneliness and secure base research (Kroker et al., 2022). This implies that in terms research and interventions focusing on reducing loneliness should make more use of the attachment theory and in particular the concept of secure base activation because of its buffering effect. By taking the notion of a secure base into account, interventions could be more effective.

Second, this study identified an important individual difference that makes people more sensitive to (in)secure base activation in the context of developing or buffering against feelings of loneliness. This individual characteristic is feelings of existential isolation which, in case of higher EI feelings, moderates the effect of secure base on loneliness. This moderating effect stresses the importance of taking existential isolation into account since it offers a valuable insight for whom in particular a secure base activation is a buffer against loneliness. This research therefore moves beyond previous work by offering a new theoretical insight in terms of the significant moderating effect of EI in the relation to secure base activation and loneliness. This implies that in the future the role of EI should be a more central in loneliness research, in such a way that literature will expand the insights for whom (i.e., what individual characteristics are related with EI) and how (i.e., with buffering mechanisms or other effective mechanisms) loneliness can reduced.

On a more practical level, implications can be seen in terms of interventions for reducing loneliness in counselling psychology to make therapy more effective, for example by focussing on adapting to individual needs (i.e., for a secure base). Specifically for those with high feelings of EI, more focus can be on these feelings since it influences the feelings of loneliness. In terms of intervention type 2 as discussed at the start of this thesis (Hawkley &

Cacioppo, 2010), the focus could be more on providing social support in order to build on a healthy secure base that can serve as a buffer for loneliness feelings. This could be through activation in terms of thinking actively about those significant others in time of need (like we did in our manipulation; see also Kroker et al., 2022), since actively thinking about them already can reduce loneliness as found in the present study. Another option would be to provide support in therapy by building on more social support in terms of enhancing social network or by relying more on the secure base (e.g., becoming better at asking for support or help by significant others in times of loneliness or need). Moreover, further exploration could consider intervention type 4 also as an effective target point for reducing feelings of loneliness in such a way that it focuses on the EI thoughts. For instance, by addressing maladaptive beliefs concerning an existential isolated worldview in schema therapy or cognitive behaviour therapy (CBT).

Limitations and Directions for Future Research

This study has several limitations. First, our study findings do not necessarily generalize to UK people in general or adults in general. Even though we included UK adults from 18 till 60 years old in our survey, the average age of our sample was 25.414 years, and the eldest participant was 38. These descriptives indicate that our sample represents only young adults (i.e., no older than 38). Since a secure base may differ in younger and older samples (i.e., older people may have more mature relationships and therefore a more solid secure base, whereas young adults deal with times of transition and uncertain periods) our sample represents a specific population with specific challenges. Nevertheless, previous studies by Kroker et al. (2022) used a UK sample including elderly people, and an international student sample from the Netherlands, with each study finding some support for buffering effects of secure base activation. Future research can further investigate whether our findings hold outside of the UK and in older samples.

Second, one can doubt if the manipulation represents a strong enough activation of the secure (or insecure) base. Even though, the manipulation worked as intended and the hypotheses were supported, we do not know whether participants put clear effort in actively thinking about an emotionally difficult period in their lives. We asked the participants to briefly describe who they were thinking about, and how this made them feel. However, some participants merely wrote down the person's name or just 'partner' or 'dad', which may not offer the strongest test of our hypotheses. Therefore, this check could be more comprehensive for future studies (e.g., by asking the participants to write down *at least* 2 sentences). Future research can also focus on making the manipulation stronger (e.g., finding more psychologically impactful ways to focus on emotionally difficult times). Moreover, the present manipulation did not specify a particular significant other, resulting in sample representing findings from people thinking about potentially very different attachment figures. However, security of relationships can vary depending on the figure (Fraley et al., 2000). Therefore, future research should address how different relationships (i.e., partners, friends, parents, family) may relate to EI, loneliness and secure base activation. For instance, through a manipulation of a thought experiment including a concrete fiction and emotional distressing situation with a concrete significant other (e.g., asking the participants to think about how they would feel if a close friend would pass away tomorrow).

Tirth, the different factors of the loneliness scale (based on factor analysis) showed statistically different effects of the manipulation, but it was conceptually difficult to say what exactly is the difference between these factors. Further investigation should examine what part of loneliness each factor represents in the context of secure base activation. This enables us to formulate more properly our conclusions regarding which part of loneliness is affected by secure base activation, and particularly for those high on EI.

