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# Deconstructing Solitude and Its Links to Well-Being

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## ABSTRACT

Although solitude is a common experience in daily life, empirical research on its effects is scarce and challenging to interpret. Here, we propose a methodological framework to study solitude and highlight its value in understanding the link between solitude and well-being. First, we advocate for clear conceptualization and operationalizations of solitude and provide recommendations for how to achieve these objectives. Second, we tease apart various dimensions of solitude, including its duration and underlying motivational, emotional and cognitive qualities. Finally, we integrate research from various subfields of psychology (e.g., social-personality, clinical, developmental) and summarize the nuanced and complex relationship between solitude and well-being, which depends on the specific dimensions being studied. Taken together, we hope the proposed framework will equip the next generation of researchers with a systematic methodology for studying solitude and ultimately facilitate more productive research in this domain.

## 1 | Introduction

Solitude is a common and often inevitable experience in everyday life. The average American adult spends a substantial portion—between 30% and 65%—of their waking hours alone (Danvers et al. 2023; Kannan and Veazie 2023). And yet, empirical research on everyday experiences of solitude is remarkably sparse and has only grown incrementally in the past five decades.

Currently, there are two pervasive yet conflicting narratives around solitude and its consequences. Some experts view solitude as harmful, fearing that excessive time spent alone is fueling the "loneliness epidemic" that countries around the world are desperately trying to address (Holt-Lunstad 2022; Office of the Surgeon General 2023). Others, however, argue that solitude promotes mental health and well-being by providing opportunities for relaxation and freedom to engage in personally meaningful activities (Larson 1997; C. R. Long and Averill 2003; Winnicott 1958). In our view, framing the issue of solitude as a dichotomous question—whether it is good or bad—oversimplifies its multifaceted nature and the complexity of its effects on our psychological experiences.

The empirical research to date provides a more nuanced perspective of solitude's effects, which heavily depend on (a) how solitude is conceptualized and operationalized, and (b) which dimensions of solitude are studied, including, but not limited to, the amount of time alone (i.e., duration and frequency) and the individual's experiences in solitude (e.g., emotions, cognitions, activities). To bring greater clarity to the field, we provide a methodological framework that guides researchers in systematically studying solitude. To do so, we break down solitude into its various conceptualizations, operationalizations, and dimensions.[1] We argue that this foundational knowledge is critical for researchers to clearly delineate when solitude may be beneficial or detrimental to psychological well-being. Our intention is not to prescribe a specific method but, rather, to highlight key

considerations in solitude research and equip researchers with the tools needed to study solitude in a rigorous and structured manner. Additionally, we synthesize existing research on the link between solitude and well-being to help make sense of this nascent and sometimes inconsistent body of work.

## 2 | Conceptualization

A clear conceptualization of solitude is crucial for guiding how it is operationalized and studied. So, what *is* solitude? Surveying a broad sample of participants, Weinstein et al. (2023) found that both laypeople and researchers differentiate between objective and subjective states of solitude. Objective solitude is when we are physically separated from others (for instance, being at home alone), whereas subjective solitude involves disengaging from social demands and surveillance and can occur in the presence of others (Larson 1990; C. R. Long and Averill 2003). Subjective solitude can happen in public spaces such as in a park, a coffee shop, or a bus.

Unlike objective solitude, subjective solitude does not require physical aloneness and is characterized by a lack of communication with others (Campbell and Ross 2022). This distinction is critical, as it helps us label scenarios where one is physically alone but interacting virtually with others (which would be considered objective, but not subjective, solitude), a common occurrence in modern life. Coplan et al. (2022) expanded on this distinction by introducing the idea of a "solitude gradient," which suggests that solitude exists on a continuum shaped by the extent of virtual interaction. This perspective challenges the notion of solitude as a binary state, proposing instead that its intensity fluctuates based on how individuals use digital technology during their time alone—whether by passively scrolling on social media, texting, or video calling (Coplan et al. 2022). This aligns with the idea that what constitutes social contact is also not clear-cut, as it depends on the levels of dynamic, reciprocal interactions between individuals (Schilbach et al. 2013) or the levels of intimacy of such interactions (Stijovic et al. 2024), further complicating the distinction between solitude and social interactions (Schilbach et al. 2013).

Rather than prescribing a specific definition of solitude for researchers to use moving forward, we argue that the conceptualization of solitude should be guided by the research question at hand. For instance, if a researcher aims to study what teenagers do when they are alone in their rooms, they might adopt a conceptualization based only on physical separation and explore the potential digital communication that occurs during that objective solitude. But if the researcher seeks to understand people's experiences of solitude in daily life, a conceptualization that does not require physical separation may be more appropriate and generalizable to everyday occurrences of this phenomenon. As such, while we identify several key components that constitute solitude, it is crucial for researchers to carefully consider which aspect of solitude they are studying.

