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| **STAFFORDSHIRE UNIVERSITY – (E-coversheet)****Please complete all grey shaded boxes and insert your assignment text on page 3.** Please ensure you record your student number as failure to do so will result in the loss of your anonymity. **If you have a Learning Support Agreement, please also check whether you need to fill in****any of the Blue/Yellow shaded boxes.** By attaching this cover sheet you declare that:*I have read the University’s Academic Misconduct Regulations (including plagiarism) and the work I am submitting does NOT breach those regulations.* |
| **Student Number:** 22016929 | **Word Count (7000 words – Quantitative, 8000 words Qualitative & Mixed)**:6557 |
| **Assignment Title:** How does frequency of touch influence wellbeing in different age groups? |
| **Disability Allowance:** Please only tick if appropriate. *Written expression allowance*: If you have been formally assessed as having circumstances which affect your written expression (such as dyslexia or hearing impairment), tick the Written Expression Allowance box. Your learning support agreement will be checked and sympathetic allowance will be made for spelling and written expression when marking. *Negotiated deadline*: For students who have a support statement that recommends negotiated deadlines you should negotiate with these with the MODULE LEADER via email, in advance of the original submission date. You will need to include a copy of the extension confirmation email at the end of your work.  | Written expression allowance [ ]  |
|  | Negotiated Deadline: | **[ ]**  |
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| **REFLECTION ON FEEDBACK**We want to help you to produce good assignments and to develop a wide range of skills while you are at University. To help us, to help you, please provide some answers to the following questions before submitting your assessment. This will help you reflect on feedback already received, develop your skills, and help us to provide you with relevant and personalised feedback.This is an optional opportunity. We will still mark your work if you do not use this opportunity to help us give you more personalised feedback. |
| **1a. From your feedback on previous assessments what have you focused *most* on improving for this assessment?** Feedback suggested that my discussion section was brief and did not compare against previous research. |
| **1b. What actions have you taken in making this improvement?** I have ensured that I have developed my discussion section and compared against previous research. |
| **2. What did you find most challenging when preparing this assessment?** The most challenging part of this assessment was finding relevant research to use in my introduction as there wasn’t a lot of research looking at frequency of touch and wellbeing. |
| **3. What would you particularly like the marker to comment / give feedback on?** What could I have added to make my discussion section longer? |

**April, 2025**

**22016929**

Supervisor: S. D.

**BSc Psychology, Staffordshire University
Psychology Project Report**

**How does frequency of touch influence wellbeing in different age groups?**

* I confirm that I have provided my supervisor with evidence of data collection (please tick): Yes
* I can confirm that I have provided my supervisor with access to consent forms (please tick): Yes
* I understand that it is my responsibility to ensure the statements above are correct. I also understand that if any of the information referred to above is missing, my project may not be given a pass mark.

Student’s signature: Jade Pearce

**How does frequency of touch influence wellbeing in different age groups?**

**Abstract**

Touch is vital for physical and psychological wellbeing (Noone & McKenna-Plumley, 2022). Wellbeing has been defined as the experience of personally valued fulfilment within one’s life (Disabato et al., 2025). Literature has reported the beneficial effects of physical touch on wellbeing, but there is limited research exploring age in relation to frequency of touch (von Mohr et al., 2021).

The aim of this study was to investigate frequency of touch on wellbeing in different age groups. A between-subjects 2-way ANOVA was conducted on 133 participants aged between 18-71 (mean = 31.65, *SD* = 13.86). The independent variables were age with 2 conditions (18-34; 35-60+) and touch deprivation score with 2 conditions (not touch deprived and touch deprived). Frequency of touch was measured using the Longing for Interpersonal Touch Questionnaire (LITQ; Bebler et al., 2020). Wellbeing scores were calculated using the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS; Tennant et al., 2007).

The results demonstrated that there was a non-significant main effect of age on well-being, *F*(1, 129) = 1.085, *p* = .300, *ƞ²* = .008. There was also a non-significant main effect of touch deprivation score on well-being, *F*(1,129) = .221, *p* = .639, *ƞ²* = .002. Moreover, there was a non-significant interaction between age and touch deprivation score on well-being, *F*(1, 129) = .041, *p* = .840, *ƞ²* = .0003. In sum, age and frequency of touch did not influence wellbeing. It is recommended that future research explores emerging research into neurophysiology associated with touch and how this influences wellbeing by looking at the neurophysiological processes between the variables (Peled-Avron & Woolley, 2022).