Lastly, our study does not enable us to make causal interferences about the specific causal direction(s) of the effects of (in)secure base activation. Future research can include a control condition while using a larger sample size to be able to differentiate whether effects are driven by secure or insecure base activation or both. Furthermore, it could focus more on exploring theoretical and practical implications of reducing feelings of existential isolation to reduce loneliness. It is interesting to know how feelings of existential isolation develop and how these feelings can be reduced in order to decrease loneliness. For example, future research could investigate how existential isolation relates to social cognition (the concept that describes how people develop an understanding with and process information of others in order to have interactions and relationships; De Jaegher et al., 2010) to obtain a deeper understanding of the underlying mechanisms that can develop EI thoughts and feelings.

Conclusion

This thesis research integrated insights from the effect of secure base activation on loneliness with insights into the moderating role of existential isolation on this relationship. Our findings indicate that secure base activation reduces loneliness, and that existential isolation has a significant moderating effect such that this effect only occurs for those who have higher feelings of EI. Hence, for people with higher feelings of EI, secure base (vs insecure base) activation decreases loneliness. These findings move beyond previous research by showing that a secure base is not only a buffer for loneliness in general (hypothesis 1), but specifically for those higher on EI this buffering effect is especially important (hypothesis 2). This is because this psychological buffer enables those individuals to cope with their worldview in terms of their existential reality of isolation (i.e., a separation between them and the world) by making deep and meaning social relationships. In other words, those individuals in particular are in more need for a secure base, since they are more vulnerable for threatening

social situations because of their higher EI feelings. I hope that these insights can be used for

interventions for reducing loneliness.

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Appendix A

Measurements other moderators (not used in the present study)

The prosocialness scale for adults (Capraras et al., 2005) was used in shortened form. The brief COPE, subscale of avoidant coping (Carver, 1997) was used to measure of avoidant coping. The Big Five Inventory (BFI; Goldberg, 1993) was used to measure the five dimensions of personality, based on the five-trait taxonomy. A shortened version of the Experiences in Close Relationships Scale by Brennan et al. (1998) was used to measure attachment style of participants. Five out of the six items of the general trust scale were used (Yamagishi & Yamagishi, 1994) to measure interpersonal trust.

Appendix B

Full text of the manipulation conditions

Condition 1: the secure base activation condition

An emotionally difficult period in someone's life is a time of going through adversity and dealing with emotional struggles. It makes people feel vulnerable and strained and impacts daily life. An example would be the social isolation during Covid-19. Take a minute to think back to a recent emotionally difficult period in your life, in which you felt this way. Please think about a specific relationship or multiple relationships (e.g., family, friends, best friend, partner) that was important to you and also there for you in this difficult time. Think about how you were able to maintain this relationship despite the challenges in this period. How did you feel, knowing that this person was someone you could rely on and that would stand by you? Then, please describe briefly below who it was you were thinking about, and how this made you feel.

Condition 2: the insecure base activation condition

An emotionally difficult period in someone's life is a time of going through adversity and dealing with emotional struggles. It makes people feel vulnerable and strained and impacts daily life. An example would be the social isolation during Covid-19. Take a minute to think back to a recent emotionally difficult period in your life, in which you felt this way. Please think about a specific relationship or multiple relationships (e.g., family, friends, best friend, partner) that was important to you but was NOT there for you in this difficult time. Think about how you were able to maintain this relationship despite the challenges in this period. How did you feel, knowing that this person was someone you could rely on and that would stand by you? Then, please describe briefly below who it was you were thinking about, and how this made you feel.

Appendix C

Items related to each factor of loneliness scale

1. I am unhappy doing so many things alone

2. I have nobody to talk to

3. I cannot tolerate being so alone*

4. I lack companionship

5. I feel as if nobody really understands me

6. I find myself waiting for people to call or write*

7. There is no one I can turn to

8. I am no longer close to anyone

9. My interests and ideas are not shared by those around me

10. I feel left out*

11. I feel completely alone

12. I am unable to reach out and communicate with those around me

13. My social relationships are superficial

14. I feel starved for company*

15. No one really knows me well

16. I feel isolated from others

17. I am unhappy being so withdrawn*

18. It is difficult for me to make friends

19. I feel shut out and excluded by others

20. People are around me but not with me

Note. *Indicating items belonging to factor 2.