Anna Christine Hennighausen

Costly Signaling with Mobile Devices:

An Evolutionary Psychological Perspective on Smartphones

Inaugural-Dissertation zur Erlangung der Doktorwürde in der Fakultät für Humanwissenschaften der Julius-Maximilians-Universität Würzburg

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

CC BY NC

Costly signaling with mobile devices: An evolutionary psychological perspective on smartphones

Inaugural-Dissertation
zur Erlangung der Doktorwürde (Dr. rer. nat.)
der Fakultät für Humanwissenschaften
der
Julius-Maximilians-Universität Würzburg

Vorgelegt von
Anna Christine Hennighausen
aus Frankfurt am Main

Würzburg
2016

Erstgutachter:	Professor Dr. Frank Schwab
Zweitgutachter:	Professor i.R. Harald A. Euler, Ph.D.

Contents

List of tables

List of figures

Acknowledgements

This doctoral dissertation would have not been possible without the support of many persons. First of all, I would like to thank my family. I am specifically thankful to my father, who constantly promoted my interest in science and research since I was a little child. Moreover, I am eternally grateful to my romantic long-term mate Fabi for all his encouraging words, his statistical advice, and his genuine interest in my scientific work, which has eventually fostered his own interest in evolutionary psychology.

I am further deeply thankful to my first supervisor Frank Schwab, who, in turn, raised my interest in evolutionary psychology. During my time at the department of Media Psychology, Frank promoted my research ideas throughout and I could always rely on his support and advice. I would further like to thank my second supervisor Harald Euler for his valuable comments and useful critics on my doctoral dissertation. In addition, I am very thankful to Maryanne Fisher for her speedy and rigorous third review of my dissertation.

I am grateful to my whole team, who largely supported me during the last four years, and for the good times I shared with them. I am particularly grateful to my colleague Benjamin Lange, who provided many valuable comments on earlier versions of this doctoral dissertation. Finally, I would like to offer my special thanks to my bachelor students Johanna Bähr and Janina Renk and to my master students Catharina Schmidt, Ricardo Münch, and Florian Schneider.

Summary

In the last decade, mobile device ownership has largely increased. In particular, smartphone ownership is constantly rising (A. Smith, 2015; Statista, 2016a), and there is a real hype for luxury brand smartphones (Griffin, 2015). These observations raise the question of which functions smartphones serve in addition to their original purposes of making and receiving calls, searching for information, and organizing.

Beyond these obvious functions, studies suggest that smartphones express fashion, lifestyle, and one's economic status (e.g., Bødker et al., 2009; Statista, 2016b; Vanden Abeele, Antheunis, & Schouten, 2014). Specifically, individuals seem to purchase and use conspicuous luxury brand smartphones to display and enhance status (D. Kim et al., 2014; Müller-Lietzkow et al., 2014; Suki, 2013). But how does owning a conspicuous, high-status smartphone contribute to status, and which benefits may these status boosts provide to their owners?

From an evolutionary perspective, status carries a lot of advantages, particularly for males; high status grants them priority access to resources and correlates with their mating success (van Vugt & Tybur, 2016). In this sense, research suggests that men conspicuously display their cell phones to attract mates and to distinguish themselves from rivals (Lycett & Dunbar, 2000). In a similar vein, evolutionarily informed studies on conspicuous consumption indicate that the purchase and display of conspicuous luxuries (including mobile phones and smartphones) relate to a man's interest in uncommitted sexual relationships and enhance his desirability as a short-term mate (Hennighausen & Schwab, 2014; Saad, 2013; Sundie et al., 2011).

Drawing on these findings, this doctoral dissertation investigated how a man is perceived given that he is an owner of a high-status (vs. nonconspicuous, low-status) smartphone as a romantic partner and male rival. This was done in three experiments. In addition, it was examined how male conspicuous consumption of smartphones interacted with further traits that signal a man's mate quality, namely facial attractiveness (Studies 1 and 2) and social dominance (Study 3). Study 1 revealed that men and women perceived a male owner of a conspicuous smartphone as a less desirable long-term mate and as more inclined toward short-term mating. Study 2 replicated these results and showed that men and women assigned traits that are associated with short-term mating (e.g., low loyalty, interest in flirts, availability of tangible resources) to a male owner of a conspicuous smartphone and perceived him as a stronger male rival and mate poacher, and less as a friend. The results of Study 2 further suggested that specifically more attractive men might benefit from owning a conspicuous smartphone in a short-term mating context and might be hence considered as stronger male rivals. Study 3 partially replicated the findings of Studies 1 and 2 pertaining to the effects of owning a conspicuous smartphone. Study 3 did not show different effects of conspicuous consumption of smartphones on perceptions of a man dependent on the level of his social dominance.

To conclude, the findings of this doctoral dissertation suggest that owning a conspicuous, high-status smartphone might not only serve proximate functions (e.g., making and receiving calls, organization) but also ultimate functions, which relate to mating and reproduction. The results indicate that owning a conspicuous smartphone might yield benefits for men in a short-term rather than in a long-term mating context. Furthermore, more attractive men appear to benefit more from owning a conspicuous smartphone than less attractive men.

These findings provide further insights into the motivations that underlie men's purchases and displays of conspicuous, high-status smartphones from luxury brands that reach beyond the proximate causes frequently described in media and consumer psychological research. By applying an evolutionary perspective, this doctoral dissertation demonstrates the power and utility of this research paradigm for media psychological research and shows how combining a proximate and ultimate perspective adds to a more profound understanding of smartphone phenomena.

Zusammenfassung

In den letzten 10 Jahren ist die Zahl der Personen, die ein Mobilgerät besitzen, stark angestiegen. Insbesondere nimmt die Anzahl der Smartphone-Besitzer stetig zu (A. Smith, 2015; Statista, 2016a). Es ist nahezu ein regelrechter „Smartphone-Hype“ zu beobachten, der sich vor allem um bestimmte Geräte von Luxus-Marken dreht (Griffin, 2015). Diese Beobachtungen lassen die Frage aufkommen, welche Funktionen Smartphones haben, die über ihre eigentlichen Funktionen, wie z.B. Anrufe empfangen und tätigen, Informationssuche und Organisation hinausgehen.

Studien zeigen, dass Smartphones zusätzlich zu diesen naheliegenden Funktionen auch Ausdruck von Mode, Lifestyle und Status sein können (z.B. Bødker et al., 2009; Statista, 2016b; Vanden Abeele et al., 2014). Dies scheint besonders auf auffällige Smartphones von Luxus-Marken zu zutreffen: Personen kaufen und nutzen diese Geräte, um ihren sozialen Status zu zeigen und zu steigern (D. Kim et al., 2014; Müller-Lietzkow et al., 2014; Suki, 2013). Wie jedoch kann der Besitz eines auffälligen, statusträchtigen Smartphones den eigenen Status erhöhen und welche Vorteile bringt dies mit sich?

Aus einer evolutionären Perspektive hat Status viele Vorteile, vor allem für Männer. Ein hoher Status gewährt exklusiven Zugang zu Ressourcen und korreliert mit männlichem Paarungserfolg (van Vugt & Tybur, 2016). So zeigen Studien, dass Männer ihre Mobiltelefone auffallend häufig zeigen, um damit ihren finanziellen und sozialen Status zu demonstrieren, mit dem Ziel potenzielle Partnerinnen auf sich aufmerksam zu machen und sich von Konkurrenten abzuheben (Lycett & Dunbar, 2000). Ähnliches legen auch Studien aus dem Bereich der evolutionären Konsumenten-psychologie nahe: Der Kauf und die Zurschaustellung von auffälligen Luxus-Produkten (inkl. Handys und Smartphones) scheint mit dem Interesse eines Mannes an einer kurzfristigen sexuellen Beziehung in Zusammenhang zu stehen und seinen Partnerwert insbesondere in diesem Kontext zu steigern (Hennighausen & Schwab, 2014; Saad, 2013; Sundie et al., 2011).

Aufbauend auf diesen Befunden untersuchte die vorliegende Dissertation in drei experimentellen Studien, wie Männer und Frauen einen Mann, der als Besitzer eines ein auffälligen, statusträchtigen (vs. unauffälligen, wenig mit Status assoziierten) Smartphones präsentiert wurde, als potenziellen Partner und gleichgeschlechtlichen Konkurrenten wahrnahmen. Darüber hinaus wurde untersucht, wie männlicher Geltungskonsum von Smartphones mit zwei weiteren Faktoren, die den Partnerwert eines Mannes signalisieren, interagiert. Dazu wurden zusätzlich die Gesichtsattraktivität (Studie 1 und 2) sowie die soziale Dominanz (Studie 3) des Smartphone-Besitzers manipuliert. Studie 1 zeigte, dass Männer und Frauen den Besitzer eines auffälligen, statusträchtigen Smartphones als einen schlechteren Partner für eine feste Beziehung einschätzten und ihn als interessierter an unverbindlichen sexuellen Beziehungen wahrnahmen im Vergleich zu einem Mann, der als Besitzer eines unauffälligeren, nur wenig mit Status assoziierten Smartphones gezeigt wurde. Studie 2 replizierte diese Befunde und zeigte zudem, dass Männer und Frauen dem Besitzer eines auffälligen

Smartphones eher Eigenschaften zuschrieben, die mit einer Kurzzeitpartnerschaft assoziiert sind (z.B. geringe Treue, erhöhte Flirtbereitschaft, schnelle Verfügbarkeit von Ressourcen). Darüber hinaus wurde der Besitzer eines auffälligen Smartphones als ein stärkerer Rivale, als eine größere Bedrohung für eine bestehende Beziehung sowie als ein schlechterer Freund wahrgenommen. Diese Effekte zeigten sich insbesondere dann, wenn der Besitzer des auffälligen Smartphones auch attraktiv war. In Studie 3 konnten die Effekte, die der Besitz eines auffälligen Smartphones auf die Einschätzung eines Mannes als romantischen Partner und gleichgeschlechtlichen Konkurrenten hat, zum Teil repliziert werden. In Studie 3 traten diese Effekte jedoch unabhängig von der sozialen Dominanz des Mannes auf.

Insgesamt lassen die Ergebnisse dieser Dissertation vermuten, dass der Besitz eines auffälligen, statusträchtigen Smartphones einer Luxusmarke nicht nur proximate Funktionen (wie z.B. Anrufe empfangen und tätigen, Organisation), sondern auch ultimate Funktionen erfüllen könnte, die sich auf Paarung und Fortpflanzung erstreckt. Die Ergebnisse deuten an, dass Männer vom Besitz eines auffälligen, statusträchtigen Smartphones einer Luxusmarke eher im Kontext einer kurzen, unverbindlichen Beziehung als im Kontext einer festen Partnerschaft profitieren könnten. Darüber hinaus scheinen v.a. attraktivere Männer vom Besitz eines auffälligen Smartphones zu profitieren.

Diese Befunde tragen zu einem besseren Verständnis bei, weshalb Männer auffällige, statusträchtige Smartphones von Luxusmarken kaufen und diese zur Schau stellen. Dabei gehen die in dieser Dissertation erlangten Befunde über bisherige Erkenntnisse der Medien- und Konsumentenpsychologie hinaus, welche vorranging proximate Ursachen für den Kauf und die Nutzung von Smartphones diskutiert haben. Durch die Anwendung einer evolutionären Perspektive veranschaulicht die vorliegende Arbeit die Leistung und den Nutzens dieses Forschungsparadigmas für medienpsychologische Forschung und zeigt auf, wie die Synthese einer proximaten und ultimaten Perspektive zu einem umfassenderen Verständnis des Phänomens Smartphone führt.

1 Introduction: Mobile phones and smartphones - A ubiquitous phenomenon

In the last decade, mobile device ownership has largely increased. In the U.S., about 92% of American adults currently own a cell phone (Pew Internet & American Life Project, 2016) and about 68% of American adults own a smartphone (M. Anderson, 2015, October 29). In Germany, a similar pattern can be observed; about 80% of German adults own a cell phone (Statista, 2015c) and about 63% of them currently own a smartphone (Bitkom, 2015). These numbers are expected to globally increase further (eMarketer, 2014). Along with the increasing demand for smartphones, technology companies have introduced a variety of devices to the market.

Although all smartphones provide similar technical functions and features, they differ in terms of their operating systems, design, and price. Specifically, there are large variations in price. Low price smartphones are already available starting at $50 (S. Hill, 2015), whereas high price smartphones can cost up to $1500 (Porsche design, 2015). There are even luxury smartphone editions that have gold cases, are decorated with diamonds, and have a price tag up to $10,000,000 (Hughes, 2015). Given that all smartphones have similar features, the following question arises: why are individuals willing to spend a considerable amount of money to purchase a conspicuous luxury smartphone?

Generally, when individuals are asked why they adopt, purchase, and use mobile devices, they refer to functionality (e.g., information seeking, micro-coordination), communication, display of affection, security in case of an emergency, entertainment, fun, relaxation, and time consumption (e.g., Joo & Sang, 2013; Leung & Wei, 2000; Müller-Lietzkow et al., 2014; Trepte et al., 2003). Moreover, mobile devices can be considered cultural artifacts, that is, "any object created by humans that gives cultural clues or information about the group who created and uses it" (Shin, 2012, p. 566). Hence, mobile devices may have a social or symbolic meaning that goes beyond their obvious functions (Fortunati, 2005; J. E. Katz & Sugiyama, 2006; Lycett & Dunbar, 2000; Shin, 2012). Indeed, studies suggest that mobile device ownership is associated with fashion, tech-savviness, wealth, a favorable social image, and status (e.g., Acikalin et al., 2009; Bødker et al., 2009; J. E. Katz & Sugiyama, 2006; Müller-Lietzkow et al., 2014; Özcan & Koçak, 2003; Wijaya, 2013). In line with this, there is strong evidence that individuals purchase and use mobile devices to affiliate with peers, and to enhance and display status within their social group (Acikalin et al., 2009; Chun et al., 2012; D. Kim et al., 2014; Mishra et al., 2014; Peters & Allouch, 2005; Vanden Abeele et al., 2014).

Given that mobile device ownership is linked to desirable traits (e.g., wealth, status, favorable social image, fashion-consciousness), it is possible that these devices advertise desirable characteristics of their owners to romantic partners and same-sex competitors. Supporting this assumption, consumer psychological research has investigated the role of luxury consumption in a mating context (Griskevicius et al., 2007; Saad, 2006; Sundie et al., 2011). Drawing on principles of

evolutionary psychology (Cosmides & Tooby, 1997), these studies suggest that spending large sums of money on conspicuous luxury products imposes a "handicap" on the bearer (Zahavi, 1975) that indicates desirable traits and mate quality (e.g., Griskevicius & Kenrick, 2013; Saad, 2006). It is argued that only individuals with monetary resources and specific traits, such as a proneness to financial risk taking, are willing to "waste" precious resources on luxuries, instead of saving them for the future, for example (Sundie et al., 2011). This makes frivolous spending a hard-to-fake and thus a costly signal. Given a fixed budget, spending large proportions of money on status products can be detrimental to a person's own fitness, as these monetary resources cannot be allocate to other fitness-enhancing activities (e.g., food, medical care).

The idea that conspicuous spending is a handicap that indicates quality is derived from observations in the animal kingdom. Only healthy individuals with good genetic dispositions can afford to develop and maintain conspicuous physical structures (e.g., the peacock's tail) or conspicuous behavioral characteristics (e.g., the bowerbird's construction of elaborate nests with decoration). Thus, displaying these traits honestly advertises an individual's biological fitness (Zahavi, 1975; Zahavi & Zahavi, 1997). Accordingly, handicaps and costly signals play a crucial role in mate choice (e.g., to attract a mate) and same-sex competition (e.g., to intimidate rivals; Andersson, 1994).

Drawing on this reasoning, the purchase and display of conspicuous status products, referred to as *conspicuous consumption* (Veblen, 1899), appears to be part of a sexual signaling system in humans (Griskevicius et al., 2007; Hudders, De Backer, Fisher, & Vyncke, 2014; Saad, 2007; Sundie et al., 2011; Wang & Griskevicius, 2014). Thereby, the motives to engage in conspicuous displays by wasting monetary resources appear to differ between the sexes. In mammals, females have a higher minimal obligatory parental investment, as they carry, bear, and nurture the offspring; in contrast, male mating effort can be restricted to mating effort, that is, courtship and copulation (Bateman, 1948; Trivers, 1972). Hence, females have much more limited reproduction capacities than males. To maximize their reproductive success, females are selective in mate choice and favor males displaying indicators of high genetic quality, such as conspicuous traits or resources (Zahavi, 1975). Males, on the other hand, can increase their mating success by copulating with as many females as possible. As a result, women prefer men with high genetic quality and large resources as mates depending on the respective mating context, whereas men prefer women of high reproductive capacity and fertility as indicated by youth and physical attractiveness (Buss & Schmitt, 1993).