**Introduction**

From infancy to old age, physical touch is a form of human behaviour that has a vital role in physical and psychological wellbeing (Noone & McKenna-Plumley, 2022). The verb ‘to touch’ is the action of a body coming onto contact with someone or something else (Mertens, 2025). Other definitions have defined touch in a similar manner, such as contact with and to a body surface (Saluja et al., 2024). Physical touch interactions are important in an individual’s everyday lives, and this can range from a hug to a handshake (Stevens et al., 2024). They have an influence on emotional wellbeing (Bruno et al., 2023; Sahi et al., 2021) and have multiple intentions such as friendly, affectionate and therapeutic, as well as having stress-reducing effects (Field, 2019). Based on a conceptual definition, wellbeing has been defined as the experience of personally valued fulfilment within one’s life (Disabato et al., 2025). To measure the psychological and mental well-being of individuals in this study, the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) was utilised (Tennant et al., 2007). Different age groups experience different frequencies of touch based on their touch needs (Nuszbaum et al., 2014), and this is why it is important to explore its influence on wellbeing across the lifespan. The focus on this research is to explore the links between age, touch deprivation and wellbeing as this is an area with limited research (Cruciani et al., 2021).

From a bottom-up perspective, touch is categorised into 2 types: affiliative and discriminative. Affiliative touch is characterised by gentle and stroking movements, and this plays a role in emotional wellbeing (La Rosa et al., 2024; McGlone et al., 2014). Despite affiliative touch being important in everyday life, there is a lack of research on the influence of this type of touch on emotional wellbeing (Wingenbach et al., 2021). On the other hand, discriminative touch is the ability to identify stimulus on the skin (Crucianelli & Filippetti, 2020). The skin is the largest organ of the body and contains nerves that transport signals to the brain (Kidd et al., 2021). Receiving touch can engage thick myelinated fast-conducting Aβ afferents and thin myelinated slow-conducting afferents C-tactile (CT) fibres (Li et al., 2022). They respond to gentle touch at speeds of 1-10cm/s (Loken et al., 2009), and process information consistent with physical touch in the insular cortex of the brain, which allocates emotional value to touch experiences that are important for wellbeing (Butti et al., 2024; Schirmer et al., 2023). These fibres also activate pathways in the brain liked to social bonding (Kida & Shinohara, 2013). The effects of CT-mediated touch stimulate the release of oxytocin, endorphins and serotonin when pleasant touch is received (Walker et al., 2017; Morris et al., 2021). Oxytocin is a neurotransmitter produced in the hypothalamus located in the brain (Nutt, 2025) and is involved in bonding and social affiliation that play an important role in wellbeing (IsHak et al., 2011). However, limited studies have failed to ingrain physical into natural social interactions and how this relates to wellbeing (Saarinen et al., 2021). This study bridges this gap in research by considering natural touch interactions using the Longing for Interpersonal Touch Questionnaire (Bebler et al., 2020).

From a developmental perspective, tactile sensations (sense of touch) are the first to develop during early development, particularly around week 4-7 of gestation (Beltran et al., 2020). Though Clark (2020) disputes that touch in the uterus begins from around 12 weeks gestation. First tactile sensations between the infant and caregiver promotes positive affective touch through bonding; however, the relationship between affective touch and parent-infant bonding characteristics requires more research (Carozza & Leong, 2020). The importance of bonding through physical touch with caregivers was pronounced by Bowlby (1980) in the attachment theory, and these interactions play a role in regulating social development into adulthood; although, examining early touch experiences and moral development should be carried out separately from positive and negative touch (Naraez et al., 2019). It is also important to explore how these interactions influence wellbeing in other age groups.

As a child transitions to adulthood, changes in tactile experiences shape the brain and behaviour (Cascio et al., 2019). These experiences act as a scaffold for early development of self-regulation, and this influences social exchanges and executive functions across life (Farroni et al., 2022). In adulthood, touch is used to communicate different emotions such as anger, happiness and sadness, but mostly to communicate love and sympathy (Hertenstein et al., 2006; Hertenstein et al., 2009). Research in this area highlights the importance of affectionate touch during adulthood in improving physical and emotional wellbeing (Navyte et al., 2024). Despite this, there has been limited studies exploring affectionate touch (McIntyre et al., 2019). But this study further contributes to this area of research by investigating frequency of touch and wellbeing in different age groups.

There are multiple benefits to physical touch. Affectionate touch plays a role in communication, emotional bonding and wellbeing in relationships (Buono et al., 2025). Evidence has suggested that close relationships are associated with lower mortality and higher wellbeing (Holt-Lunstad et al., 2010; Wang et al., 2023). Moreover, more forms of interpersonal touch are observed, such as kissing and hugging, have been associated with enhanced wellbeing in close relationships (Floyd, 2006). Recent literature has focused more on affectionate touch (Jakubiak & Feeney, 2017).For instance, Jakubiak (2022) conducted studies looking at affectionate touch in romantic relationships. Findings showed that greater kissing frequency was associated with improved well-being. But there has been limited studies have overlooked the importance of touch partners in relation to frequency of physical touch, such as cohabiting and/or non-cohabiting individuals, and the influence on wellbeing (Bruno et al., 2023). To bridge this gap, this study considers different touch partners and touch interactions in relation to frequency of touch, which previous studies have not considered (Punyanut-Carter & Wrench, 2009).

