

Attachment to Objects as a Compensatory Strategy

By

Lucas A. Keefer

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Chairperson Mark J. Landau

Omri Gillath

Ludwin E. Molina

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The Thesis Committee for Lucas A. Keefer
certifies that this is the approved version of the following thesis:

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Chairperson Mark J. Landau

Date approved: _____

Abstract

Attachment theory has long considered the ways in which our close relationships serve as a source of security. Psychologists have recently begun to recognize that people also derive similar feelings of security from other sources. This paper builds on this work by showing that people turn to material objects as a source of security, specifically when threatened with reminders that close others are unreliable. In two studies, we find strong empirical support for this prediction, suggesting that reminders of the unreliability of close others leads people to report greater attachment to objects (Study 1) and that this effect is mediated specifically by an increase in attachment anxiety, or concern that close others will not be sufficient to meet one's security needs (Study 2).

Close others offer a number of important benefits for an individual. We might find that a new significant other offers new means of exploring our local environment (by, e.g., introducing one into new social networks), provides us with the opportunity to receive compliments from others, and changes the ways we think about ourselves, etc. These benefits are not, however, limited to our relationships with people. For example, a new car gives us new means to explore our local environment, provides us with the opportunity to receive compliments from others, and may even give us new constructive ways of thinking about our identity (Dittmar, 1992; Dittmar, 2004).

One of the most well-researched and central features of our relationships with close others is attachment (for review see Cassidy, 2008). Specifically, humans are believed to have an innate system that leads us to seek out close others as a source of security, i.e., protection from dangers in the physical and social world as well as from threatening intrapsychic states such as negative feelings of uncertainty or anxiety. While it is presumed that our relationships to other people serve as a primary source of an individual's sense of safety and belonging, the goal of this thesis is to investigate the ways in which people might use objects to supplement the security provided by relationships.

In particular, the goal of this project is to provide evidence that when people are faced with concerns about close others' reliability, they will be motivated to compensate for that threat by strengthening their attachment relations with material objects. This hypothesis is novel in that it does not seem intuitive that people would invest in their relationship with inanimate objects as a source of care, warmth, and connectedness. The following sections explain how this hypothesis does indeed follow from an understanding of the versatility of the human attachment system.

Afterward, I assess this hypothesis in two experiments testing the effect of increasing the salience of close others' unreliability on attachment to material objects.

Attachment: The Innate Need for Security

Attachment theory, developed by Bowlby (1958), maintains that humans have an innate psychological system that leads us to derive security from relationships. Bowlby observed that children who had been forcibly isolated from their parents due to political upheaval showed pronounced levels of anxiety and despair (1969/1982). Drawing on evolutionary theory as well as psychoanalytic theory, Bowlby proposed that children had an innate attachment system designed to keep them in close proximity to their caregivers. Because infants are profoundly dependent on others for their survival, those motivated to seek out and remain close to their caregivers tended to receive the food, comfort, and protection from hazards necessary to survive and procreate, whereas those who were not motivated to maintain proximity to caregivers had less reproductive success. Because of this innate attachment system, individuals experience distress when they are separated from their caregivers.

The security provided by the attachment system is intended to be quite broad. In terms of physical security, Bowlby's suggestion is that the attachment system is designed to ensure continued survival for the infant (and hence also for the caregiver's genes). The attachment system also serves to facilitate psychological security, which is less directly instrumental for survival. Psychological security includes the relief of negative affective states (e.g. anxiety, uncertainty) and feelings of social support. The attachment system includes a threat-detector that responds to physical or psychological threats by activating proximity-seeking behaviors oriented toward gaining and maintaining security (Mikulincer & Shaver, 2008).

The attachment system leads humans to develop particular kinds of relationships with others, namely *attachment relations* (or attachment bonds) which are distinct from other non-security providing kinds of relationships that people have with others. Ainsworth (1989), a student of Bowlby's, claims that attachment bonds are a specific type of affectional bond. Affectional bonds are: 1) persistent, 2) involve a specific target, 3) are emotionally significant, 4) marked by a motivation to be with the target, and 5) cause distress at involuntary separation from the target (summarized in Cassidy, 2008)¹. In addition to these criteria, attachment bonds are unique in that they add a sixth essential feature: the individual seeks security and comfort in their relationship with the target (Ainsworth, 1989). The essence of attachment relations is that they provide security, physical or psychological.

While Bowlby and Ainsworth originally emphasized of the role of the attachment system in children, contemporary social psychological literature reveals that the attachment system shapes people's social relationships over the course of the life-span (see, e.g., Hazan & Shaver, 1987). In adolescence, as children begin to develop autonomy, the attachment system diversifies considerably (for a review, see Allen, 2008). In particular, people move from isolated attachment relations with caregivers to more complex strategies in which some peer relationships serve key attachment functions. For example, some friends might become important for emotional consolation, while other friends may help to encourage one to pursue novel tasks. In both cases, friends offer psychological security, but in one case in the form of reassurance and in the other case as a so-called "secure base," facilitating exploratory behaviors by reassuring the subject. Eventually, the attachment system becomes important to forming and maintaining romantic relationships (Feeney, 2008; Hazan & Shaver, 1987). Pair bonds in adulthood ensure that individuals have an attachment figure who consistently provides comfort and reassurance.

Taken as a whole, research demonstrating the diverse ways in which the attachment system shapes friendships and romantic relationships in adulthood suggests that the attachment system is *versatile*. Indeed, the system is so versatile that it has been proposed to underlie people's relationships with supernatural agents (Kirkpatrick, 2005). While an attachment relation to a divine figure could never provide actual physical security (e.g. providing food), religious beliefs can bolster the perceived symbolic proximity to a powerful agent who can provide safety and personal validation in the face of everyday anxieties and risks (Granqvist & Kirkpatrick, 2008). For example, research has shown that when children are asked about the perceived closeness of a divine figure, they see a god as "closer" spiritually when the attachment system is activated (by priming thoughts of death, illness, and pain; Granqvist, Ljungdahl, & Dickie, 2007). Just as children are motivated to be physically close to caregivers when faced with threat, we also observe that the attachment system leads them to be symbolically close to a divine figure in the same way.

Interestingly, there is some empirical evidence to support the claim that attachment to a divine figure serves as a compensation for a lack of interpersonal attachment (for review see Granqvist & Kirkpatrick, 2008). In a sample of Swedish undergraduates, participants who are single (as opposed to those in relationships) reported significantly higher levels of religious activity, closer relationships with a god, and more emotional religiosity, even after controlling for attachment style (Granqvist & Hagekull, 2000). The researchers suggest that this difference is the result of a compensatory strategy: when people have insufficient attachment to close others, they invest more into attachment with a god. In a comprehensive meta-analysis of research on attachment and religion, it was noted that people who report sudden religious conversions are less secure in their interpersonal attachments (Granqvist & Kirkpatrick, 2004). The researchers

suggest that people who lack stable attachment relations with close others may strongly invest in a religion as a means of compensating for a lack of interpersonal attachment.

If people learn to use non-human targets such as a god to compensate for a lack of human attachment, might people also turn to their material possessions, such as cars or computers, to satisfy their attachment needs? In other words, might people also derive a sense of security from their relationships with their material possessions? From an evolutionary perspective, it seems that the benefits of the attachment system are really only realizable to the extent that the attachment figure is human and can actually provide physical protection and emotional care. However, research on the role of attachment in religiosity suggests that people often find security in non-human attachment figures and that this can allow people to compensate for a lack of human attachment. Of course, it is commonly assumed that divine figures are subjects, with at least some relevant features for interpersonal attachment relationships (e.g., compassion).

