**The Possibilities of Aloneness and Solitude: Developing an Understanding Framed through the Lens of Human Motivation and Needs**

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**Abstract**

We review literature and experimental data to distinguish solitude from other situations where people are alone but preoccupied by external activities or presence of other people. We further explore meaningful factors shaping solitary experiences, including the reasons for which we find ourselves alone, the activities that we engage in, and the characteristics of solitude that feel authentic and true to ourselves. Thus, this chapter aims to advance understanding of the nuances around our solitary experiences and emphasizes the importance of exploring the nuances of solitude instead of treating it as a unidimensional phenomenon.

**Keywords**

Solitude, aloneness, autonomy, self-determination theory, well-being

**Introduction.**

By some accounts up to half of adults’ waking time is spent alone. Yet research on the experience and functions of time spent alone has been relatively neglected, in part because of pervasive the recognition that social contact is fundamentally important to humans (Coan & Sbarra, 2015). In this chapter, we examine some of the varied ways people spend time alone, and the implications of time alone for emotion regulation and wellness. In particular, we focus on time people spend in solo activities, as well as time spent in *solitude*, or time when one is alone with oneself.

**Distinguishing Aloneness and Solitude**

Before we can empirically study aloneness and solitude, we need to clarify these overlapping constructs. There are many ways that aloneness and solitude have been defined and operationalized in the social psychological and developmental literatures (e.g., Larson, 1990; Long, Seburn, Averill, & More, 1993), with definitions varying in two salient ways: 1) whether the construct of aloneness or solitude includes or excludes situations where an individual is not interactive but is in the presence of other persons, whether physically (e.g., surrounded by strangers) or virtually (e.g., passive browsing on social media); and 2) whether “being in solitude” should be distinguished from “doing an activity alone”. We discuss both issues and their implications for how aloneness and solitude can be understood.

 ***Solitude vs. Not Interacting***. To guide discussions of the topic, Larson (1990) offered a detailed definition of “solitude”, arguing that it should strictly refer to the absence of all of aspects of being with others; that is, the absence of immediate social demands, constraints, and scrutiny, as well as the absence of the opportunity for relating, social engagement, and mutual enjoyment. This definition of solitude entails not only physical separation from people, but also further the severing of exchanges of information and affect. In Larson’s view, if an individual is sitting silently in the presence of another, he or she is not considered to be in solitude because there is an expectation of some sort of shared experiences or affect with the other person. Using this criterion, a person would not be alone in a solitary state when conversing with someone by phone because there is an exchange of relational information. Yet, if watching TV or listening to music when alone, the person would be in a solitary state because the TV or radio do not observe or respond to the individual, impose demands, interact, or provide feedback (p. 157; Larson, 1990). Building on this definition, Larson and colleagues (1990; 1997) measured solitude by asking participants what other people were present at the time they were signaled to complete a survey, using the following options: alone, with friends or acquaintances, with family, with strangers, or other. When selecting “alone”, participants were considered to be in solitude.

Long et al. (2003) offered a somewhat different definition of solitude, as “a state of being alone – either by oneself or, if in the presence of others, without any social interaction” (p. 579). Thus, for Long and colleagues, solitude could include situations where others are physically present, so long as direct social interaction is absent (Long, Seburn, Averill, & More, 2003). This definition has been adopted in recent studies (Lay et al., 2018; 2019) measuring outcomes of solitude.

This definition of solitude depends on the assumption that, when alone but “in public”, that ‘stranger-other’ cues are not operating on individuals shaping their experience (e.g., social facilitation effect; Markus, 1978; Bond & Titus, 1983; Hetherington, Anderson, Norton, Newson, 2006). In this regard, Long and colleagues (2003) have suggested that to the extent individuals are psychologically disengaged from immediate social contacts, they would feel free to do what they elect rather than being shaped or inhibited by social demands.

Nonetheless, the current empirical body of work does not allow us to confidently conclude that the solitude that occurs when physically alone (private solitude) and the solitude that occurs when in the presence of others (public solitude) are not felt as two qualitatively different states. Public and private solitude may have aspects that are distinct. For example, Franzoi and Brewer (1984) reported that people are more likely to experience themselves as “social object that other people look at or react to” when around other people compared to when physically alone. Insofar as the presence of non-interactive others (such as in restaurants or on trains) may bring such social dynamics into experience, this form of being alone should be differentiated from solitude. Indeed, it is difficult to know when individuals allow the presence of others to influence their own thoughts and behaviors (Carver & Scheier, 1978; Goffman, 1959, 1971; Larson, 1990). Thus, for our purposes, we distinguish ‘being alone but around others’ from solitude per se.

***Solitude vs. Doing Something Alone***. Consider how people spend time alone in their daily lives. They work. They study. They watch television. They read a book or browse the Internet. They prepare a meal. Once in a while, they might also sit quietly with their thoughts and feelings. Thus, in many situations in which people consider themselves to be “alone”, their experience is influenced, if not dominated, by a focus on an activity in which they are engaged.

Several studies have examined people’s experiences with activities while alone. For example, when alone, people have been shown to interact with smart devices as a way to reduce boredom and stress (Leung, 2015; Wang, Tchernev, & Solloway, 2012). When there is no one around or nothing to do, people are prone to using media as a way to kill time, especially if lonely (Perse & Rubin, 1990). Indeed, some have argued that passive media use (e.g., watching television) when one is alone might reflect tendencies to seek social belonging through connecting with characters on TV shows or movies (Greenwood & Long, 2009). In this way, being alone while engaged in media activities may still reflect a “social” experience.