From a physiological perspective, another benefit of frequency of touch is that it can promote better neuroendocrine health (Navyte et al., 2024). This is because physical touch acts as a buffer against stress by lowering cortisol levels (Ditzen et al., 2007). For instance, frequent physical contact with a partner can reduce blood pressure and heart rate linked to stress (Grewen et al., 2003; Triscoli et al., 2017). These findings promote understanding of frequency of touch and the therapeutic potential in older adults. However, a cross-sectional design was utilised, resulting in limited interpretation of the direction of the relationship (Navyte et al., 2024). These findings were supported by Kidd et al (2021) as they reported that participants who received touch from a partner before a stressful event had lower levels of cortisol and a lower heart rate, suggesting that physical touch acts as a buffer against stress and improves wellbeing; however, the study was only conducted on females and the results can’t be generalised to other genders, therefore further research is needed to explore the effects of touch on wellbeing for different genders (Kidd et al., 2021). This study considers all genders in relation to these factors. Moreover, positive massages as a form of affectionate touch have been associated as a form of stress relief and have increased relaxation in individuals, promoting positive wellbeing (Naruse and Moss., 2021). This intervention increased wellbeing between couples as they appreciated quality time spent together, but they found practicing massaging at home was difficult and time consuming (Naruse & Moss, 2021).

Furthermore, pain reduction is another benefit of frequent touch. As an adult ages, managing pain becomes more difficult, therefore it is important to look at ways in which touch mitigates pain (Rodrigues et al., 2021). As previously mentioned, touch reduces stress by influencing the parasympathetic nervous system and this can change patterns of pain amplification by reducing perceived pain (Bonanno et al., 2024). Research looking at therapeutic techniques such as relaxation massages and pain have increased in recent years, reporting that relaxation massages decreased pain levels (Monroe, 2009). This has contributed to an improved QoL and wellbeing, but it is recommended that future research explores studies evaluating the direct effects of relaxing massages relative to affective and psychological aspects amongst elderly people (Micillo et al., 2020). This has been supported by studies looking at affectionate touch on pain and emotional distress. For instance, Hyun et al (2019) investigated pain and emotional distress after receiving 2 types of social interactions (affectionate physical contact and non-physical pleasant interactions) in 193 older adults aged between 70 to 92. Participants were required to report on the quality of social interactions, types of physical touch, current stress levels, negative affect and pain intensity. They found that after receiving affectionate physical contact, lower levels of pain intensity were reported compared to non-physical pleasant interactions had no effect on pain, but it is unclear what produces these effects (Hyun et al., 2019). Overall, the findings suggest that affectionate physical contact reduces pain and improves well-being in older adults. Comforting touch for the alleviation of pain has also been used on older adults in care homes, especially for those who are terminally ill as touch improves comfort and wellbeing (Newson, 2008). But a systematic review of touch studies over a lifetime showed that there are limited studies on late adulthood and touch (Cruciani et al., 2021). Thus, this study investigated social touch and considered touch frequency in late adulthood, aiming to bridge the gap in research.

Alternatively, a lack of touch can have consequential effects on wellbeing (Hasenack et al., 2023). This has been evidenced through the COVID-19 pandemic as governments enforced social distancing to stop the spread of disease, leaving millions of people deprived of human interactions (Grandi & Bruni, 2024) required to maintain a positive well-being (Douglas, 2021; Pedrazza et al., 2018). Touch deprivation is the psychological or physical effects experienced resulting from little to no physical touch (Viswanathan & Vijayan, 2021). Research exploring touch deprivation pre-pandemic focused particularly on children, leaving a gap in understanding regarding the widespread impact of longing for touch across different age groups (Grandi & Bruni, 2024). But this study considers more age groups in relation to touch deprivation to bridge gaps in understanding and contribute to underrepresented research. More recent studies have broadened their research and investigated symptoms of touch deprivation, such as loneliness and social isolation, that can be experienced because of a long-term lack of physical touch (Hermans, 2022; Bruno et al., 2023). Research has established an individual’s wellbeing is particularly vulnerable to the effects of loneliness and social isolation (Cocuzzo et al., 2020). A study by Schneider et al (2023) investigated affectionate touch (AT), loneliness and well-being during the COVID-19 pandemic in 247 participants. Those who reported being lonely had higher anxiety and depressive symptoms. Additionally, those who had a positive attitude towards AT experiencing loneliness had higher anxiety. Researchers von Mohr et al (2021) reported that the more the lack of touch, the worse the self-reported symptoms of anxiety and loneliness. Overall, the findings suggest that loneliness increases anxiety and depressive symptoms, negatively impacting well-being. To measure the psychological and mental well-being of individuals, and if this is influenced by being touch deprived or not touch deprived, this study utilised the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) (Tennant et al., 2007).

