



Who is more likely to experience feelings of home? Relations of the HEXACO, Big Five, and Dark Triad with a need-satisfaction operationalization of home

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ABSTRACT

Authors have recently created need-based approaches to conceptualizing and operationalizing home, wherein home is defined as a residence that fulfills physical and psychological needs. These approaches ease the integration of psychological theory into the study of home, which we advance by heeding calls of recent authors and investigating a novel antecedent to feelings of home – personality. We assess whether the HEXACO in Study 1 and Big Five and Dark Triad in Study 2 relate to feelings of home when operationalized as the satisfaction of needs by the Need-Based Home Scale, which adapts basic psychological need theory to identify the needs satisfied by a residence to develop feelings of home. We use the situation, trait, and outcome activation (STOA) model to create hypotheses. Rather than multiple dimensions producing narrow effects on specific needs, as predicted by the STOA model, extraversion and agreeableness positively related to the broad satisfaction of needs by a residence. We leverage these results to identify how the STOA model may – and may not – inform the future study of personality and feelings of home, and we reflect on additional psychological theory that may benefit the study of home.

The importance of home has been recognized throughout history, which is why the distinct word, “home”, was created across cultures to differentiate it from dwellings, residences, houses, and other less-valued words (Blunt & Dowling, 2022; Howard, 2025a; Kirby, 2017). Academic and popular press articles alike have reflected on the importance of home, including the benefits of feeling at home and the detriments of losing a sense of home (Kirby, 2017; Pascual-Bordas, 2025; Zhu et al., 2022). Home is deeply intertwined with both physical and mental well-being, and people who feel at home are often able to achieve better personal and professional life outcomes. Further, growing attention has been given to feelings of home in empirical research, wherein authors assess the relations of people describing their residence as a home (Blunt & Dowling, 2022; Hahn & De Medeiros, 2022; Soleimani & Gharehbaglou, 2023). Several qualitative studies have supported widely held beliefs about home (Hiscock et al., 2001; Kirby, 2017; Pascual-Bordas, 2025), but a new era of scholarship is seen in the emergent quantitative study of home (Howard, 2025b; Soleimani &

Gharehbaglou, 2023; Zhu et al., 2022).

The quantitative study of home is still in its infancy, but the application of need-based approaches is among the most promising research streams (Howard, 2025a, 2025b; Soleimani & Gharehbaglou, 2023). Authors in this domain adapt need-based theories to argue that the defining characteristic of home is the satisfaction of basic physical (necessities for survival) and psychological needs (necessities for optimal functioning) (Deci et al., 2017; Vansteenkiste et al., 2023). That is, dwellings satisfy basic physical needs alone, whereas homes are dwellings that also satisfy basic psychological needs. These authors have provided significant conceptual support that home can be conceptualized in this manner, and they have provided empirical evidence that a multidimensional measure, the Need-Based Home Scale (NBHS), effectively operationalizes feelings of home in this manner (Howard, 2025b). This measure uses basic psychological need theory (Deci & Ryan, 2012) to operationalize feelings of home as the satisfaction of physical, autonomy, competence, and relatedness needs by a residence.¹

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¹ We model feelings of home as a second-order formative-reflective construct, wherein the first-order dimensions (i.e., need satisfaction) are reflective and the general second-order factor (i.e., feelings of home) is formative. Because this operationalization closely represents the theorizing of Howard (2025b), supporting this model is a significant contribution for need-based theories of home. Supplemental Material A provides more information.

Further, these authors have quantitatively supported that home relates to well-being and more desirable living conditions are more likely to produce feelings of home (Howard, 2025b; Soleimani & Gharehbaglou, 2023). Despite these advancements, significant gaps are evident in empirical studies on home. Authors have yet to quantitatively investigate another primary influence on developing feelings of home – the resident. Indeed, scholars have argued that more than the residence contributes to feelings of home (Annison, 2000; Imrie, 2016; Tamm, 1999), and individual differences may cause residents to be more susceptible or resistant to developing these feelings. Researchers may over-emphasize the extent that living conditions produce feelings of home, given the dearth of research on alternative predictors, and personal influences on developing these feelings may remain unacknowledged in models, theories, and frameworks.

In the current article, we resolve this tension by investigating whether relevant individual differences predict feelings of home. We integrate the situation, trait, and outcome activation (STOA) model (De Vries et al., 2016; Zettler et al., 2020) with need-based theories of home (Howard, 2025a, 2025b) to argue that certain dimensions of personality relate to the satisfaction of specific needs that collectively reflect feelings of home. For instance, we argue that people with greater conscientiousness are more capable of obtaining a residence that satisfies their competence needs, as these people are more driven to duty- and achievement-related outcomes in the STOA model (De Vries et al., 2016; Zettler et al., 2020). In turn, those with greater conscientiousness are more likely to experience feelings of home, as they are systematically more likely to live in a residence that satisfies their competence needs. Fig. 1 illustrates our hypotheses derived from the STOA model. To test these proposals, we conduct two quantitative studies. We test whether the HEXACO personality dimensions in Study 1 and whether the Big Five and Dark Triad personality dimensions in Study 2 relate to the satisfaction of needs by a residence. In both studies, we test whether each personality dimension relates to each need satisfaction dimension. By assessing both overall relations and nuanced dimensional relations, we provide robust and detailed assessments regarding the validity of our theoretical integration.

The current article provides several contributions for research and practice. First, need-based approaches to home are both novel and emergent. We generate hypotheses from relevant theoretical perspectives, and we test them via quantitative empirical investigations. Our results assess whether need-based approaches to home can produce hypotheses that reflect the true nature of relations. Future researchers can further investigate these need-based approaches with greater assurances regarding the validity of this theoretical perspective. Second, by associating the STOA model with Howard's (2025a, 2025b) operationalization of home, we provide initial linkages of need-based approaches to home with other models and theories. We enable future researchers to leverage our results to craft more sophisticated and complete models and frameworks of home from a psychological perspective, satisfying calls in prior research (Howard, 2025a, 2025b; Soleimani & Gharehbaglou, 2023). Third, few researchers have associated antecedent effects with feelings of home via quantitative investigation, despite authors suggesting that these feelings may emerge due to the residence, context, and person. The current article provides evidence that individual differences indeed lead to feelings of home, supporting these suggestions. Future researchers can probe these effects with greater confidence in their validity, opening new avenues to extend theory beyond integrating the STOA model. Together, these contributions advance the current literature on home and open novel directions for future research, theoretical development, and practical implications

1. Background

1.1. Need-based theory of home

Need-based theories of home argue that homes are distinct from

dwelling more broadly, and their difference stems from the satisfaction of needs (Howard, 2025a, 2025b; Soleimani & Gharehbaglou, 2023). We apply the theoretical perspective of Howard (2025a, 2025b) in differentiating the two, which stems from basic psychological need theory (Deci et al., 2017; Deci & Ryan, 2012; Ryan & Deci, 2002). Both terms may refer to any type of location, whether a house, townhome, apartment, or even tent. A dwelling is a location that satisfies basic physical needs, such as safety and security. Any location must provide a sense that physical well-being can be sustained for a person to dwell, as it otherwise cannot be considered a relatively stable location that would elicit attachment. A home is a dwelling that also satisfies basic psychological needs. A home provides relative safety and security, and it enables inhabitants to reach their optimal levels of functioning. People will go through great lengths to discover these greatly beneficial locations – and sometimes even greater lengths to regain them if lost.

Our applied theoretical perspective (Table 1) further suggests that the basic psychological needs satisfied by home can be categorized into three dimensions: autonomy, competence, and relatedness (Howard, 2025a, 2025b; Van den Broeck et al., 2016; Vansteenkiste et al., 2020; Vansteenkiste et al., 2023). People do not need to satisfy all three dimensions of needs to the same extent to experience feelings of home, and they may not even need to satisfy all three needs at all to feel at home. Instead, people differ regarding their need strength, which refers to the extent that each need contributes to optimal functioning (Deci et al., 2017; Deci & Ryan, 2012; Ryan & Deci, 2002). For example, a person may have great desires to satisfy relatedness needs, but they may also feel little compulsion to satisfy their competence needs. For this reason, people may only need their dwelling to satisfy personally valued needs to experience feelings of home.

Because a home must satisfy both basic physical and psychological needs, we discuss the former followed by the latter. Basic physical needs refer to the necessary living conditions necessary for survival (Deci et al., 2017; Deci & Ryan, 2012). For a residence to be a home, the inhabitants must feel that they can adequately eat, drink, rest, and remain safe. Otherwise, a person would abandon their residence to obtain a more hospitable environment. In the context of home (Howard, 2025a, 2025b), basic physical needs include the two subdimensions of physical needs and stability. The first of these subdimensions, physical needs, refers to the general satisfaction of basic physical needs as described above. The second subdimension, stability, refers to the temporal consistency of basic physical need satisfaction. A residence that only intermittently satisfies basic physical needs may leave the inhabitant feeling vulnerable even in times of safety, preventing the satisfaction of basic physical needs. In turn, a residence must provide consistent physical safety and security for inhabitants to develop a sense of home.