Further, it is important to note that the meaning and experience of solitude may be shaped by cultural context (Averill and Sundararajan 2013). In cultures where shared spaces are common and individual privacy is limited, solitude may center on the absence of direct interaction (even in the presence of others) rather than physical separation. Conversely, in more individualistic cultures where privacy and self-reliance are valued (Hofstede 2011), solitude may be more closely tied to physical separation. We encourage researchers to consider these cultural nuances when conceptualizing and studying solitude, as they can shape how solitude is perceived and experienced across different populations.

Regardless of whether solitude is conceptualized as physical aloneness or social disengagement, we can clearly differentiate it from related constructs like loneliness and social isolation. Loneliness is an experience of perceived isolation that is characterized by unfulfilled expectations in social relationships, whereas social isolation refers to having limited access to a social network that one can confide in and receive support from (Hawkley and Cacioppo 2010; Wang et al. 2017). Both loneliness and social isolation involve negative experiences stemming from unmet social needs. In contrast to this, and critically, solitude is defined independently of its emotional responses; it can be neutral, positive, or negative, depending on various factors.

## 3 | Operationalization

After determining the appropriate conceptualization for a particular research question, the next step is to select an observation and measurement method that aligns with it. To observe objective solitude, several experimental studies have employed laboratory settings. In this paradigm, research participants are invited to the laboratory to be alone for a brief period between 10 (Rodriguez, Bellet, and McNally 2020; Rodriguez, Pratt, et al. 2023) and 15 (T. Nguyen, Weinstein, and Deci 2022; T. T. Nguyen, Weinstein, and Ryan 2022; T. T. Nguyen, Ryan, and Deci 2018) minutes, and self-reported surveys are administered before, during, and/or after this period. This setup resembles the "just think" paradigm used to assess individuals' experiences while thinking alone (Alahmadi et al. 2017; Buttrick et al. 2019; Westgate, Wilson, and Gilbert 2017; Westgate et al. 2021; Wilson et al. 2014). These experiments also commonly achieve subjective solitude by having participants either turn off or leave their electronic devices outside the laboratory room, eliminating any opportunities for social interaction. By removing devices, and occasionally activities other than thinking, researchers can isolate the effects of solitude (as a condition when one is both physically and/or mentally separated from social influences) from other variables that may influence solitary experiences (T. Nguyen, Weinstein, and Deci 2022; T. T. Nguyen, Weinstein, and Ryan 2022). This experience of being physically alone with only one's thoughts is often considered a "true" state of solitude, as it isn't complicated by activities that may introduce different levels of social responsibility or pressure (T. T. Nguyen, Ryan, and Deci 2018; T. Nguyen, Weinstein, and Deci 2022; T. T. Nguyen, Weinstein, and Ryan 2022). This method contrasts the longer periods used to study social isolation in the laboratory, which involves keeping participants physically alone and away from social interaction for up to 4 h for adolescents (Tomova et al. 2023) or 10 h for healthy adults (Stijovic et al. 2023; Tomova et al. 2020).

Although laboratory studies can provide a controlled environment to standardize solitary experiences, they often fail to capture the diverse forms of solitude that occur in daily life. For instance, Weinstein, Nguyen, and Hansen (2021) report that many individuals do not consider physical separation necessary for experiencing solitude. Subjective solitude is measurable using online surveys that allow participants to report their experiences retrospectively or in real-time while performing daily activities. Researchers can determine instances of subjective solitude by evaluating participants' proximity to others, the nature of their relationships with those nearby (whether they are strangers or acquaintances), and any ongoing social interactions, regardless of whether these occur in person or digitally. For instance, using an experience sampling approach, Lay et al. (2020) asked participants whether they were actively interacting with someone, in the presence of others without interaction, or physically alone at several points throughout the day. Pauly et al. (2017) and Weinstein et al. (2023) assessed solitude by first asking participants if they were physically alone (objective) and then verifying whether they were communicating with others in person or electronically (subjective). V. Thomas et al. (2021) further refined this approach by including response options to distinguish between time spent alone either with or without a device, and with or without the presence of others. Further, Ross, Akgün, and Campbell (2023) measured solitude by asking participants how often they are unavailable to communicate with other people, either by choice or not. In these studies, the absence of communication is the key indicator of subjective solitude. We refer to this as the checkbox approach, where researchers include self-report items in their questionnaires to determine whether participants were objectively and subjectively alone, and to what extent, based on their levels of engagement in virtual communication.