It remains an open question, therefore, as to whether people increase their attachment to objects as a means of compensating for a lack of reliable security from close others. Before turning to the research, I would like to briefly review research on the ways in which our relationships with objects meet the key features of attachment relationships, as noted by attachment theory, so as to provide a theoretical rationale for the central hypothesis that people will compensate for threats to interpersonal attachment by strengthening object attachment. In particular, it would seem to be more likely that people would turn to their objects as compensatory security sources if one's relationships to objects met Ainsworth's (1989) aforementioned criteria for an attachment bond. In the following sections I examine each criterion and review theory and evidence suggesting that object relationships can indeed satisfy it.

Persistence in Object Relationships

Ainsworth has suggested that attachment relationships are persistent: the role of an attachment figure is fairly stable across time. Relying on someone to get through one stressful situation is not sufficient to indicate an attachment relationship. In the case of some central attachment figures (e.g., a mother or father), the attachment relation can literally span decades of a person's life, and serve as a stable source of security throughout the comings and goings of more transient relationships. Research has shown, for example, that activating thoughts of a parent can reduce the defensiveness people usually show in response to reminders of their mortality (Cox et al., 2008)

Do people have such persistent relations with objects? Arguably, people are under immense pressures to have very short-term or disposable relations with objects, as consumerism motivates people to dispose old objects in search of newer fashions and models.

Collectors, however, demonstrate that people can and do have long-term relationships with their objects. Collection, unlike many other forms of consumption, is marked by its persistence: the usefulness of collected objects is their extended possession (Belk, 1995; McIntosh & Schmeichel, 2004). Unlike other more common modes of consumption, such as single-use commodities (e.g., food from a restaurant) or access consumption (paying for the experience, but non-possession, of a commodity, e.g., an art exhibit or film; Chen, 2009), collecting requires developing both a long-term and personal relationship with the objects in one's collection.

In interviews with over 200 participants, Belk (1995) has attempted to systematically classify the behaviors and motivations of self-identifying collectors. Collectors commonly see their collecting behavior as essential to preserving personal or collective memory: a collection of

beer cans is more than just an accumulation of metal cylinders, but rather a testament to the development of a particular consumer culture. Collections can only serve this role to the extent that the collector can maintain their role as “curator” in collecting and maintaining the objects of a collection.

It is not unusual for people’s long-term relationships with objects or collections to offer people a sense of value. Collectors are willing to make sacrifices to maintain and expand their collections that are every bit as extreme as the sacrifices people make to maintain their interpersonal relationships.

The Significance of Object Relationships

Another essential feature of attachment relationships is their emotional significance: attachment relationships are central to defining our identity throughout the lifespan. It is this emotional centrality that leads, for example, to the unique forms of grief that people experience after the loss of an attachment figure (Mikulincer & Shaver, 2008; Shaver & Fraley, 2008). The typical strategies of the attachment system, such as proximity seeking and maintenance, become permanently frustrated by the realization of the loss of the attachment figure.

Do people have such emotionally significant relationships to objects? The research on collection, discussed above, provides mixed findings on this point. Collection provides people with a clear sense of their identity, with clear standards of self-worth (having a more complete collection), and feelings of control (Belk, 1995). While collectors do value their collections, it is typically the case that the value of a collection is derivative or extrinsic: collections are often valuable to collectors because of the recognition and support that collectors receive from the community of fellow collectors (Belk, 1995).

One might even make the case that objects have very little intrinsic emotional significance at all. In their research on the meaning of belongings, Czikzentmihalyi & Rochberg-Halton (1981) interviewed hundreds of households in the Chicago area and consistently found that the meanings people imbue to their objects derive from the interpersonal relationships that those objects signify. For example, a person may cherish her dinner table because her family gathered there.

In contrast to these findings, a long tradition in psychological theorizing suggests that at least some objects have intrinsic emotional significance. James (1890) was an early proponent of the idea that objects in our environment play a valuable role in constituting the *material self*, that is, the self as it is physically manifested in the world. This material self is constituted by not only possessions, but also family members who are “bone of our bone, flesh of our flesh,” and the home itself. While we already know that family members can be emotionally significant, James’s inclusion of inanimate objects in the material self suggests the possibility that people’s normal relations with objects can carry their own emotional significance. James alludes to this possibility when he says that, relative to our urge to affiliate with others, “an equally instinctive impulse drives us to collect property; and the collections thus made become, with different degrees of intimacy, parts of our empirical selves” (James, 1890). In support of this claim, James points out the sense of loss and harm that people experience when they lose their property.

Converging with James, many philosophers have considered how people incorporate objects into the self. For example, Husserl’s (1913/1999) phenomenological approach to identity suggests that the boundary of the self is determined by the boundary of one’s efficacy. While other subjects may not do what we expect, some objects (e.g., tools, guitars, tennis rackets) respond directly to the ego’s commands and thus can, temporarily, become a part of the self. For

the skilled tennis player or the carpenter, an object is, literally, integrated into the active self (for a modern restatement and development of this position see, Gallagher, 2005). At the level of psychological action, extended mind theory (Clark & Chalmers, 1998) suggests that mental processes are functionally scaffolded by objects: an individual's memory, as a functional system for storing and retrieving information, includes not only neurons, but also cameras, checkbooks, Facebook pages, and even other people.

This inclusion of useful objects into the physical or psychological self has been supported by sociological theory on the relationship between identity and evocative objects, or objects that make possible our actions and thoughts (Turkle, 2007). Turkle's research on people's narratives of object use suggests that people often recognize the ways in which objects make their current identity possible. A synthesizer can create the possibility for creative expression and musical exploration, a new car can make possible a sense of autonomy and create the material conditions for taking control over one's situation (by coming and going when and where one pleases). Understanding who we are requires, at least in part, understanding the objects we've used to become who we are.

Building on James, we can say that not only is our embodied self in part constituted by objects (when, e.g. we swing a hammer), but objects also serve to constitute our *social self*, or our identity as constructed by relations to others (James, 1890). Dittmar's research on the relationship between identity and material objects has provided strong support for this claim. In early studies on the emotional significance of material possessions, Dittmar asked participants to name their five most valued possessions and to justify their selections (1991). One important function of these valued commodities is to give us new social groups with which to identify (e.g. BMW owners, people who like crunchy peanut butter) (Dittmar, 1994; Dittmar, 2004).

Commodities (e.g. bumper stickers, sloganed t-shirts, etc.) can also communicate our membership in social groups, serve as reminders of our political ideals, demonstrate our relative social wealth, etc.

To summarize, converging lines of theory across diverse academic disciplines suggest that objects play a valuable role in determining how people think about their identities. This insight is consistent with the notion that objects have intrinsic emotional significance. In other words, things are not useful or valuable to us merely because they represent or signify social relationships. In addition to any social recognition, the possession of a collection of objects represents the accumulated time and effort that the self has expended in collecting goods. Such objects can become a part of our very physical and social identities, becoming as integral to understanding ourselves as our relationships.

Specificity in Object Relationships

So far we have established that objects can be the targets of long-term and emotionally significant relationships. But what are we to make of the requirement of *specificity*? The child's attachment to a mother is not an attachment to mothers or women generally, but to a very specific person who provides security. Turning to material objects, it seems that our instrumental relationships are often quite general. When getting a drink, we may need *a* cup to reach our goal, but not any particular cup. Do we have relationships to objects that are as specific as human attachment relations?