In line with the specific mate preferences, the sexes have evolved based on their differences in minimal obligatory parental investment (Bateman, 1948; Trivers, 1972), men are prone to display conspicuous consumption in mate attraction and, more specifically, to advertise their mate quality in the context of an uncommitted sexual relationship (i.e., short-term mating; Griskevicius et al., 2007; Janssens et al., 2011; Sundie et al., 2011). Women's conspicuous spending seems to be rather triggered in same-sex competition. By purchasing conspicuous luxury accessories, women promote

their physical attractiveness in order to gain advantages in the mating market (Hudders et al., 2014), to deter female rivals, or to retain their romantic partner (Wang & Griskevicius, 2014).

Studies investigating conspicuous consumption as a sexual signal have used a variety of products. Among them are cars, clothing, accessories, personal care products, electronics, services, and leisure activities (Griskevicius et al., 2007; Hudders et al., 2014; Janssens et al., 2011; Lens, Driesmans, Pandelaere, & Janssens, 2012; Sundie et al., 2011; Wang & Griskevicius, 2014). Most of these studies have also included mobile devices, e.g., mobile phones, personal digital assistants (PDAs), or smartphones. Supporting the idea that the purchase and ownership of a conspicuous, high-status mobile device could signal mate quality, research shows that men report higher purchase intentions of conspicuous phones in a mate attraction context (Griskevicius et al., 2007; Janssens et al., 2011; Sundie et al., 2011). Furthermore, men conspicuously display their cell phones in the presence of same-sex rivals to demonstrate their economic resources and to distinguish them from their competitors (Lycett & Dunbar, 2000). To summarize, research suggests that men purchase and display conspicuous mobile devices to indicate desirable traits and advertise their fitness in a mating context. Nevertheless, several gaps in evolutionarily informed research on the signaling function of conspicuous, high-status mobile devices remain:

(a) Studies have mainly used sets of products from different categories and tested their assumptions by calculating an average aggregate conspicuousness index (e.g., Griskevicius et al., 2007; Janssens et al., 2011; Sundie et al., 2011; Wang & Griskevicius, 2014). Consequently, these studies provide no explicit information as to the extent to which conspicuous consumption of specific products advertises mate quality (but see Sundie et al., 2011, Study 4). In particular, only little research has been conducted with regard to mobile devices. One exception is the study of Hennighausen and Schwab (2014), which revealed that men who are inclined toward short-term mating reported higher purchase intentions for a conspicuous, high-status smartphone of a luxury brand only when being single or in an uncommitted sexual relationship.

(b) Male conspicuous consumption has been mostly examined as a means to attract mates, thus neglecting its potential role in same-sex competition. Intersexual and intrasexual selection, however, are closely related processes so that it is not always easy to differentiate which characteristic evolved through which selection pressure (Berglund, Bisazza, & Pilastro, 1996; Saxton, Mackey, McCarty, & Neave, 2015). Hence, men's display of conspicuous products may not only advertise fitness to mates but also to same-sex competitors. Signaling desirable traits and economic resources through conspicuous consumption may provide advantages in male-male competition as well, for instance to provide easier access to women by deterring competitors (Hennighausen & Lange, 2016). The research by Lycett and Dunbar (2000) supports this idea by suggesting that men conspicuously display their cell phones in the presence of same-sex competitors to demonstrate their economic resources. In addition, a recent study provided further evidence for the role of male conspicuous consumption in intrasexual competition by revealing that men assigned a higher mate value to another man who

displayed conspicuous consumption of a luxury sports car than to another man who did not engage in conspicuous consumption (Hennighausen, Hudders, Lange, & Fink, 2016; Hennighausen & Lange, 2016).

(c) Finally, studies examining how the display of conspicuous consumption adds to a man's mate quality and desirability as a mate have solely focused on conspicuous consumption and not taken further indicators of mate quality into account (Dunn & Hill, 2014; Dunn & Searle, 2010; Shuler & McCord, 2010; Sundie et al., 2011). However, a variety of characteristics affect female assessments of a man's desirability as a mate. Among them are facial attractiveness (Gangestad & Scheyd, 2005; Little, Jones, & DeBruine, 2011) and social dominance (e.g., Gangestad, Simpson, Cousins, Garver-Apgar, & Christensen, 2004). These characteristics are costly to develop and maintain, so they are honest indicators of male mate quality. The elaboration of these traits does not only affect female mate choice, but also male perceptions of a potential same-sex competitor (e.g., A. P. Buunk & Dijkstra, 2004). Hence, it would be interesting to explore how facial attractiveness and social dominance interact with conspicuous consumption and influence perceptions of a man as a mate and same-sex competitor.

This doctoral dissertation aimed to address these research gaps. To this end, in a series of three experiments, men's and women's perceptions of a man presented as the owner of a conspicuous, high-status (vs. nonconspicuous, low-status) smartphone were assessed. Study 1 measured perceptions of the man's desirability as a short-term and long-term mate as well as perceptions of his mating strategy depending on the smartphone he owned. In addition to these measures, Studies 2 and 3 explored which specific mate value traits men and women assigned to the man contingent on the smartphone he owns and how they perceived him as a male rival, male friend, and mate poacher. Beyond smartphone conspicuousness, the man's facial attractiveness (Study 1 and 2) and his suggested social dominance (Study 3) were manipulated. The results of these studies help to elucidate men's motivations to purchase and display conspicuous, high-status smartphones from luxury brands by exploring the benefits owning such a device could have for men in a mate choice and same-sex competition context.

2 Theoretical background

The theoretical background will begin with a historical overview of the development of mobile phones and smartphones. Following this overview, research from media and consumer psychology will be presented that has explored factors and motives relating to mobile device adoption, purchase, and use. As will be shown, media and consumer psychological studies have identified a huge variety of factors and motives; however, these are not consistently labelled and foremost lack a systematic order.

This doctoral dissertation attempts to structure these results. To this end, in the first section of the theoretical part, findings from media and consumer psychology will be reviewed. Factors, motives, and uses relating to mobile device adoption, purchase, and use will be assigned to the following categories: extrinsic (i.e., utilitarian), intrinsic (i.e., ease of use, hedonic enjoyment), social, status, context, demographic, and individual.

To further structure these categories, in the second section of the theoretical part an evolutionary psychological perspective will be introduced. An evolutionary perspectives does not only consider proximate causations (i.e., focus on "how"-questions) when explaining phenomena, but also focuses on ultimate causations (i.e., focus on "why"-questions) that underlie the evolution of human mental structures and behavior (Buss, 1995; Cosmides & Tooby, 1997; Tinbergen, 1963). By means of this particular perspective, factors and motives for mobile device adoption, purchase, and use will be described in terms of fundamental human motives relating to survival and reproduction.

In particular, this doctoral dissertation focuses on the function of mobile phones and smartphones as symbols of high status – a phenomenon that has recently been observed for expensive smartphones from luxury brands (Griffin, 2015; Lasco, 2015; Roy, 2014). Although most studies conducted in the fields of media and consumer psychology name display and enhancement of status as one motive for mobile devices adoption, purchase, and use (e.g., Chun et al., 2012; Müller-Lietzkow et al., 2014; Özcan & Koçak, 2003), these studies mostly fail to explain *why* mobile devices fulfil this function. This doctoral dissertation addresses this limitation by applying an evolutionary psychological perspective. In particular, this dissertation draws on studies from the field of evolutionary consumer psychology that have shown that men's conspicuous purchases of luxuries yield benefits in mating and reproduction (e.g., Griskevicius & Durante, 2015; Saad, 2013; Sundie et al., 2011).

Remaining with an evolutionary perspective, two further characteristics indicating male mate quality will be introduced, namely facial attractiveness and social dominance. The rationale behind this is to examine whether owning a conspicuous, high-status mobile device yields the same benefits for men with different levels of facial attractiveness and social dominance. Synthesizing the outlined findings, the theoretical background will close with the derivation of the research questions that are the subject of this doctoral dissertation.

2.1 A historical overview of mobile phones and smartphones

The first mobile phone was launched onto the market in 1973 (U.S. Patent No. 3, 906, 166). The term *mobile phone* refers to a portable telephone, which functions without landlines ("Mobiltelefon" ["Mobile phone"], 2015). Since its market launch, mobile phone ownership has become widespread, and mobile phones have largely affected communication behavior and daily life (e.g., Döring, 2004; J. E. Katz, 2008; J. E. Katz & Aakhus, 2002; Müller-Lietzkow et al., 2014).

In the early 1990s, the first smartphone was released (Hosch, 2015; Steinmels, 2012). A *smartphone* can be considered a mobile phone with extended features and functions, such as email, mobile internet, calendar, navigation as well as record and retrieval of audiovisual media (Hess, 2011). Smartphones usually have more complex operating systems than mobile phones, which enable the user to install small application programs. Thus, smartphones can be personalized to a high degree and their functional range can be extended considerably (Hess, 2011).

Due to limitations in data volume transmission, however, smartphones were not successful on the market until the beginning of the new millennium. With the advent of the third-generation (3G) mobile phone networks in 2001, higher data volumes could be sent, and access to the internet became easier (Hosch, 2015). With this technical progress, the way was paved for smartphone adoption. Nevertheless, only with the release of the *Apple iPhone* in 2007, smartphones became popular and widespread outside the business context (Laugesen & Yuan, 2010; Müller-Lietzkow et al., 2014; Steinmels, 2012) and eventually penetrated the general market (Pew Internet & American Life Project, 2016; Statista, 2015a). Since then, the number of smartphone owners has sharply risen and is expected to further increase (Statista, 2015b). Whereas in 2011, about 35% of Americans and about 25% of Germans owned a smartphone, the number of smartphone owners has risen up to 68% in the U.S. and up to 56% in Germany in 2015 (M. Anderson, 2015; Statista, 2015a).

2.2 Adoption, purchase, and use of mobile phones and smartphones

Given the rapidly rising numbers of mobile device ownership, the question arises as to why individuals purchase and adopt this media technology, and which factors contribute to its rapid spread. Answers to this question are provided by media and consumer psychological research. Media psychology describes and explains human behavior and experiences with respect to mass and individual media (Winterhoff-Spurk, 2004). Consumer psychology focuses on the market behavior of consumers and examines how and why individuals purchase products ("Consumer psychology", 2015). Although the research questions of media and consumer psychology have different focuses (i.e., adoption choice/usage vs. consumer choice), both perspectives investigate motives and needs that underlie human behavior and hence apply similar theoretical underpinnings to their studies. Therefore, in the following sections, theories and empirical findings from media and consumer psychology relating to mobile device adoption, purchase, and use will be described together.

2.2.1 Mobile device adoption: Technology Acceptance Model and Innovation Diffusion Theory

One theoretical framework frequently applied to explain technology adoption is the Technology Acceptance Model (TAM, Davis, 1986; Davis, 1989). Although not explicitly referred to as a media psychological construct, TAM can be linked to media psychological research. TAM and its modifications describe utilitarian and hedonic factors that influence an individual's adoption and use of media technology (Lin & Bhattacherjee, 2010; van der Heijden, 2004; Venkatesh, 2000). Thereby, TAM considers perceptions of media technology as well as emotions and social influences that affect its adoption and use (e.g., Davis, 1989; Marangunić & Granić, 2015; Venkatesh & Davis, 2000).

Basically, TAM was developed for a work-related context (Davis, 1989). The model postulates that an individual's beliefs, more specifically, *perceived ease of use* (i.e., the belief that using a system is effortless) and *perceived usefulness* (i.e., the belief that using a system increases job performance) predict the *attitude* toward technology usage (Davis, 1989). The attitude toward system usage predicts an individual's *intention to use*, which, in turn, predicts *actual system use* (Figure 1). Further variables affecting perceived usefulness and perceived ease of use are system characteristics, training, documentation, or user support consultants (so-called design features; Davis, 1989).

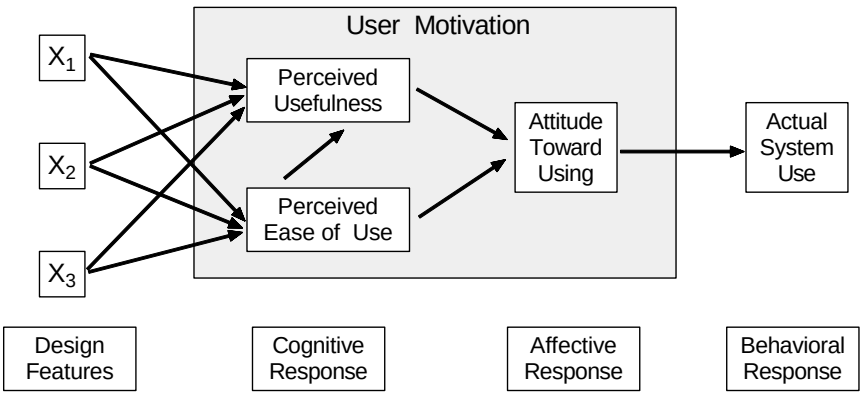


Figure 1. Technology Acceptance Model (TAM). Based on Davis (1986, p. 24)

TAM was extended to TAM2 (Venkatesh & Davis, 2000) in which *social influence* (i.e., subjective norm, image, voluntariness) and *cognitive instrumental processes* (i.e., job relevance, output quality, and result demonstrability) were added to explain technology adoption (Figure 2). The factor *subjective norm* relates to a "person's perception that most people who are important to him think he should or should not perform the behavior [i.e., the actual system use] in question" (Fishbein & Ajzen, 1975, p. 302). *Image* describes "the degree to which use of an innovation is perceived to enhance one's . . . status in one's system" (Moore & Benbasat, 1991, p. 195). *Voluntariness* and *experience* moderate the relationship between subjective norms and the intention to use a technology. Moreover,

TAM2 includes cognitive instrumental processes that determine perceived usefulness. Among them are *job relevance*, *output quality*, and *result demonstrability* (i.e., the extent to which the results obtained by the use of the novel system are obvious and visible). Besides TAM2, there have been further extensions and modifications of TAM, such as the Unified Theory of Acceptance and Use of Technology (UTAUT, Venkatesh, Morris, Davis, & Davis, 2003) and TAM3 (Venkatesh & Bala, 2008).

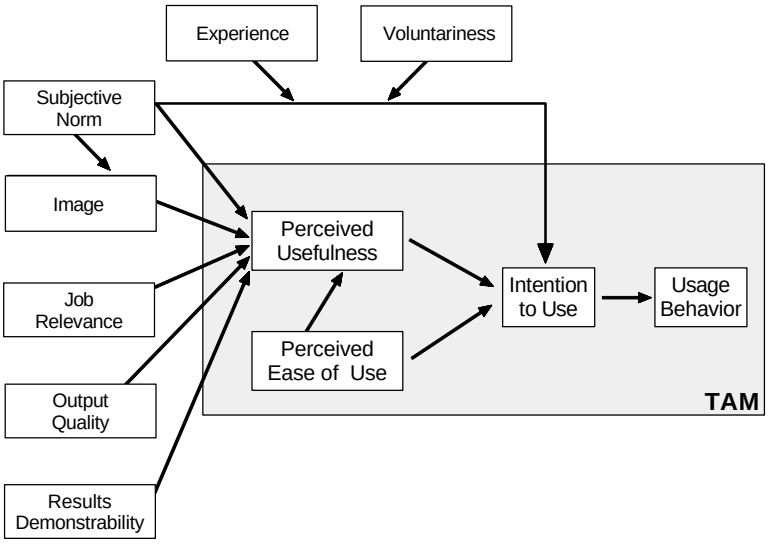


Figure 2. TAM 2. Based on Venkatesh and Davis (2000, p. 188)

Innovation Diffusion Theory. A second framework often used to explain technology adoption is Innovation Diffusion Theory (IDT) introduced by Rogers (1983). Inspired by the two-step flow of communication model (Lazarsfeld, Berelson, & Gaudet, 1944), IDT aims to explain the innovation diffusion process of new ideas and technologies. Rogers (1983) proposed that the innovation itself, communication channels, time, and the social system affect the diffusion process. Accordingly, IDT considers characteristics of the innovation, characteristics of the adopter, and characteristics of the organization. During the diffusion process, individuals learn about the innovation and form a positive or negative attitude toward it. Based on this attitude, individuals either adopt or reject the innovation. Rogers (1983) postulated the following factors that influence the diffusion of an innovation and its adoptions rates: *relative advantage* (i.e., the degree to which an individual perceives the innovation as superior to previous innovations), *compatibility* (i.e., the degree to which the innovation is compatible with the current system but also with personal values, experiences, and needs), *complexity* (i.e., perceived ease of use), *trialability/testability* (i.e., the degree to which individuals can experiment with the innovation before adoption on a limited basis), and *observability* (i.e., the degree to which an innovation and its usage can be observed). Like TAM (Davis, 1989), IDT is not directly referred to as a media psychological framework. However, similar to a media psychological perspective

(Winterhoff-Spurk, 2004), IDT looks at an individual's level and considers experience and behavior when examining the spread of an innovation and new technology.

Many studies have applied TAM, its extensions, and IDT when investigating why individuals adopt and use mobile devices. Thereby, specific factors have been repeatedly identified. These factors will be described in more detail below (see Table 1 for an overview).