Other studies have opted to target only specific types of solitary experiences. For instance, Coplan et al. (2019) instructed participants to recall times when they were "by yourself or doing something by yourself—not including sleeping." A few experience sampling studies examined situations when participants were *physically alone* at various points throughout the day (L. H. Brown et al. 2007; van Roekel et al. 2015). Cross-sectional designs have asked how many times participants were *alone for over 15 minutes* in the past week (Coplan, Hipson, and Bowker 2021). Nguyen, Ryan, and Deci (2018; Study 4) asked participants to report on their experiences with *sitting alone without interacting with anyone on communicative devices or engaging in any other activities*. However, there is evidence suggesting that varying the instructions around a phenomenon might not matter much (Kuper et al., in press). In other words, regardless of whether an instruction asks about physical solitude or solitude over a specific duration, participants may respond based on their broader perception of the phenomenon itself (i.e., being alone). Therefore, future research aiming to investigate more specific situations of solitude should consider adopting more tailored methodologies, such as experimental paradigms or the checkbox approach instead.

Finally, assessing solitude in children may require different approaches than what we have mentioned above. For instance, several studies have employed naturalistic observations to monitor children's solitary or non-social behaviors in schools or playgrounds (McVarnock et al. 2023). It is important to note that these observations do not necessarily capture objective solitude, which may be inappropriate or unsafe for children depending on the developmental stage.

In sum, researchers have taken various approaches to study solitude and capture its various shades—as either a physical or psychological space and ranging from broadly defined or more specifically confined conditions. By precisely defining what constitutes solitude and how it can be studied in everyday settings, researchers can ensure that their research designs are appropriate and compatible with their operationalization choices. This process also makes it more efficient for future reviews and meta-analyses to establish internal validity by honing into the effects of solitude on people's experiences or achieving external validity through observing generalizable and ecologically valid conditions of solitude. As there is no one-size-fits-all definition of this construct, we advocate for transparency and clarity in solitude conceptualizations and operationalizations.

## 4 | Dimensions of Solitude

Research to date has only begun to uncover what happens to people psychologically when they spend time in solitude. By deconstructing the abstract construct of solitude into more specific, measurable dimensions, researchers will be better equipped to identify which variables to measure and observe how those variables are affected by different conditions. In this section, we outline several key dimensions of solitude: frequency and duration of solitude, the types of activities undertaken, the emotional experiences elicited, and the nature of thoughts during solitude.

### 4.1 | Duration and Frequency

Researchers are often concerned with the amount of solitude that people experience, as prolonged solitude is associated with elevated loneliness (Danvers et al. 2023) and other psychological problems (Stijovic et al. 2023). As such, solitude is typically measured by its frequency or duration. Methodological precision in these measurements varies; for example, Coplan et al. (2019) use retrospective surveys to estimate how often participants were alone in the past week, with response options ranging from "not at all" to "more than 3 times a day." Rodriguez, Schertz, and Kross (revision under review) employed a similar approach but offered more subjective response options to the question "How much time have you spent alone?", ranging from "none at all" to "a great deal." This approach aims to circumvent memory biases of estimating the exact minutes or hours, but it may also compromise precision as "a great deal" can equate to different lengths of time across people. Both approaches also require careful consideration of the response options to ensure a broad range of responses from participants. Greater precision can be achieved by having participants retrospectively report their social and solitary episodes at every hour and using that information to calculate the proportion of time spent in solitude versus social interactions; this is what

Weinstein et al. (2023) did with a day reconstruction method. More recently, Danvers et al. (2023) sought to improve methodological accuracy by using electronically activated recorders to objectively monitor participants' daily activities, thus overcoming the limitations of self-reported data and reducing participant burden. Therefore, methods to quantify solitude must carefully weigh the level of achieved accuracy and precision against the demands placed on research participants.

### 4.2 | Motivations

One of the most extensively studied (and arguably most impactful) dimensions of solitude is its underlying motivation (Ren 2016). This dimension helps researchers distinguish between forced and voluntary solitude, with the former typically associated with negative outcomes like loneliness and social isolation (Coplan and Bowker 2013). In general, motivations for solitude refer to the reasons behind why someone is alone at a given moment. Researchers commonly categorize these motivations into self-determined and non-self-determined (T. T. Nguyen, Ryan, and Deci 2018; V. Thomas and Azmitia 2019). Self-determined solitude occurs when a person spends time alone to, for example, gain emotional benefits or to engage in creative activities. In contrast, non-self-determined solitude happens when solitude is imposed on us, such as when we are socially excluded or when we lack confidence in our ability to interact with others. Ultimately, these motivations shape the degree of choice and control individuals have over their solitary experiences, as well as the outcomes of this solitude (more details can be found in the *Solitude and Well-Being* section below).