Autonomy needs refer to the fundamental desire and drive to exert agency over personal decisions, as people feel the need to be masters of their own destinies (Deci et al., 2017; Deci & Ryan, 2012; Ryan & Ryan, 2019). In the context of home (Howard, 2025a, 2025b), autonomy needs include the two subdimensions of behavioral control and authenticity. Behavioral control refers to home providing the ability to perform desired behaviors. People value the enactment of both momentary actions and broader life trajectories, and the ability of home to provide these capabilities has been long recognized. Alternatively, authenticity refers to home providing the ability to live a public life as desired. People have an inherent need to be themselves (Ryan & Ryan, 2019). Unfortunately, this desire cannot always be enacted. People may hide their marginalized identities if close others or broader communities are not accepting. Those who have this need stifled may go through great lengths to find a location that allows them to express themselves, and they often obtain a feeling of home when this location is discovered.

Competence needs refer to the fundamental desire to feel capable at performing desired activities (Vansteenkiste et al., 2020; Vansteenkiste et al., 2023). People feel the need to be successful at tasks important to them, and a significant sense of reward is also obtained from others observing their successes. In the context of home (Howard, 2025a,

Visual Representation of Hypotheses

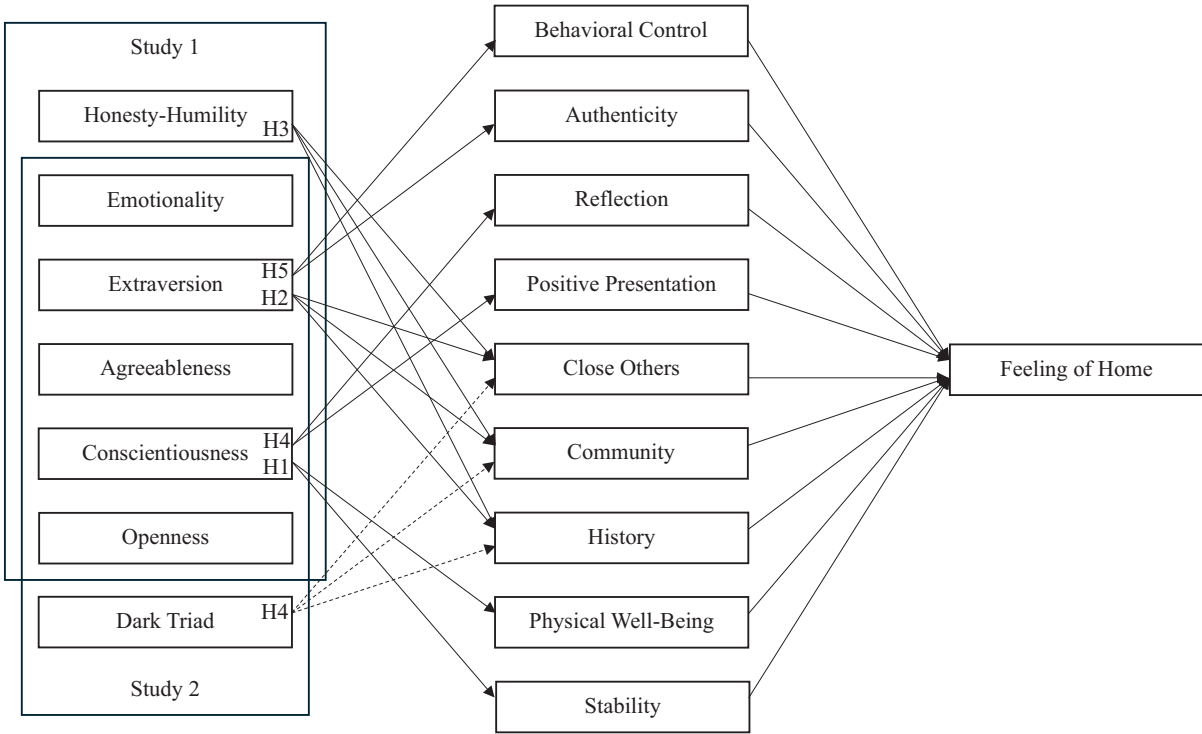


Fig. 1. Visual representation of hypotheses.
Note. Solid lines represent positive statistically significant relations. Dashed lines represent negative statistically significant relations.

Table 1
Dimensions and subdimensions in need-based conceptualization of home.

Dimensions	Definition – Each begins with, “Desire for residence to aid in...”
Autonomy Need	Possessing control over personal decisions.
Behavioral Control	Deciding both short- and long-term decisions.
Authenticity	Presenting a genuine version of oneself publicly.
Competence Need	Having mastery over important activities.
Reflection	Reflecting accurate aspects of oneself.
Positive Presentation	Presenting a better version of oneself.
Relatedness Need	Connecting with others.
Close Others	Connecting with those who share the residence.
Community	Connecting with those in the local area.
History	Connecting with those in the past.
Physical Need	Providing basic physical necessities.
Physical Well-Being	Physically sustaining oneself.
Stability	Providing a physical space for a desired period of time.

Note. Bold indicates dimensions, and subdimensions are listed below respective dimensions. Via this conceptualization of Howard (2025b), home is defined as a residence that satisfies basic physical and psychological needs.

2025b), competence needs include the subdimensions of reflection and positive self-presentation. Reflection refers to the feeling that home represents oneself. People particularly value this function of home, as it communicates valued characteristics to close others and broader communities. Alternatively, positive self-presentation refers to the perception that home presents a more desirable depiction of oneself. While producing an accurate reflection of oneself may be valued, people also value appearing in desired manners. A large and well-maintained home signals success in life, and people may benefit from this display of competence even if their actual success is not commensurate. Thus, both accurate and inflated depictions of self can lead to feelings of home.

Relatedness needs refer to the fundamental desire to feel socially connected with valued others (Van den Broeck et al., 2016;

Vansteenkiste et al., 2023). In the context of home (Howard, 2025a, 2025b), these needs include the subdimensions of close others, community, and history. Close others refers to the feeling that home enables social connections with valued individuals. These individuals may reside in the same abode, such as family members, but they could also live outside the home, such as important friends. Community refers to the perception that home enables social connections with society in general. Much has been written about how welcoming environments enable feelings of home, especially those with marginalized identities (Blunt & Dowling, 2022; Howard, 2025a). For this reason, the broader geographic context may contribute to feelings of home. History refers to the belief that home enables connections with the past. People can develop important connections with social entities that are no longer alive, as their residence may enable them to feel close ties by steeping their daily lives into elements of the past. These social entities may be familial generations (e.g., family home), racial and ethnic groups, cultural groups, and other possibilities. Together, feelings of home may be crafted by developing ties with people and broader social groups, who may be alive or long deceased.

These four dimensions and nine subdimensions represent the needs that may be satisfied to develop feelings of home. We argue that dimensions of personality cause people to be more or less capable of fulfilling these needs, producing a propensity to experience feelings of home.

1.2. Models of personality

The current article investigates the Big Five, Dark Triad, and HEXACO frameworks of personality (Table 2) due to four primary reasons. First, these frameworks have widespread support and prominence (Ashton & Lee, 2007; Costa & McCrae, 1992; Saucier, 1992). The validity of these frameworks is ensured by the multitude of studies that have supported relevant measures. Any new results involving these frameworks can have a larger impact on the current literature, as the derived

Table 2
Dimensions of HEXACO, Big Five, and Dark Triad.

Dimensions	Definition – Each begins with, “The tendency to be...”
HEXACO	
Honesty-Humility	Sincere, fair, and uninterested in exploiting others.
Emotionality	Fearful, anxious, sentimental, and emotionally attached to others.
Extraversion	Confident, positive in interactions, and enjoy social engagements.
Agreeableness	Patient, forgiving, calm, and tolerant.
Conscientiousness	Organized, disciplined, and goal oriented.
Openness	Creative, curious, and open to new ideas.
Big Five	
Openness	Creative, curious, and open to new ideas
Conscientiousness	Organized, disciplined, and goal oriented.
Extraversion	Confident, positive in interactions, and enjoy social engagements.
Agreeableness	Cooperative, kind, sentimental, and considerate of others.
Neuroticism	Anxious, moody, prone to anger, and emotionally unstable.
Dark Triad	
Narcissism	Self-important and focused admiration, recognition, and validation.
Machiavellianism	Strategic, manipulative, and self-serving in social interactions
Psychopathy	Unempathetic, impulsive, and unremorseful.

Note. In the current article, we operationalized the HEXACO with the measure of Ashton and Lee (2009), the Big Five with the measure of Saucier (1992), and the Dark Triad with the measure of Jones and Paulhus (2014).

inferences can be integrated with this wide range of prior observations to produce broader implications. Second, our applied theoretical framework, the STOA model, lends itself to producing hypotheses involving these frameworks. It was originally created to derive predictions regarding the HEXACO framework, and it has since been adapted for the Big Five and Dark Triad frameworks. By testing these frameworks, the current article can better integrate the STOA model with needs-based approaches to home, providing stronger theoretical implications. Third, these frameworks are broad representations of personality. By studying these frameworks, we can ensure that we incorporated large swaths of personality, and we could provide the potential to observe any relations that may emerge between personality and home. If a narrow framework was studied, then it could be questioned whether we utilized a measure that represented the appropriate criterion space to identify any relations between personality and home. Fourth, authors have argued that the Big Five and Dark Triad represent a similar conceptual space to the HEXACO, which is why researchers have contrasted the “B5 + D3” against the HEXACO (Howard & Van Zandt, 2020; Lee & Ashton, 2014). By studying the B5 + D3 and HEXACO separately, we test whether our relations are across frameworks. Therefore, the application of these three frameworks is ideal for the current investigation.