Perceived usefulness. As proposed by TAM, studies show that extrinsic motivations, that is, perceived usefulness, positively relate to the adoption of mobile phones (van Biljon & Kotzé, 2007) and smartphones (J. V. Chen et al., 2009; Chun et al., 2012; Hew et al., 2012; Joo & Sang, 2013; S. Y. Lee, 2014; Pang et al., 2014; Park & Chen, 2007; Shin, 2012). Only the studies of Kwon and Chidambaram (2000) and K. J. Kim et al. (2015) did not find a positive influence of perceived usefulness on the attitude toward mobile devices and the intention to adopt them.

Associated with the concept of perceived usefulness are the factors of IDT relative advantage and compatibility (Rogers, 1983). Similar to perceived usefulness, relative advantage adds to the adoption of mobile phones (Teo & Pok, 2003) and smartphones (Hsu & Lin, 2015; Ismail, 2012). Likewise, compatibility has been positively associated with mobile phone (Teo & Pok, 2003) and smartphone adoption (J. V. Chen et al., 2009; Hsu & Lin, 2015; Ismail, 2012; Putzer & Park, 2010).

Perceived ease of use. In line with the propositions of TAM, there is vast evidence that perceived ease of use positively predicts the intention to adopt mobile phones (van Biljon & Kotzé, 2007; Kwon & Chidambaram, 2000; Teo & Pok, 2003) and smartphones (J. V. Chen et al., 2009; Chun et al., 2012; Hsu & Lin, 2015; Joo & Sang, 2013; D. Kim et al., 2014). Only two studies did not corroborate a positive relationship. Hew et al. (2012) found no significant relationship between perceived ease of use and the adoption of touchscreen mobile phones. The study of Ismail (2012) even revealed a positive relationship between complexity and the adoption of smartphone, suggesting that individuals were more likely to adopt a smartphone when the device was less easy to use.

Hedonic enjoyment. Hedonic enjoyment further influences mobile device adoption. Research suggests that experiencing pleasure, stress relief, or fun using a mobile device predicts its adoption (Chun et al., 2012; Hew et al., 2012; Hsu & Lin, 2015; Joo & Sang, 2013; Kwon & Chidambaram, 2000; Pang et al., 2014; Shin, 2012).

Social factors. There is strong evidence that normative pressure and subjective norm positively relate to both mobile phone (van Biljon & Kotzé, 2007; Teo & Pok, 2003) and smartphone adoption (Chun et al., 2012; Hew et al., 2012; Hsu & Lin, 2015; Ismail, 2012; D. Kim et al., 2014; S. Y. Lee, 2014; Putzer & Park, 2010). Informational influence through independent experts and internet communities further appears to influence smartphone adoption (Hsu & Lin, 2015). Moreover, social practices (e.g., calling relatives and friends in traffic jams) and cultural dimensions (e.g., differences in power distance, individualism vs. collectivism, uncertainty avoidance, and masculinity; see Hofstede, 2003)

have been found to influence mobile device adoption (van Biljon & Kotzé, 2007; Sarker & Wells, 2003; Shin, 2012). Social context factors, such as being able to contact one's relatives, seem to influence smartphone adoption specifically among older individuals (Pang et al., 2014).

Status and image. Individuals adopt mobile phones (Kwon & Chidambaram, 2000; Sarker & Wells, 2003; Teo & Pok, 2003) and smartphones (Chun et al., 2012; Hew et al., 2012; Ismail, 2012; D. Kim et al., 2014; S. Y. Lee, 2014; Pang et al., 2014) to enhance and display status and to convey a favorable social image. Mobile devices are able to fulfil these functions, as they are "cultural artifacts" (Shin, 2012, p. 566). This term is usually used in the social sciences and describes "any object created by humans that gives cultural clues or information about the group who created and uses it" (Shin, 2012, p. 566). Following Teo and Pok (2003), mobile phones are related to a favorable social image by indicating their owners' trendiness, prestige, youthfulness, and tech-savviness. In this sense, the authors refer to a mobile phone rather as a "lifestyle product than a product of necessity" (Teo & Pok, 2003, p. 487). Similarly, Sarker and Wells (2003) describe mobile phones as "a young thing," "a rich thing," and "a cool thing," (p. 38), pointing at the desirable image associated with mobile device ownership. With regard to smartphones Shin (2012) even states that "the iPhone . . . is now more than just a smartphone, it is a cultural artifact and an extension of someone's social status" (p. 567).

Fashion. Mobile devices are further adopted to express self-identity (e.g., Döring, 2006) and fashion-consciousness (Fortunati, 2002, 2005). Fashion and mobile phones are strongly associated, as both are worn closely to the body, carried almost all the time, and may thus become part of an individual's "look". By means of this "look" individuals symbolically communicate and express their belonging to a certain social group as well as their identity and individualism (Fortunati, 2005). In this sense, Fortunati (2005) refers to the mobile phone "as jewelry and/or fashion accessory" (p. 36), suggesting that mobile devices have an ornamental function.

"Coolness". Associated with the adoption of mobile devices to display fashion, a recent study has shown that "coolness" positively predicts the adoption of smartphones with curved screens (K. J. Kim et al., 2015). "Coolness" is defined as a "socially constructed, 'multidimensional user-based judgment'" (K. J. Kim et al., 2015, p. 528) and consists of the dimensions originality/uniqueness, subcultural appeal, and attractiveness (Sundar, Tamul, & Wu, 2014). Supporting the role of smartphone "coolness" as a factor that contributes to smartphone adoption, the study of K. J. Kim et al. (2015) indicated that "coolness" predicted the intention to adopt a smartphone to the same extent as did TAM.

Brand. The brand of the mobile device plays a further role for mobile device adoption. Consumer-based brand equity, which is referred to as "the differential effect of brand knowledge on consumer response to the marketing of the brand" (Keller, 1993, p. 3), has been shown to partially influence smartphone adoption (Hsu & Lin, 2015). Perceived value for the cost, that is, "the customer's overall

perception of the trade-off between 'what is given' and 'what is received'" (Hsu & Lin, 2015, p. 4) as well as perceived value exert a positive influence on smartphone adoption (Hsu & Lin, 2015; D. Kim et al., 2014; Shin, 2012).

Context factors. A number of context factors influence mobile device adoption. Economic factors (e.g., pricing) exert a negative influence on mobile phone (Sarker & Wells, 2003) and smartphone adoption (D. Kim et al., 2014; S. Y. Lee, 2014). Studies investigating the role of technological infrastructure (e.g., availability of devices and system services, network coverage) revealed an effect on mobile phone (van Biljon & Kotzé, 2007; Sarker & Wells, 2003) but not on smartphone adoption (Chun et al., 2012).

In line with IDT (Rogers, 1983), research examining smartphone adoption in a professional context suggests that environmental characteristics (e.g., competitor pressure, customer satisfaction; J. V. Chen et al., 2009; Putzer & Park, 2010) and organizational characteristics (e.g., size, top management support; J. V. Chen et al., 2009; Park & Chen, 2007; Putzer & Park, 2010) affect smartphone adoption. Furthermore, trialability/testability (J. V. Chen et al., 2009; Ismail, 2012), perceived risk (Teo & Pok, 2003; but see Ismail, 2012), observability (Park & Chen, 2007; Putzer & Park, 2010; but see J. V. Chen et al., 2009), and job relevance (Putzer & Park, 2010) have been found to be relevant factors that add to smartphone adoption. Likewise, task characteristics (e.g., uncertainty, structure, autonomy) and communication characteristics (e.g., immediacy of response, number of communication partners) influence the adoption of mobile phones (Sarker & Wells, 2003) and smartphones (J. V. Chen et al., 2009). Finally, type and extent of mobility (stationary vs. mobile working environments) affect mobile phone adoption (Sarker & Wells, 2003).

Demographic and individual factors. Studies examining the influence of demographic variables (e.g., gender, age, ethnicity, income, education, profession) on mobile device adoption suggest rather small effects. Whereas some studies indicated effects of age (Sarker & Wells, 2003) and ethnicity (D. Kim et al., 2014), the majority of studies did not corroborate a relationship between demographics and mobile device adoption (J. V. Chen et al., 2009; Kwon & Chidambaram, 2000; Park & Chen, 2007; Putzer & Park, 2010).

Similarly, studies have shown mixed results regarding the influence of (technological) self-efficacy and perceived control. Few studies suggest that technological self-efficacy increases mobile device adoption, specifically in a professional context (J. V. Chen et al., 2009; K. J. Kim & Sundar, 2014; Park & Chen, 2007), whereas other studies did not corroborate this relationship (S. Y. Lee, 2014; Sarker & Wells, 2003; Teo & Pok, 2003). Beyond that, the constructs of consumer innovativeness, technological orientation, and technological advancement have been positively linked to the adoption of mobile phones (van Biljon & Kotzé, 2007) and smartphones (D. Kim et al., 2014; S. Y. Lee, 2014). Computer avoidance (i.e., "apprehensiveness") has been shown to be negatively associated with mobile phone adoption (Kwon & Chidambaram, 2000).

Specific technological characteristics. Sarker and Wells (2003) found that interface characteristics, such as a clear design structure, enhanced mobile phone adoption. For smartphone adoption, perceived responsiveness, that is, how quickly the devices responded to questions of the user (Chun et al., 2012), screen size, and aesthetics (K. J. Kim & Sundar, 2014) were identified as influencing factors.

Interim summary

The presented findings mostly corroborate the validity of TAM (Davis, 1989), its extensions (Venkatesh & Bala, 2008; Venkatesh & Davis, 2000; Venkatesh et al., 2003), and IDT (Rogers, 1983) for mobile phone and smartphone adoption. However, additional factors that are not covered by these frameworks (e.g., individual traits, demographic variables) exhibit an influence on the adoption and diffusion of mobile devices. The identified factors can be structured into extrinsic factors (i.e., perceived usefulness), intrinsic factors (i.e., perceived ease of use, hedonic enjoyment), social and cultural factors (e.g., social influence, subjective norm, cultural influences), status and image factors (i.e., enhancement and display of status), fashion and brand factors, context factors (e.g., organizational and environmental characteristics), individual and demographic factors (e.g., ethnicity, age, innovativeness, self-efficacy), and specific technology characteristics (e.g., screen size, aesthetics). In the following section, it will be reviewed how individuals use mobile devices and which gratifications they seek from their mobile device.

2.2.2 Usage of mobile devices: Uses and gratifications

The uses and gratifications approach (UnG) is a prominent framework, which seeks to explain why and for which purposes individuals use media and media technology. Originally, UnG was introduced to explain how and why individuals actively select particular mass media (contents) in order to fulfill their needs and motives (E. Katz, Blumler, & Gurevitch, 1973; Ruggiero, 2000). This approach particularly focuses on the audience and users of media and postulates a conscious and goal-oriented media use (E. Katz et al., 1973). In mass media usage, studies have recurrently identified specific UnG, that is, *information* (e.g., orientation, advice), *entertainment* (e.g., escapism, relaxation), *personal identity* (e.g., affirmation of personal values, search for role models), and *social interaction and integration* (e.g., compensation for low social interaction and topics to talk about with others; Schramm & Hasebrink, 2004). Apart from mass media, the UnG framework has been applied to individual media and communication technology, such as the internet (e.g., Flanagin & Metzger, 2001; Stafford, Stafford, & Schkade, 2004), social media (e.g., G. M. Chen, 2011; Krause, North, & Heritage, 2014; Urista, Dong, & Day, 2009), and computer-mediated-communication technologies (e.g., Ku, Chu, & Tseng, 2013). Studies have also examined the UnG individuals seek in mobile phones and smartphones. These will be described in the following sections (see Table 1 for an overview).

Instrumental use. Similar to the research on mobile device adoption (see 2.2.1), studies that apply the UnG approach show that individuals seek instrumentality and functionality in mobile devices. For instance, individuals report using their mobile phones and smartphones for business transactions and to be connected with their company (Leung & Wei, 2000; Özcan & Koçak, 2003; Peters & Allouch, 2005). Individuals further use their mobile devices for micro-coordination, such as management of appointments (Aoki & Downes, 2003; Campbell, 2007; Özcan & Koçak, 2003; Trepte et al., 2003), for the organization of everyday life (Döring, 2006), for mobility (T.-Y. Kim & Shin, 2013; Leung & Wei, 2000), for privacy management (i.e., individuals use landline telephones for business transactions and give their cell phone number only to in-group members; Aoki & Downes, 2003), for immediate access (Leung & Wei, 2000), and for information seeking (Joo & Sang, 2013; T.-Y. Kim & Shin, 2013; Leung & Wei, 2000; Peters & Allouch, 2005; Stafford & Gillenson, 2004). Longitudinal data on PDA use suggest that the importance of utility decreases with time, probably due to the fact that individuals discover limitations of the devices' functionality (Peters & Allouch, 2005).

Hedonic enjoyment. A further UnG largely sought in mobile devices is hedonic enjoyment. Studies indicate that individuals use mobile phones and smartphones for relaxation (Leung & Wei, 2000; Özcan & Koçak, 2003), entertainment and fun (Döring, 2006; T.-Y. Kim & Shin, 2013; Özcan & Koçak, 2003; Peters & Allouch, 2005; Trepte et al., 2003), and to avoid boredom (Leung & Wei, 2000; Özcan & Koçak, 2003; Pang et al., 2014).

Affection and sociability. Mobile devices are also used for social uses and gratifications. Individuals report using their cell phones to show their affection to peers, romantic partners, and family members (Döring, 2006; Leung & Wei, 2000), to stay in contact with them, and to feel close to them (Aoki & Downes, 2003; Campbell, 2007; Ling & Yttri, 2002; Özcan & Koçak, 2003; Pang et al., 2014; Peters & Allouch, 2005; Stafford & Gillenson, 2004). Specifically, parents provide their children with mobile devices when the children go to college (Aoki & Downes, 2003) so that their children can stay in touch with them while being away from home. Staying in contact with their parents by using mobile devices is important for children with divorced parents, too (Döring, 2006); by means of their cell phone, children can contact the parent who does not live with the family. Moreover, older people use smartphones to overcome loneliness and to keep in touch with their family (Pang et al., 2014).

Safety and security. Individuals use mobile phones to feel safe and to be able to call for help in case of an emergency (Aoki & Downes, 2003; Leung & Wei, 2000; Ling & Yttri, 2002; Özcan & Koçak, 2003). Similarly, parents provide their primary school children and teenage children with cell phones so that children can call for help or contact the parents in case of need (Döring, 2006). The cross-cultural study of Campbell (2007) compared college students from Japan, Sweden, Taiwan, Hawaii, and the U.S. and revealed slight cultural differences in the use of mobile phones for security and safety.

Dependency and "addiction". Associated with feelings of safety and security are "addictive" mobile phones uses. Individuals report using their mobile phones because they feel lost without them and are heavily dependent on them, if not even "addicted" to them (Aoki & Downes, 2003).

Status and image. Individuals use their mobile devices to show social status and to display a favorable social image. A study of Samson and Hornby (1998) suggested that the majority of the executive class in large Chinese cities owned mobile phones for their purpose as a status symbol. Similarly, later studies indicated that individuals use mobile phones (Leung & Wei, 2000; Ling & Yttri, 2002; Özcan & Koçak, 2003; van Kempen, 2003), PDAs (Peters & Allouch, 2005; Trepte et al., 2003), and smartphones (T.-Y. Kim & Shin, 2013; Vanden Abeele et al., 2014) to display their social status. Although Leung and Wei (2000) and Trepte et al. (2003) identified status as one UnG sought in mobile devices, participants scored rather low on this motive. The authors suggested that this might be due to the low social desirability of the items that measure the use of mobile devices for status displays. Similar findings were reported by Peters and Allouch (2005) for students' PDA use. However, the findings of Peters and Allouch (2005) also showed that the importance of displaying status by PDA use increased over time. On the other hand, Özcan and Koçak (2003) found that status was one of the strongest motives for mobile phone use in a Turkish sample. Moreover, observations in Chile revealed that individuals even used wooden replicas of mobile phones to fake social status (van Kempen, 2003).

Vanden Abeele et al. (2014) demonstrated that adolescents explicitly use mobile phones and smartphones to show their status among their peers. The authors distinguished between three different dimensions of mobile device use as a status instrument, that is, "the mobile phone as a fashion article, as a popularity display, and as a display of one's time poverty" (p. 206). Based on these dimensions, Vanden Abeele et al. (2014) identified three groups of adolescent mobile device users, namely *trendy users* (i.e., extensive use, importance on personalization, fashionableness, and price of the device), *engaged users* (i.e., use to keep in touch with friends, micro-coordination, low importance of personalization), as well as *thrifty users* (i.e., no interest in mobiles, low use).