### 4.3 | Emotions

Emotional experiences during solitude are frequently measured on the dimensions of valence (i.e., positivity/negativity) and arousal (i.e., intensity; Russell 1980). Evidence consistently reveals that emotions evoked by solitude are predominantly low in arousal (T. T. Nguyen, Ryan, and Deci 2018; Rodriguez, Bellet, and McNally 2020; Rodriguez, Pratt, et al. 2023). Further, certain discrete emotions may be more salient during solitude than in social settings. For example, loneliness and fatigue are prevalent emotional responses to the continued absence of social interactions (Stijovic et al. 2023; Tomova et al. 2020), and a lack of cognitive stimulation in solitude can lead to boredom (Westgate and Wilson 2018). However, in the absence of social and cognitive stimulation, solitude can also be accompanied by positive emotions like calmness (T. T. Nguyen, Ryan, and Deci 2018; Rodriguez, Pratt, et al. 2023) and restfulness (Hammond 2019; V. Thomas 2023). By identifying unique emotions in solitude, future research can delve deeper into when and why these emotions occur, and how they relate to individuals' behaviors and thoughts during this time.

### 4.4 | Cognitive Processes

Currently, little is known about the cognitive processes that occur during solitude. However, the solitude literature can benefit from insights in cognitive neuroscience, particularly studies on the default mode network, which is often activated during resting states (e.g., when people are alone; Raichle 2015). Beyond this, self-report studies suggest that solitude increases self-awareness and encourages a focus on one's thoughts (C. R. Long and Averill 2003; Weinstein et al. 2023). Prior work has demonstrated that thinking for pleasure is cognitively demanding and aversive (Buttrick et al. 2019; Wilson et al. 2014) and that people are generally less happy when their minds are wandering (Killingsworth and Gilbert 2010). However, some empirically tested strategies can help us organize our thoughts and make them more enjoyable (Westgate, Wilson, and Gilbert 2017; Westgate et al. 2021). Positive thoughts can improve our emotional experiences in solitude (T. T. Nguyen, Ryan, and Deci 2018) while rumination can turn the experience negative (Lay 2018) and be detrimental to well-being (Lian et al. 2021). We encourage future work to explore the specific cognitive processes active during solitude, as this can help discern why some solitary moments are restorative or insightful, while others are unpleasant or agitating.

### 4.5 | Activities

There are countless activities we can engage in during solitude. This dimension is often studied through self-reported questionnaires or qualitative studies asking people about their solitary activities. Some experimental work has attempted to manipulate activities in lab settings, such as instructing participants to read, sit with their thoughts, or engage in boring tasks (e.g., sorting pencils; T. T. Nguyen, Ryan, and Deci 2018). However, testing a wide range of activities can be tedious, so future researchers may opt to instead focus on specific categories of activities (e.g., hedonic or utilitarian in Ratner and Hamilton 2015; creative or physical in Rodriguez and Campbell, under review).

During solitude, people most commonly report engaging in productive activities (e.g., job or schoolwork), maintenance tasks (e.g., cleaning, personal grooming), and leisure activities (e.g., watching TV, listening to music; Larson 1990; Rodriguez and Campbell, under review). Certain activities, such as reading, gardening, or taking a walk, typically foster relaxation and are thus more likely to enhance solitary experiences (Hammond 2019; Pressman et al. 2009; Zhou et al. 2023). Solitude is also often embraced as a space for individuals to engage in creative self-expression (C. Long, More, and Averill 2007; V. D. Thomas 2017); in some cases, such creative pursuits can serve a healing function that helps people connect with themselves (Bales 2000) and cope with isolation (Joo 2019) or social exclusion (Minney 2016). Other work has examined solo activities that are typically done with others, such as eating, traveling, or going to the movies (Chang 2020; T. T. Nguyen, Taylor-Bower, and Yau 2023; Ratner and Hamilton 2015). These activities, if viewed as norm violations, may evoke feelings of loneliness or social judgment; however, if embraced as empowering, they can enhance the person's sense of self (T. T. Nguyen, Taylor-Bower, and Yau 2023). As such, activities performed in solitude might carry different meanings depending on the surrounding cultural, social, and

environmental context, and in turn can shape people's experiences during this time.