The research on object use considered so far provides no clear answer on this point. For the collector attempting to complete a collection, there both is and is not specificity. For example, if someone were trying to collect the entire series of original X-Men comics, and had all but #3, they would be motivated to find that particular comic, but this object is multiply

instantiated: there are hundreds of copies of this comic and any one would complete the collection. Likewise, with regard to the emotionally significant role of objects in constituting the self, people understand themselves as owners of a certain *type* of commodity. For example, understanding oneself as a person who owns/drives a BMW requires the application of a certain object-related stereotype to perceive the self (Dittmar, 1994). For this stereotype to be a stereotype in the first place, what is true of a particular BMW-owner must be true of all BMW owners. In other words, there is nothing specific about the particular car that a person owns that makes them a BMW owner, beyond the brand of the car itself (and any particular BMW would suffice to indicate membership).

However, not all of our interactions with objects are subject to the same level of fungibility. Psychoanalysts (and parents) have long noted the intense emotional attachments that children make to particular objects (e.g., blankets, stuffed animals, pacifiers). Winnicott (1953/1986) argued that certain objects become ‘transitional objects,’ meaning that one’s relationship to them provides the developing individual with an opportunity to begin constructing an understanding of how one can and should relate to the environment, including, ultimately, the social environment. Transitional objects are said to be transitional to the extent that they are experienced as both idealized and subjective while still being actual and objective. Recognizing that some things we experience are internal (e.g. feelings, memories) and others are external (e.g. objects, other people) is a developmental accomplishment made possible by these objects. Transitional objects, unlike other things in the environment, are under the complete control of the child’s ego while still being tangible things. This is the essential feature of transitional objects: they *reliably* respond to the whims of the child and are there for the child whenever their presence is needed.

From the perspective of psychological security, transitional objects are important because children use these objects as a way of self-soothing. The transitional object, like a blanket or teddy bear, offers the child a way of comforting themselves in the face of separation anxiety. In many ways, the choice of transitional object is designed for this purpose: transitional objects are often cuddled and are typically things that provide warmth, move, or “do something that seems to show it (the transitional object) has vitality or reality of its own” (Winnicott, 1953/1986, p. 259). The transitional object is strategically selected for its ability to approximate the caregiver in a way that the ego can control: transitional objects provide a source of security that is external but reliable in a way that caregivers cannot be. This creates the possibility of breaking the continuity between the personal ego and the caregiver: the child’s ego learns to provide its own comfort with the tools (e.g. blankets) available to it. By creating the recognition of the distinction between subject and world, the transitional object creates the possibility of autonomy².

There is in fact good reason to believe that transitional objects are important across the lifespan. Therapists drawing on Winnicott have noted that transitional phenomena (e.g., uncertainty about the objectivity of perceptions) remain a prominent feature of the anxieties and frustrations that clients face (Kahne, 1967). While it eventually becomes unwieldy to carry around teddy bears and blankets, researchers have suggested that even in adults, transitional objects are not uncommon and may play a significant role in helping the person cope with distress (Bachar et al., 1998). In a correlational study of Israeli adolescents, Bachar and colleagues (1998) found that those participants who report higher levels of anxiety, hostility, depression, and other negative mental health outcomes on a Brief Symptom Inventory (from Derogatis & Melisaratos, 1983) were more likely to report having an object that they used

specifically to cope with stressful events or sadness (a transitional object) than participants who scored low on those outcomes.

Follow-up research has further validated that adolescents' use of a transitional object significantly correlates with depressive symptoms. Erkolahti and Nyström (2007) argue that adolescents who regress to transitional objects as a form of self-soothing do so to compensate for a lack of interpersonal attachment. People who find themselves increasingly without the resources to cope with depressive symptoms or anxiety fall back on more controllable relations with a transitional object to find security. Boys who are extremely avoidant in fact show better therapeutic outcomes when they are asked to use teddy bears to speak in a group therapy session (Dockar-Drysdale, 1990). While self-disclosure or other interpersonal sources of security may be threatening, the use of a transitional object, while non-normative, can provide a source of security and comfort for young adults who otherwise lack a human source of security³.

While the research on collection and the relationship between possessions and identity offers no direct support for the specificity of our relationships to objects, the transitional object literature does. The transitional object is, by its very nature, non-fungible: only one fetishized object, namely the object under complete control of the ego, can effectively occupy the transitional space between subject and world. This research on the role of transitional objects in later life, as well as people's practical investments in particular cars, books, guitars, etc. suggest that people do have very specific relationships with objects. Again, not unlike our need to be with particular close others, our attachment to objects can lead us to want to drink coffee out of *that* mug or to wear *that* lucky shirt. The question of whether or not this is an attachment relation will be passed over for the sake of this paper, though its theoretical import should be noted.

Attachment Figures Need not be Subjects

The research on transitional objects, besides illuminating the surprising specificity of some relationships with objects, critically highlights the ways in which objects can provide psychological security. To return to the question at hand: can objects serve as viable attachment figures? Are people actually motivated to find security through their material possessions? Transitional object phenomena, while only studied in limited samples (i.e., children, adolescents, and case studies of adults), suggests at least a tentative yes.

Clinical work on hoarding behavior provides further evidence to suggest that people find security and solace in their belongings. Valuable insights come from qualitative interviews conducted with functional hoarders, people who self-identify as hoarders but are not diagnosed with Obsessive Compulsive Disorder (OCD) or any other mental disorder (Cherrier & Ponnor, 2010). The motivations that functional hoarders cite importantly include concerns for security. Having a stockpile of anything from canned food to bicycle parts allows the hoarder to feel that they have the material resources to cope with an uncertain future.

Economists consider hoarding behavior a non-normative or extreme form of risk minimization, a common prevention-focused strategy of consumption (McKinnon et al., 1985). For example, consumers often purchase every day goods, such as surge protectors, home security devices, or condoms, for risk-minimizing reasons. Hoarding is, in essence, the extreme of this fairly common strategy of stockpiling goods to reduce the threat of future risk or loss (McKinnon et al., 1985). For hoarders, as well as for normal consumers, accumulating possessions is a normal way of promoting physical and psychological security.

This motive for personal security or risk minimization that promotes hoarding is indicative of broader concerns about one's ability to personally confront the future (Frost et al., 2007). In a sample of undergraduates, Frost and colleagues found that more self-doubt correlated

with greater interest in compulsive acquisition and materialism. Fitting with the work on hoarding, this research supports the claim that a fear of one's own abilities to cope with the world, or its future, ultimately leads people to acquire, stockpile, and hoard material goods to reassure themselves of their ability to face an uncertain future.

Finally, ethnographic research on the significance of the home has suggested that the mere presence of one's personal belongings can be a source of comfort, even when not in the face of imminent uncertainty (Miller, 2008). Miller conducted interviews and observations in a number of households in a residential area of London. While many of his findings support claims found in earlier ethnography, including the role of relationships in providing objects with meaning (Czisksentmihalhi & Rochberg-Halton, 1981), the novelty of Miller's approach is to chart the ways in which particular objects come to provide meaning and security for their owners. Certain objects, such as holiday decorations, impose a meaningful structure to people's life narratives: their presence frames the memories people use to understand their lives. To understand a person's life history requires, in part, interrogating the history of their possessions: the story of Christmas celebrations is framed in terms of gifts given, ornaments acquired, mugs chipped, etc. As a result of this role, the very presence of these objects can provide a powerful sense of reassurance in the quality of one's own life (or of its lack thereof) by prompting certain narrative framings of one's past. Having a book from a valued friend can provide a reminder that one has been supported, that one is loved, and that one is generally safe in the world.