Fashion. Similar to research on mobile device adoption (see 2.2.1), studies using the UnG approach have repeatedly identified fashion as a motive for mobile device use (Aoki & Downes, 2003; Campbell, 2007; Leung & Wei, 2000; Peters & Allouch, 2005; Vanden Abeele et al., 2014). Campbell (2007) refers to the mobile phone as an "artifact of personal display or fashion" (p. 17). In line with this reasoning and with the discussions of Fortunati (2002, 2005) on the relationship between mobile phones and fashion (see also 2.2.1), Katz and colleagues (J. E. Katz, 2003; J. E. Katz & Aakhus, 2002; J. E. Katz & Sugiyama, 2005, 2006) suggest that mobile devices might even become a part of human beings. Given that mobile devices are closely worn to the body, and that it is possible to implant communication technology in the human body, the authors argue that communication technology might eventually "blend" with human beings, and could thus become a part of one's identity (see also

Apparatgeist theory, J. E. Katz & Aakhus, 2002; and *Machines That Become Us*, Campbell, 2008; J. E. Katz, 2003). In line with this, J. E. Katz and Sugiyama (2006) refer to the mobile phone as "a symbolic tool and physical extension of the human body and persona" (p. 321) and as a "miniature aesthetic statement about its owner" (J. E. Katz & Sugiyama, 2005). Indeed, Katz and Sugiyama (2005, 2006) showed that mobile phones are used to display fashion and fashion consciousness in both Eastern and Western countries. Similar to the studies of Trepte et al. (2003) and Leung and Wei (2000), Katz and Sugiyama (2005, 2006) found that individuals scored rather low on the items that assess the use of mobile phones to display fashion. However, this was only the case when participants were asked to report their own behavior. Instead, when asked to evaluate a third person's use of mobile phones to display fashion, individuals scored higher on the items, suggesting that their answers could be biased, probably due to social desirability.

Context, demographic, and individual factors. Apart from the UnG described above, research has provided some evidence that context factors, more specifically economic factors (e.g., cost efficiency) positively influence mobile phone use (Aoki & Downes, 2003). Demographic factors, such as household size, household income, occupation (e.g., business/sales), and gender further seem to affect mobile phone use (Leung & Wei, 2000). Finally, consumer innovativeness positively predicted the frequency of PDA usage (Trepte et al., 2003).

Interim summary

The presented findings regarding the UnG individuals seek in mobile phones and smartphones reveal a similar structure to the factors that influence mobile device adoption (see 2.2.1). To summarize, individuals use mobile devices for instrumental purposes (e.g., micro-coordination, information seeking), intrinsic purposes (i.e., hedonic enjoyment), social purposes (e.g., showing affection, affiliating with friends), for safety/security purposes, to display status, a favorable image, or fashion, and due to dependency or even "addiction". Apart from that, context, demographic, and individual factors influence mobile devices uses. Next, factors and motives relating to the purchase of mobile devices will be described.

2.2.3 Purchase of mobile devices: Consumption values and conspicuous consumption

One approach to explain the purchase of mobiles devices is the theory of consumption values (Sheth, Newman, & Gross, 1991). This framework is related to the UnG approach and postulates five values that influence consumer choice, namely *functional value*, *conditional value*, *social value*, *emotional value*, and *epistemic value*. Consumption values are independent of each other, and consumer choice is considered a function of them (Sheth et al., 1991). Following Sheth et al. (1991), functional values refer to utility and utilitarian usefulness. Social values describe the associations a product has with certain social, cultural-ethnic, or socioeconomic groups. Social values can be mostly observed for highly visible goods, such as jewelry or clothing (Sheth et al., 1991). Due to their social values,

products have symbolic meanings, and individuals conspicuously consume them to gain and display social status (Veblen, 1899; see also below). Emotional values pertain to emotional responses (e.g., pleasure, relaxation, joy, comfort) that are associated with a product. Epistemic values refer to feelings of curiosity and novelty (e.g., being aroused by exploring a new product), and to an individual's desire to learn and extend his or her knowledge by purchasing a specific product. Finally, conditional values describe the fact that the product value may depend on contextual circumstances. Examples of conditional values are wedding dresses or Christmas decorations (Sheth et al., 1991).

Conspicuous consumption. The concept of conspicuous consumption (Veblen, 1899) seeks to explain why individuals purchase high price luxury products. In his book entitled *The Theory of the Leisure Class* Thorstein Veblen (1899) suggested that individuals would consume luxuries not for their own sake (i.e., the product's quality and its inherent subjective or objective value) but to demonstrate their wealth and economic resources in order to gain prestige, to enhance social status, and to impress others. Research applying the theory of conspicuous consumption has provided rich evidence for Veblen's assumption that individuals conspicuously consume luxuries for status signaling purposes (e.g., Bagwell & Bernheim, 1996; Han, Nunes, & Drèze, 2010; Mazzocco, Rucker, Galinsky, & Anderson, 2012; O'Cass & McEwen, 2004; Rucker, Galinsky, & Dubois, 2012; Wilcox, Kim, & Sen, 2009). When investigating the motives for and purposes of conspicuous consumption, studies have examined a large variety of products, including fashion and fashion accessories, cars, personal electronics, and everyday products, such as shampoo and food (Gierl & Huettl, 2010; Han et al., 2010; Rucker, Dubois, & Galinsky, 2011; Rucker et al., 2012; Sundie et al., 2011). With regard to mobile devices, research suggests that individuals conspicuously consume them also with the goal to enhance and signal their status (e.g., Acikalin et al., 2009; Gierl & Huettl, 2010; see also below).

Consumer psychological studies have applied both the theory of consumption values and the theory of conspicuous consumption to explain the purchase of mobile devices. In the following, these findings will be described in further detail (see Table 1 for an overview).

Instrumentality. Related to findings from TAM, IDT, (see 2.2.1), and UnG (see 2.2.2), studies show that individuals purchase mobile phones and smartphones for their instrumentality and their functional value (Acikalin et al., 2009; Bødker et al., 2009; Mishra et al., 2014; Müller-Lietzkow et al., 2014; Osman et al., 2012). The longitudinal study of Bødker et al. (2009) suggests that functional values of smartphones may change over time. For a period of six months, the authors provided participants with Apple smartphones and conducted qualitative interviews. In these interviews, participants reported their feelings, experiences, and uses of the smartphones. For some participants, functional values increased, as they learned how to handle the smartphone, whereas for others it decreased given that they discovered the devices' limitations (for similar findings, see Peters & Allouch, 2005).

Intrinsic motives, emotional values, and epistemic values. Consumers further purchase mobile devices for usability and perceived ease of use (Mishra et al., 2014; Müller-Lietzkow et al., 2014).

Hedonic enjoyment (e.g., relaxation, pleasure, and enjoyment) and positive feelings elicited by design and aesthetics of the device add to the purchase of mobile devices (Bødker et al., 2009; Mishra et al., 2014). In addition, Bødker et al. (2009) found that individuals buy smartphones to fulfill epistemic and cognitive needs. Examples of these are feelings of curiosity individuals have when they explore their new smartphone, or a desire to learn how to handle the device.

Social motives and factors. Studies show that social influences play a role for the purchase of smartphones. Individuals buy smartphones due to trends in the community (Osman et al., 2012) and due to normative pressure (Suki, 2013). Moreover, the desire to affiliate with others positively contributes to the purchase of smartphones (Bødker et al., 2009).

Status, image, and conspicuous consumption. As outlined for mobile device adoption (see 2.2.1) and UnG of mobile devices (see 2.2.2), a large body of research suggests that individuals purchase mobile devices to demonstrate and enhance their status and to create a favorable social image (Acikalin et al., 2009; Bødker et al., 2009; J. E. Katz & Sugiyama, 2005, 2006; Liao & Hsieh, 2013; Mishra et al., 2014; Müller-Lietzkow et al., 2014; Osman et al., 2012; Wijaya, 2013). The study of Gierl and Huettl (2010) indicated that mobile phones are products that are specifically suitable for conspicuous consumption given that they are portable and easily visible. Acikalin et al. (2009) showed that Turkish university students, particularly those from higher-income classes, engage in conspicuous consumption of mobile phones primarily to increase their prestige. In a similar sense, Bødker et al. (2009) found that individuals use expensive luxury brand smartphones (in this case Apple devices) to indicate the availability of economic resources, the belonging to a certain social group, and their social status. Müller-Lietzkow et al. (2014) linked the purchase of Apple smartphones to conspicuous consumption as well and suggested that these luxury brand smartphones serve as status symbols, specifically among young men. Apart from scientific research, the purchase and ownership of luxury brand smartphones (mainly Apple devices) are subject to discussions in the mass media (Lane, 2015; Lasco, 2015), suggesting a widespread public interest in this phenomenon. The status signaling function of luxury brand smartphone is further evident when it comes to counterfeit products. Liao and Hsieh (2013) examined the factors that add to an individual's willingness to purchase a gray-market smartphone. Gray-market smartphones refer to counterfeit devices that imitate luxury brand smartphones (e.g., Apple, RIM BlackBerry); however, gray-market smartphones are still easily distinguishable from the original devices. The authors found that an individual's status consumption (i.e., the purchase of a luxury product that is associated with status in order to enhance one's social status; Eastman, Goldsmith, & Flynn, 1999) was negatively related to the attitude toward counterfeit products. The authors explain their results by the fact that an easily detectable gray-marked smartphone would not enhance its owner's social status but rather diminish it, due to its obvious counterfeit character.

Brand. A number of studies have further considered the role of brand for smartphone purchases (Mishra et al., 2014; Müller-Lietzkow et al., 2014; Osman et al., 2012; Suki, 2013; Wijaya, 2013). The study of Wijaya (2013) revealed that brand awareness, brand image, and brand personality predicted purchase intentions of Apple smartphones. Similarly, Suki (2013) showed that brand name was the strongest influencing factor of smartphone purchases in a sample of Malaysian students. Müller-Lietzkow et al. (2014) investigated factors and motives for smartphone purchases in a sample of German students. Thereby, the authors identified, among others, brand and design as influencing factors. However, individuals considered brand and design as rather less important factors for their purchase decisions. The study of Müller-Lietzkow et al. (2014) further indicated that brand and design were particularly important to Apple smartphone users. Osman et al. (2012) corroborated the importance of brand for smartphone purchases; however, its influence ranked below specific other device characteristics, such as design, screen size, and price.

Context. Economic factors exert an influence on the purchase of mobile devices. In particular, individuals refer to cost of plan and pricing as important determinants of their purchase decision (Müller-Lietzkow et al., 2014; Osman et al., 2012). The study of Müller-Lietzkow et al. (2014) indicated that smartphone tariffs and price of the device were important determinants of the purchase decision. The authors further showed that men were more willing to spend a larger amount of money on their mobile device than women. In contrast, the study by Suki (2013) did not find support for the assumption that pricing affects the purchase of smartphones.

Individual characteristics. Mishra et al. (2014) investigated the influence of consumer expertise and personal lifestyle on smartphone purchases. The authors hypothesized that these individual characteristics would moderate the relationships between perceived usability, pleasure, and social values in smartphones. Results revealed that expertise increased pleasure, whereas lifestyle did not influence usability, pleasure, or social values gained from smartphone purchases.

Specific technology characteristics. Finally, research indicates that specific technology characteristics, such as screen size, data storage, and computing power influence smartphone purchases (Müller-Lietzkow et al., 2014; Osman et al., 2012).

2.2.4 Summary

The outlined findings from media and consumer psychology suggest that a number of factors and motives influence mobile device adoption, purchase, and use. Although the described studies used different theoretical frameworks (i.e., TAM, IDT, UnG, theory of consumption values, theory of conspicuous consumption), the literature review suggests that most of them cover roughly the same factors and motives, although that they are referred to with different terms.

So far, this doctoral dissertation has made the attempt to structure the plethora of findings by mainly classifying motives and factors into the following categories: extrinsic, intrinsic, affiliation and sociability, security/safety, dependency/"addiction", status/image/fashion, brand, context, demographic, individual, and specific technology characteristics. In the next section, this structure will be linked to fundamental human motives (Bischof, 1985; Griskevicius & Kenrick, 2013) with the goal to gain a more profound understanding of the motivations underlying mobile device adoption, purchase, and use. To this end, an evolutionary perspective will be applied. This perspective helps to clarify the levels of causation (proximate vs. ultimate, see Buss, 1995; Tinbergen, 1963) that are addressed, but rather mixed up, in media and consumer psychological research on mobiles devices.

Table 1. Factors and Motives for Mobile Device Adoption, Purchase, and Usage

Factor/motive	DV	Source
Extrinsic		
• Perceived usefulness/ utilitarian usefulness	Adoption	Kwon and Chidambaram (2000) [a], van Biljon and Kotzé (2007), J. V. Chen, Yen, and Chen (2009)[b], Chun, Lee, and Kim (2012), Hew et al. (2012), K. J. Kim, Shin, and Park (2015) [a], D. Kim et al. (2014)
	Adoption/use	Park and Chen (2007), Shin (2012), Joo and Sang (2013), Pang et al. (2014)
• Relative advantage	Adoption	Teo and Pok (2003), Ismail (2012), Hsu and Lin (2015)
• Compatibility	Adoption	Teo and Pok (2003), J. V. Chen et al. (2009)[b], Putzer and Park (2010), Ismail (2012), Hsu and Lin (2015)
	Adoption/use	Park and Chen (2007)[2]
• Instrumentality/functionality/ instrumental use	Adoption/use	Joo and Sang (2013), Pang et al. (2014)
	UnG	Leung and Wei (2000), Aoki and Downes (2003), Trepte et al. (2003), Özcan and Koçak (2003), Stafford and Gillenson (2004), Peters and Allouch (2005), Campbell (2007), T.-Y. Kim and Shin (2013), Döring (2006)
	Purchase/use	Acikalin, Gul, and Develioglu (2009), Bødker et al. (2009),Osman et al. (2012), Mishra et al. (2014), Müller-Lietzkow et al. (2014)
Intrinsic		
• Perceived ease of use	Adoption	Kwon and Chidambaram (2000), Teo and Pok (2003), van Biljon and Kotzé (2007), J. V. Chen et al. (2009)[b], Chun et al. (2012), Hew et al. (2012)[a], D. Kim et al. (2014), Hsu and Lin (2015) [a]
	Adoption/use	Park and Chen (2007), Shin (2012), Joo and Sang (2013)
	Purchase	Müller-Lietzkow et al. (2014)
• Complexity	Adoption	Ismail (2012) [a]
• Hedonic enjoyment (e.g., relaxation, entertainment, fun, time consumption, curiosity)	Adoption	Kwon and Chidambaram (2000), Chun et al. (2012), Hew et al. (2012), Hsu and Lin (2015)
	Adoption/use	Shin (2012), Joo and Sang (2013), Pang et al. (2014)
• Cognitive needs/epistemic values (e.g., desire for learning)	UnG	Leung and Wei (2000) [e], Trepte et al. (2003), Özcan and Koçak (2003), Peters and Allouch (2005), T.-Y. Kim and Shin (2013), Döring (2006)
	Purchase/use	Bødker et al. (2009), Mishra et al. (2014)
Social		
• Normative pressure/ subjective norm	Adoption	Teo and Pok (2003), van Biljon and Kotzé (2007), Chun et al. (2012), Hew et al. (2012), Ismail (2012), S. Y. Lee (2014), Hsu and Lin (2015), D. Kim et al. (2014), Putzer and Park (2010)
	Purchase/use	Osman et al. (2012), Suki (2013)

Table 1 – Continued

Factor/motive	DV	Source
Social		
• Informational influence	Adoption	Hsu and Lin (2015)
• Social practices/cultural influences	Adoption	van Biljon and Kotzé (2007)
	Adoption/use	Sarker and Wells (2003), Shin (2012)
• Affection/sociability	Adoption/use	Pang, Zhang, Vu, and Foo (2014)
	UnG	Leung and Wei (2000), (Ling & Yttri, 2002), Aoki and Downes (2003), Özcan and Koçak (2003), Stafford and Gillenson (2004), Peters and Allouch (2005), Campbell (2007), Döring (2006)
	Purchase/use	Bødker, Gimpel, and Hedman (2009)
Safety/security/reassurance	UnG	Leung and Wei (2000)[e], Aoki and Downes (2003), Ling and Yttri (2002), Özcan and Koçak (2003), Campbell (2007), Döring (2006)
	Purchase/use	Bødker et al. (2009)
Dependency/"addiction"	UnG	Aoki and Downes (2003)
Status/image/fashion		
• Status/fashion/image	Adoption	H. S. Kwon and Chidambaram (2000), Teo and Pok (2003), Sarker and Wells (2003), Chun et al. (2012), Ismail (2012), Hew et al. (2012), S. Y. Lee (2014), D. Kim et al. (2014)
	Adoption/use	Fortunati (2002), Fortunati (2005), Pang et al. (2014)
	UnG	Samson and Hornby (1998), Leung and Wei (2000) [e], Ling and Yttri (2002), Trepte et al. (2003)[e], Özcan and Koçak (2003), Van Kempen (2003), Aoki and Downes (2003), Peters and Allouch (2005), J. E. Katz and Sugiyama (2005), J. E. Katz and Sugiyama (2006), Campbell (2007), T.-Y. Kim and Shin (2013), Vanden Abeele et al. (2014)
	Purchase/use	J. E. Katz and Sugiyama (2005), J. E. Katz and Sugiyama (2006), Osman et al. (2012), Bødker et al. (2009), Liao and Hsieh (2013), Wijaya (2013), Mishra et al. (2014)
	Conspicuous Consumption	Acikalin et al. (2009), Gierl and Huettl (2010), Müller-Lietzkow et al. (2014)
• "Coolness"	Adoption	K. J. Kim et al. (2015)
Brand		
• Brand image, consumer-based brand equity, perceived value, perceived quality	Adoption	Hsu and Lin (2015)[d], D. Kim et al. (2014)
	Adoption/use	Shin (2012)
	Purchase/use	Osman et al. (2012), Suki (2013), Wijaya (2013), Mishra et al. (2014), Müller-Lietzkow et al. (2014)