## 5 | Solitude and Well-Being: A Complex Relationship

If humans possess a fundamental need to form and sustain meaningful relationships with others, can solitude play a positive role in our lives? Solitude researchers are commonly intrigued by this dilemma. Indeed, decades of evidence indicate that socially connected individuals are at lower risk of physical disease and mental health problems, and even live longer (Holt-Lunstad 2021). Further, people typically experience more positive emotions and less negative emotions when they are with other people than when they are alone, both at the within- and between-person levels (Epley and Schroeder 2014; Larson 1990; Liu, Xie, and Lou 2019; Pauly et al. 2017; Sandstrom et al. 2017). Given that social connection is so critical for our health and well-being, it may be tempting to assume that solitude is unnatural or harmful.

However, contemporary evidence suggests that solitude is not inherently bad for us. Rather, time in solitude can pose specific psychological benefits or risks, depending on its quantity and quality, as well as individual differences and contextual factors. In the section below, we help tease apart how, when, and under which conditions solitude contributes positively or negatively to well-being. To do so, we integrate evidence from various subdisciplines within psychology (e.g., social, developmental, clinical) and related fields (e.g., communication, management, public health) and highlight the importance of considering which dimensions of solitude are assessed when evaluating its impact on well-being.

### 5.1 | Quantity of Solitude

#### 5.1.1 | Prolonged Solitude

Spending large amounts of time in solitude is often associated with socio-emotional difficulties, particularly during the stages of childhood and adolescence when peer interaction is especially vital (Harlow 1958; Rubin 1982; Rubin, Coplan, and Bowker 2009; Rubin and Mills 1988). However, it is important to discern whether the solitude itself is harmful, or whether excessive solitude may be a behavioral manifestation of social withdrawal, accompanied by underlying psychological issues (e.g., anxiety, depression, low self-esteem) or social difficulties (e.g., victimization, rejection; Coplan, Hipson, and Bowker 2021; Rubin, Coplan, and Bowker 2009). In adults, social isolation is recognized as a symptom of various clinical disorders, ranging from autism spectrum disorder and various anxiety disorders to personality disorders and schizophrenia (American Psychiatric Association 2013), and may be exacerbated by the social stigmas associated with these conditions (Hatzenbuehler, Phelan, and Link 2013). Moreover, across the lifespan, individuals may be thrust into solitude by external forces like peer rejection and ostracism (Rubin and Mills 1988; Ren, Wesselmann, and Williams 2016). These circumstances highlight that the reasons behind why an individual socially withdraws or isolates themselves may better explain the negative consequences of prolonged solitude than the time spent alone itself (Rubin and Chronis-Tuscano 2021).

Evidence from population-level studies demonstrates that more time spent alone is linked to poorer well-being outcomes across the lifespan. Large-scale data from the American Time-Use Surveys in 2012, 2013, and 2021 ($N$ = 26,289 Americans 15 years or older) found that spending more time alone over the course of 1 year is negatively associated with both life satisfaction ($r$ = −0.21) and happiness ($r$ = −0.37; Han and Kaiser 2024). Converging data from the 2018 European Social Survey ($N$ = 392,195 adults across 37 countries) reveal that a lower frequency of social contact (i.e., how often participants spend time with others) prospectively predicts worse self-rated physical health in all 37 European countries studied ($0.09 < r\text{s} < 0.36$; Stavrova and Ren 2021). In addition, German Socio-Economic Panel data ($N$ = 49,675 participants tracked from 1990 to 2017) reveal that individuals who "never" spend time with others have significantly greater mortality risk than those who "sometimes" do (Stavrova and Ren 2021).

Meanwhile, data from the American Time-Use Survey suggests that the amount of time American adults spend alone has increased from 43.5% of waking hours in 2003 to 48.7% in 2019 and rose to 50.7% when the COVID-19 pandemic began (Kannan and Veazie 2023). In addition, in-person social engagement (with friends, family, or others) significantly decreased during this timeframe (Kannan and Veazie 2023). Over the past 2–3 decades, these trends were observed in various other nations, including Finland (Anttila, Selander, and Oinas 2020), Japan (e.g., Fukuchi et al. 2013), and Spain (Cámara et al. 2021), which have motivated policymakers and health professionals in several countries to declare social isolation a public health crisis (e.g., the U.K., U.S., and Japan; Office of the Surgeon General 2023). Nonetheless, no research has conclusively determined whether there is a causal link between the rise in time alone and the "loneliness epidemic" or whether both trends may have other sociological explanations (Snell 2017).