Consequently, touch deprivation can lead to the development of touch hunger, which is when an individual experiences a lack of interpersonal touch which is lower than their touch wish (Golaya, 2021; Bebler et al., 2020). Yet touch deprivation requires more research to develop interventions to tackle this issue (Golaya, 2021). This study considers frequency of touch in relation to touch deprivation and the impact on wellbeing, which can provide findings contributing to the development of touch interventions. Touch hunger has been associated with increased stress and depression and negatively impacts wellbeing (Pierce, 2020; Stevens et al., 2024). For instance, Ujitoko et al (2022) studied touch desire and touch avoidance in twitter texts. They found an increase in touch desire/hunger after COVID-19, suggesting due to the lack of touch during/after the outbreak, individuals wanted to receive more touch that is important to improve wellbeing, demonstrating touch hunger. Although, tweet texts were focused on, meaning that touch desire was only specific to twitter users and can’t be generalised to compare findings in other contexts where touch hunger may be experienced (Ujitoko et al., 2022). To ensure generalisability of results in this study, the LITQ and WEMWBS have been utilised, and it has been reported that they are both reliable and generalisable (Maheswaran et al., 2012; Yadav et al., 2025).

To finalise, literature has claimed that there is limited research surrounding age, physical touch and wellbeing over a lifetime, especially in adulthood (Cruciani et al., 2021). Also, there is little research that has explored the effects of demographic variables such as age on frequency of touch and touch deprivation (von Mohr et al., 2021). Therefore, this study incorporates different age groups ranging from early adulthood (18-34) to middle/late adulthood (35-60+) that studies have failed to explore. There has also been limited studies that have investigated physical touch dependent on touch partners (Bruno et al., 2023). Therefore, this study will be using the LITQ as this scale considers different touch partners in relation to frequency of touch interactions, which has not been considered in previous studies (Punyanut-Carter & Wrench, 2009). Moreover, a review of previous research has found limited studies that have ingrained physical touch into natural social interactions (Saarinen et al., 2021). This questionnaire incorporates touch interactions into natural social interactions, for instance by asking about frequency of handshakes and hugging with others.

The Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) has also been used to measure psychological and mental well-being (Tennant et al., 2007). There is a short version of the WEMWBS that also measures wellbeing, however the wording of some questions was too difficult to understand (Stewart-Brown et al., 2009) and therefore justifies the choice of the WEMWBS being used in this study to investigate wellbeing.

To conclude, this study aims to investigate the frequency of physical touch and the influence on wellbeing in different age groups. To measure these variables, the LITQ and WEMWBS will be used. Thus, this study presents 3 hypotheses: wellbeing levels will be higher for those who are not touch deprived compared to those who are touch deprived; wellbeing levels will higher for those in the young adulthood condition compared to those in the middle adulthood and late adulthood conditions; the effect of touch deprivation scores on wellbeing levels will vary depending on age.

**Method**

**Design**

A two-way between-subjects ANOVA was conducted. There are two independent variables. The first independent variable is touch deprivation score with two conditions: touch deprived and not touch deprived. The second is age with two conditions: early adulthood (18-34) and late adulthood (35-60+). The dependent variable is wellbeing score.

**Participants**

A prospective power analysis was conducted. Following Cohen’s (1988) guidelines and recent literature, a medium-large effect size of 0.10 was used, indicating that 40 participants were needed for each condition. As there is a maximum of 2 conditions, 80 participants were needed overall. They were recruited through probability and snowball sampling on SONA, Facebook and Instagram by posting an advert for this study.

A total of 133 participants consented to take part in this study. They were aged between 18-71 (mean = 31.65, *SD* = 13.86). 22 were male, 108 were female, 2 were non-binary and 1 preferred not to say. 85 participants were recruited for the early adulthood condition, and 48 participants were recruited for the middle/late adulthood condition.

**Materials**

Participants were presented with a consent form and information sheet and asked to fill out a demographic’s questionnaire. The first questionnaire included was the Longing for Interpersonal Touch Questionnaire (LITQ) looking at different touch interactions relating to their touch experience and touch wish for that week (Appendix C). The alpha reliability for touch frequency was α = .85, and for touch wish α = .88 and α = .78, demonstrating good reliability (Bebler et al., 2020).

This study also included the Warwick-Edinburgh Mental Wellbeing Scale (WEMBS) which is a 14-item positively worded scale measuring wellbeing and psychological functioning (Appendix B). Items are worded positively, for example “I’ve been feeling useful”. A Cronbach’s alpha score of α = .91 suggests high reliability for this scale (Tennant et al., 2007).