To summarize, people do use their objects as a source of security and people seem to have attachment relations with material objects. The criteria for an attachment relation can be satisfied by material objects (persistence, emotional significance, specificity), including the most central feature, that people are motivated to find security through the attachment figure. While

the attachment system may have evolved to protect children from dangers in the environment, the versatility of the system has allowed people to find new sources of security in contemporary culture (more will be said about this in the discussion). The failure of attachment researchers to consider the security providing role of material possessions is an oversight that this paper is intended to begin the process of correcting.

The Current Research: Attachment to Objects as a Compensatory Strategy

We have established that people can have genuine attachment relations to objects, but why would they do so? Given that our first and most central attachments are to caregivers, what factors would lead people to attach to objects? Taking a page from the research on attachment to a god (Granqvist & Hagekull, 2000), I propose that people attach to objects as a way of compensating for a lack of interpersonal attachment.

Some of the lines of research reviewed above provide indirect evidence that people strengthen their attachment bonds to objects in response to a threat to their interpersonal attachment. The transitional object research with adolescents provides support for this claim: those who cannot find security through close others turn to transitional objects as a way of coping with distress (Erkolahti & Nyström, 2007). Research on hoarding behavior further suggests that attachment to objects correlates with a lack of attachment to close others (Nedelisky & Steele, 2009). Research on participants diagnosed with OCD with hoarding (compared to those with non-hoarding OCD) showed that hoarders have systematically higher emotional involvement and attachment to objects as well as less emotional involvement in close others.

But this correlational work cannot tell us which came first: are people using objects to find security when others are not providing enough security, or does the use of objects for

security drive close others away? While the attachment system is designed to find security through close others, I predict that people may redirect this system to inanimate targets when their efforts at human attachment are insufficient to meet their security needs. Much like infants derive a form of security from transitional objects, adults may turn to objects as a means of establishing security when others disappoint them or are not as reliable as expected.

Study 1

The first study was designed to directly test the extent to which people's attachment to objects is increased by the salience of close others' unreliability. To test this hypothesis, we randomly assigned participants to write about situations in which others were reliably helpful or unreliable. Inclusion of a condition priming the reliability of close others allowed me to test whether the hypothesized effect is specific to thoughts of close others being unreliable, as I expect, and not simply the result of thinking about close others. We also manipulated whether the targets of the prime were close or distant others (i.e., strangers) to ensure that the hypothesized effect is not due to thinking about anyone being unreliable, but specifically close others. If my hypothesis is correct, then people should be attracted to attachment relations with objects only when they are reminded that their relations with close others (but not strangers) are a sometimes unreliable source of security, as this is the only condition that specifically threatens the extent to which a participants' attachment relations can provide sufficient security. This manipulation was developed following Winnicott: I believe that it is the (un)reliability of close others that determines whether or not people are motivated to find security through objects.

Method

A community sample of 99 participants, recruited online through Amazon's Mechanical Turk service, participated for a minimal financial incentive (\$.40). All participants completed the

study materials through Qualtrics, a web service for conducting online data collection. The survey began with general demographic items and filler questionnaires, the Rosenberg Self-Esteem Scale (Rosenberg, 1965) and the Personal Need for Structure Scale (Thompson, Naccarato, & Parker, 1989; Neuberg & Newsom, 1993), designed to bolster the cover story that we were studying the relationships between personality and people's experiences.

Relationship Uncertainty Manipulation

Ostensibly as part of the study of people's experiences, participants were then asked to complete a written task comprising a manipulation of relationship uncertainty. Participants were instructed that their responses to the written task would be content analyzed to reveal dimensions about their personality, and they were encouraged to respond honestly and with as much detail as they felt comfortable sharing. Participants were randomly assigned to one of four prompts in a 2 (Close v. Distant Others) x 2 (Reliable v. Unreliable) design. The prompts for the conditions were designed to encourage participants to think about close or unknown others either providing or failing to provide assistance during a time of need:

Close Others Reliable

Sometimes people who are close to us are there for us when we need them the most. For example, perhaps recently you were stressed out and a close friend helped you feel better. Or perhaps over the past couple months one of your parents or siblings gave you very helpful advice about a personal problem.

Think of THREE recent times when someone close to you was there for you in a time of need. In each space below, write a couple sentences about what happened and how it made you feel at the time. Your personal, honest responses are appreciated, and will remain confidential.

Close Others Unreliable

Sometimes people who are close to us "let us down." In other words, they are not there for us when we need them the most. For example, perhaps recently you were stressed out and a close friend failed to give you any support. Or perhaps over the past couple months one of your parents or siblings wasn't there when you really needed advice about a personal problem.

Think of THREE recent times when someone close to you let you down in a time of need. In the space below, write a couple sentences about what happened during ONE of those times and how it made you feel. Press enter when you are finished. Your personal, honest responses are appreciated, and will remain confidential.

Distant Others Reliable

Sometimes strangers are there for us when we need them the most. For example, perhaps recently you asked a stranger for directions and they helped you. Or perhaps over the past couple months a nurse called in a prescription for you, or a store clerk helped you when you needed assistance.

Think of THREE recent times when a stranger was there for you in a time of need. In the space below, write a couple sentences about what happened during ONE of those times and how it made you feel. Press enter when you are finished. Your personal, honest responses are appreciated, and will remain confidential.

Distant Others Unreliable

Sometimes strangers "let us down." In other words, they are not there for us when we need them the most. For example, perhaps recently you asked a stranger for directions and they rudely ignored you. Or perhaps over the past couple months a nurse forgot to call in a prescription for you, or a store clerk was rude to you when you needed assistance.

Think of THREE recent times when a stranger let you down in a time of need. In the space below, write a couple sentences about what happened during ONE of those times and how it made you feel. Press enter when you are finished. Your personal, honest responses are appreciated, and will remain confidential.

After each prompt, participants were provided with three boxes on the website in which to describe their experiences.

Attachment to Objects

Attachment to objects, our primary dependent variable, was assessed using Nedelisky & Steele's (2009) measure of attachment to objects. This measure is a modification of the Reciprocal Attachment Questionnaire (RAQ; West, Sheldon, & Reiffer, 1987; West & Sheldon-Keller, 1992), a measure of attachment relationships that assesses several components of the attachment relation. Nedelisky & Steele's (2009) measure of attachment to objects, referred to as the RAQ-A, substitutes "belongings" for the human attachment figure referred to in RAQ items.

This was used because, as far as I know, it is one of the only self-report measures of attachment to objects in the literature.

The RAQ-A contains 9 separate dimensions. One is intended to be a single, face valid item that measures the extent to which objects fulfill an attachment role for the participant: “I turn to my belongings for many things, including comfort and reassurance.” The remaining 8 subscales are split into two groups: 1) features of the attachment relationship; and 2) appraisal of the attachment relationship.

Four subscales measure the degree to which certain features of an attachment relationship are present. The first uses 5 items to assess the extent to which people fear the loss of their possessions (Feared Loss, e.g. “I worry about losing my belongings”). The second dimension (4 items) measures the degree to which people are motivated to maintain proximity with their belongings when they feel threatened (Proximity Seeking, e.g. “When I am anxious I desperately need to be close to my belongings”). The third dimension (4 items) measures the extent to which possessions serve to provide persistent reassurance (Secure Base, e.g. “I feel much more insecure or vulnerable when I am away from my belongings”). The fourth attachment relationship dimension (4 items) measures the extent to which people protest or are made anxious by separation from their belongings (Separation Protest, e.g. “I feel vulnerable when I am away from my belongings for a few days”). Two of these dimensions were highly reliable, Proximity Seeking, $\alpha = .88$ and Secure Base, $\alpha = .92$, while the others were only somewhat reliable, Feared Loss, $\alpha = .74$, and Separation Protest, $\alpha = .76$.