Across cultures, people prefer to be doing something when alone rather than doing nothing (Buttrick et al., 2019) and the activities that one performs when alone may have different functions that qualify how they are experienced. For example, when an activity serves a utilitarian goal, like shopping for groceries, people express more interest in doing it alone, whereas when an activity is hedonically focused (like eating at a restaurant or going to a movie theater) people more often prefer the company of others (Ratner & Hamilton, 2015). That is, when doing something fun or enjoyable, people’s experiences are enhanced by the presence of others. Therefore, to the extent that experiences of being alone will differ as a function of the activities performed, being alone while doing an activity should be distinguished from being alone without a specific activity—that is, from being in solitude – a distinction we will discuss further in a later section of this chapter.

***Solitude vs. Aloneness***

We argue that being alone, and without either social presence or an immediate focus on specific external activities, can best be thought of as a new category of experience, namely, *solitude*. Solitude is a state in which an individual spends time alone *with themselves* rather thanwith a *deliberate focus on an externally focused activity* or with the (potentially influential) presence of other persons. This definition, therefore, distinguishes solitude as a specific type of aloneness, one having the features of being both physically alone and free of specific activities.

This raises the question of whether deliberate thinking is considered an activity or whether it should be excluded from the definition of solitude. We argue that the opportunity for thinking is a feature of solitude, and thus cannot be taken out. In a later section, we describe evidence suggesting that the ability to turn internally and become more aware of one’s inner experiences is a unique quality of being in solitude, as much of previous literature has suggested (Long et al., 2003; Storr, 1988). For example, people generally report more self-reflection and more awareness of inner thoughts and emotions when alone compared to when interacting with others (Nguyen, Weinstein, & Sedikides, *in preparation*). Evidence also shows that people report engaging in more self-reflection and inner-focused experiences when they sit alone with no external activities compared to when they read or browse on their phones (Nguyen, Weinstein, & Przybylski, *in preparation*).

Further, in the literature, the word solitude is often used to describe a state in which the self is the central focus of one’s alone experience. For example, Anthony Storr (1988) named his book about solitude as *Solitude: A return to the self*. Likewise, Michael Harris (2017) wrote a book on solitude to encourage people to find more time alone and regain their sense of self. Robert Kull (2010), a writer who has spent much of his time in the wilderness, spoke of solitude as a wisdom-seeking experience. Indeed, many authors have depicted solitude as a struggle, a pursuit, or a journey toward finding oneself. This emphasis on the use of solitude as a time of reflection and personal growth suggests that for many people solitude entails a particular type of aloneness in which the person is occupied with inner experiences.

In sum, being alone in the presence of others and being alone but engaged in an externally focused activity both represent conditions in which the experience of aloneness is influenced by other factors. Both stand in contrast to another form of aloneness in which a person is both physically alone (not in the presence of others) and not doing a specific externally focused activity: a state for which we reserve the term *solitude*. By distinguishing solitude from both doing an activity while alone and from being alone in the presence of others, we can then take a bottom-up approach, studying solitude as well as by adding in varied levels of social presence and types of activities to understand how such additional factors change the way people experience being alone.

**Effects of Aloneness and Solitude**

In an initial series of studies using this bottom up approach, Nguyen, Ryan and Deci (2018) introduced a solitude condition, built on the definition that solitude is being alone *with oneself*; that is, not with an activity or in the presence of other people. In this solitude condition, participants were invited to the lab to sit alone in a quiet room with no activity for 15 minutes. Nguyen et al. then compared this solitude experience with conditions in which either a social (Study 1) or a solitary activity was added (Study 2). A set of findings that emerged from this strategy concerning the arousal reduction or *deactivation effect* of being alone.

***Aloneness and the “Deactivation Effect”.*** Many people see time alone as an opportunity to disengage from arousing activities and to center oneself. However, what this means from an empirical standpoint is not always clear. In a series of studies we have sought to examine how time spent alone may offer a unique opportunity for affective regulation, and in such a way that both positive and negative affective arousal (excitement, anger) is lowered, allowing for more low-arousal affects such as calm, relaxation and sadness. Specifically, we have examined evidence for a deactivation effectthat occurs in both aloneness and solitude.

In an initial study, Nguyen et al. (2018) assigned participants to either the solitude condition described above or one in which they engaged in a conversation with a research assistant. Participants completed surveys assessing their emotions before and after they spent 15 minutes either in solitude or interacting with the other person. Of interest were 20 items taken from the *Positive Affect and Negative Affect Schedule* – a measure of positive and negative emotions commonly used in social psychology research (Watson et al., 1988). This measure includes emotional descriptions that pertain to aroused states such as excitement, enthusiasm, or anxiety, and nervousness. Using this measure to assess changes in affective states, an interesting insight emerged: both positive and negative emotions that were high on arousal dropped in the solitude condition, but not in the social interaction condition.

This finding was important because it clarified previous results by Larson and colleagues (1982; 1990; 1997), suggesting that people experienced lower positive emotions but higher negative emotions when spending time alone. However, Larson’s studies measured positive and negative emotions on semantic differential scales, which consisted of pairs of emotional items, one positive and the other negative. Some of those scales included items describing high-arousal states on one end and low-arousal states on the other, making it difficult to understand whether the differences between alone time and social time lay in the emotional valence that people experienced or the arousal levels that were associated with those emotions. Because Nguyen et al. (2018) used only high-arousal emotion items they found that it was not the case that high-arousal positive emotions were lower and high-arousal negative emotions higher in the solitude condition compared to the social interaction condition. Instead, both types of emotions reduced significantly after solitude.