The Big Five is the most studied framework of personality, and it includes the dimensions of openness, conscientiousness, extraversion, agreeableness, and neuroticism (Costa & McCrae, 1992; Saucier, 1992). Openness is the tendency to be creative, imaginative, and receptive to novel ideas, and those who score high in openness tolerate ambiguity and appreciate art. Conscientiousness is the tendency to have self-control and remain goal oriented. Those who score high in conscientiousness tend to be more productive professionally successful. Extraversion is the tendency to enjoy social situations and value social connections, and those high in extraversion tend to be outgoing and have more energy. Agreeableness is the tendency to be kind, refrain from judgement, and forgive others. Those who score high in agreeableness are more likely to be cooperative. Neuroticism is the tendency to be depressed and ill-tempered, and those who score high in neuroticism tend to have difficulties regulating emotions. These five dimensions broadly explain systematic differences in how people react, think, and

behave.

The Big Five does not include dimensions that strongly relate to deviant behaviors. Personality is often expected to relate to mistreatment, as certain people are prone to prioritizing themselves over others. The absence of this relation suggests gaps in the comprehensiveness of the Big Five. These gaps are filled by the Dark Triad, which is among the most studied frameworks of deviant personality (Furnham et al., 2013; Jones & Paulhus, 2014). Each dimension of the Dark Triad relates to callousness and the mistreatment of others, and the three representative dimensions are narcissism, Machiavellianism, and psychopathy. Narcissism reflects a tendency to be self-centered, prioritizing oneself over others. Machiavellianism reflects a tendency to be dishonest and misleading for personal gain, often at the expense of others. Psychopathy reflects a tendency to have little empathy or remorse, showing little qualms about hurting others. These three dimensions possess enough unique variance to meaningfully study as independent constructs, but they also share a common conceptual core associated with callousness and mistreatment. Therefore, authors regularly provide hypotheses proposing consistent effects for all three dimensions, even if tested separately.

It could be argued that the Big Five and Dark Triad together (B5 + D3) were not explicitly created to be studied alongside the other, causing doubts regarding whether the two together adequately represent the criterion space of personality (Ashton & Lee, 2007, 2008; Lee & Ashton, 2018). The HEXACO was created to address this concern, as it is a broad framework to represent both general and (mal)adaptive aspects of personality (Ashton & Lee, 2007, 2008; Lee & Ashton, 2018). The HEXACO includes six dimensions: honesty-humility, emotionality, extraversion, agreeableness, conscientiousness, and openness. The dimensions of extraversion, conscientiousness, and openness are largely consistent between the Big Five and HEXACO. The dimensions of emotionality and agreeableness of the HEXACO demonstrate rearranged variance compared to the analogous dimensions of neuroticism and agreeableness of the Big Five. Emotionality and neuroticism differ based on emotionality (but not neuroticism) including aspects associated with sentimentality and neuroticism (but not emotionality) including aspects associated with anger, whereas agreeableness differs based on the HEXACO agreeableness (but not Big Five agreeableness) including aspects associated with anger (as reverse-coded indicators) and Big Five agreeableness (but not HEXACO agreeableness) including aspects associated with sentimentality (Ashton et al., 2014). For these reasons alone, the Big Five and HEXACO should be recognized to produce similarities but also differences in the representation of personality.

The starkest contrast between HEXACO and Big Five, however, is the inclusion of honesty-humility. This dimension represents the tendency to avoid manipulating others, break rules, or seek social status (Ashton & Lee, 2007, 2008; Howard & Van Zandt, 2020; Lee & Ashton, 2018). Honesty-humility captures unique variance in personality relative to the Big Five, as it represents adaptive aspects of personality. At the same time, honesty-humility includes callousness as a negative pole, producing a very strong negative association between honesty-humility and the Dark Triad dimensions (Howard & Van Zandt, 2020; Lee & Ashton, 2018). Proponents of the HEXACO argue that it is preferred because it models this variance alongside other broad dimensions of personality, indicating that they may together adequately represent the criterion space of personality (Ashton & Lee, 2007, 2008; Lee & Ashton, 2018). Some consider the Big Five and Dark Triad to capture similar criterion space as the HEXACO, but even these researchers recommend studying each framework to assess differences based on their unique configurations. For this reason, we perform two studies to provide a robust assessment of the relations between personality and home. In doing so, we apply the same theoretical perspective to test each framework of personality, the STOA model.

Table 3
Study 1 correlations and Cronbach's alphas.

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1.) Openness	5.10	1.02	0.80																					
2.) Conscientiousness	5.26	0.87	0.28**	0.78																				
3.) Extraversion	4.19	1.13	0.22**	0.35**	0.83																			
4.) Agreeableness	4.52	0.93	0.12*	0.16**	0.30**	0.76																		
5.) Emotionality	4.56	0.97	−0.02	0.01	−0.15*	−0.17**	0.76																	
6.) Honesty-Humility	4.83	1.00	0.04	0.25**	−0.03	0.26**	0.05	0.75																
7.) Behavioral Control	5.58	1.22	−0.02	0.17**	0.28**	0.08	0.03	0.06	0.88															
8.) Authenticity	5.59	1.33	−0.05	0.24**	0.34**	0.03	0.05	0.09	0.82**	0.94														
9.) Reflection	4.92	1.54	0.03	0.19**	0.36**	0.00	0.02	−0.04	0.66**	0.75**	0.95													
10.) Positive Presentation	5.11	1.45	0.03	0.20**	0.42**	0.09	−0.01	−0.01	0.70**	0.74**	0.86**	0.92												
11.) Close Others	5.01	1.52	0.05	0.21**	0.23**	0.03	0.10	−0.02	0.57**	0.61**	0.62**	0.63**	0.96											
12.) Community	4.60	1.57	0.04	0.08	0.38**	0.18**	0.05	−0.07	0.49**	0.55**	0.59**	0.66**	0.66**	0.93										
13.) History	4.03	1.75	0.08	0.08	0.31**	0.15*	−0.00	−0.16*	0.35**	0.48**	0.56**	0.58**	0.55**	0.71**	0.93									
14.) Physical Well-Being	5.55	1.19	0.03	0.26**	0.27**	0.13*	−0.01	0.07	0.70**	0.65**	0.64**	0.68**	0.61**	0.48**	0.40**	0.90								
15.) Stability	6.11	0.89	0.17**	0.26**	0.09	0.10	0.03	0.16*	0.45**	0.43**	0.35**	0.40**	0.37**	0.25**	0.15*	0.66**	0.90							
16.) Gender	0.61	0.49	−0.02	0.07	−0.11	−0.02	0.40**	0.19**	0.11	0.14*	0.01	−0.04	0.03	−0.06	−0.10	−0.01	0.09	−						
17.) Race	0.69	0.46	−0.14*	0.07	0.05	−0.12*	0.10	0.06	0.05	0.08	0.09	0.05	0.01	−0.02	−0.08	0.09	0.14*	0.05	−					
18.) Age	41.97	13.69	−0.10	0.10	0.04	−0.01	−0.04	0.15*	0.14*	0.07	0.06	−0.01	−0.05	−0.06	−0.13*	0.06	0.01	0.10	0.21**	−				
19.) Type of Residence	0.65	0.48	0.02	0.09	−0.05	−0.07	−0.04	0.1	0.22**	0.19**	0.17**	0.13*	0.13*	−0.05	0.05	0.24**	0.20**	0.00	0.07	0.06	−			
20.) Roommates	0.92	0.27	−0.08	0.06	0.08	−0.10	−0.08	−0.12*	0.05	0.02	0.00	−0.01	−0.03	−0.03	0.01	0.04	−0.05	0.06	0.00	0.16**	0.05	−		
21.) Cost of Residence	3.73	1.19	0.02	0.03	0.05	−0.04	−0.01	−0.11	0.02	−0.02	0.13*	0.14*	0.11	0.03	0.07	0.11	0.03	−0.09	−0.06	0.01	−0.00	0.07	0.82	
22.) Recycling Knowledge	2.79	1.65	−0.20**	−0.36**	−0.32**	−0.15*	0.09	−0.16*	−0.12	−0.08	−0.11	−0.17*	−0.14*	−0.14*	−0.05	−0.20**	−0.17**	0.00	0.02	−0.14**	0.11	−0.04	−0.03	0.97

Note. Cronbach's alphas listed on diagonal. Gender coded as female = 1, male = 0. Race coded as white = 1, non-white = 0. Type of Residence coded as house = 1, other = 0. Roommates coded as none or family = 1, non-family = 0.

* $p < .05$.