The remaining subscales are designed primarily to assess the ways in which people construe their attachment relation with objects. The first dimension (1 item) measures anger about attachment to objects (Angry Withdrawal; “I get really angry at myself because I think

taking care of my belongings takes up too much time”). The second dimension (8 items) measures participants’ motivation to reciprocate care towards their possessions (Compulsive Care-Giving, e.g. “It makes me feel better when I spend time taking care of my belongings.”). The third dimension (9 items) measures people’s dependence on their attachment to objects (Compulsive Care-Seeking, e.g. “I would be helpless without my belongings”). A further subscale (3 items) was intended to measure people’s motivations to be self-reliant (Compulsive Self-Reliance, e.g. “I feel it is best not to depend on my belongings”). Reliabilities for these care-giving and –seeking scales were sufficient: Compulsive Care-Giving, $\alpha = .79$, Compulsive Care-Seeking, $\alpha = .79$. However, the Compulsive Self-Reliance scale was lacking reliability, $\alpha = .68$.

Given the poor reliability of many subscales in the RAQ-A, and the weaknesses of a single-item measure of attachment to objects, we averaged across the scales as a better measure of people’s overall attachment to objects. Reverse-scoring compulsive self-reliance (which indicates rejection of the attachment relationship) and considering the remaining subscales provides a much more reliable measure of people’s attachment to objects, $\alpha = .91$. Participants mean scores on this were used as a measure of their overall attachment to objects.

Results

Participants’ scores on the Attachment to Objects measure were submitted to a 2 (Close v. Distant Others) x 2 (Reliable v. Unreliable) between-subjects analysis of variance (ANOVA). We observed a significant main effect of closeness, $F(1, 95) = 4.79, p = .03, \eta^2 = .05$. However, this was qualified by a significant Closeness x Reliability interaction, $F(1, 95) = 4.42, p = .04, \eta^2 = .05$ (for the pattern of means, see Figure 1).

Pairwise comparisons (using Fisher’s LSD) revealed that participants primed with unreliable close relationships scored higher on object attachment ($M = 3.16, SD = .94$) than

participants primed with reliable close relationships ($M = 2.66$, $SD = .90$), $p = .046$. Also supporting hypotheses, participants primed with unreliable close relationships reported being more attached to objects than both those primed with reliable distant others ($M = 2.65$, $SD = .90$), $p = .045$, as well as those primed with unreliable distant others ($M = 2.41$, $SD = .92$), $p = .002$. No other pairwise comparison reached significance, $ps > .30$

Discussion

The results of Study 1 show that people do in fact increase in their motivation to attach to objects when threatened with the unreliability of close others. Consistent with the hypothesis, participants increased in their attachment to objects as a way of compensating for a lack of reliable security from close others, while no differences were observed between the remaining conditions. These data support the claim that the effects of this unreliability prime are specific to close others, and are not the result of merely any uncertainty about other people, as evidenced by the comparison between the close and distant unreliable conditions. Moreover, simply thinking of close others did not increase (or decrease) attachment to objects, as we see a significant difference between the close others reliable and unreliable conditions.

It is also important to recognize that the pattern of means observed in the two close others conditions is not the result of decreased attachment to objects when primed with a reminder that close others are reliable. There were no significant differences between the close others reliable condition and the two distant others conditions. While we might think that participants might detach from objects when reminded of the reliability of close others, we see this pattern of results was not supported.

Although the results of Study 1 support our broad claims about the psychological function of object attachment, they do not directly assess the mechanism proposed to underlie

these effects. Specifically, our guiding analysis suggests that contemplating the unreliability of close others will cause a threat to one's sense of security, which will then predict increased object attachment. Study 2 directly assesses this hypothesis.

Study 2

While Study 1 provides an important first step in supporting the hypothesis that attachment to objects is a defensive reaction designed to cope with insufficient security from close others, we must importantly test the mechanism underlying this strategy. Following Nedelisky & Steele's (2009) insight that decreased attachment to others is correlated with increased attachment to objects in a clinical sample, we should expect that there will be important relationships in a non-clinical sample between attachment to close others and attachment to objects. Given that people show increased attachment to objects when threatened with uncertainties about their close relationships (Study 1), Study 2 was designed to explore the extent to which peoples' attachment relations to close others might predict their attachment to objects.

We believe that attachment anxiety is the mediating variable underlying the effect observed in Study 1. Specifically, we predict that as people are increasingly concerned about abandonment and rejection, they will turn to objects as a source of attachment. To confirm this assumption, we conducted a pilot study in which 50 undergraduate participants completed the 39-item RAQ-A⁴ used in Study 1 and the Experiences in Close Relationships-Revised scale (ECR-R; Fraley, Waller, & Brennan, 2000), which, as described more fully below, consists of 18 items assessing attachment anxiety ($\alpha = .93$) and 18 items assessing attachment avoidance ($\alpha = .96$). Participants' scores on the measure of attachment to objects were submitted to simple regression analyses to test the extent to which their scores might be predicted by individual

differences in interpersonal attachment. As predicted, attachment anxiety was significantly and positively associated with object attachment ($\beta = .22$, $SE = .08$, $t = 2.65$, $p = .01$), whereas attachment avoidance was not ($\beta = .06$, $t = .76$, $p = .45$).

This pilot study supported our assumption that attachment anxiety, but not attachment avoidance would predict object attachment. Thus, in the full study we tested the mediational hypothesis that the salience of close others' unreliability will increase attachment anxiety, which will in turn increase object attachment. This suggests that people who are increasingly anxious about abandonment or isolation are attracted to the use of objects for attachment relations, presumably because objects lack the capacity (specifically the agency) to abandon the individual. One feature of objects that makes them attractive sources of security, as noted by theorizing on transitional objects, is the fact that they are reliable and controllable.

Study 2 also builds on the previous studies by invoking a stronger comparison condition. In Study 1, the distant others unreliable prime may not actually prove all that threatening to participants since many people may not, in fact, expect strangers to be particularly helpful in the first place. In this study we attempted to use a comparison to a condition that was directly self-relevant. Moreover, because attachment anxiety is typically understood as a negative working model of the self (Bartholomew & Horowitz, 1991), a control condition that directly threatens participants with a negative view of their own capabilities provides a more compelling comparison for the specific effect of attachment anxiety on object attachment in the close others unreliable condition.

Method

A community sample of 48 participants, recruited online through Amazon's Mechanical Turk service participated for a minimal financial incentive (\$.25). As in Study 1, all participants

completed the study materials through Qualtrics. The materials again began with general demographic items and filler questionnaires (again self-esteem and Need for Structure) designed to bolster the cover story that we were studying the relationships between personality and people's experiences.

Relationship Uncertainty Manipulation

Again using the cover story from Study 1, a study of personality and people's experiences, participants were again asked to complete a written task comprising a manipulation of relationship uncertainty. They were again instructed that their responses to the written task would be content analyzed to reveal dimensions about their personality, and they were encouraged to respond honestly and with as much detail as they felt comfortable sharing. Participants were randomly assigned to one of two conditions. Half of the participants were provided with the Close Others Unreliable prime from Study 1, while the rest received a Self Unreliable prime:

Self Unreliable

Sometimes we "let ourselves down." In other words, we fail to do something that we need to do for ourselves. For example, perhaps recently you promised yourself that you would stop stressing out about something, but you kept stressing out. Or perhaps over the past couple months you failed to solve a personal problem that you told yourself you would solve.