In a second study in this series, Nguyen et al. (2018) then compared solitude with a condition in which people spent time alone on a quiet, sedentary activity, namely *reading*. This time the researchers used a revised version of the PANAS that included all four types of emotion: high-arousal positive emotions, high-arousal negative emotions, low-arousal positive emotions, and low-arousal negative emotions. Results showed that when spending time either in solitude or spending time alone with a reading task, both types of high-arousal affects diminished. Together these studies thus suggested what we refer to as a deactivation effectof being alone, which appears to occur both for solitude, and for spending time alone on a sedentary activity.

To further test for this, Nguyen et al. (2018, Study 4) examined the deactivation effect at both the day level and the week level using a switching-replications experimental design. In this study, 157 undergraduate participants took part for fourteen days. Half were instructed to spend time in solitude (i.e., doing nothing) for 15 minutes each day only in the first week but not in the second week. The order of the solitude versus non-solitude week was reversed for the other half of the participants. All participants reported their affective experiences at the end of all fourteen days. Findings showed that high-arousal affects, both positive and negative, dropped significantly during the week in which participants were instructed to carry out a 15 minute per day solitude experience, for both groups (see *Figures 1 & 2*). Interestingly, for participants who engaged in solitude on the first week, their high-arousal affect remained low into the second week, suggesting some carry-over effects from the time they had spent in solitude.

The deactivation effect refers to the drop of high-arousal positive and negative affect. However, the one time that we did not observe the full deactivation effect was a condition in which participants were instructed to deliberately focus on thinking when spending time alone (Study 3; Nguyen et al. 2018). In this experiment there were five conditions involving being alone or in solitude: 1) a solitude condition (i.e., with no instruction to do or think anything); 2) a forced-choice positive thought condition (i.e., when participant was instructed to think positive thoughts); 3) a free-choice positive thought condition (i.e., when participant was offered the choice between positive and neutral thoughts and chose to think positive thoughts ); 4) a forced-choice neutral thought condition (i.e., when participant was instructed to think neutral thoughts); and 5) a free-choice neutral thought (i.e., when participant was offered the choice between positive and neutral thoughts and chose to think neutral thoughts). In all conditions drops in high-arousal negative affect were evident, except those who were forced to think about neutral thoughts. Yet for high-arousal positive affect, only those in the solitude condition and those in the forced-choice neutral thought condition experienced significant drops, whereas those in either free-choice or positive thought conditions did not.





These findings suggested that both choice and positive thinking helped maintain participants’ activated positive affects when spending time alone. Thus, they provided preliminary insights into the ways people can keep themselves energized and engaged when spending time alone. These initial findings of a deactivation effect warrant further research. In future research, testing the effects of stimuli on the time people spend alone, we will need to think systematically about our predictions around which types of stimuli might meaningfully change the way being alone affects level and type of arousal. For examples, in contrast to sedentary activity done alone (reading), we can examine active behaviors like engaging in exercise alone, to isolate both physical and mental inputs to emotional arousal. We can also contrast passive (e.g., reading, TV) versus active (e.g., video games) entertainments for differing effects. For example, Ryan, Rigby and Przybylski (2006) found that solo playing of video games fostered increased vitality, a form of activated positive affect. Through understanding how different types of stimuli alter experiences during time spent alone, we can begin to explore how varied activities might reflect the ways in which people constructively regulate their time alone, or to the contrary, experience aloneness as a time of loneliness or boredom. For example, Congard et al. (2019) recently found that people undergoing a mindfulness meditation intervention, which entailed doing a 20-minute mindfulness activity alone daily, showed a trajectory of decreasing high arousal affect, both negative and positive, over time.

***Self-focused experience as a unique quality of solitude.*** When defined as being alone without an occupying activity or the presence of other people, solitude provides context that uniquely opens a space for self-focused experiences (Franzoi & Brewer, 1984). When surrounded by others, our thoughts and behaviors are more frequently shaped by social norms or standards (Alexander & Knight, 1971; Franzoi & Brewer, 1984; Long & Averill, 2003). The presence of others can also induce public self-consciousness, which involves experiencing oneself as a “social object” (Plant & Ryan, 1985).

In contrast to public self-consciousness, private self-consciousness pertains to the experience of being aware of one’s own thoughts and feelings. It has been proposed that private self-awareness might be higher when people are alone compared to when they are with others (Franzoi & Brewer, 1984). Yet evidence so far has been inconsistent. Franzoi and Brewer’s (1984) reported greater private self-awareness when participants were alone than when with others in one study but did not replicate this result in a second study. In these studies, the authors also did not account for whether participants were engaging in any activities when they were alone.

In two recent experiments, Nguyen, Weinstein, & Przybylski (*in preparation)* compared a solitude condition with two other conditions, one with other-presence cues and one with an activity. The first experiment used a repeated-measures design by exposing participants to both the solitude condition and other-presence condition (the order of conditions was randomized). In the other-presence condition, participants were instructed to browse on their Facebook feeds; however, to distinguish this from a social interaction condition (as in Study 1; Nguyen et al., 2018), Nguyen and colleagues asked participants not to engage in any back-and-forth interactions with others. In this first study, participants reported engaging in more self-reflection in the solitude condition compared to the other-presence condition. Consistent with previous research (Alexander & Knight, 1971; Franzoi & Brewer, 1984; Long & Averill, 2003), simply browsing on Facebook feeds increased experiences of public self-consciousness – concerns about what other people might be thinking about oneself.