#### 5.1.2 | Momentary Solitude

While prolonged solitude is often linked with negative consequences, brief periods alone typically yield benign or even positive outcomes. Most notably, spending 10–15 min alone in a controlled laboratory setting reduces the intensity of both high-arousal positive (e.g., excitement) and negative (e.g., anger) emotions (T. T. Nguyen, Ryan, and Deci 2018; Rodriguez, Bellet, and McNally 2020; Rodriguez, Pratt, et al. 2023). Experience sampling data also indicate that brief periods of solitude in daily life predict decreases in high-arousal affect (Pauly et al. 2017; Weinstein et al. 2023), suggesting that solitude can have restorative benefits, particularly for downregulating strong negative emotions like anger and anxiety. Moreover, one laboratory study found that spending 10 min in solitude increases low-arousal positive affect (e.g., relaxation) even when neither deliberately chosen nor accompanied by directed activities

(Rodriguez, Pratt, et al. 2023). Converging experience sampling data reveal that spending a few hours in solitude in daily life can predict increases in low-arousal positive affect (Pauly et al. 2017; Rodriguez, Schertz, and Kross, Revision, under review). Qualitative work echoes these findings, showing that many people across the lifespan seek solitude to feel calm and at peace, away from the demands of others (Weinstein, Nguyen, and Hansen 2021).

If brief periods of solitude are typically benign or beneficial, but extended durations are typically adverse, is there an optimal amount of solitude that promotes well-being? Recent work suggests there is no ideal "one-size-fits-all" balance between solitude and social interaction; rather, what "too much solitude" means seems to depend on an individual's baseline frequency of solitude and varies substantially from person to person. For example, a person might feel less satisfied and lonelier on days when they spend more time in solitude than their usual, but that does not mean that those who generally spend more time alone are lonelier people (Weinstein et al. 2023). However, there may be a threshold; Danvers et al. (2023) observed a significant increase in loneliness when individuals spent more than 75% of their waking hours alone over the course of a week. Prior to this cut-off, those who spent between 25% and 75% of their waking hours alone showed no substantial differences in their loneliness levels (Danvers et al. 2023). Together, these findings suggest that, while there is a point in which solitude may be too much for an average person, there is no universal optimal amount of solitude that one can prescribe.

## 5.2 | Quality of Solitude

The effects of solitude are not solely determined by its quantity (duration and frequency) but also its quality. When it comes to understanding the quality of one's solitude, researchers often focus on motivations for seeking solitude and the activities performed during this time. Across diverse methodologies and samples, studies consistently show that self-selected or chosen solitude contributes more positively to well-being (Coplan, Hipson, and Bowker 2021). Adolescents and emerging adults who spend time in solitude for more intrinsically motivated and personally meaningful reasons report lower loneliness, social anxiety, and depressive symptoms, as well as greater overall well-being (V. Thomas and Azmitia 2019). Further, several studies suggest that people who autonomously decide whether and how to spend their solitary time experience more positive emotions and lower stress when alone (T. T. Nguyen, Ryan, and Deci 2018) and report greater daily life satisfaction and lower daily loneliness (Chua and Koestner 2008; Weinstein et al. 2023).

Voluntary solitude is widely embraced for various reasons (Coplan, Hipson, and Bowker 2021; T. Nguyen, Weinstein, and Deci 2022; T. T. Nguyen, Weinstein, and Ryan 2022; Weinstein, Nguyen, and Hansen 2021; van Zyl, Dankaert, and Guse 2018). Around the world, spending time alone is considered one of the most restful activities (Hammond 2019). Across the lifespan, people report that solitude fosters reflection, self-growth, and freedom from social demands, thereby enhancing life satisfaction (Weinstein, Nguyen, and Hansen 2021). Solitude offers opportunities for individuals to explore their interests and pursue activities that bring joy and freedom, such as reading, listening to music, or engaging in hobbies (Ost Mor, Palgi, and Segel-Karpas 2021). In addition, taking a solitary walk in nature offers several cognitive and emotional benefits, including increased mood, lower stress and rumination, and memory improvements (Berman et al. 2012; Bratman et al. 2015). Other activities that are typically done alone—including mindfulness (K. W. Brown and Ryan 2003), self-reflection and meaning-making (Kross, Ong, and Ayduk 2023; Kross and Ayduk 2011), and expressive writing (Pennebaker 1997)—can promote psychological well-being. Even leisure activities that are typically done with others (e.g., going to the movies) can be enjoyable when done alone, though their value is often underestimated (Ratner and Hamilton 2015). Therefore, the role of solitude in psychological well-being is shaped by *why* and *how* solitude is experienced.