Table 1 – Continued

Factor/motive	DV	Source
Context		
• Economic factors (e.g., pricing)	Adoption	van Biljon and Kotzé (2007)[c], S. Y. Lee (2014), D. Kim, Chun, and Lee (2014)
	Adoption/use	Sarker and Wells (2003)
	UnG	Aoki and Downes (2003)
	Purchase	Osman, Talib, Sanusi, Shiang-Yen, and Alwi (2012), Suki (2013)[a], Müller-Lietzkow, Ganguin, and Hoblitz (2014)
• Technological Infrastructure (e.g., network coverage, system services)	Adoption	van Biljon and Kotzé (2007), Chun et al. (2012)[a]
	Adoption/use	Sarker and Wells (2003)
• Government's facilitation/ operator's facilitation	Adoption	Teo and Pok (2003) [a]
• Environmental characteristics (e.g., competitor pressure)	Adoption	J. V. Chen et al. (2009), Putzer and Park (2010)
	Adoption/use	Park and Chen (2007) [c]
• Organizational characteristics (e.g., management support, size, involvement)	Adoption	J. V. Chen et al. (2009), Putzer and Park (2010),
	Adoption/use	Park and Chen (2007)
• Trialability/testability	Adoption	J. V. Chen et al. (2009), Ismail (2012)
	Adoption/use	Park and Chen (2007)[a]
• Perceived risk	Adoption	Teo and Pok (2003), Ismail (2012)[a]
• Observability	Adoption	Putzer and Park (2010), J. V. Chen et al. (2009)[a]
	Adoption/use	Park and Chen (2007)
• Job relevance	Adoption	Putzer and Park (2010)
• Modality of mobility (i.e., type and extent)	Adoption/use	Sarker and Wells (2003)
• Communication characteristics (e.g., immediacy of response)	Adoption/use	Sarker and Wells (2003)
• task characteristics (e.g., task structure, autonomy)	Adoption	J. V. Chen et al. (2009)
	Adoption/use	Sarker and Wells (2003), Park and Chen (2007)[c]

Table 1 – Continued

Factor/motive	DV	Source
Demographic characteristics		
• Gender, age, income, education, ethnicity	Adoption	Kwon and Chidambaram (2000)[a], Putzer and Park (2010)[a], J. V. Chen et al. (2009)[a], D. Kim et al. (2014)
	Adoption/use	Sarker and Wells (2003), Park and Chen (2007)[a]
	UnG	Leung and Wei (2000)
Individual characteristics		
• Technological self-efficacy, perceived control	Adoption	Teo and Pok (2003)[a], J. V. Chen et al. (2009), S. Y. Lee (2014)[a], K. J. Kim and Sundar (2014)
	Adoption/use	Sarker and Wells (2003)[a], Park and Chen (2007)
• Consumer expertise/lifestyle	Purchase/use	Mishra, Dash, and Cyr (2014)
• Innovativeness, technological orientation, technological advancement, apprehensiveness	Adoption	S. Y. Lee (2014), D. Kim et al. (2014), van Biljon and Kotzé (2007), Kwon and Chidambaram (2000)
	UnG	Trepte, Ranné, and Becker (2003)
• Fashion attentiveness	Purchase/use	J. E. Katz and Sugiyama (2006)
Specific technology characteristics		
• (e.g., screen size, responsiveness, interface characteristics)	Adoption	Chun et al. (2012), K. J. Kim and Sundar (2014), Shin (2012)
	Adoption/use	Sarker and Wells (2003)
	Purchase	Osman et al. (2012), Suki (2013)[a], Müller-Lietzkow et al. (2014)

Note. DV = Dependent Variable. UnG = Uses and gratifications. [a]Study does not support influence of the factor/motive. [b]Chen et al. (2009) subsequently tested the predictive validity of different models for adoption intentions of smartphones. Depending on the respective model, results differed so that in one model the factors were supported as predictors of smartphone usage intention, whereas they were not supported in other models. [c]Variable was measured, but not tested (e.g., due to large number of missings). [d]Results only partially support the influence of consumer-based brand equity. [e]UnG is identified but not further tested due to lack of variance or inadequate reliability.

2.3 Broadening the point of view: An evolutionary psychological perspective on mobile phones and smartphones

In this part, an evolutionary psychological perspective is introduced, which allows to order the factors and motives identified in mobile device adoption, purchase, and use, according to fundamental motives. A specific focus will be on status and the benefits high status has regarding survival and reproduction. This part is structured as follows: first, principles of evolutionary psychology will be outlined (Cosmides & Tooby, 1997). As they built on the principles of natural and sexual selection (Darwin, 1859, 1871), these theories will be shortly presented as well. Afterwards, fundamental human motives derived from evolutionary biology will be described (Bischof, 1985; Kenrick, Griskevicius, Neuberg, & Schaller, 2010; Kenrick, Neuberg, Griskevicius, Becker, & Schaller, 2010). In a next step, the findings from media and consumer psychology that have been reviewed in the previous sections (see 2.2.1, 2.2.2, and 2.2.3) will be, whenever possible, linked to fundamental human motives. This categorization will provide the basis for the research questions and hypotheses of this doctoral dissertation.

As the goal of this doctoral dissertation is to extend the literature on mobile devices as status symbols, two further characteristics linked with status will be introduced, that is, facial attractiveness and social dominance. Given that status boosts through conspicuous consumption of smartphone could provide benefits on an ultimate level (i.e., in mating and reproduction), it is of interest whether these benefits differ depending on an individual's facial attractiveness and social dominance. The theoretical part closes with a synthesis of the findings that lead to the research questions and hypotheses of this work.

2.3.1 Principles of evolutionary psychology

Evolutionary psychology can be described as an "approach to psychology, in which knowledge and principles from evolutionary biology are put to use in research on the structure of the human mind" (Cosmides & Tooby, 1997, para. 1). Evolutionary psychology is not restricted to a certain study field but can be applied to all phenomena relating to human behavior (Cosmides & Tooby, 1997). Central to evolutionary psychology is the distinction between proximate and ultimate explanations of behavior (Tinbergen, 1963). In particular, evolutionary psychology seeks to explain *why* and for *which purpose* specific structures and behaviors have evolved. Thus, it addresses ultimate explanations and the *function* of a structure or behavior by examining their adaptive value for survival and reproduction. In contrast, traditional psychology rather questions *how* structures and behaviors work by exploring *immediate* causes, that is, it addresses proximate explanations and causations (Buss, 2016; Krebs & Davies, 1993). As evolutionary psychology aims to test hypotheses about ultimate functions and causations, it applies a specific research paradigm. Because it is not possible to test the core theories of evolution (i.e., natural and sexual selection; Darwin, 1859, 1871) directly, evolutionary psychology derives middle-level theories from them. These middle-level theories, in turn, link hypotheses and

specific predictions with the core theories of evolution. Then, hypotheses and specific predictions are tested which leads to the middle-level theories either being supported or refuted (Buss, 1995; Confer, Perilloux, & Buss, 2010; Holcomb, 1998; for the epistemological foundations of evolutionary media psychology, see Hennighausen & Schwab, 2015b).

From an evolutionary psychological perspective, the human mind is regarded as "a set of information-processing machines that were designed by natural selection to solve adaptive problems faced by our hunter-gatherer ancestors" (Cosmides & Tooby, 1997, para. 2). Adaptive problems refer to escaping or fighting predators, finding a high-quality mate for reproduction, and avoiding disease, for example. To most of these adaptive problems, individuals are "instinct blind" (Cosmides & Tooby, 1997, para. 4), that is, they are not conscious of the mechanisms that are designed to master these problems. Evolutionary psychology further claims that the human mind is not a general-purpose machine but that it rather consists of several domain-specific circuits ("adaptive toolbox"; Gigerenzer & Selten, 2001), which have evolved to solve reoccurring adaptive problems in human evolution (Barkow, Tooby, & Cosmides, 1992). Altogether, Cosmides and Tooby (1997) postulate five basic principles that evolutionary psychology applies to understand the human mind:

1. The human brain is a physical system that works similar to a computer. It consists of neuronal circuits, which generate behavior based on environmental information. This generated behavior adapts to environmental circumstances.
2. Natural selection pressures (see 2.3.2) have molded the brain's neural circuits to solve adaptive problems concerning survival and reproduction, which have consistently reoccurred during human evolution.
3. Most problem solving occurs unconsciously and individuals experience the process as rather easy (e.g., feeling attracted to a mate), although it is based on very complex circuit mechanisms. This is referred to as "instinct blindness" (Cosmides & Tooby, 1997, para. 4).
4. The human mind consists of functionally specialized neural circuits, so-called evolutionary psychological mechanisms (EPMs). Each of them is designed to solve a specific adaptive problem.
5. Evolutionary processes driven by natural and sexual selection take a very long time (i.e., thousands of years), until they result in changes of the brain's complex circuits. Thus, although humans have significantly affected and changed their living environment since they abandoned their lifestyles as hunters and gatherers, the human brain has hardly changed its structure and circuits. It still basically resembles the brain of the human ancestors in Pleistocene and is adapted to the environment of these ancestral times ("environment of evolutionary adaptedness"; Cosmides & Tooby, 1997, para. 58)

As a result, the human brain can much more easily solve problems encountered in a hunter-gatherer society (e.g., finding a mate, collecting food, negotiating with others) than problems of the modern human world (e.g., solving math problems). This circumstance can even lead to a *mismatch* between

the mechanisms of the human brain and the human's current living environment. Behaviors that were adaptive in an ancestral environment can become maladaptive in today's environment. A prominent example is the human's preference for sweet and fatty (i.e., high-caloric) food (Cosmides & Tooby, 1997). In ancestral times, it was adaptive to eat high-caloric food to build fat reserves for times of famine. Today, however, food is abundant in Western countries so that individuals are more likely to struggle with the consequences of overweight due to their preference for high-caloric food than with the consequences of famine. In a similar vein, mental disorders (Logan & Jacka, 2014; Pani, 2000) and addiction (Spinella, 2003), but also reactions to media contents, such as pornographic material (Hennighausen & Schwab, 2015a; Kilgallon & Simmons, 2005), have been discussed as the results of an evolutionary mismatch between ancestral human brain circuits and the human's current living environment.

2.3.2 Natural selection and sexual selection

The EPMs of the human brain have been shaped by both natural and sexual selection processes (Darwin, 1859, 1871). Natural selection (Darwin, 1859) refers to environmental selection pressures (e.g., predators, climate) individuals of a species are equally exposed to. Due to slight genetic variations, which manifest in subtle phenotypic differences (e.g., a harder beak enables a finch to tap into new food sources), individuals within the same population have differential survival and reproduction rates. Specifically, those individuals with more advantageous genotypic and phenotypic characteristics have a higher chance of survival and reproduction (Darwin, 1895). As a consequence, over time, they are more likely to pass their genes to offspring so that their genetic dispositions become more common in the population. Natural selection pressures often affect the sexes to the same extent, leading to similar characteristics and behaviors of males and females.

In contrast, sexual selection (Darwin, 1871) operates differently on the sexes and accounts for sex-specific differences. A distinction is drawn between *intrasexual* and *intersexual* selection. Intrasexual selection pertains to competitions in which members of the same sex engage to gain access to members of the opposite sex. On the other hand, intersexual selection describes actual mate choice, that is, individuals prefer to mate with members of the other sex who display specific desirable characteristics.

In most mammalian species, including humans, males mostly engage in intrasexual competitions to gain access to females, whereas females are more likely to choose their mates. This can be explained by the minimal obligatory *parental investment* (Trivers, 1972) the sexes have to invest in viable offspring (i.e., offspring that survives long enough to reproduce). The theory of parental investment (Trivers, 1972) draws on the findings of Bateman (1948), who observed that common fruit fly males had a higher reproductive variance than females. Bateman concluded that sperm are "cheaper" than eggs because the "fertility of the female is limited by egg production which causes a severe strain on their nutrition" (p. 364). Thus, female eggs are the limiting factor in reproduction. Trivers (1972)

applied Bateman's findings to birds and mammals to explain how sexual selection works. Unlike males, whose minimal parental investment can be restricted to mating effort (i.e., attracting a female and copulating with her), females usually have higher investments in their offspring due to gestation and lactation. Hence, females face a greater loss of resources when mating with a mate of poor quality. Because female reproductive success also limits male reproductive success, females are a "scarce" resource males compete for.

The outlined selection pressures lead to females being more critical in mate choice and preferring mates that display *fitness indicators*. Fitness indicators reflect advantageous genetic dispositions and/or health and thus function as signals of mate quality (Zahavi, 1975). In line with this, males displaying fitness indicators have higher mating success. Fitness indicators can pertain to both physical (e.g., antlers, colorful plumage) and behavioral traits (e.g., complex bird songs, mating dances; Andersson, 1994). These traits are usually referred to as *ornaments* (Darwin, 1871) when they are described in the context of mate choice (Berglund et al., 1996). One of the most often described sexually selected ornaments is the peacock's tail. This structure is conspicuous and can attract predators. In addition, in case of flight, a large tail impedes the peacock's escape from predators and decreases the chance of survival. The morphology of the peacock's tail, however, is associated with mating success. Specifically, the number of spots positively predicts number of offspring (Loyau et al., 2007; Petrie & Halliday, 1994; Petrie, Halliday, & Sanders, 1991). Conspicuous structures like the peacock's tail can thus be considered a *costly trait* or a *handicap* (Grafen, 1990; Zahavi, 1975; Zahavi & Zahavi, 1997): it takes a lot of resources to develop and maintain the ornament so that individuals with poor health or low genetic quality cannot "afford" it (Loyau, Saint Jalme, Cagniant, & Sorci, 2005). This makes conspicuous structures and behaviors hard-to-fake and hence honest signals of biological fitness and mate quality.

Sexual selection processes, in particular intrasexual selection, can further foster the evolution of so-called *armaments* (Berglund et al., 1996). Like ornaments, armaments or "weapons" are reliable indicators of biological fitness, which have evolved through same-sex competition. A prominent example of an armament are the canine teeth of the male baboon (Manning & Chamberlain, 1993). These conspicuous structures have evolved as weapons through intrasexual competition and honestly signal a male baboon's biological fitness and fighting ability.

The evolution of sex-specific handicaps is closely associated with the extent to which males and females differ in their parental investments. In species with large differences in minimal obligatory parental investment, female choice and male-male competition are common, which fosters the evolution of conspicuous handicaps (Andersson, 1994). On the other hand, in species with smaller differences between the minimum parental investments, mutual mate choice and competition in the same sex are more prevalent (Johnstone, Reynolds, & Deutsch, 1996).

2.3.3 Principles of sexual selection applied to humans

Although human paternal investment is much higher than in other primate species (Fernandez-Duque, Valeggia, & Mendoza, 2009), the principles of sexual selection still hold. A number of human characteristics appear to have evolved through mate selection and same-sex competition. Puts (2010, 2016) argues that human male-male competition is particularly intense, as humans live in a two-dimensional mating environment (i.e., land). The author suggests that mates are much more easily to monopolize in two-dimensional mating environments than in three-dimensional mating environments (e.g., air, water, trees). As a result, males are more likely to exclude competitors by force or threat of force, which leads to strong male intrasexual competition (Puts, 2010; Puts, Bailey, & Reno, 2015). Men have thus evolved specific physical and psychological characteristics predominantly through male-male competition (for a review, see Puts, 2010). Examples of these characteristics are muscle mass and strength (Abe, Kearns, & Fukunaga, 2003; Lassek & Gaulin, 2009), beards (Dixson & Vasey, 2012; Neave & Shields, 2008), deep voices (Puts, Gaulin, & Verdolini, 2006; Puts, Hodges, Cárdenas, & Gaulin, 2007), the manufacturing of weapons (Puts et al., 2015), and intrasexual aggressiveness (Archer, 2009; Wilson & Daly, 1985). Moreover, men compete with each other in the area of cultural displays, such as literature, art, or music (Lange, Schwarz, & Euler, 2013; Miller, 2000). These cultural areas may serve as a lek in which men advertise their biological fitness and mate quality by aiming to outperform competitors. Because men also heavily invest in their offspring, women engage in intrasexual competitions for high-quality mates as well (e.g., Fink, Klappauf, Brewer, & Shackelford, 2014; Rosvall, 2011; Vaillancourt & Sharma, 2011). However, female intrasexual competition differs from male intrasexual competition such that women are more likely to use self-promotion strategies and indirect aggressiveness against their rivals rather than force, threat, and direct aggressiveness (Fisher & Cox, 2011; Stockley & Campbell, 2013).