 In a second study, Nguyen and colleagues (in preparation) used a between-subject design in which participants were randomized to three conditions: a solitude condition, an alone with reading condition, and an alone with social media condition. For the alone with reading condition, participants were allowed to choose their own readings materials to spend time with for 15 minutes. Likewise, for the alone with social media condition, participants this time were allowed to browse on any social media apps of their choice. We found that participants were most likely to report spending time in self-reflection when in solitude, more so than when they were alone with a reading. Those who were instructed to browse on social media, despite not physically or directly interacting with anyone, reported the lowest level of engagement with self-reflection, less than those who were reading alone or those in solitude. These experiments demonstrate that the one is engaged in activity when alone, the less time they spend in self-reflection, whereas the latter may be more potentiated by true solitude.

These findings on the influence of activity and salience of other-presence during time spent alone could be interpreted in a number of ways. First, it can be explained with a distractibility hypothesis: people might interact with activities or with social media as a strategy to distract themselves from negative emotions. In other words, some people might prefer going on social media or doing an activity because they do not want to face their internal experiences. A second view is simply that people’s capacity to self-focus is disrupted by an outward focus on activities and other people; in this case, attention is drawn away from what is happening internally. These two hypotheses suggest different mediating factors that explain why doing activities when alone disrupts self-reflection, whereas being in solitude may conduce to private self-consciousness.

Anecdotally, much of our daily time alone is filled in with activities that detract from, or crowd out, the opportunity to spend time with ourselves in solitude. Yet, to find the time to be aware of one’s internal thoughts and feelings requires finding the time for solitude. Although these internal processes are definitely not specifically reserved for solitude, it appears that solitude offers a unique space that allows people to analyze their thoughts and feelings, and reflect on values and aspirations. Note that the literature on private self-awareness distinguishes fruitful self-reflection that leads to growth, new insights, and creativity, from destructive rumination that perpetuates worries, doubts, and self-criticisms (Grant, Franklin, & Langford, 2002; Roth, Vansteenkiste & Ryan, 2015; Trapnell & Campbell, 1999). Therefore, it is important for future research to identify conditions in which solitude fosters productive self-reflection and insight development and when it is filled with negative thoughts or rumination.

**The Role of Autonomy in Aloneness and Solitude**

 Although doing activities when alone may detract from self-awareness, they can also contribute positively to our experience of aloneness. Undoubtedly, this is partly why people pursue activities that occupy them when they are alone. However, people may not always experience themselves as having choice, spending their time alone completing tasks that they think they should be doing or have to, to fulfill some obligations and expectations. Thus, when people are alone but doing an activity, the quality of motivation for the activity will be important in determining the outcomes of the alone experience. However, when considering the category of solitude, time spent alone not doing an activity, experience will be influenced by the autonomy for being in solitude. Therefore, we see that it is important to distinguish between autonomy for doing an activity while alone from autonomy for being in solitude; one focuses more on the motivation for the activity and the other focuses more on the motivation for experiencing time with oneself. Some people might willingly spend time doing an activity alone like going shopping, eating dinner, doing homework, or playing video games, but might not like to spend time with themselves without any activity. Research has looked at the role of motivation for spending time alone in moderating different changes in emotions from before to after experiencing solitude (Study 3; Nguyen et al., 2018) as well as the link between motivation for spending time alone with psychological well-being outcomes (Nguyen, Werner, & Soenens, 2019; Thomas & Azmitia, 2018). We consider both topics, in turn.

**Motivation when doing things alone**.

 According to self-determination theory (SDT; Ryan & Deci, 2017), experiences with different activities or behaviors vary depending on how autonomous the motivation is for engaging in them (e.g., Ketonen, Dietrich, Moeller, Salmela-Aro, & Lonka, 2018; Langan, Hodge, McGowan, Carney, Saunders, & Lonsdale, 2016). *Autonomous motivation* refers to a willingness to act, as when a person personally values an activity or finds interest in it. Alternatively, a person might do an activity out of external pressure, or to avoid guilt or shame. These two forms of motivation – the former is called external motivation and the latter introjected motivation – are together referred to as *controlled motivation* within SDT. Whereas controlled motivation is often associated with more negative experiences such as depletion and negative affect, autonomous motivation is typically accompanied with more enjoyment and feelings of satisfaction (Deci & Ryan, 2000; Ryan & Deci, 2017).

Applying the concepts of autonomous and controlled motivations to doing certain activities when alone, one can readily can see examples where one might feel compelled and coerced into engaging in certain behaviors alone (e.g., working on a dreaded assignment to meet a deadline) as well as situations in which doing something alone is wholly volitional (e.g., taking a walk; doing a puzzle). A hypothesis consistent with SDT would suggest that, to the extent that the value of performing certain activity alone is autonomous, individuals will experience their time alone more positively. Next, we will explore cases when people don’t experience autonomy when alone and propose underlying explanations.