Think of THREE recent times when you let yourself down in a time of need. In each space below, write a couple sentences about what happened and how it made you feel at the time. Your personal, honest responses are appreciated, and will remain confidential.

This comparison is not only more impactful, but also more effectively controls for negative affect and personal relevance than the distant others unreliable prime used in Study 1.

Experiences in Close Relationships-Revised

Participants then completed the Experiences in Close Relationships-Revised scale (ECR-R; Fraley, Waller, & Brennan, 2000). The ECR-R measures two key dimensions of attachment

style. Of the 36 items, half measure participants' degree of attachment avoidance, i.e. the extent to which participants resist attachment to others ("I get uncomfortable when a romantic partner wants to be very close," "I feel comfortable depending on romantic partners (reversed)"). The remaining 18 items of the ECR-R assess participants' attachment anxiety, i.e. the extent to which they fear abandonment or insufficient love ("My desire to be very close sometimes scares people away," "When my partner is out of sight, I worry that he or she might become interested in someone else."). This scale was used because the reliability and validity of this scale are well established (Sibley & Liu, 2004; Sibley, Fischer, & Liu, 2005). As an important note, however, this is a trait measure of attachment style, thus any change by condition is . In our sample, responses to the two subscales showed good reliability ($\alpha_{\text{avoidance}} = .97$; $\alpha_{\text{anxiety}} = .93$).

Attachment to Objects

Attachment to objects was then assessed using the RAQ-A. Once again, the scales showed a range of both acceptable and dubious reliabilities. Two dimensions were highly reliable, Proximity Seeking, $\alpha = .92$ and Secure Base, $\alpha = .90$. Other scales were only somewhat reliable, including Feared Loss, $\alpha = .75$, Separation Protest, $\alpha = .76$, Compulsive Care-Giving, $\alpha = .73$, Compulsive Care-Seeking, $\alpha = .80$. Once again the Compulsive Self-Reliance scale was lacking reliability, $\alpha = .63$. Scores on the subscales were once again averaged to provide a better measure of people's overall attachment to objects, $\alpha = .92$.

Results

Initial tests were conducted to assess the effects of priming condition on attachment anxiety, attachment avoidance, and object attachment (see Figure 2 for a depiction of the relevant means). Following predictions, attachment anxiety was significantly higher when participants were primed with unreliable close others ($M = 3.58$, $SD = 1.06$) than with personal unreliability

($M = 2.80$, $SD = 1.11$), $F(1, 46) = 6.04$, $p = .02$, $\eta^2 = .12$. Attachment avoidance was also significantly higher when participants were primed with the unreliability of close others ($M = 3.52$, $SD = 1.52$) than themselves ($M = 2.70$, $SD = 1.10$), $F(1, 46) = 4.54$, $p = .04$, $\eta^2 = .09$. Critically, we also found that attachment to objects was significantly higher in close others unreliable condition ($M = 3.17$, $SD = .94$) than the self unreliable condition ($M = 2.51$, $SD = .70$), $F(1, 46) = 6.53$, $p = .01$, $\eta^2 = .14$.

To test the hypothesis that attachment anxiety mediates the effect of priming condition on object attachment, we first tested whether or not attachment anxiety predicted attachment to objects and found that it was in fact a significant predictor, $\beta = .33$, $SE = .10$, $t = 3.17$, $p = .003$, $R^2 = .18$. We tested the predicted model in which the effect of the prime on attachment to objects is mediated by attachment anxiety (Figure 3). Using Preacher & Hayes Bootstrapping procedure (2008) and a bootstrap of 5000 samples, the mediation model was found to have a confidence interval ranging from (.02, .50). Because this confidence interval does not contain zero, we can be confident at $\alpha = .05$ that the effect of the close others unreliable prime on object attachment is mediated by an increase in attachment anxiety.

Finally, to test the specificity of this proposed model, another mediational analysis was conducted using attachment avoidance in place of attachment anxiety. Unlike the sample in the pilot study, in these data attachment avoidance was found to be a significant predictor of attachment to objects, $\beta = .26$, $SE = .09$, $t = 3.02$, $p = .004$, $R^2 = .17$. However, the mediational analysis, again with a bootstrap of 5000 samples, results in a confidence interval from (-.02, .45). Because this interval includes 0, we must reject the hypothesis that the effect of the close others unreliable prime on object attachment is mediated by an increase in attachment avoidance⁵.

Discussion

The results of Study 2 provide a substantive explanation for the results observed in Study 1. We observed in the first study that when participants were primed with thoughts that close others are unreliable, they increased in their attachments to objects relative to all comparison conditions. The question we were left with was simple: why? In the pilot study of Study 2, we observed that attachment anxiety significantly predicted object attachment, whereas attachment avoidance did not. Study 2 provides further support for both sets of findings by offering a causal model for explaining the effects of Study 1: the effect of priming the unreliability of close others increases attachment to objects by increasing attachment anxiety, but not through an increase in attachment avoidance.

Initial comparisons between the two conditions in Study 2 showed that the close others unreliable prime was increasing both dimensions of attachment measured in the ECR-R as well as object attachment. When participants think about how unreliable close others can be, they become simultaneously more concerned about abandonment (attachment anxiety) as well as more detached from those relations (attachment avoidance). Moreover, we observe that they become more motivated to find security in their belongings.

But what is the mechanism that leads people to have attachment relations with objects? I have argued that the fundamental motivation behind this attachment strategy is an attempt to find attachment figures that are reliable and controllable in a way that close others sometimes are not, as a way of compensating for a lack of sufficient interpersonal attachment. The mediational analyses in Study 2 provide strong support for this hypothesis by directly testing the extent to which concerns about rejection and abandonment mediate the effects of the close others unreliable prime on attachment to objects. When we are reminded of how close others can and do

abandon us, we become more anxious in our attachment, and thus more motivated to seek out attachment figures that can provide the security that we fear close others will not.

General Discussion

The primary goal of this paper was to explore the motivations behind the use of objects as attachment figures. Prior research in consumer psychology, sociology, psychoanalysis, and clinical psychology has supported the claim that people do in fact find security in their possessions, and some of this research has even begun to offer potential explanations for the phenomenon. The goal of these studies was to test one specific explanation from Winnicott's transitional objects theory: that people are motivated to find security through objects when close others fail to serve as sufficiently reliable sources of security.

In Study 1, this hypothesis was tested directly by manipulating whether participants were primed with reminders of ways in which close (or distant) others were unreliable (or reliable). Notably this prime only increased attachment to objects in the close others unreliable condition. Merely thinking of close relationships does not increase people's attachment to objects, as evidenced by the comparison between the close others reliable and close others unreliable conditions. Moreover, not all threats about the unreliability of others drive us to attach to objects, as shown by the comparison between the close v. distant others unreliable conditions.

Study 2 tests the extent to which attachment anxiety serves as the key causal mechanism underlying the relationship between the threat of unreliable close others and the observed increase in attachment to objects. Through the mediational analyses, we found that only attachment anxiety, and not attachment avoidance, significantly mediated the effect of the prime on attachment to objects.