**Procedure**

Participants were recruited through probability and snowball sampling. They were asked to read an information sheet explaining the purpose of the study. Consent was obtained and they were then prompted to fill out demographic questions about their age and gender. They then had to complete the Longing for Interpersonal Touch Questionnaire (LITQ; Bebler et al., 2020) which required them to score from 0 upwards estimating their touch experience and touch wish for that week based on different touch interactions. The scores for touch experience were added together and divided by 42 to get an average score. The same process occurred for touch wish. Touch wish score was then divided by touch experience score to calculate touch deprivation score. Lower than 1 indicated no perceived touch deprivation and higher than 1 indicated touch deprivation. Research has found this scale to be a valid, reliable and acceptable measure of wellbeing (Maheswaran et al., 2012).

After, they had to complete the Warwick-Edinburgh Mental Wellbeing Scale (WEMBS; Tennant et al., 2007) which is a 14-item positively worded scale measuring wellbeing and psychological functioning (Appendix B). Items are worded positively, for example “I’ve been feeling useful”. Participants score between 1 (low wellbeing) to 5 (high wellbeing) and a total score between 14-70 is calculated. A higher score indicates higher wellbeing. The WEMWBS demonstrates internal consistency, reliability and is suitable for cross-cultural comparisons, reinforcing its suitability to be used in multicultural contexts and large-scale populations (Yadav et al., 2025).

Then, they were given instructions on Qualtrics about the LITQ informing them that they needed to fill out the table with a number from 0 onwards for each touch interaction based on their touch experience and touch wish for that week. They were then also given instructions about the WEMBS informing them to select a number from 1 (none of the time) to 5 (all of the time) for 14 positively worded statements about feelings and thoughts that reflect their wellbeing and psychological functioning. The study ended with a debrief form providing support to participants if required.

**Ethical Considerations**

Ethical approval was granted from the Psychology Department at the University of Staffordshire. Participants were directed to sources of mental health support through the debrief from the University of Staffordshire if they were students, and other sources for the public, for example Samaritans.

**Results**

Before analysis, data was screened, and non-sensible values or missing data were not present. Z scores were calculated, and values were between -3 and 3, showing no outliers were present. The descriptive statistics in table 1 show that well-being scores were higher for those who are not touch deprived aged 35-60+, and well-being scores were lowest for those who are touch deprived aged 18-34. The difference between the well-being scores is higher for those who are not touch deprived. The standard deviations show that the spread of scores is largest for those who are not touch deprived and are smallest for those who are touch deprived. The parametric assumptions for a 2-Way ANOVA were carried out. Skewness and kurtosis values were between -1 and 1, and the assumption of normal distribution was met as shown on the histograms (Appendix A). Homogeneity of variance was checked and as the sample sizes were unequal, the largest variance should be no more than 2 times greater than the smallest (Appendix A). As this parametric assumption was not met, a Levene’s test was conducted presenting a non-significant result of .431, therefore homogeneity of variance was met (Appendix A). As these parametric assumptions were met, a 2-Way Between-Subjects ANOVA was conducted on age and touch deprivation score on well-being (Appendix A).

Table 1:

*Mean and SD of wellbeing scores for those who are touch deprived and not touch deprived aged between 18-34 and 35-60+.*

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  **Well-being score** |  |
|  |  | Mean | SD |
| **Touch deprived** | 18-34 | 43.34 | 9.90 |
|  | 35-60+ | 45.29 | 10.08 |
| **Not touch deprived** | 18-34 | 43.96 | 10.22 |
|  | 35-60+ | 46.86 | 5.81 |

Table 2:

*Mean and SD of wellbeing scores for age and frequency of touch scores.*

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  **Wellbeing score** |  |
|  |  | Mean | SD |
| **Age** | 18-34 | 43.53 | 9.94 |
|  | 35-60+ | 45.52 | 9.54 |
| **Frequency of touch** | Touch deprived | 44.14 | 9.97 |
|  | Not touch deprived | 44.58 | 9.45 |

There was a non-significant main effect of age on well-being, *F*(1, 129) = 1.085, *p* = .300, *ƞ²* = .008; age did not have an effect on well-being. There was also a non-significant main effect of touch deprivation score on well-being, *F*(1,129) = .221, *p* = .639, *ƞ²* = .002; touch deprivation score did not have an effect on well-being. Moreover, there was a non-significant interaction between age and touch deprivation score on well-being, *F*(1, 129) = .041, *p* = .840, *ƞ²* = .0003, measuring a greater than small effect size (Cohen, 1988). As there was a non-significant interaction, simple effects were not conducted. The non-significant result prompted a retrospective power analysis to be conducted. A small effect size of .0003 was calculated in the analysis, suggesting the study was underpowered as it was less than .800. It was calculated that over 400 participants would be needed in each condition to satisfy this power.