 ***Problems with lack of autonomy when alone or in solitude.*** It is interesting to ponder cases where a person is alone but experiences little autonomy. When we are alone, other people are not around to tell us what to do or force us to do things that we do not want. Yet, other people can influence us in more complex ways than simply through direct interaction. In his chapter *The Capacity to Be Alone*,Winnicott (1959) discussed the idea that our internalized images of a caregiver manifest in the ways in which we experience and spend time alone. Internalization refers to the process of turning an experience or object of the external environment into an internal experience. For example, a child can internalize the image of a caring and loving mother, and when the mother is not immediately available, the child can “summon” that internalized image of the mother to self-soothe. The child can also transfer the mother’s internalized image onto a transitional object, such as a stuffed animal or an imaginary friend, and rely on that object for comfort. Winnicott suggested that it’s the process of internalizing the way we have been cared for that gives us the capacity to tend to ourselves as we grow older when we are alone.

 Introjects are the “should” and “have-to” messages people carry with them; the expectations from others that have accumulated as a result of influential experiences where others have motivated through pressure behaviors that are not intrinsically valued or meaningful (Ryan & Deci, 2017). Introjects are likely to be the driver of the activities and experiences we have when no one is around, as solitude allows for internal processes to come to the forefront (Thomsen, Tønnesvang, Schnieber, & Olesen, 2011; Vandenkerckhove, Brenning, Vansteenkiste, Luyten, & Soenens, 2019). As such, we argue that the self-doubt and ruminative thoughts that people experience when spending time alone can sometimes be a function of their introjects. Introjects make individuals feel that they are compelled to engage in activities out of guilt or anxiety, such as feeling the pressure to catch up on work when alone, even though one might prefer to relax and read a book. Alternatively, introjects can manifest in forms of unrealistic expectations that people have for themselves, leading to regrets and self-doubts when feeling that they fell short of meeting those expectations. Introjects are the core of inauthentic aloneness.

Thus, the possibility of introjects in solitude pose a problem for a definition of solitude as “free from social pressures…” since we may carry such expectations and pressures with us even when alone through the process of internalization (Assor, Roth, & Deci, 2004; Sandler & Rosenblatt, 1962). This can be addressed by emphasizing such pressures are *external* pressures, expectations, and influences directly imposed by others. On the other hand, we can better understand the outcomes of solitude in terms of whether introjected or identified motivations are carried into the state of being alone.

 On the opposite side of feeling like one has to do something when alone, some people might not know what to do when they are alone, including cases where people do not engage in activities that are meaningful to them. Such experiences also reflect a lack of autonomy. If individuals have little opportunity to exercise their autonomy in their everyday experiences, they are likely to do things only in the presence of extrinsic motivators, such as rewards or pressures from other people. As such, in the absence of extrinsic motivators when alone, the person is likely to see little value in engaging meaningful activities. Instead of introjects, what the person experiences in this state is amotivation – the lack of motivation (Gagne & Deci, 2005; Garn, Matthews, & Jolly, 2010; Ntoumanis, Pensgaard, Martin, & Pipe, 2004; Standage, Duda, & Ntoumanis, 2003). An example would be someone who mindlessly surfs the Internet without engaging with it in any meaningful ways. When people lack the motivation to do anything when alone, they resort to activities that are of little value and less challenging simply to fill the time. They feel bored and inactive yet exert little energy to change their situation. Thus, we see that amotivation can also characterize some experiences of spending time alone.

**Autonomously spending time alone**.

Recently, Coplan, Ooi, and Baldwin (2019) laid out how time alone - its costs and benefits - transform from childhood to adulthood. They postulated that the value of time alone rises particularly during adolescence when it is useful for emotional restoration, pursuit of autonomous activities, and teenagers’ development of interests and identities. Subsequently, as individuals begin to gain more control over how time alone is spent, it has become clear that, for adolescents, adults, or elderlies, choice plays a significant role in how solitary time may be spent and experienced (Lay et al., 2018a, 2018b).

It is important, however, to distinguish between choosing to be alone over being with others and autonomously pursuing time alone for its enjoyment and benefits. In Lay et al.’s research, they operationalized choice as “wanting to be alone” or “wanting others nearby but no interaction”. This operationalization of choice aligns with the concept of preference for aloneness (Burger, 1995; Wang, Rubin, Laursen, Booth-LaForce, & Rose-Krasnor, 2013) over otherness in the social approach and social avoidance model (Asendorpf, 1990; Gazelle & Rudolph, 2004). This is conceptually distinct from the concept of autonomy in self-determination theory. Although preference for being alone reflects intentionality to be alone, it does not specify that the person approaches time alone as something valued for its own experiential quality, as opposed to it being a way to be away from interactions with others. On the other hand, from the SDT framework, the concept of autonomy for spending time alone specifies a motivational quality that is characterized by volition, value and interest. As such, although preference for spending time alone has been linked to psychological maladjustment in early or late adolescence (Wang et al., 2013), those with high autonomy for aloneness who approach time alone for its enjoyment and experiential benefits experience greater well-being outcomes (Chua & Koestner, 2008), and gain more emotional benefits from spending time alone (Nguyen, et al. 2018). These findings suggested that embracing the value of time alone, rather than simply choosing, may be an important factor in determining how much we can benefit from it. Particularly, it has been shown that those who see time spent alone as a valuable and enjoyable experience, when they have some time to be in solitude with themselves (doing nothing), they became more relaxed and less stressed and gained greater satisfaction from the experience (Study 4; Nguyen, et al., 2018).