** $p < .01$.

Visual Representation of Study 1 Results without Items Removed

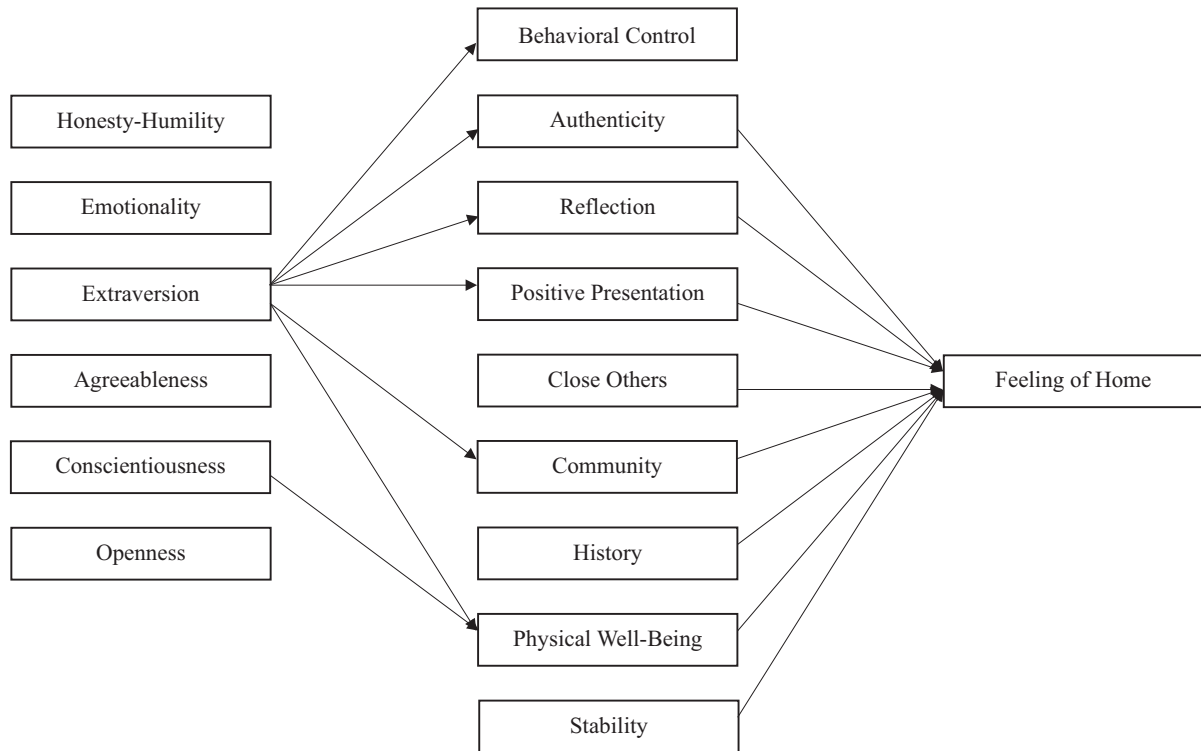


Fig. 2. Visual representation of Study 1 results without items removed.

Note. Solid lines represent positive statistically significant relations. Dashed lines represent negative statistically significant relations.

Control variables and marker variable were modeled to predict each first-order need satisfaction dimension and the second-order factor of home, but these variables were not included in figure to aid in clarity of presentation.

Table 4

Study 1 statistically significant PLS-SEM direct effects of personality dimensions.

Predictor	Outcome	E.S.	S.D.	t	p
Extraversion	Authenticity	0.37	0.35	4.55	<0.001
Extraversion	Positive Presentation	0.37	0.35	4.99	<0.001
Extraversion	Reflection	0.36	0.33	4.16	<0.001
Extraversion	Behavioral Control	0.25	0.24	3.14	0.002
Extraversion	Community	0.23	0.24	2.79	0.005
Extraversion	Physical Well-Being	0.16	0.16	2.46	0.014
Conscientiousness	Physical Well-Being	0.16	0.14	2.06	0.040

Note. Significant relations of control variables or marker variable not included. Positive Pres. = Positive Presentation.

1.3. Situation, trait, and outcome activation model

The STOA model was created by De Vries et al. (2016) to detail the relations between personality dimensions and associated outcomes, wherein De Vries et al. (2016) argued that traits interact with situations to produce outcomes in three manners. First, people gravitate to situations that enable them to succeed based on their personal characteristics (e.g., attraction-selection-attrition model). Second, situations influence people to express or restrict traits (e.g., trait activation theory). For instance, a party may enable people to express extraversion, but it may do little to allow them to express conscientiousness. Third, traits interact with situations to produce outcomes. Effective personality characteristics in one situation may not be effective in another, and the relation of traits with outcomes depends on situations (De Vries et al., 2016).

Given the association between personality and situations, De Vries et al. (2016) contested that dimensions of personality should relate to outcomes associated with theoretically relevant situations. To determine the theoretical relevance of situations, the authors drew from the

DIAMONDS model (Rauthmann et al., 2014; Rauthmann & Sherman, 2015). This model identifies eight situational outcome domains: duty (task completion), intellect (cognitive engagement), adversity (conflict), mating (romantically charged), positivity (pleasurable), negativity (unpleasurable), deception (opportunity to deceive), and sociality (social interaction). De Vries et al. (2016) associated personality dimensions with these categories via relevant theoretical rationale, which was supported via a meta-analysis. The authors identified the following primary pairings: honesty-humility and exploitation, emotionality and insecurity, extraversion and sociality, agreeableness and obstruction, conscientiousness and duty, openness and exploration. In the current article, we argue that outcome domains relevant to basic physical and psychological need satisfaction are particularly relevant to home, and people with certain personality characteristics may be particularly driven to – and achieve – obtaining dwellings that satisfy relevant needs. In turn, these people are more likely to experience feelings of home.

1.4. Hypothesis development

Physical need satisfaction is most relevant to the outcome domain of duty, as this outcome domain is associated with completing necessary and worthwhile tasks (Rauthmann et al., 2014; Rauthmann & Sherman, 2015). While obtaining a residence that satisfies basic physical needs is unchallenging for some people in certain cultures (e.g., with strong social safety nets), it nevertheless requires conscious goal setting, effort, and ultimately achievement. Because the outcome domain of duty includes these elements in task completion, we suggest that those who score high on the personality dimension associated with duty, conscientiousness, are more likely to obtain a residence that satisfies basic physical needs, and therefore these people are more likely to experience feelings of home (as operationalized as a general home factor composed of need satisfaction dimensions). That is, those high in conscientiousness are

Table 5
Study 2 correlations and Cronbach's alphas.

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1.) Openness	6.69	1.21	0.79																							
2.) Conscientiousness	6.89	1.24	0.29**	0.86																						
3.) Extraversion	5.26	1.42	0.33**	0.35**	0.82																					
4.) Agreeableness	7.08	1.15	0.30**	0.46**	0.32**	0.85																				
5.) Neuroticism	4.01	1.45	-0.24**	-0.48**	-0.27**	-0.43**	0.84																			
6.) Machiavellianism	3.98	1.10	0.09	-0.05	0.08	-0.23**	0.22**	0.83																		
7.) Narcissism	3.62	1.11	0.35**	0.23**	0.58**	0.12*	-0.03	0.46**	0.82																	
8.) Psychopathy	2.55	1.02	-0.05	-0.32**	-0.00	-0.52**	0.40**	0.57**	0.33**	0.81																
9.) Behavioral Control	5.59	1.06	0.08	0.31**	0.24**	0.30**	-0.27**	-0.06	0.05	-0.24**	0.86															
10.) Authenticity	5.60	1.26	0.12	0.29**	0.28**	0.36**	-0.21**	0.02	0.15*	-0.20**	0.83**	0.94														
11.) Reflection	5.05	1.39	0.08	0.23**	0.26**	0.30**	-0.15*	0.02	0.18**	-0.15*	0.70**	0.78**	0.95													
12.) Positive Presentation	5.20	1.33	0.09	0.29**	0.32**	0.32**	-0.15*	0.06	0.20**	-0.14*	0.75**	0.80**	0.85**	0.92												
13.) Close Others	5.18	1.30	0.11	0.21**	0.28**	0.28**	-0.17**	0.07	0.23**	-0.11	0.59**	0.63**	0.65**	0.67**	0.93											
14.) Community	4.74	1.48	0.13*	0.17**	0.36**	0.33**	-0.14*	0.19**	0.37**	0.00	0.49**	0.54**	0.55**	0.58**	0.67**	0.94										
15.) History	4.17	1.63	0.09	0.13*	0.36**	0.22**	-0.07	0.23**	0.40**	0.13*	0.31**	0.34**	0.46**	0.44**	0.46**	0.62**	0.92									
16.) Physical Well-Being	5.61	1.10	0.15*	0.24**	0.24**	0.28**	-0.21**	0.02	0.12*	-0.21**	0.71**	0.67**	0.66**	0.66**	0.57**	0.45**	0.36**	0.89								
17.) Stability	6.11	0.93	0.18**	0.24**	0.11	0.20**	-0.18**	-0.07	-0.02	-0.26**	0.54**	0.55**	0.45**	0.43**	0.35**	0.25**	0.12	0.68**	0.93							
18.) Gender	0.60	0.49	-0.06	-0.01	0.02	0.12*	0.14*	-0.15**	-0.07	-0.22**	-0.08	-0.03	0.00	-0.07	-0.06	-0.08	-0.07	-0.04	0.03	-						
19.) Race	0.69	0.46	-0.10	-0.07	-0.04	-0.08	0.17**	-0.08	-0.14*	-0.02	0.03	-0.01	-0.04	-0.00	-0.06	-0.14*	-0.11	-0.03	-0.03	0.04	-					
20.) Age	40.69	13.23	0.00	0.13*	-0.06	0.04	-0.15*	-0.18**	-0.14*	-0.15**	0.11	0.05	0.10	0.08	-0.08	-0.14*	-0.08	0.04	0.12	0.02	0.26**	-				
21.) Type of Residence	0.68	0.47	-0.12*	-0.09	-0.07	-0.07	0.01	0.00	-0.02	0.01	0.04	0.01	0.05	0.01	0.04	-0.02	0.05	0.01	0.00	-0.01	0.22**	0.18**	-			
22.) Roommates	0.92	0.27	-0.11	-0.04	-0.02	-0.08	-0.10	-0.08	-0.04	-0.07	0.11	0.08	0.13*	0.01	0.04	0.04	0.10	0.11	0.14*	-0.05	0.05	0.20**	0.20**	-		
23.) Cost of Residence	3.76	1.06	-0.02	0.08	0.11	-0.03	0.05	0.05	0.13*	0.03	0.08	0.03	0.07	0.12	0.05	0.03	0.01	0.08	-0.01	-0.06	0.04	-0.01	0.00	-0.03	0.84	
24.) Recycling Knowledge	2.62	1.44	-0.19**	-0.34**	-0.19**	-0.17**	0.21**	0.13*	-0.02	0.25**	-0.17**	-0.12	-0.10	-0.14*	-0.06	-0.04	-0.03	-0.15*	-0.21**	-0.01	0.04	-0.16**	0.06	0.04	-0.04	0.95