**Discussion**

This study aimed to investigate the frequency of physical touch in different age groups and the effect on wellbeing. There was a non-significant main effect of age on well-being, suggesting age did not have an effect on wellbeing. Additionally, there was a non-significant main effect of touch deprivation score on well-being, suggesting touch also didn’t have an effect on wellbeing. Moreover, there was a non-significant interaction between age and touch deprivation score on well-being, indicating there was no interaction between age and touch deprivation score on wellbeing. Altogether, the results indicate that age and frequency of touch do not influence wellbeing in different age groups. Based on these results, the hypotheses that: wellbeing levels will be higher for those who are not touch deprived compared to those who are touch deprived, wellbeing levels will higher for those in the young adulthood condition compared to those in the middle adulthood and late adulthood conditions and the effect of touch deprivation scores on wellbeing levels will vary depending on age, were not met.

Research has typically found that frequency of touch has both beneficial (Bonanno et al., 2024; Kidd et al., 2024) and adverse (Pierce, 2020; Stevens et al., 2024) effects on wellbeing in different age groups. However, there has been limited research that has investigated age, frequency of touch and wellbeing together (Cruciani et al., 2021). In young adulthood, touch is important for emotional connections and forming strong bonds (Buono et al., 2025).

This aligns with the attachment theory claiming that the need for attachment and belonging intensifies, but raises inquiries related to the psychological mechanisms linked to type of touch (von Mohr et al., 2017). For instance, kissing and hugging are forms of frequent affectionate touch that promote a positive wellbeing (Floyd, 2006; Jakubiak, 2022). Qualitative interviews revealed increased touch in relationships is also associated with greater relationship satisfaction and enhanced the desire for closeness (Gulledge et al., 2003; Ben-Ari & Lavee, 2007), however this methodology explores experiences and does not give insights into touch frequency (Alsaawi, 2014). Additionally, research by Gray and Roberts (2023) has reported touch reduces feelings of neglect and enhances connectedness, which supports previous research (Heatley Tejada et al., 2020). This is beneficial for those with low self-esteem as individuals who received a brief touch on the shoulder experienced more social connectedness, compared to those with high self-esteem who were unaffected by touch. These findings highlight how touch experiences are significant for individuals with low self-esteem as it enhances connectedness and ultimately improves well-being (Koole et al., 2014). Overall, these findings suggest that affectionate touch can improve well-being by enhancing connectedness, especially among those with greater relationship satisfaction. Touch serves further functions, such as to convey emotions including happiness and sadness, but mostly love and sympathy (Hertenstein et al., 2006; Hertenstein et al., 2009).

Touch experiences in older adults are similar compared to younger adults, demonstrating physical and emotional benefits. Physical benefits include pain reduction. Therapeutic touch as a form of pain relief was extensively researched and was associated with increasing age and improved neuroendocrine health (Navyte et al., 2024; Monroe, 2009; Micillo et al., 2020). Additionally, Naruse and Moss (2021) demonstrated how oxytocin has induced anti-stress-like effects in individuals in ways such as cortisol reduction (Uvnas-Moberg & Petersson, 2005), and this promotes positive wellbeing. Individuals received a 15-minute positive massage displayed a 17% increase in oxytocin, but using blood draws may have induced stress and altered oxytocin levels (Morhenn et al., 2012). Rapaport et al (2010) conducted a similar study and claimed that oxytocin only increased for those who received light touch and not a massage. It is implied that increased frequency of touch improves neuroendocrine health by reducing cortisol, reducing blood pressure and heart rate and increasing oxytocin, ultimately improving wellbeing*.*

Alternatively, a lack of touch leads to touch deprivation. As previously discussed, reduced touch during the COVID-19 pandemic resulted in adverse consequences on wellbeing such as loneliness (Bruno et al., 2023). Social distancing resulted in limited opportunities for individuals to engage in touch, dramatically impacting mental health and wellbeing (Bruno et al., 2023). The negative consequences of COVID-19 have been associated with longing for touch and touch deprivation (Hasenack et al., 2023). The findings also insinuated that a large portion of the population experiences longing for touch to some extent (Hasenack et al., 2023). However, only age and gender were considered as covariates and other variables were not considered (Hasenack et al., 2023).

 For instance, research reported that the more the lack of touch, the worse the reported anxiety symptoms (von Mohr et al., 2021). Evidence suggests older adults were more at risk of the adverse consequences of touch deprivation during the pandemic due to the decreasing economic resources and mobility impairment etc., (Steptoe et al., 2013). These findings are supported by research investigating touch deprivation resulting from the COVID-19 pandemic and the influence on wellbeing in older adults.