These findings are also congruent with those of Thomas and Azmitia (2018), who applied a Motivation for Solitude Scale based on SDT developed by Nicols (2006). They found that people who reported engaging in solitude, simply defined as spending time alone, for non-self-determined reasons such as discomfort around others also reported greater loneliness, social anxiety, and depressive symptoms. In contrast, alone time chosen for more autonomous reasons, such as “getting in touch” with oneself, was not associated with negative indicators, and showed associations with reports of growth and self-acceptance.

As such, the next important question is how do we get people to find more value in having time for solitude? In two studies (Nguyen, Weinstein, & Deci, *under review*; Nguyen, Werner, & Soenens, 2019) demonstrated that supporting autonomy for engaging with solitude increases autonomous motivation for solitude, enhancing its enjoyment, and motivating people to engage with solitude longer instead of seeking out boring distraction. Autonomy for solitude was defined as a motivational experience whereby an individual approaches solitude for intrinsic and self-determined reasons instead of feeling forced or pressured into it.

Nguyen, Weinstein, and Deci (*under review*) experimentally created three conditions: a neutral solitude condition (as in Nguyen et al., 2018), an autonomy-supportive solitude condition, and an autonomy-thwarting solitude condition. In all three conditions participants received the instruction to sit alone without engaging in any communication via devices or activities. However, the instruction was delivered in varied tones based on self-determination theory framework to evoke different motivational experiences in the subjects. Of our interest was the difference between the instruction that supports the participants’ autonomy compared to the instruction that thwarts it; that is, the autonomy-supported solitude and autonomy-thwarted solitude conditions.

Participants received an autonomy-supportive instruction, which was created with three specific qualities in mind: 1) the instruction acknowledges that each subject can have very different experiences, so there is no right or wrong way to feel; 2) the instruction allows each subject to see how solitude feels to them without imposing any specific values of solitude on the subject; and 3) the instruction does not use controlling language such as “must”, “have to” or “should”. In contrast, in the condition in which participants received an autonomy-thwarting instruction, the experimenter used controlling language to communicate that they “must” spend the time alone in the fashion as it was described. Although the first condition allowed research subjects the autonomy to engage with solitude as a personal experience, the second condition made the subjects feel restrained by certain expectations and have little choice in the experience. These two examples carry different motivational tones, and thus are likely to result in different experiential outcomes.

These researchers found that those who received autonomy-supportive instruction subsequently reported valuing the solitude experience more than those who received the autonomy-thwarting instruction. Those who received pressuring instructions to spend time alone experienced heightened levels of low-arousal negative emotions like sadness and loneliness, whereas those who received supportive instruction did not have this experience. This was the first experimental evidence to show when people have autonomy in solitude, they engage it more positively.

Indeed, participants who were given supportive instruction also chose to continue to stay in solitude for longer, even when they had the option to do something else. This was observed in the later part of the experiments, when we left participants in the room alone, giving them the option to engage with a boring activity while waiting. The reason for giving participants a boring alternative was to test whether participants would rather do anything, even a boring task, than sitting alone with their thoughts. Some researchers have suggested that this experience is uncomfortable (Buttrick et al., 2018; Westgate & Wilson, 2017; Wilson et al., 2014;), and that, should one find oneself alone briefly at any given time during the day, he or she would rather find something to do to fill the time. However, in both of our studies, 24% in Study 1 and 23% in Study 2 outof the participants who received supportive instruction chose to continue sitting completely in solitude when given the choice to engage in an external activity, compared to 13% in Study 1 and 15% in Study 2 out of those who received pressuring instructions. These results demonstrated that, even though sitting in solitude with nothing might be something that many people would rather avoid, people benefit more from solitude and engage with it more when they see solitude as valuable and important to them.

**Personality and Being Alone**

Some people may have a higher capacity for being alone more than others. For example, as suggested by Winnicott (1959), perhaps people with insecure attachments find being alone a more negative experience because of their neediness for others. Or perhaps extroverts find it harder to be alone? Finally, perhaps people with more tendencies toward autonomy can better navigate the open space of solitude?

Several studies have examined personality correlates of attitudes toward spending time alone. Yet before we delve into a discussion around personality underpinnings in the context of solitude, it is important to consider the limitations of relying on self-reported measures of personality constructs. First, we need to consider the validity of the personality measures in question, including which samples have been used in its development and testing, and its reliability across multiple independent studies. Second, we need to ensure construct validity by evaluating the relations between a targeted personality measure and its correlates over several replications instead of relying on findings from a single study. Third, as often there are several measures of the same personality construct based on different conceptualisations, it is important to be transparent about which measure of a certain construct has been used (Flake & Fried, 2019). In relation to attitudes toward time alone, we suggest that research be clear about what measures of time spent alone are used and how they are operationalised, so that we can gain a more accurate understanding of the association between personality and variables and people’s experiences when spending by themselves. We will apply these considerations to our reports, below, of studies examining personality correlates of attitudes toward time alone.