Note. Cronbach's alphas listed on diagonal. Gender coded as female = 1, male = 0. Race coded as white = 1, non-white = 0. Type of Residence coded as house = 1, other = 0. Roommates coded as none or family = 1, non-family = 0.

* $p < .05$.

** $p < .01$.

more capable in situations that call for goal setting and task completion. Due to their natural aptitude, these people may be more likely to complete the actions needed to obtain a residence that satisfies their basic physical needs, ultimately corresponding to a higher likelihood of experiencing a sense of home. Given these considerations, we propose the following hypothesis.

Hypothesis 1. Conscientiousness positively relates to the physical need satisfaction of a residence.

The need associated with the most outcome domains is relatedness, as multiple outcome domains relate to interpersonal connections with others (Rauthmann et al., 2014; Rauthmann & Sherman, 2015). The outcome domain of sociality has the clearest connection with relatedness need satisfaction, as this outcome domain includes the criterion classes of social networking and leadership (De Vries et al., 2016; Zettler et al., 2020). We suggest that the corresponding personality dimension, extraversion, positively relates to relatedness need satisfaction of home. Those who score high in extraversion value developing social connections with others. These people seek social situations, as they are particularly energized by social interactions. These people may also specifically seek residences that enable greater social connections with others, given their heightened benefits from developing these connections. In turn, these people are more likely to strive towards obtaining homes that enable them to satisfy their relatedness needs. It is expected that extraversion positively relates to having relatedness needs satisfied by home.

Hypothesis 2. Extraversion positively relates to the relatedness need satisfaction of a residence.

The outcome domain of exploitation likewise shares a relevance with relatedness need satisfaction (De Vries et al., 2016; Zettler et al., 2020). Exploitation includes immoral behaviors, reflecting an uncaringness for

others. Those who see little qualms in immoral behaviors likely feel few urges to satisfy relatedness needs, as they instead prioritize self-centered needs (Furnham et al., 2013; Jones & Paulhus, 2014). Further, exploitation includes active cooperation as a negative pole. People who exploit people are less likely to proactively cooperate with others, potentially reflecting a disregard for relatedness needs. Because exploitation has a strong association with social elements, we suggest that the associated personality traits, honesty-humility and the Dark Triad, relate to the relatedness need satisfaction of home.

Those with traits that naturally predisposition themselves to not exploit others, namely honesty-humility, may see benefits to surrounding themselves with valued others. These people are attracted to situations that elicit active cooperation, reflecting a natural gravity towards collaborative social situations (Ashton & Lee, 2007, 2008), and they may be more likely to seek residences that enable cooperative and collaborative connections with others. In turn, those who score high on honesty-humility may be more likely to have their relatedness needs satisfied by their residence, as they may be more likely to both seek and obtain residences that satisfy these needs. Alternatively, those with a predisposition to exploit others, such as those who score high on the Dark Triad, see little benefits of being close to others. They are repelled by situations that elicit cooperation, and they may be less likely to seek residences that enable connections with others. Those who score high on the Dark Triad may be less likely to have their relatedness needs satisfied by their residence, as they may not seek residences that satisfy this need.

Two notes should be made about these predictions. First, we proposed the effect above for the entirety of the Dark Triad, as the relations are believed to occur due to the common association of its representative dimensions with callousness and the mistreatment of others. In our analyses, we test the relation of each Dark Triad dimension individually with relatedness need satisfaction, and we expect each dimension to produce consistent negative effects.

Visual Representation of Study 2 Results

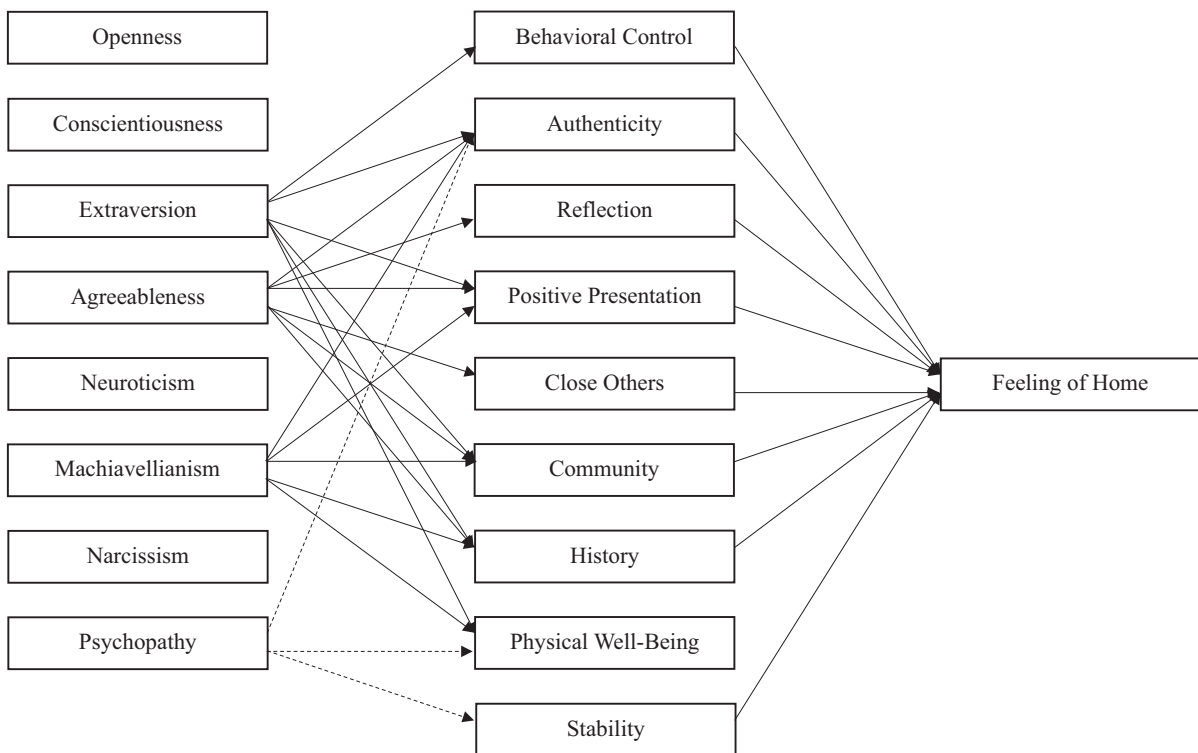


Fig. 3. Visual representation of Study 2 results.

Note. Solid lines represent positive statistically significant relations. Dashed lines represent negative statistically significant relations.

Control variables and marker variable were modeled to predict each first-order need satisfaction dimension and the second-order factor of home, but these variables were not included in figure to aid in clarity of presentation.

Table 6
Study 2 statistically significant PLS-SEM direct effects of personality dimensions.

Predictor	Outcome	E.S.	S.D.	t	p
Agreeableness	Community	0.35	0.33	4.31	<0.001
Agreeableness	History	0.25	0.24	2.89	0.004
Agreeableness	Reflection	0.25	0.24	2.72	0.007
Agreeableness	Positive Presentation	0.25	0.24	2.66	0.008
Agreeableness	Behavioral Control	0.25	0.23	2.43	0.015
Agreeableness	Close Others	0.18	0.18	2.18	0.030
Extraversion	Positive Presentation	0.26	0.25	3.12	0.002
Extraversion	History	0.24	0.24	2.43	0.015
Extraversion	Behavioral Control	0.21	0.20	2.40	0.016
Extraversion	Authenticity	0.21	0.20	2.21	0.027
Extraversion	Community	0.20	0.20	2.18	0.029
Extraversion	Physical	0.20	0.19	2.03	0.042
Machiavellianism	Physical	0.22	0.21	2.21	0.027
Machiavellianism	Behavioral Control	0.20	0.19	2.22	0.027
Machiavellianism	Community	0.22	0.20	2.16	0.031
Machiavellianism	Positive Presentation	0.19	0.18	2.04	0.041
Machiavellianism	History	0.18	0.17	1.98	0.048
Psychopathy	Physical	-0.23	-0.24	2.43	0.015
Psychopathy	Stability	-0.24	-0.25	2.35	0.019
Psychopathy	Behavioral Control	-0.18	-0.20	2.01	0.044

Note. Significant relations of control variables or marker variable not included.