Limitations

A potential limitation to these studies is the measure of object attachment. The RAQ-A that Nedelsky & Steele (2009) developed contains a number of subscales measuring features of the attachment relation between people and their belongings. Unfortunately this scale substitutes “belongings” into the RAQ-A, which is problematically general. Attachment relations are much narrower than this. We cannot know which objects people have in mind when completing the scale, or even if they are thinking of a specific attachment relation to an object. The subscales of the RAQ-A also consistently showed poor reliabilities. While the composite of these subscales provided a reliable measure of attachment to objects in these studies, this unintended use of this scale may not be the most straightforward measure of attachment to objects. A better self-report measure, as well as more subtle indices (e.g. behavioral) of attachment to objects, would greatly strengthen the results of these studies.

A further concern with these studies is the fact that all data were collected using a computer. While this would be a non-issue for the vast majority of psychological research, it may serve to influence how people think about their belongings in the studies. Given the relative centrality of computer use in our everyday work and leisure, computers offer a salient example of an object that is particularly useful. As a result, it may be that this may be the most salient object people have in mind when completing the attachment to objects measure. This does not necessarily undermine the findings, though it does suggest that potentially the effect of the prime is narrower than it has been interpreted.

Future Research

These studies suggest a number of avenues for future research. Future studies might consider the importance of other outcomes in the object attachment process. If attachment to objects is fulfilling fundamentally the same purposes as attachment to close others, we should

expect that situational and dispositional attachment to objects might predict greater feelings of security and efficacy, as well as reducing perceived threat in the environment.

Moreover, and following Study 2, we might expect that increased attachment to objects could serve to reduce future feelings of attachment anxiety and potentially avoidance. If attachment to objects gives us a new source of psychological security, we may use this new secure base as a foundation for taking the risk of trusting close others again. Most of us are not continually threatened by the unreliability of close others, so some work should be done on the ways in which attachment to objects allows us to re-establish trust in close others. For example, we might consider the importance of a longitudinal study of the ways in which attachment to objects might rise in response to threat, but ultimately serve to protect relationships over time.

Furthermore, work can and should be done in developing the construct of attachment to objects. The RAQ-A used in this study is designed specifically to measure attachment to objects as a parallel to attachment to other subjects (by replacing subject words with “belongings” in the RAQ), but this may be inappropriate. For example, does object attachment represent the same two dimensions as attachment to subjects, i.e. object attachment avoidance and anxiety? Are there object attachment styles? Are there other important (and orthogonal) dimensions to our attachments to objects, such as features of the objects that should be considered?

The specificity of attachment relations to objects is also an open question. In attachment with a spouse or a caregiver, the attachment relation is quite specific. However, as noted, over the course of development, people also learn to strategically use a variety of friends to fulfill specific attachment functions. Is it the case that people attach to a particular object? Do they have different objects for different attachment roles, e.g. a car that serves as a secure base and a blanket that serves to console one after distress?

On this note, research should consider the specific features of objects that make them more or less attractive as attachment figures. For example, one might consider the effects of anthropomorphism in changing how people attach to objects. Objects that are more subject-like should be attractive to those who are seeking a subject as an attachment figure, while the same subjectivity might be threatening to someone who is temporarily anxious about others.

In this thesis, it was assumed, following Winnicott, that the reliability of objects makes them attractive but clearly there are many other important differences between subjects and objects that might make them attractive sources of psychological security. Reliability in this sense is the result of a cluster of features: objects lack agency, they respond to the individual, they are controllable, etc. Some of these features may be more important than others, even within the reliability construct. Other features outside this construct should be explored to determine which features of objects lead people to find security through them.

Finally, this thesis has only considered attachment to objects as a compensatory strategy. Research on attachment in religion has suggested another path that leads people to find security through a divine figure: namely correspondence (Kirkpatrick, 2005; Granqvist & Kirkpatrick, 2008). Some evidence has been found that people with secure interpersonal attachments also show a secure attachment to a god, suggesting that attachment to god (for securely attached individuals) often mirrors their attachment to an attachment figure.

Is it possible that a similar process might play a role in object attachment? That is, is it possible that people might attach to objects as they do close others? This suggests a radically different pattern of attachment than that which has been shown in this thesis, but it remains an open possibility. Given the extent to which our objects are infused with social significance (Miller, 2008), it may be that a subject's attachment to a close other leads to diffuse attachment

relations with things associated with the attachment figure. If, for example, one finds comfort from a loved one, an article of the loved one's clothing (e.g. a jacket) might provide security as a marker of the attachment figure. Further research should be conducted on this pattern of attachment to objects.

Conclusions

At no point in this thesis has any effort been made to problematize attachment to objects, and this is wholly deliberate. Following Winnicott (1953/1986), it is important to remember that our ability to find security through objects is an early addition to our psychological toolkit, and one that is not intrinsically pathological. While instances like hoarding may represent extreme cases, work on transitional objects and consumerism suggests that our attachments to objects are an inevitable aspect of life in consumer culture. The strategic use of objects to fulfill security needs is so inherently human that children spontaneously acquire the skill, and adults apply it as well, albeit with more complex motivations and more resources.

We as subjects will often be threatened with the unreliability of a close other, and our ability to find new sources of psychological security should be seen, in general, as a marker of the creative ways that people protect themselves. Certainly the person whose only source of security is a collection of stamps or a particular cell phone might represent cases in which the costs outweigh the benefits. For most of us, however, the ability to temporarily find comfort in reliable computers, books, cars, etc. provides a benefit that we cannot find through other subjects. As much as we may invest in close others, objects still fulfill a unique and important role that supplements, but need not preclude, our relationships with close others.

But of course, the recognition of this usefulness must be taken with a considerable grain of salt. We might worry about the extent to which people's needs for security might be used to

exploit consumers by appealing to this core psychological motive. As we value objects that can afford us psychological security in the face of unreliable support from close others, consumers will be attracted to commodities that can ensure comfort and security in a reliable manner, particularly in contexts in which the unreliability of close others is particularly salient. The marketing of products such as cell phones (e.g. ads that promote the reliability of service or the responsiveness of a network) may exploit people's basic need for reliability in a context in which the reliability of a close other may be called into question. We never know quite how a friend or family member may receive a phone call or a text, and this intrinsic uncertainty may attract people to commodities.

Finally, as people in Western settings find themselves increasingly mobile (Schug et al., 2009; Schug, Yuki, & Maddux, 2010), maintaining stable and reliable relationships is increasingly difficult in contemporary society. The highly mobile context of relationships makes them increasingly uncertain, e.g. by increasing the possibilities that a friend or family member may move away or increasing the chances that a close others may be too far away to be a reliable source of security. In this context, attachment to objects may become, for some, more than just a strategy for temporarily compensating for insufficient reliability in human attachment because this reliability is so much harder to find.