In a seminal study in this area, Long, Seburn, Averill, and More (2003) asked undergraduate participants to report how frequently they experienced each of the three categories of solitary experiences: inner-directed solitude, outer-directed solitude, and lonely solitude. Inner-directed solitude pertained to time spent alone for self-discovery, to seek peace and freedom from social controls, to pursue creative activities, or to complete tasks that involve problem solving. Outer-directed solitude referred to time alone devoted to reflecting on one’s social relationships with those who are not immediately present, to connecting with one’s spiritual deity. Finally, lonely solitude was understood to be time alone that is lonely or spent on escapism such as engaging in activities that serve to distract from the experience of being alone. Examining the correlations between those three categories of solitary experiences and measures of personality, Long et al. found that inner-directed solitude was positively related with Averill’s (1999) measure of emotional creativity. Outer-directed solitude correlated positively with emotional creativity and negatively with Brennan, Clark, and Shaver’s (1998) measure of avoidant attachment. Finally, lonely solitude yielded significant correlations with the most personality scales, including negative associations with Eysenck and Eysenck’s (1964) measure of extraversion and positive correlations with neuroticism, as well as with both avoidant and anxious attachment styles (Brennan et al., 1998). Long et al.’ (2003) results also suggested that aside from lonely solitude, *frequency* of engaging in other types of solitary experience is associated with positive personality characteristics, and particularly with emotional creativity.

In a separate study, Leary et al. (2003) provided participants with a list of 12 common activities (e.g., eating in a restaurant, going to a movie). They were then asked to indicate how frequently (in the past month) they engaged in each of these activities and how frequently they did those activities by themselves. Participants were also asked the likelihood they would do each activity if they could not find others to do it with, and how much they would enjoy doing each activity alone. The researchers found that frequency of engaging in solitary activities alone correlated negatively with extraversion (using the NEO-PI by Costa & McCrae, 1992). The rated likelihood of engaging in solitary activities was negatively correlated with sociability (using Sociability Scale by Cheek & Buss, 1981). Enjoyment of solitary activities showed similar correlations with the same variables as the likelihood of engaging in those activities. Finally, and interestingly, sociability – how much one enjoys company of other - positively predicted how much the participants rated they would enjoy engaging in activities alone.

The two above-mentioned studies presented a nuanced picture of the link between personality and individuals’ experiences with time alone. Yet, despite popular notion that enjoyment with time spent alone is characteristic of introverts, extraversion measures (Costa & McCrae, 1992; Eysenck & Eysenck, 1964) showed negative correlation with frequency of engaging in solitary activities rather than enjoyment with time spent alone. This absence of the link between introversion-extraversion dimension of big-five personality was further demonstrated in a set of four daily-diary studies by Nguyen, Weinstein, and Ryan (*under review*). They investigated how trait measures of attachment (using Adult Attachment Scale by Collins & Read, 1990), introversion (using Big Five Inventory by John & Srivastava, 1999) and dispositional autonomy (using Autonomous Functioning Index by Weinstein, Przybylski, & Ryan, 2012) predicted both autonomy for, and enjoyment of, being alone or in solitude. Among their findings was that those with avoidant attachment displayed a preference for being alone but reported negative experiences during it. In contrast, individuals who are high on dispositional autonomy derived more enjoyment and need satisfaction from solitude, and were less likely to be bothered by intrusive negative thoughts when spending time with themselves. The findings for introversion and anxious attachment were weak, suggesting these were not strong predictors of reactions to be alone. These findings somewhat contrast with previous findings (Burger, 1995; Goossens et al, 1998; Kwapil et al, 2014; Leary et al, 2003; Long et al, 2003), showing that preference for being alone is characteristic of introverts or those high in insecure attachment. However, none of the previous studies used daily diary designs to track people’s fluctuation in preference for aloneness and autonomy for aloneness, or to track daily affective reactions to such moments. It is also worth noting that an experience sampling by Leikas and Ilmarinen (2016) showed extraverted individuals also experiencing delayed fatigue from too many social interactions. This suggests that extraverts might also benefit from taking some time alone for peace and quiet, which is consistent with findings from a study conducted through BBC Four showing that extraverts rate time alone as more restful than being with others (The Rest Test, 2016).

We are only now starting to identify personality patterns that predict how time spent alone, or in solitude, is experienced. As might seem intuitive, we have observed trends for more introverted individuals to prefer time alone, but it is still unclear whether they directly benefit from this time, and some evidence points away from this conclusion. More consistent findings have been observed for the beneficial outcomes of personality characteristics that lead individuals to greater self-reflection and comfort with the self, as well as with inner-directed experiences such as emotions, such as dispositional tendencies toward autonomy, and more enjoyment of time spent alone. However, we caution interpretations suggesting that this means personality traits such as proneness to autonomy or enjoyment are specific to having more positive experiences in solitude, as it is possible that such individuals are more likely to flourish in any life experiences, whether alone or with others.

**Authenticity in Solitude**

Authenticity – the experience of being the ‘real me’ (Wood, Linley, Maltby, Baliousis, & Joseph, 2008) is an important consideration for understanding time spent alone, because this time presents opportunities for self-focused attention free from immediate social pressures. When people feel authentic, they are likely to find it easier to express themselves and stay true to who they are. This is in line with a view of authenticity as one behaving in ways that are self-authored rather than forced and behaving in ways consistent with one’s emotions and personal values at a particular moment (Ryan & Ryan, 2019). In contrast, when autonomy is thwarted, individuals would prefer to close themselves off to protect themselves from potential threats to self-esteem (Legate, Ryan, & Weinstein, 2012). To the extent that a person feels autonomous when spending time alone, we argue that he or she will be more likely to be receptive and interested in feelings or thoughts that emerge during time spent alone, fostering a sense of authenticity.