Second, it could be argued that those low in honesty-humility and high in the Dark Triad would strive to satisfy their relatedness needs, as these individuals seek interpersonal relations to achieve personal goals (e.g., admiration); however, these arguments run counter to observations in the extant literature. Authors have observed that honesty-humility has a positive relation with relatedness need satisfaction, and the Dark Triad² traits often produce a negative relation with relatedness need satisfaction (Hughes et al., 2023; Xu et al., 2023). It has been argued that these relations emerge because those low in honesty-humility and high in the Dark Triad do not seek genuine relations with others, which would fulfill their relatedness needs. Instead, they seek superficial relations that treat others as a means-to-an-end, which prevents the opportunity to satisfy relatedness needs. Also, those low in honesty-humility and/or high in the Dark Triad may seek to satisfy their relatedness needs, but their predispositions repel others from genuine relationships. Thus, our rationale and this alternative rationale suggest that honesty-humility positively and the Dark Triad negatively relate to relatedness needs satisfied by a residence.

Hypothesis 3a. Honesty-humility positively relates to the relatedness need satisfaction of a residence.

Hypothesis 3b. The Dark Triad negatively relate to the relatedness need satisfaction of a residence.

Competence need satisfaction is associated with one outcome domain, duty (Rauthmann et al., 2014; Rauthmann & Sherman, 2015). Contexts that call for the completion of goals benefit those who score high on the personality trait associated with duty, conscientiousness (De Vries et al., 2016; Zettler et al., 2020). Indeed, those who are

conscientious are more likely to complete tasks and achieve their goals, as their personality lends themselves to be hard working and strive towards those goals. We suggest that these people are more likely to possess a residence that satisfies their competence needs. Residences that satisfy competence needs demonstrate to others the competence of the homeowner themselves, such as being large or well maintained (Howard, 2025a, 2025b). Obtaining homes such as these requires active effort and goal striving. In turn, those with greater conscientiousness are more likely to achieve outcomes that enable themselves to possess houses that sport these features. These people may have better professional outcomes to afford these residences, and they may also have greater personal resources to remain goal committed to obtain a house that satisfies their competence needs. It is expected that conscientiousness positively relates to competence need satisfaction of home.

Hypothesis 4. Conscientiousness positively relates to the competence need satisfaction of a residence.

Autonomy need satisfaction is reflected in a residence that enables inhabitants to live their desired lives, and it is most associated with the outcome domain of sociality (De Vries et al., 2016; Zettler et al., 2020). While this domain includes criterion classes associated with social interactions, it also includes outcomes associated with sensation seeking and initiative. For instance, this outcome domain includes the criterion class of leadership, which strongly reflects situations that involve taking charge and performing autonomous behaviors. The personality dimension associated with sociality, extraversion, includes elements of sensations seeking, as those high in extraversion have initiative and enact desired behaviors. Because those high in extraversion have these desires, it is likely that they are more driven to secure life circumstances that enable them to have autonomy over behaviors, seeking to maximize their life satisfaction. Therefore, we suggest that extraversion positively relates to autonomy need satisfaction of home.

Hypothesis 5. Extraversion positively relates to the autonomy need satisfaction of a residence.

2. Empirical studies

Data for both empirical studies can be found at the following link: https://osf.io/9rc6m/overview?view_only=330702bc74834b26b78c122de3f239f1. Procedures for both studies were approved by the IRB of the primary author's institution.

3. Study 1

In Study 1, we test the relations of the HEXACO with the needs satisfied by home as conceptualized by Howard (2025a, 2025b). In doing so, we test each of the hypotheses above with the exception of

Table 7
Summary of study results.

Hypotheses	Study 1 results HEXACO	Study 2 results B5 + D3
Hypothesis 1: Conscientiousness positively relates to physical need satisfaction of a residence.	Not Supported	Not Supported
Hypothesis 2: Extraversion positively relates to relatedness need satisfaction of a residence.	Supported	Supported
Hypothesis 3: Honesty-humility positively (a) and the Dark Triad negatively (b) relate to relatedness need satisfaction of a residence.	Not Supported	Not Supported
Hypothesis 4: Conscientiousness positively relates to competence need satisfaction of a residence.	Not Supported	Not Supported
Hypothesis 5: Extraversion positively relates to autonomy need satisfaction of a residence.	Supported	Supported
Consistent Unhypothesized Effect: Extraversion positively relates to competence need satisfaction of a residence.	Supported	Supported

² Of the Dark Triad, narcissism produces the most inconsistent relation with relatedness need satisfaction, as this relation differs based on the operationalization of narcissism. Measures that include more aspects of adaptive narcissism and grandiose narcissism produce more positive relations with relatedness need satisfaction, as these are the more socially beneficial aspects of the construct. Measures that include more aspects of entitlement exploitativeness and vulnerable narcissism produce more negative relations with relatedness need satisfaction, as these aspects represent the socially toxic aspects of the construct. Due to the varying nature of these elements, studies have found positive, null, and negative relations between narcissism and relatedness need satisfaction. In the current article, we apply a measure of narcissism that includes aspects of entitlement exploitativeness and vulnerable narcissism, which is why we expect it to produce a negative relation along with the other Dark Triad dimensions.

Hypothesis 3b, as we only administer the Dark Triad in Study 2.

3.1. Study 1 method

Due to word count constraints, Supplemental Material B provides the full reporting of our participants, measures, and procedure. Study 1 included 239 participants. A two-wave survey design was applied. The HEXACO and control variables were measured, and one week later the NBHS and a marker variable were administered. The control variables and marker variable were included in all analyses, but we do not comment on the entirety of their results for conciseness.

3.2. Study 1 results

Table 3 provides correlations and Cronbach's alphas. We applied PLS-SEM to test our hypotheses, and Fig. 2 provides a visual representation of our PLS-SEM results. We began our analyses by conducting a confirmatory composite analysis (CCA), which tests the measurement portion of a PLS-SEM model (Hair et al., 2020). When applying HEXACO measures, authors have indicated that items should not be removed, even if they produce weak factor loadings (Ashton & Lee, 2009; Lee & Ashton, 2018). These authors argue that each item is necessary to ensure content coverage of each HEXACO dimension, and removing any would result in an improper representation of the HEXACO framework. Our text reports our primary results with each item included. We provide a replication of our analyses in Supplemental Material C, wherein we report our results when removing any items that loaded onto their primary factor 0.40 or less. All inferences are consistent between the analyses, supporting the validity of our results.

In continuing the CCA (Hair et al., 2020), each dimension produced a Cronbach's alpha value of 0.76 or above, supporting the internal consistency of our measures. Each average variance extracted value was statistically significant, supporting the convergent validity of our measures; and no heterotrait-monotrait ratio included the value of 1.00, supporting the divergent validity of our measures (Henseler et al., 2015). Based on these observations, the measurement model was deemed satisfactory, indicating that interpreting the structural model is appropriate.

To test our hypotheses, we inspected the structural portion of our PLS-SEM model. All significant direct effects are reported in Table 4. We modeled each control variable to predict the need satisfaction of home dimensions, and we modeled the marker variable to predict all constructs. Hypothesis 1 proposed that conscientiousness relates to physical need satisfaction. Conscientiousness produced a direct effect on Physical Well-Being with a p -value below 0.05 but a confidence interval including 0 ($\beta = 0.16$, $t = 2.06$, 95% C.I. [-0.01, 0.29], $p = .040$). Because conscientiousness also did not significantly relate to the other dimension of physical need satisfaction (Stability), Hypothesis 1 was not supported. Hypothesis 2 proposed that extraversion relates to relatedness need satisfaction. Extraversion produced a significant direct effect on Community ($\beta = 0.23$, $t = 2.79$, 95% C.I. [0.08, 0.41], $p = .005$), a dimension of relatedness satisfaction. Hypothesis 2 was supported. Hypothesis 3a proposed that honesty-humility relates to relatedness need satisfaction. Honesty-humility did not significantly relate to any dimensions of relatedness satisfaction (all $p > .05$). Hypothesis 3a was not supported. Hypothesis 4 proposed that conscientiousness relates to competence need satisfaction. Conscientiousness did not significantly relate to any dimensions of competence need satisfaction (all $p > .05$). Hypothesis 4 was not supported. Hypothesis 5 proposed that extraversion relates to autonomy need satisfaction. Extraversion produced a significant direct effect on Authenticity ($\beta = 0.37$, $t = 4.55$, 95% C.I. [0.19, 0.51], $p < .001$) and Behavioral Control ($\beta = 0.25$, $t = 3.14$, 95% C.I. [0.08, 0.40], $p = .002$), both dimensions of autonomy need satisfaction. Hypothesis 5 was supported.