## 5.3 | The Role of Individual Differences

Extant research has tested a wide variety of individual differences in relation to subjective experiences of solitude—these include, but are not limited to, demographic (e.g., age; Hoppmann and Pauly 2022), personality (e.g., introversion; Zelenski, Sobocko, and Whelan 2013) and socio-cultural (e.g., nationality; Lay et al. 2020) factors. For the purpose of this paper, we focus on individual differences in global perceptions around solitude that in turn shape subjective experiences and outcomes of solitude.

### 5.3.1 | Preference for Solitude

The construct of "preference for solitude," as originally conceptualized by Burger (1995), refers to the tendency to choose being alone over being with others. This preference has generally been linked to negative outcomes, including general anxiety, social anxiety, and loneliness (Burger 1995; V. Thomas and Azmitia 2019). More recent work has refined this construct and focused on "affinity for aloneness," which involves choosing solitude because it is an enjoyable and meaningful experience (Daly and Willoughby 2020). Children and adolescents with higher affinity for solitude do not show psychological maladjustment if they have low or moderate levels of social anxiety; only for youth with higher levels of social anxiety is a higher affinity for solitude prospectively linked to negative outcomes later in life (Daly and Willoughby 2020). As previously noted, a preference for solitude is not inherently pathological, and may result from continuous social exclusion (Ren, Wesselmann, and Williams 2016) or be driven by negative emotions (T. T. Nguyen, Konu, and Forbes 2024). Critically, and in contrast to stable preferences for solitude, a momentary desire for solitude is associated with more positive experiences of daily solitude (Lay et al. 2019). Taken together, when evaluating whether a preference for solitude is adaptive or detrimental, researchers should consider what motivates this preference and whether it is chronic or momentary.

### 5.3.2 | Beliefs About Solitude

Emerging evidence suggests that the beliefs we hold about solitude (i.e., whether it's good or bad for us) influence its emotional outcomes (Rodriguez, Schertz, and Kross, revision under review). Notably, two laboratory experiments have shown that altering people's beliefs about solitude—by teaching them about its psychological benefits—improves how people feel during a subsequent 10-min period alone (Rodriguez, Bellet, and McNally 2020; Rodriguez, Pratt, et al. 2023). These beliefs may be influenced by socio-cultural factors ranging from child-rearing practices (e.g., the use of time-outs) to societal emphasis on social relationships to negative media representations of single or solitary individuals (Galanaki 2004; van Staden et al. 2010; van Zyl, Dankaert, and Guse 2018). Given these preliminary findings, we encourage future work to consider individuals' beliefs when assessing solitude's impact on well-being.

## 5.4 | The Role of Social Environment

It might seem ironic to suggest that other people also matter for our solitude. But existing work demonstrates that individuals' social environment and their relationships with others feed into their experiences of solitude. Several studies show that people are more likely to reap the emotional benefits of solitude when they are socially connected (Jiang et al. 2019; Luo et al. 2022; Pauly et al. 2018), which is consistent with the theory that humans need both solitude and social relationships to have a psychologically balanced life (Buchholz 1997; Littman-Ovadia 2019; V. Thomas 2023). This also aligns with foundational work on attachment theory, which posits that individuals who are securely attached are better able to explore their environment on their own because they know they have a safe "base" to return to (Ainsworth 1989; Detrixhe et al. 2014; Mikulincer and Shaver 2013). In contrast, individuals with insecure attachment styles may struggle with solitude, as it might exacerbate feelings of loneliness, anxiety, or abandonment due to less confidence in their social bonds (Mikulincer, Shaver, and Gal 2021). At the same time, one study suggests that solitude may be particularly beneficial for people in highly conflictual relationships; for them, solitude is associated with reduced negative experiences and increased calmness (Birditt et al. 2019). In sum, our social environments and relationships influence not only how much time we spent in solitude but also the potential benefits and risks we may experience as a result.

## 6 | Conclusion

This paper proposes a methodological framework to guide the systematic study of solitude and its complex relationship to psychological well-being. We summarize this framework in the accompanying diagram, which outlines key components for researchers who study solitude to consider. In the left panel, we emphasize the importance of clearly conceptualizing solitude (i.e., what it is) and distinguishing between objective and subjective conditions which require physical separation or non-communication, respectively. The middle panel details different operationalizations of solitude (i.e., how it's observed and measured) used in prior work. Finally, the right panel tease apart various dimensions of solitude, ranging from state-level variables relevant to specific solitary episodes to individual-difference variables in people's perceptions and motivations for solitude. Guided by this framework (Figure 1), the second half of this paper synthesizes research on the relationship between solitude and psychological well-being, highlighting the need for a nuanced, multidimensional approach to understanding their link.