In two studies, Nguyen, Weinstein, and Sedikides (*in preparation)* investigated what it looks like when people feel authentic or inauthentic when spending time alone, compared to when they feel authentic or inauthentic when spending time with others. One was an online study with participants recruited via Prolific platform and the second was a diary study in which undergraduate participants’ daily responses were collected over 5 days. In both studies, participants were asked to think of four different experiences in their life: 1) when they were interacting with others and were feeling authentic; 2) when they were interacting with others and were feeling inauthentic; 3) when they were alone and were feeling authentic; and 4) when they were alone and were feeling inauthentic. It was found that although people experience authenticity as frequently as inauthenticity when interacting with others, they experienced authenticity more often than inauthenticity when alone. In fact, people reported experiencing authentic aloneness more frequently than authentic social interactions.

In interpersonal contexts, authenticity and inauthenticity manifest in feelings and behaviors when interacting with another person. In time alone, authenticity and inauthenticity manifest in the experiences and activities that are available when no other people are around to influence what we do. If solitude is a space for self-focused experiences, it may allow individuals to get in touch with feelings and thoughts and to be more able to act in congruence with what is meaningful and valuable to them. In that sense, an activity can be a meaningful addition to solitude when the activity is a manifestation of what we value and find satisfying. On the other hand, an activity infringes upon solitude when it goes against what is personally valued.

Coding open-ended responses by participants describing their time alone, Nguyen and colleagues found that when asked to elaborate on why certain experiences of aloneness were authentic to them, participants often described situations when they engaged in an activity that they were good at, were intrinsically motivated to do, or that they valued, such as engaging in a hobby or working on project that they were passionate about. Participants also felt authentic when alone when they had the opportunity to do what was important to them rather than what other people wanted them to do, such as going shopping and trying on clothes that they felt comfortable in instead of worrying about what their spouse or friends would think. Furthermore, authentic aloneness is also a time when people gained the opportunity to tend to their own needs, such as the case of a mother’s taking a break from childcare and having some time to herself. In contrast, when asked about inauthentic aloneness, participants described situations when they had to do something that was of little value to them, such as having to finish a boring assignment, or when they felt unproductive and failed to progress on an activity. Further, rumination is a big theme in authentic aloneness. Many participants reported feeling inauthentic when they spent time alone dwelling on a failure in the past or experiencing self-doubt.

From the examples above, we see that satisfaction of autonomy and competence needs are important ingredients of positive aloneness. The need for autonomy is satisfied when we experience meaningful choice in behaving and engaging in activities that are congruent with our values and beliefs. Competence need is satisfied when we feel effective and optimally challenged in what we do (Ryan & Deci, 2017). The freedom afforded from being alone allows people the opportunity to have these two needs met. These two needs are not satisfied when people spend time alone doing things that they feel compelled to do or are doing something to escape from negative thoughts. That is, when activity begins to infringe upon our autonomy in solitude, this can lead us to feel more disconnected from who we are. Thus, it seems that the *quality* of time alone has much to do with the motivation for what one is doing. Time spent on activities of interest and value can yield positive effects on wellness. But time alone can be taken up by tasks one feels controlled to do. Similarly, solitude can be autonomously undertaken and enjoyed, or it can be characterized by internal intrusions such as introjects, ruminations and insecurities.

**Conclusion**

In advancing the study of aloneness, we have distinguished between being alone among others, being alone but doing an activity, and being alone without an activity, referring to the latter as solitude. In this research program we first examined how being alone influences affective regulation and mood, finding that sitting alone, whether doing an activity or not, tends to be deactivating—it reduces high arousal positive and negative affect. This helps highlight one function of aloneness, namely to reduce arousal, calming both activated positive and negative emotions. These findings suggest that aloneness is a way of being “off line” and may have important implications for emotional regulation.

Second, we looked at people’s motivation for being alone with activities or in solitude. When engaged in solo activities, motivation for the activities strongly colors experience. The more autonomous the activity one does when alone, the more positive the experience of aloneness. We further distinguished individual differences in preference for spending time alone over with others, which does not specify whether they would find time alone valuable or enjoyable, from the experiences of autonomy for being alone, which entails that one approaches time alone for its experiential benefits. When we separated these two forms of motivation for spending time alone, we found that people’s daily preference for being alone is not linked to introversion or their attachment styles. Conversely, people high in dispositional autonomy appear to be more prone to both prefer and benefit from alone time.

 Although aloneness, and solitude in particular, offer opportunities for self-reflection, one need not be authentic even before oneself. We discussed authenticity and time spent alone, proposing that activities that we engage in when spending time alone might either reflect what we find enjoyable and valuable in our life or might be manifestations of our introjects or lack of motivation to engage in meaningful tasks in absence of external contingencies. As such, aloneness might, on the one hand, be an opportunity for individuals to engage in things as an expression of one’s true self and authenticity, or on the other hand, be a time when the pressures that internalized from daily life infringe upon one’s ability to be at peace with oneself, engendering a sense of inauthenticity. In other words, people may carry other motivational and self-evaluative tendencies into their alone time, making it more or less positive and edifying.

 Clearly there is much more to study about aloneness and solitude. Time alone impacts emotions and plays a role in their regulation. It also seems that there is considerable variability in people’s experience when they step out of the default mode of social contact and into the private worlds of solitary acts and solitude. Distinguishing effects of both doing activities alone and engaging in solitude per se will help shed light on the important phenomena that occur when the human social animal faces its world, or itself, alone.

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