Lastly, three unhypothesized effects produced significant results. Extraversion produced a significant direct effect on Physical Well-Being

($\beta = 0.16$, $t = 2.46$, 95% C.I. [0.03, 0.30], $p = .014$), a dimension of physical need satisfaction. Extraversion also produced a significant direct effect on Reflection ($\beta = 0.36$, $t = 4.16$, 95% C.I. [0.16, 0.50], $p < .001$) and Positive Self Reflection ($\beta = 0.37$, $t = 4.99$, 95% C.I. [0.20, 0.50], $p < .001$), both dimensions of competence need satisfaction.

3.2.1. Supplemental analyses

We performed supplemental analyses, wherein we tested whether each control variable moderates each relation between the personality dimensions and the need satisfaction by home dimensions. No control variable moderated any relation. We also tested whether each personality dimension produced a quadratic effect on each need satisfaction by home dimension. Only 1 effect of 54 was statistically significant, suggesting that the HEXACO dimensions do not systematically produce quadratic effects on need satisfaction by home.

3.3. Study 1 discussion

Study 1 provided mixed support for the STOA framework in explaining the relation of personality and feelings of home via need satisfaction. Two of five hypotheses were supported. As expected, extraversion related to relatedness need satisfaction and autonomy need satisfaction. Conscientiousness did not produce direct effects on physical need satisfaction or competence need satisfaction, and honesty-humility did not relate to relatedness need satisfaction. These findings suggest that extraversion is a primary personality influence on feelings of home. Further, our results produced significant effects that were not hypothesized. Extraversion produced significant direct effects on physical need satisfaction and competence need satisfaction. These results provide additional evidence that extraversion is a key individual difference that explains who may experience feelings of home. In Study 2, we probe whether these effects replicate when applying two alternative frameworks, the Big Five and Dark Triad.

4. Study 2

In Study 2, we test the relations of the Big Five and Dark Triad with the needs satisfied by home as conceptualized by Howard (2025a, 2025b). We test each of the hypotheses above with the exception of Hypothesis 3a, as only administer the HEXACO in Study 1.

4.1. Study 2 method

Due to word count constraints, Supplemental Material B provides the full reporting of our participants, measures, and procedure. Study 2 included 254 participants. A two-wave survey design was used. The Big Five, Dark Triad, and control variables were measured, and one week later the NBHS and a marker variable were administered. The control variables and marker variable were included in all analyses, but we do not comment on their results for conciseness.

4.2. Study 2 results

Table 5 provides correlations and Cronbach's alphas. We applied PLS-SEM to test our hypotheses, modeling it in a consistent manner as Study 1. Fig. 3 provides a visual representation of our PLS-SEM results. We began our analyses by performing a CCA to inspect our measurement model. We removed any items that loaded onto their primary factor 0.40 or less. This resulted in the removal of three items from the measures of personality. Each dimension was still represented by seven or more items, ensuring content coverage. Further, each dimension produced a Cronbach's alpha value of 0.79 or above, supporting the internal consistency of our measures. Each average variance extracted value was statistically significant, supporting the convergent validity of our measures; and no heterotrait-monotrait ratio included the value of 1.00, supporting the divergent validity of our measures (Henseler et al.,

2015). The measurement model was deemed satisfactory, indicating that interpreting the structural model is appropriate.

To test our hypotheses, we inspected the structural portion of our PLS-SEM model. Table 6 provides all statistically significant direct effects. Hypothesis 1 proposed that conscientiousness relates to physical need satisfaction. Conscientiousness did not produce a significant direct effect on either dimension of physical need satisfaction (all $p > .05$). Hypothesis 1 was not supported. Hypothesis 2 proposed that extraversion relates to relatedness need satisfaction. Extraversion produced significant direct effects on Community ($\beta = 0.20$, $t = 2.18$, 95% C.I. [0.01, 0.38], $p = .029$) and History ($\beta = 0.24$, $t = 2.43$, 95% C.I. [0.03, 0.43], $p = .015$), each dimensions of relatedness need satisfaction. Hypothesis 2 was supported. Hypothesis 3b proposed that the Dark Triad relates to relatedness need satisfaction. Only Machiavellianism produced direct effects on a relatedness need satisfaction dimension with p -values below 0.05, which were the dimensions of Community ($\beta = 0.22$, $t = 2.16$, 95% C.I. [-0.04, 0.37], $p = .031$) and History ($\beta = 0.18$, $t = 1.98$, 95% C.I. [-0.04, 0.34], $p = .048$); however, the associated confidence intervals included 0. As only one of nine potential direct effects of the Dark Triad via relatedness need dimensions were significant, Hypothesis 3b was not supported. Hypothesis 4 proposed that conscientiousness relates to competence need satisfaction. Conscientiousness did not significantly relate to any dimensions of competence need satisfaction (all $p > .05$). Hypothesis 4 was not supported. Hypothesis 5 proposed that extraversion relates to autonomy need satisfaction. Extraversion produced a significant direct effect on both dimensions of autonomy need satisfaction, Behavioral Control ($\beta = 0.21$, $t = 2.40$, 95% C.I. [0.03, 0.37], $p = .016$) and Authenticity ($\beta = 0.21$, $t = 2.21$, 95% C.I. [0.01, 0.37], $p = .027$). Hypothesis 5 was supported.

Some unhypothesized effects produced significant results. Extraversion produced a significant direct effect on Positive Presentation ($\beta = 0.26$, $t = 3.12$, 95% C.I. [0.08, 0.42], $p = .002$), a dimension of competence need satisfaction. Agreeableness produced significant direct effects on Reflection ($\beta = 0.25$, $t = 2.72$, 95% C.I. [0.06, 0.42], $p = .007$) and Positive Presentation ($\beta = 0.25$, $t = 2.66$, 95% C.I. [0.06, 0.42], $p = .008$), dimensions of competence need satisfaction; and significant direct effects on all three dimensions of relatedness need satisfaction: Close Others ($\beta = 0.18$, $t = 2.18$, 95% C.I. [0.01, 0.34], $p = .030$), Community ($\beta = 0.35$, $t = 4.31$, 95% C.I. [0.17, 0.49], $p < .001$), and History ($\beta = 0.25$, $t = 2.89$, 95% C.I. [0.07, 0.41], $p = .004$). Lastly, psychopathy produced significant direct effects on Stability ($\beta = -0.24$, $t = 2.35$, 95% C.I. [-0.45, -0.04], $p = .019$) and Physical ($\beta = -0.23$, $t = 2.43$, 95% C.I. [-0.42, -0.04], $p = .015$), dimensions of physical need satisfaction. All other direct effects with p -values less than 0.05 produced associated confidence intervals that included 0.

4.2.1. Supplemental analyses

We again performed supplemental analyses, wherein we tested whether each control variable moderated each relation between the personality dimensions and the need satisfaction by home dimensions. Several significant moderating effects emerged, which are reported and discussed in Supplemental Material D. Because these are exploratory analyses and not central to our theoretical rationale, we do not discuss them in detail. Nevertheless, it should be recognized that agreeableness and extraversion were the personality dimensions involved in the most significant moderating effects, whereas relative expense of residence, age, roommates, and race were the control variables involved in the most significant moderating effects. No dimension of need satisfaction by home was involved in notably more moderating effects as an outcome.

We also tested whether each personality dimension produced a quadratic effect on each need satisfaction by home dimension. Only 5 effects of 54 were statistically significant, and these results are detailed in Supplemental Material D. Three of these effects involved the dimension of Psychopathy, each of which indicated that the dimension produced a U-shape relation with the need satisfaction of home dimensions.

Those who are either particularly low or high in psychopathy may be more likely to have their needs satisfied by home.

4.3. Study 2 discussion

Study 2 likewise provided weak support for the STOA framework in explaining the relation of personality and feelings of home, as two of five hypotheses were supported. At the same time, most results were consistent between Studies 1 and 2. Extraversion again related to feelings of home via relatedness need satisfaction and autonomy need satisfaction. Conscientiousness was again not significantly related to competence need satisfaction or physical need satisfaction, and the Dark Triad was likewise not related to relatedness need satisfaction. The hypothesized results of Study 2 suggest that extraversion is a key personality dimension that relates feelings of home.

Certain unhypothesized effects were consistent between Studies 1 and 2. Namely, extraversion was found to relate to competence need satisfaction in both studies. At the same time, some unhypothesized effects differed in Study 2. Agreeableness did not produce any direct effects in Study 1, but it produced five significant direct effects Study 2. While Study 1 found extraversion alone consistently relates to the need satisfaction dimensions, Study 2 found that both extraversion and agreeableness produces the most consistent relations. Psychopathy was also demonstrated to significantly relate to physical need satisfaction in Study 2 alone. These similarities and differences between the two studies significantly advance our theoretical understanding of personality and home, and the results of our studies are summarized in Table 7.