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Figure 1: Attachment to Objects by Condition in Study 1

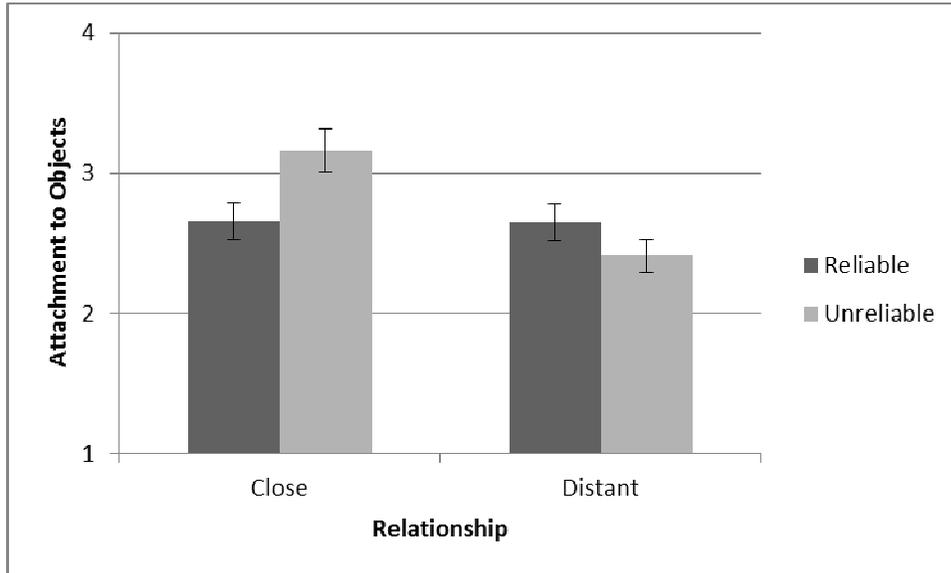


Figure 2: Differences in Attachment by Condition in Study 2

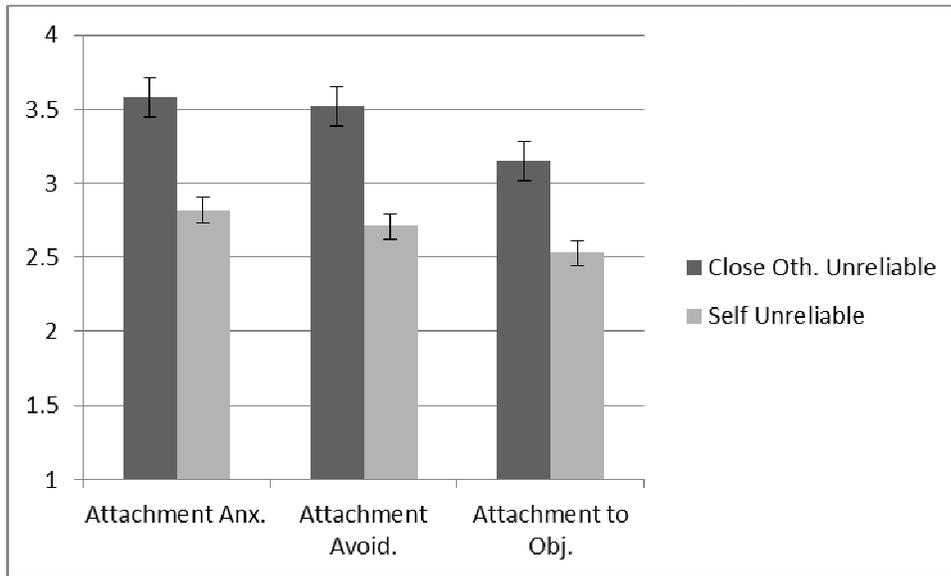
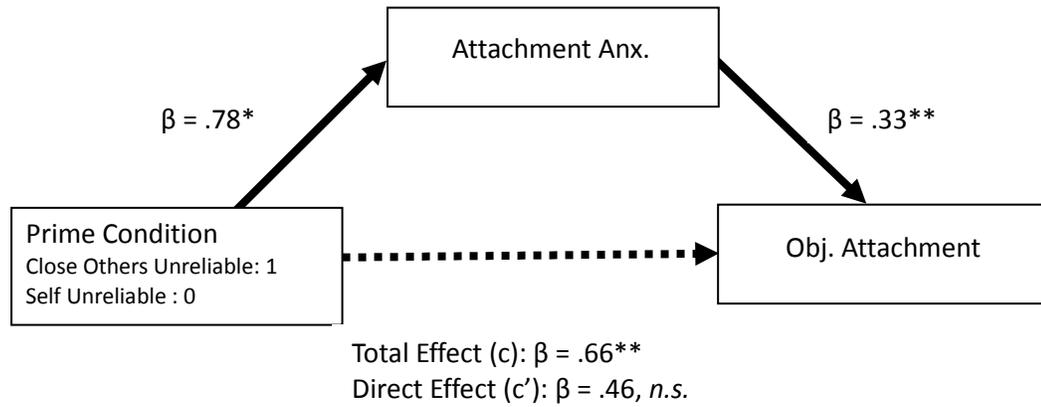


Figure 3: Mediation of the Effect of Relationship Uncertainty on Object Attachment by Anxiety



Note. The direct effect coefficient represents the effect of the independent variable after controlling for the effect of the proposed mediator.

Total adjusted R^2 for the model = .24, $F(2, 44) = 7.11, p < .01$

* Significant at $p < .05$

** Significant at $p < .01$

¹ There are other ways of classifying the distinguishing features of an attachment relation. For example, Zeifman & Hazan, 2008 suggest four criteria: 1) Proximity maintenance, 2) Separation distress, 3) Safe Haven, and 4) Secure Base. The first two of these are among Ainsworth's criteria, and the latter two fall, roughly, under criterion 6: that the individual is a source of temporary (i.e. when faced with threat) and dispositional security. Ainsworth's criteria were selected for the purposes of this paper because they are general enough to be somewhat all-inclusive of other definitions, and because her considerations of attachment are foundational to contemporary research.

² Winnicott's transitional object theory is a valuable supplement to attachment theory. Transitional phenomena need not entail the denial of attachment relations with a caregiver, but merely suggest that children use objects to find a degree of autonomy by providing some psychological security for themselves. We rely on attachment figures for the security needs we are incapable of fulfilling ourselves, and a fully developed attachment theory considers the relative autonomy of the subject in determining attachment style. For example, anxiously attached individuals are often characterized by their over-dependence on others for security (Bartholomew & Horowitz, 1991). A failure to use objects to self-soothe may contribute, ultimately, to over-reliance on close others for security needs.

³ This raises the interesting problem of the relationship between attachment and transitional object phenomena. Some see transitional objects as a temporary defensive replacement for poor interpersonal attachment or for poor parental bonding (Bachar et al., 1998; Erkolahi & Nyström, 2007). There is certainly a sense in which a transitional object relationship bears a number of important features of attachment relations, such as being particular and being a source of psychological security. In other respects, however, the relationships are quite different: e.g., transitional object relationships are always presumed to be temporary (Winnicott, 1953/1986). The goal of this project is to specifically look at attachment to objects, defined narrowly as a relationship to objects that is modeled on attachment relations to subjects. The important question of how distinct this is from transitional object use is noteworthy, but can be set aside for the purposes of this project.

⁴ Subscale reliabilities on the RAQ-A ranged considerably. Proximity Seeking was very reliable, $\alpha = .90$, as was Secure Base, $\alpha = .82$. Separation Protest ($\alpha = .75$), Compulsive Care-Seeking ($\alpha = .72$), and Compulsive Care-Giving ($\alpha = .69$) were lacking in reliability. Feared Loss ($\alpha = .63$) and Compulsive Self-Reliance ($\alpha = .34$) were particularly problematic.

Given the wide range of reliabilities within the subscales, a mean of the subscales was once again calculated for each participant. This measure of attachment to objects once again proved far more reliable than the individual subscales, $\alpha = .89$. This internal reliability, as in the previous study, was not improved by the removal of any subscale and hence all were included in forming a composite measure of attachment to objects.

⁵ Testing a model with attachment avoidance and anxiety simultaneously eliminates the effects of both. This is due to the high multicollinearity between the two predictors: $r = .49$, $p < .001$. The ECR-R is known to inflate the correlation between between the two attachment dimensions and hence, this analysis will need to be reconsidered using a different measure of attachment.