Apart from intrasexual competition, a lot of human traits have been also shaped by mate choice and serve an ornamental function. Examples of physical characteristics are the female body fat distribution, including waist-to-hip ratio (Singh, Dixson, Jessop, Morgan, & Dixson, 2010) and breasts (Dixson et al., 2011). Examples of mental traits are humor (Bressler, Martin, & Balshine, 2006; Miller, 2000), creativity (B. B. Chen & Chang, 2015; Griskevicius, Goldstein, Mortensen, Cialdini, & Kenrick, 2006; Miller, 2000), and intelligence (Miller, 2000). Likewise, cultural artifacts and cultural displays are considered as products of sexual selection aiming to attract desirable mates (Hennighausen & Schwab, 2015a, 2015b; Lange et al., 2013; Miller, 1999, 2000).

2.3.4 Sex-specific mate preferences in humans

Due to their unequal minimal obligatory parental investment (Bateman, 1948; Trivers, 1972), men and women have faced different adaptive problems in mating and reproduction (Buss & Schmitt, 1993; see also 2.3.2). These adaptive problems further vary with the respective mating context, that is, whether men and women seek a mate for a stable romantic relationship (i.e., long-term mating) or a mate for a

brief sexual affair (i.e., short-term mating; see Buss & Schmitt, 1993; Gangestad & Simpson, 2000). Table 2 presents an overview of the adaptive problems men and women are confronted with in the contexts of short- and long-term mating, respectively.

Table 2. Problems Men and Women Face in Short-Term and Long-Term Mating Contexts

Mating context	Problems men face	Problems women face
Short-term	• Partner number • Identification of sexually accessible women • Minimization of cost, risk, and commitment • Identification of fertile women	• Immediate resource extraction • Evaluation of short-term mates as possible long-term mates • Gene quality • Mate switching, mate expulsion, mate backup
Long-term	• Paternity confidence • Female reproductive value • Commitment • Good parenting skills • Gene quality	• Identification of men who are able to invest • Identification of men who are willing to invest • Physical protection • Commitment • Good parenting skills • Gene quality

Note. Table adapted from Buss and Schmitt (1993, p. 207).

Selection pressures resulting from these adaptive problems have led to differences in mate preferences. In particular, women prefer men who display indicators of high biological fitness, such as facial masculinity, aggressiveness, and social dominance, and men who provide them with immediate resources in a short-term mating context (Greiling & Buss, 2000; for reviews, see Gangestad & Simpson, 2000; Gildersleeve, Haselton, & Fales, 2014). In a long-term mating context, women value mates who display resource acquisition and provision ability (e.g., as indicated by ambition, social status, and financial resources) as well as those who display the willingness to spend resources on the women and her offspring (Buss, 1989)[1]. On the other hand, men prefer women who show cues to fertility and reproductive capacity (as indicated by physical attractiveness and youth) in both a short-term and long-term mating context (Buss, 1989). Moreover, men value chastity and virginity in their long-term mates to solve the problem of paternity uncertainty (Buss, 1989; Buss & Schmitt, 1993). Despite the described differences in mate preferences, men and women also value similar traits in their mates. For instance, men and women both seek high levels of kindness, emotional warmth, and

[1] It should be noted that it is not possible to strictly distinguish between the characteristics women seek in short-term and long-term mates. Indeed, women highly value both sets of characteristics in their mates and specifically feel attracted to a man who displays them all (Gangestad, Garver-Apgar, Simpson, & Cousins, 2007). Women further engage in short-term mating to test a man's suitability as a long-term mate for mate switching (Greiling & Buss, 2000). A reason why women could have evolved a preference for men displaying indicators of high biological fitness and good genetic dispositions as short-term mates, whereas they prefer men who demonstrate resource acquisition ability and the willingness to invest in her and her offspring as long-term mates could be that men possessing both characteristics are highly preferred mating partners. Thus, these men have a lot of mating opportunities, and are, as a consequence, hard to attract and to retain as a mate (Simpson & Gangestad, 1992). Hence, women might have faced a trade-off when selecting mates for short-term and long-term mating, leading to their specific mating preferences. In addition, the traits women seek in their mates depend on their own mate value with high-quality women reporting higher standards pertaining to both "good genes", resources acquisition ability, and parenting quality (Buss & Shackelford, 2008).

intelligence in their prospective long-term mates (Li, Bailey, Kenrick, & Linsenmeier, 2002), whereas they both seek high physical attractiveness in their short-term mates (Li & Kenrick, 2006).

2.3.5 Fundamental human needs and motives

Natural and sexual selection pressures (Darwin, 1859, 1871) have further shaped fundamental human needs and motives. Fundamental needs and motives mostly pertain to proximate causes (e.g., hunger, sexual arousal), which, in turn, are linked to ultimate causes (e.g., preserving the bodily functions to ensure survival; see also Buss, 2016). In the following section, two taxonomies of motives will be described in more detail.

According to Bischof (1985), all motives are eventually related to fitness and can be basically divided into *reproduction* and *self-preservation* (Figure 3). The first circuit, that is, reproduction, comprises *mating* (i.e., courtship and copulation on a behavioral level; spermatogenesis on a vegetative level) and *kin care*. Kin care, in turn, consists of *brood care* (i.e., nurturing and protecting offspring, lactation) and *altruism*. The second circuit, namely self-preservation, consists of four different sub-circuits, that is, *homeostasis, restoration, reassurance,* and *self-assertion*. Homeostasis describes metabolic processes that are crucial to survival (e.g., intake of nutrients and breathing to preserve bodily functions). Restoration relates to detrimental microscopic factors an individual is exposed to. Among them are pathogens, germs, environmental toxics, and pollutions, but also harmful genetic mutations. At a vegetative level, the body responds to these detrimental microscopic factors with immune reactions (i.e., the motive *immunity*), whereas on a behavioral level, individuals respond to them with actions (e.g., ill animals hide in a cave to cure the disease). Restoration further includes the motive *hygiene*, which is a behavior that supports restoration and the avoidance of disease. Altogether, restoration processes rather focus on vegetative functions and the accumulation of resources.

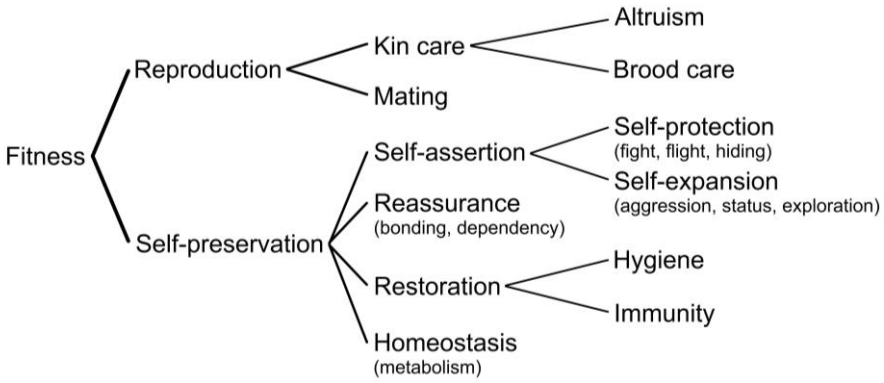


Figure 3. Taxonomy of Motives. Based on Bischof (1985, p. 331)

On the other hand, self-assertion covers all macroscopic factors (e.g., hostile individuals of the same species, predators, obstacles, other sources of danger) the individual is exposed to. These macroscopic factors affect survival and demand active behavior responds from the individual. Self-assertion can be divided into *self-protection*, which relates to fight, flight, or hiding, and *self-expansion*, which describes exploration, attack, desire for influence, status, rank, and autonomy. Finally, reassurance describes bonding with and dependency on relatives for reasons of self-preservation (e.g., in case of flight individuals seek protection from their relatives). Reassurance should be distinguished from kin care, as reassurance refers to the circuit of self-preservation with the goal to increase survival, whereas kin care pertains to the circuit of reproduction and describes the care for offspring and relatives to increase reproductive success.

Similar to the taxonomy of motives (Bischof, 1985), Kenrick and colleagues (Kenrick, Griskevicius, et al., 2010; Kenrick, Neuberg, et al., 2010) have postulated the fundamental-motives framework (Figure 4). It can be considered a renovation of Maslow's (1943) pyramid of human needs. Kenrick and colleagues (Kenrick, Griskevicius, et al., 2010; Kenrick, Neuberg, et al., 2010) presume the following basic human motives*: evading physical harm, avoiding disease, establishing friendships, attaining status, acquiring a mate, retaining a mate,* and *providing for family and kin*. The authors propose that fundamental motives follow a specific order: immediate physiological needs form the foundation of the pyramid, pursued by the motives self-protection, affiliation, and status/esteem. At the top of the pyramid, Kenrick and colleagues have placed mating goals and reproduction. In contrast to Maslow's (1943) pyramid of human needs, fundamental motives are displayed with an overlapping, layer-like structure, suggesting that needs and motives that early occur during human development do not cease to exist when a new motive emerges, but are rather ongoing throughout life. Kenrick and colleagues argue that fundamental motives and needs are triggered by proximate cues, but eventually serve ultimate goals, namely survival and reproduction.

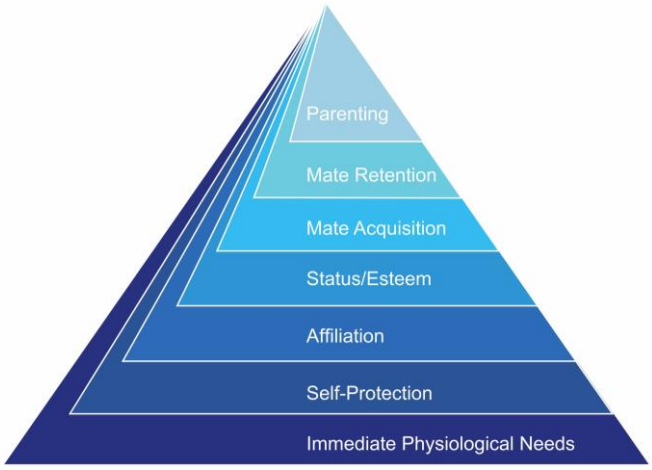


Figure 4. Hierarchy of Fundamental Human Motives. Based on Kenrick, Griskevicius, et al. (2010, p. 36)

2.3.6 Fundamental human motives and mobile device adoption, purchase, and use

The fundamental-motives framework provides a powerful tool to understand and interpret human behavior (Griskevicius & Durante, 2015; Griskevicius & Kenrick, 2013). In both the fields of consumer psychology (e.g., Griskevicius & Durante, 2015; Miller, 2009; Saad, 2007, 2013; Saad & Gill, 2000) and media psychology (e.g., Schwab, 2011; Sherry, 2004) researchers have called for an integration of evolutionary theories to gain a more profound understanding of human behavior. In line with this, several studies have already successfully applied evolutionary theories in media psychological (e.g., Hennighausen & Schwab, 2015b; Schwab & Hennighausen, 2016) and consumer psychological research (for an overview, see Griskevicius & Kenrick, 2013).

In this sense, the motives and needs underlying mobile device adoption, purchase, and use, reviewed in the previous sections (see 2.2, see Table 1 for a summary) can be also linked to fundamental human needs and motives. Hence, it is possible that mobile device adoption, purchase, and use could not only serve proximate but also ultimate functions that pertain to survival and reproduction. In the following, this idea will be further elaborated. Table 3 provides a summary of the associations between fundamental-motives and the motives identified in mobile device adoption, purchase, and use.

Table 3. Fundamental Motives and Corresponding Motives for Mobile Device Adoption, Purchase, and Use

Fundamental Motive	Motive for mobile device adoption, purchase, and use	Examples
Self-protection	Safety/security/ reassurance	• Use of mobile phone "to have a sense of security" (Leung & Wei, 2000, p. 312) • "It provides me with a feeling of security" (Özcan & Koçak, 2003, p. 248)
Affiliation/altruism Reassurance	Affection/sociability/ affiliation	• "To constantly maintain contact with my colleagues/fellow students/clients" (Peters & Allouch, 2005, p. 12) • "Use my mobile phone to 'catch up' with friends or relatives" (Campbell, 2007, p. 17)
Reassurance	Dependency/"addiction"	• "I feel lost when I leave my cell phone at home" (Aoki & Downes, 2003, p. 359)
Status, esteem/ self-expansion	Status/image	• "Possession of a particular [mobile phone] brand/model projects a certain image" (Teo & Pok, 2003, p. 496) • "Smartphones as . . . symbolic product that enhances one's status within a group" (Chun et al., 2012, p. 496) • "Smartphones . . . as an extensions of their users' social status" (Shin, 2012, p. 267)
Self-expansion	Hedonic enjoyment, exploration and play, epistemic values	• "It always provides new things I can try out" (Trepte et al., 2003, p. 466) • "People like exploring technology, learning how to use a device" (Bødker et al., 2009, p. 7)

Safety/security and self-protection. A frequently identified motive for mobile device adoption, purchase, and use is the security and safety these devices provide in case of an emergency (e.g., Bødker et al., 2009; Campbell, 2007; Leung & Wei, 2000). This motive can be linked to the motive of self-protection, which is found in both the taxonomy of motives (Bischof, 1985) and the fundamental-motives framework (Kenrick, Griskevicius, et al., 2010; Kenrick, Neuberg, et al., 2010).

Social motives and affiliation. Moreover, social motives play a crucial role for mobile device adoption, purchase, and use. Individuals report using their mobile phones and smartphones to display affection for relatives and to affiliate with peers (e.g., D. Kim et al., 2014; S. Y. Lee, 2014; Leung & Wei, 2000; Özcan & Koçak, 2003). This motive can be associated with the affiliation motive of the fundamental motives framework (Kenrick, Griskevicius, et al., 2010; Kenrick, Neuberg, et al., 2010) and with the motives of reassurance and altruism of Bischof's (1985) taxonomy of motives.

Dependency/"addiction" and reassurance. Dependency and "addiction" also add to mobile device usage (Aoki & Downes, 2003). This motive can be linked to the motive of reassurance postulated by the taxonomy of motives (Bischof, 1985).

Status/image and self-expansion. Mobile devices are further adopted, purchased, and used to enhance and display status among peers and to create a favorable image (e.g., Kwon & Chidambaram, 2000; Müller-Lietzkow et al., 2014; Özcan & Koçak, 2003; Peters & Allouch, 2005; van Kempen, 2003; Vanden Abeele et al., 2014). This motive fits with the status/esteem motive of the fundamental-motives framework (Kenrick, Griskevicius, et al., 2010; Kenrick, Neuberg, et al., 2010) and with the motive of self-expansion in the taxonomy of motives (Bischof, 1985).

Hedonic enjoyment and self-expansion. Finally, hedonic enjoyment, or more specifically, exploration and play, has been shown to positively influence mobile device adoption, purchase, and use (e.g., Bødker et al., 2009; Joo & Sang, 2013; Mishra et al., 2014; Trepte et al., 2003). This motive can be associated with the motive of self-expansion found in the taxonomy of motives (Bischof, 1985) given that self-expansion includes an active exploration of the environment.

In summary, this classification demonstrates that, at least, part of the motives identified in mobile device adoption, purchase, and use, can be associated with fundamental human motives. Thus, individuals may not only adopt, purchase, and use mobile devices due to proximate, but also due to ultimate causations. To further elucidate the status signaling function of mobile devices and possible ultimate functions, in the following section, it will be described what status means in evolutionary terms, and which ultimate benefits high status has with regard to mating and reproduction.

2.3.7 Status from an evolutionary perspective

Status emerges in hierarchically structured societies (Bischof, 1985), which are universally found across human cultures (Brown, 1991) and non-human species (Ellis, 1995). The forming of status

hierarchies begins in early childhood (Hawley, 1999), and individuals are able to perceive status hierarchies at first glance (Kalma, 1991). These findings suggest that status hierarchies have evolved during evolution and, furthermore, that humans have developed specific EPMs for status-striving and navigating through status hierarchies (van Vugt & Tybur, 2016).

Status can be defined as an "individual's standing in the social hierarchy which determines priority access to resources in competitive situations" (van Vugt & Tybur, 2016, p. 789). There are different ways of obtaining status among humans. Henrich and Gil-White (2001) basically distinguish between two different routes to obtain status or rank, namely *dominance* and *prestige*[2]. Dominance refers to attaining respect through force, threats, and intimidation, whereas prestige describes freely conferred status to an individual based on his or her possession of specific skills, expertise, or success (Cheng, Tracy, & Henrich, 2010; Henrich & Gil-White, 2001). In particular, prestigious individuals often support and help other individuals (similar to a "teacher"), so that less prestigious individuals grant them priority access to resources in return (K. Hill & Kaplan, 1988).