Consequently, a prolonged deprivation of touch eventually leads to touch hunger, which is when an individual experiences touch lower than their touch wish (Golaya, 2021). This has an impact on wellbeing as longing for touch is associated with increased stress and depression (Pierce, 2020; Stevens et al., 2024). For instance, research has found that during and after the COVID-19 outbreak, individuals wanted to receive more touch than they were experiencing; however, the results were obtained from Japanese tweets, therefore the results should be interpreted with caution due to generalisable biases (Ujitoko et al., 2022). Evidence demonstrates that both young adult and older adults are both affected by the benefits and consequences of touch frequency, but in different ways. However, the results of this study contrast and challenge the findings from previous research as no interaction was found between these variables. To summarise, these findings contrast with a plethora of literature claiming physical touch enhances wellbeing, and a lack of physical touch reduces wellbeing.

The non-significant results may be due to the small sample size as evidenced from the retrospective power analysis based on the calculated effect size of .0003, which is a very small effect size. It was calculated that over 400 participants would be needed for each condition to satisfy a power of .800. Only 133 participants were recruited in this study. As this sample size is too small, it can make it difficult to detect true differences between the groups (Akobeng, 2016). When a non-significant result is reported, there are 2 possibilities for this: the null hypothesis is true (no effect is present) or the hypothesis is true; a type II error has occurred (Visentin et al., 2020). A type II error (false-negative) can occur when it is wrongly concluded that there is no difference in treatment effects when there is a difference (Akobeng, 2016; Mascha & Vetter, 2018). This means that hypothesis testing yields a non-significant result despite the alternative hypothesis being true (Lakens, 2022). Reasons for a type II error resulting can be a small effect size, a large variation in the groups and/or a small sample size (Visentin et al., 2020). Small sample sizes increase the chance of a type II error occurring as the study is underpowered (Knudson & Lindsey, 2014), but by increasing the sample size, this could reduce the chance (Banerjee et al., 2009). Statistical power is the probability that the study will find significant differences between groups when a difference doesn’t exist, and this depends upon effect size and sample size. As this study has a small effect size, larger sample sizes would be needed to increase the statistical power (Sullivan & Feinn, 2012).

Despite the non-significant findings, there are some strengths to be considered. Firstly, this study demonstrates validity as it measures what it intends to, leading to reliable findings (Heale & Tywcross, 2015). Secondly, the questionnaires used for data collection were reliable. Research has found the LITQ scale to be a valid, reliable and acceptable measure of touch frequency (Maheswaran et al., 2012). The WEMWBS demonstrates internal consistency, referring to the degree to which items on the scale measure the same construct, reliability and is suitable to be used in multicultural contexts and large-scale populations (Yadav et al., 2025).

However, there are also methodological limitations. The LITPQ required participants to estimate the amount of touch for that week related to different touch interactions, and this can be difficult to ensure reliable and motivated answers (Bebler et al., 2021). Based on these touch interactions, the study did not distinguish between different types of touch (i.e., affectionate and non-affectionate) and their effect on wellbeing. Additionally, pictures for the touch interactions were not utilised and therefore may create a language barrier for those who do not understand the touch interactions (Bebler et al., 2021).

Another limitation is the WEMWBS. As the statements are worded positively, there is an increased risk of response bias, which is the tendency to respond to items on a basis other than the item content (Paulhus, 1991). These responses are reflective of the tendencies of participants preferring responses over others, for instance extreme responses styles which are preferences of the midpoint of a response scale (Wetzel et al., 2016). Also, these items can introduce social desirability bias as it may make participants feel they need to report higher on the scale rather than report their actual experiences (Stewart-Brown et al., 2009). Furthermore, it should be noted that self-report measures were included in this study relating to touch frequency and wellbeing when completing the LITQ and WEMWBS, and this can introduce social desirability biases related to the inaccuracy of memories of touch and reporting of wellbeing scores (Bebler et al., 2020; Tennant et al., 2007). Lastly, the study lacks reliability because the scale has not given the same results as previous literature using this questionnaire (Banning & Watson, 2009).

It should also be noted that confounding variables may have unintentionally impacted the results. A confounding variable affects the independent and dependent variable being studied so the results don’t exhibit the actual relationship between the variables (Pourhoseingholi et al., 2012). An example of a confounding variable in this study is sex differences. Research has confirmed that there is sex differences act as a confounding variable as these differences impact touch frequency and influence the perception of touch (Passarelli et al., 2021). For instance, women have better perception of touch and show greater willingness to engage in touch compared to men (Abodouni et al., 2018; Russo et al., 2020). These sex differences in touch frequency can potentially be explained due to evolutionary and hormonal differences between males and females, such as females having a nurturing function; however, sex differences in touch perception have not been extensively investigated and requires more research to control this variable (Russo et al., 2020). By restricting subjects to only same sex groups, the study can potentially reduce confounding by sex (Pourhoseingholi et al., 2012). Therefore, it is suggested to conduct individual studies of different genders related to touch perception to reduce the likelihood of this confounding variable impacting results. Although, these confounding variables can persist after adjustments have been made and/or may not actually be confounders (Pourhoseingholi et al., 2012). Other confounders that have not been addressed in this discussion but could be considered for future research include individual differences such as past experiences of touch and how this may affect current touch frequency.