5. Discussion

The concept of home is central to long-held discussions within many fields of study, including housing studies, philosophy, literature, and many others, and the creation of need-based approaches to the study of home is among the most promising development in recent years (Howard, 2025a, 2025b; Soleimani & Gharehbaglou, 2023). These approaches enable the deeper integration of psychological theory, uncovering previously unidentified insights into the nature of home. Of note, these approaches enable the more complete investigation into antecedents to feeling a sense of home, enabling researchers to better explain how feelings of home are crafted and how personal outcomes are benefited (Annison, 2000; Imrie, 2016). Due to the importance of need-based approaches, the current article represents a significant step in integrating extant theoretical perspectives with need-based theories of home. By applying the STOA model, we provide valuable insights into how personality does – and does not – relate to feelings of home.

The STOA model only partially elucidated the relations between personality and feelings of home. The framework identified that extraversion relates to feelings of home via satisfying relatedness and autonomy needs. Alternatively, the framework did not correctly indicate that honesty-humility and the Dark Triad would not significantly relate to feelings of home via relatedness need satisfaction, and it also did not identify that conscientiousness would not significantly relate to feelings of home via physical or competence need satisfaction. Given these unsupported hypotheses, it cannot be confidently claimed that the STOA framework is an effective lens to understand the relations between personality and feelings of home.

At the same time, our results did demonstrate consistent patterns of effects. In both studies, extraversion broadly related to feelings of home via multiple forms of need satisfaction, serving as the most consistent predictor. Likewise, agreeableness was a broadly relevant predictor when studying the B5 + D3. Because these results produced strong and consistent findings, our results can lead future researchers to alternative theoretical perspectives that may inform research on personality and home. We discuss these theoretical implications below.

5.1. Theoretical implications and future research directions

5.1.1. STOA model and needs

It should be questioned why the STOA model (De Vries et al., 2016) was relatively ineffective in identifying the relations of personality and feelings of home. Answers cannot be stated with certainty, but some suggestions that pose theoretical implications can be provided.

We associated each dimension of personality with the satisfaction of specific needs by identifying the most closely connected outcome domain based on extant research and theorizations; however, the outcome domains may not fully reflect the dimensions of need satisfaction. For instance, we associated competence need satisfaction with the outcome domain of duty, as it is the most relevant of the six outcome domains in the STOA model. The outcome domain of duty may not particularly relate to competence need satisfaction, and the criterion classes for each outcome domain within the STOA model may not be fully comprehensive. Researchers may need to assess whether additional outcome domains should be added to the STOA model to represent outcomes that may only loosely relate to present outcome domains and criterion classes. By doing so, the STOA model may become more comprehensive.

Alternatively, we associated the satisfaction of needs with specific outcome domains based on the criterion classes of those domains. While prior authors have performed similar theoretical connections, the satisfaction of needs may not function like other outcomes, as the criterion classes of the outcome domains lead to the satisfaction of needs. For instance, the outcome domain of sociality includes the criterion class of social network. While social networks lead to the satisfaction of relatedness needs, the outcome domains of the STOA model may be a step removed from the satisfaction of needs. This separation may cause the STOA model to not directly relate to the satisfaction of needs as an outcome. Future researchers should probe the role of needs in the STOA model, such that they can determine whether it is a suitable model for the study of need satisfaction – or whether alternative perspectives are necessary.

5.1.2. STOA model and home

In our two studies, extraversion and agreeableness broadly related to the satisfaction of all needs by a residence, rather than producing differentiated relations with independent need dimensions. In the STOA model, extraversion has a primary relation with sociality, and agreeableness has a secondary relation with sociality. These broad relations may be produced because each need satisfied by a residence is more strongly related with sociality rather than multiple different outcome domains, causing solely the personality dimensions associated with sociality to produce significant results.

Relatedness need satisfaction and autonomy need satisfaction have clear associations with sociality, but competence need satisfaction may relate to sociality rather than duty because homes are inherently public demonstrations of competence. While the outcome domain of duty may reflect outcomes associated with more inward-facing forms of achievement, sociality may instead reflect outcomes associated with public demonstrations of competence. Those in situations associated with sociality may particularly value public demonstrations of competence. In turn, they may be more likely to obtain a house that satisfies this personal need.

Alternatively, physical need satisfaction has a less apparent association with sociality, but connections can be suggested. Basic physical needs must be satisfied before basic psychological needs can be fully satisfied (Howard, 2025a, 2025b). As each dimension of basic psychological need satisfaction of home may relate to sociality, seeking and obtaining a residence for physical need satisfaction may inherently involve sociality. In other words, because the satisfaction of broader

needs by home is intertwined with sociality, the satisfaction of essential needs may likewise be intertwined because people may consciously or subconsciously view the two as inseparable. In turn, people may view the satisfaction of basic physical needs of home to be an essential step in achieving the criterion classes associated with the outcome domain of sociality.

These suggestions are purely data driven and cannot be confirmed with the current data. Future researchers should perform focused investigations to ensure that our interpretation is not spurious, such as testing whether broader antecedents and outcomes associated with sociality – and not other outcome domains – relate to the needs satisfied by home. If supported, then it could be found that the STOA model does effectively identify the relations of personality and feelings of home, but not via the lens provided by the current understanding of the model.

5.1.3. Alternative frameworks to study personality and home

A strength of our work is the application of a specific model, enabling our predictions to be guided by theory. Because we proposed our hypotheses in this manner, our results enable us to perform robust tests of theory, wherein our inferences can guide how future authors apply our studied theoretical perspectives. At the same time, we also tested unhypothesized relations in an exploratory manner, such that researchers could leverage these results to justify the application of alternative theories in future investigations on the study of home. By demonstrating that extraversion was the dimension of personality that produced the most – and most consistent – relations with the need satisfaction of home, the current article suggests that theories associated with extraversion may be useful in understanding the relation of personality and home.

Authors have suggested that the emergence of extraversion as a unique trait may be due to systematic differences in dopamine function (and other neurotransmitters), wherein those high in extraversion possess higher levels of dopaminergic activity (Wacker & Smillie, 2015). This difference in dopamine activity causes those higher in extraversion to be more positive, active, talkative, and sociable. In turn, these tendencies also cause those with greater extraversion to experience greater levels of positive activation, “leading to the pursuit of all sorts of social and non-social rewards more often and more vigorously” (Wacker & Smillie, 2015, p. 226). This tendency to be more goal driven for both social and non-social rewards may be the reason that those higher in extraversion are more likely to have all types of needs satisfied by their residence. That is, their extraverted tendencies may cause them to not only strive to fulfill their relatedness needs, but their dopaminergic activity also causes them to strive to fulfill their autonomy and competence needs. Future research should probe whether greater approach-orientations of extraverted individuals explains their greater likelihood to experience feelings of home. If supported, then future researchers could perform more precise investigations into the association between neurocognitive activity and needs satisfied by home.

Above, we highlighted that our pattern of results may have emerged due to the needs satisfied by a residence sharing a common association with sociality. This association may also explain why agreeableness in the Big Five but not the HEXACO related to the need satisfaction dimensions, as this dimension includes aspects of sentimentality in the Big Five but not the HEXACO (Ashton & Lee, 2007). Future researchers should adopt theories of social relations to probe the dynamics of home. For instance, theories of communal and exchange relations argue that people develop differing types of relations with others that determine reciprocal interactions, often determined by their interpersonal closeness (Mills & Clark, 2013). Given the close association of home to sociality, constructs that benefit the development of communal relations associated with a residence may predict feelings of home, and the significant relations of extraversion and agreeableness with the need

satisfaction of a residence may have arisen due to their association with developing communal relations. Therefore, future researchers should leverage our observations to integrate additional theories into needs-based theories of home, opening broad avenues for future research associated with sociality.

5.1.4. Beyond linear direct effects in studying personality and home

We provided analyses in Supplemental Material D demonstrating that certain individual differences and contextual factors moderate the relations of personality and need satisfaction by home. We recommend that future researchers should expand upon these initial observations by applying relevant theory to test more nuanced hypotheses associated with these moderating effects. Specifically, trait activation theory proposes that contexts dictate whether the effects of traits are activated or overpowered (Tett et al., 2021), and it is likely that certain contexts cause personality to have little relation to need satisfaction by home. For instance, people who live in contexts with prohibitively expensive residences may have a weaker relation between their personality dimensions and need satisfaction by home, as they may be relatively unable to secure their desired housing regardless of their personality traits. Therefore, a clear next step in future research is to leverage our supplemental findings to identify novel applications of context-relevant theory, leaving to many directions for future endeavors.

We also provided analyses in Supplemental Material D showing that few dimensions of personality produced quadratic relations with the need satisfaction of home dimensions, but psychopathy produced some quadratic effects. Those high or low in psychopathy were more likely to have certain needs satisfied by their residence, whereas those with moderate levels of psychopathy were least likely. Future researchers should probe these effects further, such as by applying needs-based theories that have previously been adapted hypothesize nonlinear predictors of need satisfaction. Notably, authors have applied need-supplies fit theory to argue that satisfaction only occurs when the requisite resources are matched to the need, such that deficient or excess resources hamper need satisfaction (Núñez-Regueiro et al., 2025). These dynamics may also apply to the satisfaction of needs via a residence, as this perspective is steeped in need-based theories. Therefore, while our investigation uncovered few nonlinear effects, this may be a valuable avenue for future research.

CRedit authorship contribution statement

Matt C. Howard: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

The authors have no competing interests to declare.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.paid.2026.113985>.

Data availability

I have provided a link to my data within the manuscript.

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