Ultimate causes of social hierarchies. Attaining and maintaining status is highly adaptive because it yields many benefits for the individual with regard to survival and reproductive success (Cummins, 2006; van Vugt & Tybur, 2016). Studies investigating animal societies indicate that status or rank positively correlates with the number of offspring (Keane et al., 1994; Rodriguez-Llanes, Verbeke, & Finlayson, 2009; Wroblewski et al., 2009). Social status further affects health so that animals with lower status are more likely to suffer from stress and poor health (e.g., Sapolsky, 2004; Sapolsky, 2005; Tung et al., 2012). Research investigating status effects in humans has demonstrated similar effects. In native societies, men's status positively correlates with their reproductive success (von Rueden, Gurven, & Kaplan, 2010); similarly, in industrialized societies, men with higher incomes (which serve as a proxy for status) report a larger number of past mates and have stronger future mating intentions (Kruger, 2008). In addition, men's socioeconomic status correlates with their chances of marriage (Pollet & Nettle, 2008), and high-income men have more biological children (Hopcroft, 2006). With regard to health and longevity, humans with a lower status are more likely to suffer from stress and poor health and are more likely to die at a younger age compared with those of higher status (Braveman, Egerter, & Williams, 2011; Marmot, Shipley, & Rose; Sapolsky, 2004, 2005; J. P. Smith, 1999).

Proximate causes of social hierarchies. On a proximate level, a number of variables have been linked to the establishment of status hierarchies. In particular, hormones play a crucial role. Studies suggest that status is positively correlated with levels of testosterone and serotonin (Ellis, 1995; Sapolsky, 1990; Tse & Bond, 2002). Moreover, hormonal levels react to changes in status such that testosterone levels of winners rise, whereas those of losers drop (e.g., Gladue, Boechler, & McCaul, 1989; Kirby, 2014; Mazur & Booth, 1998). The stress hormone cortisol further relates to status.

[2] Magee and Galinsky (2008) use the terms *power* and *status* referring to the same distinction.

Compared with individuals of high status, individuals of low status have higher cortisol levels (Bateup, Booth, Shirtcliff, & Granger, 2002; Blanchard, Sakai, McEwen, Weiss, & Blanchard, 1993; Marmot, 2004), indicating higher stress levels.

Moreover, sex hormones are related to several physical characteristics, which, in turn, are associated with status. In men, high testosterone levels during development are positively linked to masculine facial characteristics (Grammer & Thornhill, 1994; Little et al., 2011), physical strength, and physical ability (Manning & Taylor, 2001). All these traits are advantageous in male-male competition because they facilitate the deterrence and intimidation of rivals (Mueller & Mazur, 1997; Rueden, 2014; see also below). In line with this, men with more masculine faces achieve higher financial performance and thus higher status (Wong, Ormiston, & Haselhuhn, 2011). Similarly, attractiveness (C. Anderson, John, Keltner, & Kring, 2001) and low voice pitch (Puts et al., 2006; Puts et al., 2007; Saxton et al., 2015) have been shown to be positively associated with status. Finally, male physical size indicates strength and fighting ability and thus provides cues for a man's chance of winning intrasexual competitions (Sell et al., 2009). Accordingly, size is positively correlated with indicators of status, such as income (Judge & Cable, 2004) and professional position (Blaker et al., 2013; Murray & Schmitz, 2011).

Sex differences and status striving. Based on differences in minimal obligatory parental investment, variances in male reproductive success are much larger than variances in female reproductive success (Bateman, 1948; Trivers, 1972). Males seek to maximize their reproductive success by mating with as many females as possible and, to gain access to females, males engage in intense competitions with other males (Andersson, 1994; Puts, 2010; see also 2.3.2). Thereby, male status plays a crucial role. Status largely contributes to male mating success in two different, but related ways. First, as described earlier, males displaying specific characteristics are more likely to attain status. Most of these characteristics are related to testosterone. High levels of testosterone are detrimental to health (e.g., Furman et al., 2014; Yesilova et al., 2000) so that displaying these characteristics imposes a handicap on the individual (Grafen, 1990; Zahavi, 1975), which is hard-to-fake and hence costly signals biological fitness and mate quality. These costly signals are not only important in mate choice but also in male-male competition; they provide information on male dominance and fighting ability, which other males use to assess their chances in intrasexual competition (Berglund et al., 1996; Puts, 2010, 2016; see also 2.3.2). Consequently, individuals displaying testosterone-related characteristics are more likely to deter rivals in male-male competition, which enhances their status and increases priority access to precious resources, such as food or mates (Berglund et al., 1996). Second, as a result, high-status males have more resources with which they can provide females and their offspring so that females and their offspring have a higher chance of survival. Thus, mating with high-status males does not only have direct benefits (e.g., protection, provision with resources) but also indirect benefits (i.e., the male's high genetic quality, which is passed on to offspring) for females (van Vugt & Tybur, 2016). Selection pressures have hence favored

female preferences for high-status mates so that male status is both related to traits women seek in long-term mates (e.g., access to and availability of economic resources, see Buss, 1989) and short-term mates (e.g., display of dominance and intrasexual competitiveness, see Gangestad et al., 2004; provision with immediate resources, see Greiling & Buss, 2000).

In summary, males benefit more from status-seeking behaviors than females. Accordingly, males engage more frequently in intrasexual competitions and dominance displays (Archer, 2009; Puts, 2010) and are likely to respond with aggressive behavior in case of status threats (Buss, 2006; Griskevicius et al., 2009). Moreover, when women are involved and mating motives are activated, men engage in status-seeking behavior and are more likely to display altruistic, prosocial, generous, and heroic behavior (A. P. Buunk & Massar, 2012; Griskevicius et al., 2007; Iredale, van Vugt, & Dunbar, 2008).

Strategies to attain status. Research suggests that social skills, such as deception and manipulation abilities, contribute to dominance and status in both children and adults (Keating & Heltman, 1994). Lund, Tamnes, Moestue, Buss, and Vollrath (2007) identified three different sets of tactics individuals use to negotiate hierarchy and status in a professional context. Among these were deception/ manipulation (e.g., deceptive self-promotion, boasting, competitor derogation), display/networking (e.g., establishing friendships, gaining advantages through social activities), and industriousness/ knowledge (e.g., working hard, displaying knowledge, assuming leadership). Men were more likely to use deceptive and manipulative tactics and tactics relating to industriousness and knowledge. These sets of tactics were positively correlated with salary. For the use of display/networking tactics to advance in social hierarchy, no sex differences were found for the composite scale. For the subscales, however, it surfaced that women were more likely to help others, to display positive character traits, and to enhance their appearance.

2.3.8 Extended phenotype: Status signaling with prestigious goods and conspicuous consumption

A further way to gain and display status is the purchase and use of goods that are related to status and prestige. Status and prestige goods function as an individual's *extended phenotype* (Dawkins, 1982, 1999), providing cues to biological fitness and mate quality. The concept of the extended phenotype (Dawkins, 1982, 1999, 2004) describes the effects a gene has on its environment that reach beyond the effects it has on its organism's body (e.g., protein biosynthesis or tissue growth). According to Dawkins (1982, 1999), genes can manipulate their surroundings through altering environmental appearance or even affecting another individual's behavior. The beaver dam is often cited as an example of an extended phenotype. Beavers create their own habitats by severely altering their environment through constructing dams. The beaver's ability to construct a dam is rooted in genetics and mediated by behavior. The elaboration of the dam is related to the individual beaver's survival and

reproductive success. Hence, evolutionary selection pressures can operate through the extended phenotype on the individual level (Dawkins, 1999). The behavior of the male bowerbird is a second example illustrating the concept of the extended phenotype. The male bowerbird builds a bower and decorates it with sticks and colored objects to attract a mate (Schaedelin & Taborsky, 2009). Again, the ability to build a bower is rooted in the bird's genetic dispositions and mediated by his behavior. The more symmetrical and elaborate the bower is, the more females it attracts. Thus, a bowerbird with a particularly good bower building ability is more likely to reproduce and pass on his genes to offspring.

In a related sense, conspicuous consumption of status products (Veblen, 1899; see also 2.2.3) could be regarded as an extended phenotype (Dunham, 2011; Saad, 2007, 2013). Conspicuous consumption has been cross-culturally observed in Western (e.g., Veblen, 1899), Eastern (e.g., Bloch, Rao, & Desai, 2004), and native societies (Godoy et al., 2007), suggesting that this behavior has an evolutionary basis and might serve an ultimate function (Sundie et al., 2011). Conspicuous displays of wealth and economic resources by consumption are easily observable by others, but rather hard-to-fake. In line with this, Saad (2007, 2013) and Miller (2009) argue that, similar to a handicap or costly signal (Grafen, 1990; Zahavi, 1975; Zahavi & Zahavi, 1997), conspicuous consumption could indicate desirable traits and advertise fitness to others who might provide benefits (e.g., parents, allies, mates). Indeed, being able to afford pricy status goods requires financial resources, which may function as a proxy of an individual's skills, dispositions, and success (Cheng & Tracy, 2013). Corroborating this assumption, attaining financial resources is related to favorable characteristics, such as intelligence and ambition (Judge, Hurst, & Simon, 2009; Strenze, 2007). Moreover, male financial risk taking (a trait that may facilitate conspicuous consumption) is positively linked to testosterone (Apicella et al., 2008). As described earlier (see 2.3.7), high levels of testosterone are deleterious for health so that engaging in financial risk taking may provide cues to a man's biological fitness and mate quality.

The possession or manufacturing of prestigious goods has been also discussed as an extended phenotype indicating specific skills. Drawing on the dominance – prestige distinction (Henrich & Gil-White, 2001), Plourde (2008) provides an explanation of how specific goods became associated with prestige. The author claims that prestigious individuals (i.e., individuals who possessed specific skills, knowledge, and abilities that they transmitted to learners) manufactured or possessed goods that reliably indicated their prestige. For instance, possessing a feather of a bird that is rare and difficult to hunt, may honestly indicate an individual's hunting skills and profound knowledge of the bird's habitat (Plourde, 2008). Hence, such a feather could become a prestigious object, which signals the qualities of its owner *sensu* an extended phenotype. Plourde (2008), however, emphasizes that prestigious goods signal *specific skills* to individuals who are willing to learn exactly these skills from prestigious individuals. On the other hand, signaling status though the wasteful display of resources (as in the case of conspicuous consumption) is rather directed toward allies, mates, and competitors, and reflects a *general level* of success (Plourde, 2008). Nevertheless, Plourde (2008) suggests that

both kinds of signaling through the possession or wasteful display of goods are strongly related to each other and tap into the same EPMs that have evolved to assess status.

Finally, the manufacturing of hand axes by hominids has been discussed as an extended phenotype, too (Kohn & Mithen, 1999; Mithen, 2003). Given that it requires excellent manual skills, highly visual and spatial thinking, intelligence, and strategic planning to produce a hand axe, particular symmetrical hand axes may honestly advertises their manufacturer's biological fitness and mate (Kohn & Mithen, 1999; Mithen, 2003).

2.3.9 Conspicuous consumption, mate attraction, and intrasexual competition

Being one form of an extended phenotype, conspicuous consumption appears to provide information on a man's status, biological fitness, and mate quality (Dunham, 2011; Miller, 2009; Saad, 2007, 2013). In line with this, women perceive men who display conspicuous consumption and those who own status products as more attractive mates. This effect has been demonstrated for prestigious cars (Dunn & Searle, 2010; Guéguen & Lamy, 2012; Shuler & McCord, 2010; Sundie et al., 2011), luxury apartments (Dunn & Hill, 2014), and clothing (Townsend & Levy, 1990). On the other hand, mating cues trigger male conspicuous consumption and displays of wealth. When mating motives are activated (e.g., through romantic short-stories, pictures of sexy women, or a sexily dressed experimenter), men report a greater desire to earn money (Roney, 2003), are more willing to purchase conspicuous status products (Griskevicius et al., 2007), and even show an enhanced memory for status products (Janssens et al., 2011). Moreover, a recent study by Chan (2015) revealed that men are likely to engage in financial risk-taking to accrue resources when they are faced with same-sex competitors who are more attractive than they are, to increase their desirability as a mate and compensate for their own lack of physical attractiveness.

Sundie et al. (2011) proposed that male conspicuous consumption has specifically evolved as part of a signaling system with a focus on short-term mating. In a series of four experiments, the authors showed that men who pursued a short-term mating strategy displayed conspicuous consumption only when short-term mating motives were activated. In contrast, when long-term mating motives were elicited, these men did not engage in conspicuous consumption. Neither did men who rather followed a long-term mating strategy, irrespective of whether short-term or long-term mating goals were activated, nor did women. Moreover, women rated a man who displayed conspicuous consumption as a more desirable mate and perceived him as being more interested in short-term mating relative to a man who did not engage in conspicuous consumption. Drawing on these findings, Sundie et al. (2011) argue that male conspicuous consumption functions as a costly signal (Grafen, 1990; Zahavi, 1975) that particularly indicates a man's quality as a short-term mate and his orientation toward short-term mating. Conspicuous consumption is further related to a man's willingness to provide the woman with immediate resources (Sundie et al., 2011). Providing immediate resources is considered one of the most effective strategies for men to attract women in a short-term mating context (Schmitt & Buss,

1996) and women explicitly seek tangible resources in uncommitted sexual relationships (Greiling & Buss, 2000).

Conspicuous consumption in intrasexual competition. Conspicuous consumption of luxuries may provide benefits not only in mate attraction but also in intrasexual competition. Recent research by Hudders et al. (2014) showed that women increasingly desired appearance-enhancing luxury products (e.g., a dress) to promote themselves in a same-sex competition context. In contrast, a same-sex competition context did not trigger their desire for products that do not boost physical attractiveness (e.g., a smartphone). The findings of Hudders et al. (2014) further showed that women attributed traits associated with the pursuit of a short-term mating strategy (i.e., interest in flirts, sexiness, and infidelity) to another woman who consumed luxury products. These results point at the benefits female conspicuous consumption may have in same-sex competition. Wang and Griskevicius (2014) provided further evidence for an adaptive function of women's conspicuous consumption in intrasexual competition. The authors found that women were more likely to conspicuously spend money on luxuries (e.g., handbags, t-shirts, cars, shoes) when a mate-guarding motive was activated. Moreover, women perceived a man as more devoted to his romantic partner, when the luxuries she wore were purchased by him and were thus less likely to poach him (Wang & Griskevicius, 2014).

It is possible that conspicuous consumption also has an adaptive function in male-male competition, such as displaying a man's biological fitness and mate quality to same-sex competitors and therewith facilitating access to females. In line with this, in the animal kingdom, there is numerous evidence for costly signals that serve a function in both male-male competition and female mate choice. For instance, Berglund et al. (1996) argue that many male handicaps have originally evolved through intrasexual competition to signal biological fitness and fighting ability to rivals. These male handicaps are reliable fitness indicators, as they are constantly challenged in male-male competition so that faking them is hardly possible. Females then use the handicaps as cues in mate choice to select a mate of high mate quality (Berglund et al., 1996). In this sense, male conspicuous consumption could have been also shaped by intrasexual selection pressures. Apicella et al. (2008) argue that male preferences for financial risk taking may be a form of male-male competition, as men with greater financial resources are offered more mating opportunities so that displaying this behavior has an adaptive value. Moreover, a recent research of Hennighausen and colleagues (Hennighausen et al., 2016; Hennighausen & Lange, 2016) revealed that men considered another man who displays conspicuous consumption as a stronger rival and mate poacher, and were less willing to become friends with him. Men also perceived him as more interested in short-term mating and assigned a high mate value to him on the dimensions attractiveness, sexual willingness, intelligence, ambition, and status. These findings suggest that male conspicuous consumption, which indicates biological fitness and mate quality, could be also directed to same-sex competitors with the goal to deter them and to increase access to females. In a similar vein, A. P. Buunk, Pollet, Dijkstra, and Massar (2011) argue

that intrasexual competition as encountered in an occupational context could trigger male conspicuous consumption, which functions as a status display directed to other men.

2.3.10 Costly signaling with mobile devices

Besides sports cars, brand clothing, and expensive accessories, mobile devices may function as indicators of economic resources and status, too. As outlined earlier (see 2.2.3), mobile phones and smartphones are portable and conspicuous devices, which are thus suitable for displaying conspicuous consumption (Acikalin et al., 2009; Gierl & Huettl, 2010). Accordingly, individuals report purchasing and using mobile devices to boost their status among peers and to create a desirable social image (e.g., Kwon & Chidambaram, 2000; S. Y. Lee, 2014; Müller-Lietzkow et al., 2014; Özcan & Koçak, 2003; Peters & Allouch, 2005; Vanden Abeele et al., 2014). Moreover, smartphone brand affects consumer purchase decisions (e.g., Liu & Liang, 2014; Müller-Lietzkow et al., 2014; Suki, 2013; Wijaya, 2013), and, in particular, expensive smartphones from luxury brands are discussed as status symbols (Lane, 2015; Müller-Lietzkow et al., 2014; Roy, 2014). Building on these findings, the purchase and ownership of conspicuous luxury brand smartphones might function as a costly signal (Grafen, 1990; Zahavi, 1975) providing cues to a man's mate quality. Smartphones vary largely in their prices and may cost up to $2000 (Prigg, 2015) so that owning such a device indicates economic resources and status. Indeed, current numbers suggest that owners of luxury brand smartphones have higher incomes than those who own non-luxury brand devices (Chitika Inc., 2015; Lella, 2014). Moreover, a man's willingness to purchase an expensive luxury brand smartphone could be facilitated by an inclination toward financial risk taking behavior, which is related to testosterone levels and might thus indicate biological fitness (Apicella et al., 2008).