Overall, these findings provide important insights for practical implications. They suggest that the relationship between age, frequency of touch and wellbeing is complex and could have been influenced by other factors that have not been explored in this study, such as context, which is important when interpreting the significant of touch (Camps et al., 2012). It is also important to examiner if touch is perceived differently across different contexts, such as cultural contexts; but studies of touch have been primarily carried out in Western contexts and limit the understanding of cross-cultural variations and touch perception (Hewitt et al., 2025). Therefore, interventions aimed at increasing wellbeing through physical touch should consider other factors such as context rather than simply focusing on increasing physical touch. Moreover, in a society where remote, digital interactions and communication are predominant in the contemporary era (Azzaakiyyah, 2023), the findings of this study suggest that connections through technology should be explored as influences on wellbeing (Morrison, 2016). Digital touch is beginning to shape social connections related to the presence and absence of physical touch (Jewitt et al., 2019). Face-to-face interactions have been replaced by digital contact, which has introduced new relationships and forms of touch (Broch & Varma, 2024). This suggests that physical touch is not the only form of communication to improve wellbeing. Emerging evidence demonstrates an association between digital communication and emotional experiences of connectedness (Sherman et al., 2013). Therefore, studies should investigate digital touch as a form of social connection and the influence on wellbeing as research is suggesting touch is becoming less central for human connections and is being replaced by digital forms.

The limitations and practical implications of this study highlight important avenues for future research. Firstly, replication of this study with a larger sample size is required to provide more accurate and reliable results (Andrade, 2020). Secondly, the measures utilised don’t allow for the examination of longing for touch in relation to attachment style (von Mohr et al., 2021), which could be considered in future research to observe how this influences frequency of touch and wellbeing. Also, future studies should assess type of touch as well as frequency of touch together to understand what type of touch interactions influence wellbeing the most, and how this varies across age groups (Beltran et al., 2020). For instance, studies could investigate if digital communication replacements for touch influence wellbeing (Sherman et al., 2013). Additionally, future research could investigate this area of research from a longitudinal perspective as the LITQ only accounted for touch within the past week and does not account for frequency of touch over a longer period (Bebler et al., 2020). The benefits of touch may present gradually with age (Sehlstedt et al., 2016), which longitudinal perspectives are more likely to capture (Caruana et al., 2015). Also, a longitudinal perspective could utilise a mixed-method design, including quantitative and qualitative methods, to explore both frequency of touch as well as the reasons behind touch behaviours. Finally, expanding research to different contexts, such as cultural contexts, can provide a deeper understanding of how touch is perceived in different cultures and how touch frequency influences wellbeing (Camps et al., 2012). In sum, these insights and limitations emphasise the importance of considering alternative approaches to touch and wellbeing and suggests that interventions explore other factors rather than touch frequency alone.

In conclusion, this study found that age and frequency of touch did not influence wellbeing. The hypotheses were not met. However, with a high number of participants, there is confidence that significant findings could be found. The findings of this study challenge existing research claiming that frequency of touch has beneficial (Bonanno et al., 2024; Koole et al., 2014; Kidd et al., 2024) and adverse (Pierce, 2020; Stevens et al., 2024; Bruno et al., 2023) effects in different age groups as no interaction was found between the variables. This could be because of factors such as type II error (Visentin et al., 2020), confounding variables such as sex differences that influence the perception of touch (Passarelli et al., 2021), and the effectiveness of the LITQ and WEMWBS (Bebler et al., 2021; Tennant et al., 2007).

Some other limitations to consider are that social desirability bias may be present as participants were required to self-report answers related to their frequency of touch and wellbeing (Bebler et al., 2021; Tennant et al., 2007). Particularly for the WEMWBS, positively worded statements can make participants feel the need to report higher on the scale (Stewart-Brown et al., 2009). Due to the non-significant findings, it suggests the interaction between age, touch frequency and wellbeing is complex, and intervening factors have not been considered. Therefore, it is recommended that future studies conduct research on contextual factors that may influence the perception of touch frequency and wellbeing in different cultures (Camps et al., 2012). Studies could also explore digital communication replacements for physical touch and how these interactions influence wellbeing (Sherman et al., 2013). These limitations highlight the importance of considering different approaches to touch frequency and wellbeing rather than touch frequency alone. To sum up, touch and wellbeing is characterised by multiple factors including context, culture and gender etc., not just by frequency.

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