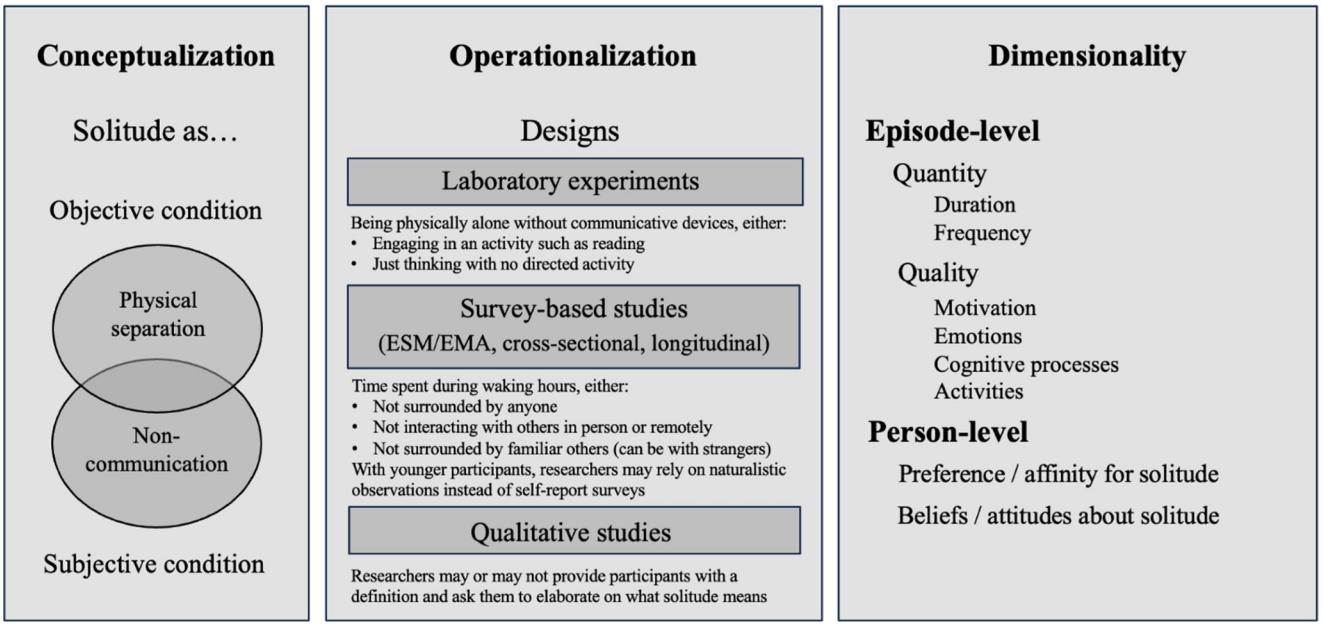


**FIGURE 1** | Framework for studying solitude: conceptualization, operationalization, and dimensionality. The dimensions listed in the right panel under "person-level" are dimensions that are unique to the solitary experience. Other individual differences and contextual factors such as personality (e.g., introversion), demographics (e.g., age), and cultural context may shape experiences of solitude but are not listed because they are not unique to the solitary experience itself.

Critically, we emphasize that understanding the relationship between solitude and well-being—whether through causal effects in experimental designs or correlations in population studies—requires a nuanced, multidimensional approach. Moving forward, we encourage researchers to (a) clearly define and operationalize solitude, and (b) consider its various dimensions when evaluating its impact on well-being and related outcomes.

We believe that the study of solitude and its consequences is important for several reasons. First, solitude is a nearly universal experience that occupies a substantial portion of our daily lives, making it crucial to identify for whom, when, and under what conditions solitude is harmful, benign, or beneficial. This knowledge is relevant to a wide range of individuals ranging from parents and teachers who work with youths, to health professionals treating patients with physical or mental health conditions. Second, it highlights the potential for momentary solitude to serve as a tool for emotion regulation, self-reflection, goal setting, or engaging in creative and intellectual pursuits. Third, a deeper understanding of solitude's effects can inform the creation of public policies and community programs designed to combat social isolation and loneliness without stigmatizing healthy pursuits of solitude. As such, we are delighted by the growing enthusiasm and interest in this evolving area of research, which promises to offer a more comprehensive and nuanced understanding of solitude in daily life.


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### Conflicts of Interest

The authors declare no conflicts of interest.

### Data Availability Statement

The authors have nothing to report.

### Endnotes

[1] The title of our paper, "Deconstructing Solitude," refers to the process of breaking down solitude into its various components—that is, different conceptualizations, operationalizations, and dimensions. It is not meant to reference the deconstructionist movement in philosophy or literary criticism.

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