It could be argued, however, that conspicuous luxury brand smartphones are cheaper and therefore more easily to afford than luxury brand cars, for instance, so that smartphones might be a less reliable indicator of mate quality. It could be further objected that mobile phone providers often offer the possibility of paying the retail price of a smartphone in installments over time. Nevertheless, in the end, individuals have to come up with the whole sum for the smartphone. It could be also argued that mobile phone operators have special offers for individuals who make a contract or renew their old contract in such a way that they provide their customers with luxury brand smartphones at a cheaper price. Nevertheless, these contracts often include higher basis contractual costs so that purchasing and owning a conspicuous luxury brand smartphone may either way indicate financial resources and therewith status. Finally, corroborating the status signaling function of smartphones, it could be argued that they are even better suited to ubiquitously display one's status than a luxury car given that smartphones are easily portable so that they can be displayed almost everywhere. In contrast, the signaling function of a luxury car might be rather limited to specific places, such as the parking or in front of one's apartment.

Supporting the function of expensive and conspicuous mobile devices as signals of status and mate quality, research suggests that men are more willing to purchase them in a mate attraction context relative to a neutral context (Griskevicius et al., 2007; Janssens et al., 2011; Sundie et al., 2011). These studies, however, have used sets of different products when investigating male conspicuous consumption in mate attraction. As a result, these studies provide no information on the relative extent to which men purchase and display conspicuous mobile devices in mate attraction.

To the author's best knowledge, there are only very few studies directly examining the function of mobile devices to advertise status and biological fitness to mates and same-sex competitors. In a field study, Lycett and Dunbar (2000) examined men's displays of their cell phones as indicators of status. Observing men's behavior in bars, the authors found that men were more likely to conspicuously display their mobile phones with increasing male-to-female ratio. Drawing on these results, Lycett and Dunbar (2000) suggested that men might display their mobile phones as part of a lekking behavior, in which they show off their financial resources and status, with the aim to impress women and distinguish themselves from their rivals. In a more recent research, Hennighausen and Schwab (2014) investigated how relationship status and mating strategy influenced purchase intentions of smartphones. Their results revealed that men who were unmated and oriented toward short-term mating reported higher purchase intentions for a conspicuous and high-status smartphone from a luxury brand. In contrast, this relationship was neither found for mated men nor women, suggesting that unmated men who pursue a short-term mating strategy could use conspicuous smartphones to display their qualities as a short-term mate. Hennighausen and Schwab (2014) further found that, when individual mating strategy was not considered, unmated men were more willing to purchase a nonconspicuous, low-status smartphone. Drawing on these findings, the authors proposed that men might not only engage in conspicuous consumption of smartphones to indicate their desirability as a short-term mate but might also select nonconspicuous and cheaper devices to attract a long-term mate by signaling their willingness to save resources.

2.3.11 Further characteristics indicating mate quality

Besides conspicuous consumption, there are various other characteristics and behaviors that impose a handicap on the individual and hence indicate biological fitness and mate quality. One well-researched trait is physical attractiveness. Studies investigating which body shape and facial features are perceived as attractive suggest that these preferences have evolved as adaptations in the course of human evolution (Gangestad & Scheyd, 2005). In line with this, studies suggest an ultimate benefit of physical attractiveness for an individual's survival and reproduction (e.g., Little et al., 2011). More attractive individuals are favored and more positively treated (e.g., Zhang, Kong, Zhong, & Kou, 2014) and benefit from their physical appearance in many life domains, such as higher salaries or better evaluations of academic performance (for a meta-analytic review, see Langlois et al., 2000).

Facial attractiveness. Faces appear to be particularly suited to indicate biological fitness and mate quality because they convey rich information on an individual's health condition (Ryan, Oaten, Stevenson, & Case, 2012), developmental stability (e.g., Gangestad, Thornhill, & Yeo, 1994; Thornhill & Gangestad, 2006), genetic quality, and reproductive capacity (for reviews, see Gangestad & Scheyd, 2005; Grammer, Fink, Møller, & Thornhill, 2003; Thornhill & Gangestad, 1999). Moreover, attractiveness perceptions seem to be innate, as even infants show a preference for attractive over unattractive faces (Boothroyd, Meins, Vukovic, & Burt, 2014; Griffey & Little, 2014; Slater et al., 1998). Research has identified different facial characteristics that signal biological fitness and are thus perceived as particularly attractive: symmetry, averageness, and sexual dimorphism (Rhodes, 2006; for reviews, see Gangestad & Scheyd, 2005; Little et al., 2011;).

Facial symmetry. Facial symmetry refers to the extent to which both halves of a face are identical (Little et al., 2011). The amount to which morphological features are symmetrical is influenced by both environmental and genetic factors (Møller & Swaddle, 1997). Under perfect developmental conditions, that is, good health, good nutrition, and good genetic disposition, individuals are able to develop almost symmetrical morphological structures with a low level of fluctuating asymmetry (FA). During development, however, individuals are exposed to harmful environmental factors, such as, diseases, famines, and parasite loads, which lead to deviations from symmetry. Hence, displaying low FA despite being exposed to harmful factors, costly advertises an individual's biological fitness (Pflüger, Oberzaucher, Katina, Holzleitner, & Grammer, 2012; Thornhill & Gangestad, 2006; for reviews, see Gangestad & Simpson, 2000; Gangestad et al., 1994; Grammer & Thornhill, 1994). In line with this, individuals with low FA are highly preferred as mates because mating with them offers direct beneficial effects (e.g., evading infectious diseases and parasites) as well as indirect beneficial effects (e.g., transmitting high quality genes to offspring; Little et al., 2011). Accordingly, a recent meta-analysis showed that women tended to prefer men displaying low FA at peak fertility, specifically in the context of short-term mating (Gildersleeve et al., 2014).

Corroborating the assumption that individuals have evolved a preference for facial symmetry, as this characteristic indicates biological fitness and mate quality, research shows that facial symmetry and attractiveness ratings are positively related (Fink, Neave, Manning, & Grammer, 2006; Grammer & Thornhill, 1994; Jones et al., 2001; Penton-Voak et al., 2001; Scheib, Gangestad, & Thornhill, 1999). However, there are also studies that did not corroborate an association between facial symmetry and attractiveness perceptions (e.g., Langlois & Roggman, 1990) or that even found a negative relationship (Kowner, 1996; Swaddle & Cuthill, 1995). These findings might be the results of rather "crude" symmetry manipulations (Little et al., 2011, p. 1064), such as chimeric faces created by mirroring half faces (e.g., Kowner, 1996). This procedure leads to unnatural proportions, which are more likely to decrease than enhance attractiveness compared with slight natural deviations from symmetry (Perrett et al., 1999; Sobieraj, 2012). Indeed, research using more realistic manipulations of facial symmetry, such as morphing a large set of faces to produce a symmetrical composite face,

revealed a positive link between symmetry and attractiveness (e.g., Little & Jones, 2003; Little & Jones, 2006; Penton-Voak et al., 2001; Watkins, Jones, Little, DeBruine, & Feinberg, 2012; but see Gründl, 2013).

Facial averageness. Facial averageness further affects attractiveness perceptions across cultures (Apicella, Little, & Marlowe, 2007; A. J. Lee et al., 2016; Rhodes, Yoshikawa, et al., 2001; Trujillo, Jankowitsch, & Langlois, 2014). Averageness describes the degree to which the face resembles the majority of the faces in the population (Little et al., 2011). Individuals with rather average faces are more likely to have a diverse set of genes, leading to a higher parasite-resistance and to a lower probability of deleterious genes (Thornhill & Gangestad, 1993). In line with this, the degree of facial averageness positively correlates with health (Rhodes, Zebrowitz, et al., 2001) and with intelligence (Zebrowitz & Rhodes, 2004). As an indicator of mate quality, facial averageness correlates with male and female mating success (Rhodes, Simmons, & Peters, 2005). As average faces are often also more symmetrical, facial averageness and symmetry might be confounded when assessing perceptions of attractiveness. An experiment of Jones, DeBruine, and Little (2007), however, demonstrated that both characteristics independently contribute to perceived attractiveness.

Facial sexual dimorphism. Finally, facial sexual dimorphism influences attractiveness perceptions. Facial sexual dimorphism describes the fact that male and female faces differ in their shape (Little et al., 2011). In puberty, sex hormones influence the growth of facial characteristics so that the shape of facial features resembles hormonal levels during development. For instance, testosterone affects the length of the lower jaw (Scheib et al., 1999; Swaddle & Reierson, 2002), cheek bone prominence (Fink & Penton-Voak, 2002), and facial width-to-height ratio (Lefevre, Lewis, Perrett, & Penke, 2013). High levels of testosterone and low levels of estrogen during pubertal development lead to more masculine facial features, whereas the opposite pattern leads to more feminine facial features (Fink & Penton-Voak, 2002). Similarly, the level of circulating testosterone appears to be positively related to facial masculinity (Penton-Voak & Chen, 2004; Pound, Penton-Voak, & Surridge, 2009). As outlined above (see 2.3.7), high levels of testosterone impose a handicap on the individual (e.g., Furman et al., 2014) so that the degree of facial masculinity indicates biological fitness (but see Scott et al., 2014). In line with this, perceived facial masculinity and health condition are positively correlated (Rhodes, Chan, Zebrowitz, & Simmons, 2003; Thornhill & Gangestad, 2006). Moreover, women in regions with higher pathogen prevalence prefer men with more masculine faces (Penton-Voak, Jacobson, & Trivers, 2004).

Women, however, do not always seek mates who display high facial masculinity. Female preferences for facial masculinity appear to depend on the woman's actual and self-perceived attractiveness with more attractive women preferring men with more masculine faces (Little & Mannion, 2006; Penton-Voak et al., 2003). Other studies suggest that women prefer feminine facial characteristics in men (Cunningham, Barbee, & Pike, 1990; Little & Hancock, 2002; Perrett et al., 1998) or faces of moderate masculinity (Swaddle & Reierson, 2002). Women's variation in their

preferences for facial masculinity might be also explained by individual differences regarding the attraction to masculinity (DeBruine et al., 2006) as well as by genetic differences (Zietsch, Lee, Sherlock, & Jern, 2015). An explanation for these inconsistent findings could be that women are confronted with a trade-off relating to facial masculinity. Men displaying a high degree of facial masculinity might have high-quality genes and good health but might be less warm, less caring, and less interested in investing in a single mate relative to men with lower facial masculinity (Fink & Penton-Voak, 2002).

Hormonal levels also influence the femininity of facial features. High estrogen levels and low testosterone levels lead to the development of feminine facial features, such as high cheekbones, small chins, and full lips, which are considered as particularly attractive in a woman (Cunningham, 1986; Fink & Penton-Voak, 2002; Little, Jones, Feinberg, & Perrett, 2014; Marcinkowska et al., 2014; Perrett et al., 1998). Moreover, high levels of estrogen and low levels of testosterone relate to female fertility so that feminine facial features provide cues to a woman's reproductive capacity (Thornhill & Gangestad, 1993).

Social dominance. Male social dominance is another trait that honestly indicates biological fitness and mate quality. As described above (see 2.3.7), male social dominance is positively related to testosterone levels (Eisenegger, Haushofer, & Fehr, 2011; Kirby, 2014) so that high social dominance imposes a handicap on the individual. Moreover, social dominance contributes to attaining and maintaining resources and status (Cheng & Tracy, 2013; Cheng, Tracy, Foulsham, Kingstone, & Henrich, 2013). Accordingly, displaying social dominance increases a man's sexual attractiveness (Sadalla, Kenrick, & Vershure, 1987), positively relates to the number of sexual partners in men (A. K. Hill et al., 2013), and enhances male mating success (Slatcher, Mehta, & Josephs, 2011). At peak fertility, women prefer the odor of socially dominant men (Havlicek, Roberts, & Flegr, 2005) as well as those men who display intrasexual competitiveness (Gangestad et al., 2007; Gangestad et al., 2004; for a recent meta-analysis see Gildersleeve et al., 2014). Moreover, research using a speed dating setting demonstrated that women favored a socially dominant man as a short-term but not as a long-term mate (Valentine, Li, Penke, & Perrett, 2014). Similar results were obtained by Kruger and Fitzgerald (2011) who found that both men and women rated a high-dominance man as a more attractive to women for a brief sexual affair, whereas a high-prestige man was perceived as desirable for both short-term and long-term mating. Nevertheless, women also seek male social dominance in a long-term mating context given that a more socially dominant man is more likely to accrue resources and more able to protect the woman and her offspring (Bryan, Webster, & Mahaffey, 2011). For instance, women report a higher relationship satisfaction and find their long-term partner more attractive when he displays higher levels of social dominance (Bryan et al., 2011).

In summary, women appear to be attracted to socially dominant men because these men provide them with benefits in both a short-term mating (i.e., "good genes", provision with immediate resources due to priority access to resources; Greiling & Buss, 2000; Slatcher et al., 2011) and long-term mating

context (e.g., providing protection and long-term resources for the women and her offspring; Bryan et al., 2011; Coy, Green, & Price, 2014; Mueller & Mazur, 1997). However, as for facial attractiveness (see above), it is likely that women face a trade-off when selecting mates for social dominance. Although socially dominant men may provide genetic benefits, high levels of social dominance may be also detrimental to cooperation in child rearing and can become even dangerous for the woman and her offspring (Date & Ronan, 2000; Hindin, 2000; Straus, 2004). As social dominance provides men with large benefits relating to survival and reproduction, men are especially jealous of a rival's social dominance (A. P. Buunk & Dijkstra, 2004; Dijkstra & Buunk, 1998; Dijkstra & Buunk, 2002) and the greater access to resources associated therewith (DelPriore, Hill, & Buss, 2012).

2.3.12 Summary

In this section, the status enhancing and signaling functions of mobile devices have been elucidated from an evolutionary psychological perspective. This perspective allows gaining a more profound understanding of status and of its ultimate functions with regard to survival and reproduction (Bischof, 1985; Griskevicius & Kenrick, 2013; Kenrick, Griskevicius, et al., 2010; Kenrick, Neuberg, et al., 2010). Building on handicap principle (Zahavi, 1975) and costly signaling theory (Grafen, 1990), male conspicuous consumption and men's displays of status products have been discussed as advertisements of biological fitness and mate quality directed to potential mates and same-sex competitors. In line with this reasoning, the argument was developed that purchasing and owning conspicuous luxury brand smartphones could provide cues to a man's financial resources, status, and mate quality. Hence, owning such a device could yield benefits for men in mating, specifically in a short-term mating context. This could, at least partially, explain why conspicuous luxury brand smartphones are discussed as the new status symbol (Lane, 2015; Lasco, 2015; Roy, 2014). Finally, two further characteristics that honestly indicate male mate quality, namely facial attractiveness and social dominance, were introduced. Assuming that male conspicuous consumption of smartphones advertises biological fitness and mate quality to mates and same-sex competitors, it is of interest whether the benefits this behavior has for men differ with the man's level of facial attractiveness and social dominance.

2.4 Research questions

The work at hands aimed to answer three major research questions. Addressing the function of mobile devices as indicators of status and mate quality, the first research question (RQ) was:

RQ_1: Does owning a conspicuous smartphone influence perceptions of a man as a mate and same-sex competitor?

Moreover, as no study has examined how facial attractiveness and social dominance interact with conspicuous consumption and affect evaluations of a man's mate quality, the second and the third research questions were:

RQ_2: Does owning a conspicuous smartphone influence perceptions of a man as a mate and same-sex competitor differently depending on the man's facial attractiveness?

RQ_3: Does owning a conspicuous smartphone influence perceptions of a man as a mate and same-sex competitor differently depending on the man's social dominance?

In the following sections, these RQs will be explored in three experimental studies.

3 Study 1: Perceptions of a man depending on the type of smartphone the man owns and his facial attractiveness (I)

3.1 Hypotheses

Study 1 aimed to answer RQ_1 (Does owning a conspicuous smartphone influence perceptions of a man as a mate and same-sex competitor?) and RQ_2 (Does owning a conspicuous smartphone influence perceptions of a man as a mate and same-sex competitor differently depending on the man's facial attractiveness?). As outlined earlier (see 2.3.8 and 2.3.9), male conspicuous consumption functions as a handicap (Zahavi, 1975) indicating a man's mate quality, specifically in a short-term mating context (Buss & Schmitt, 1993; Greiling & Buss, 2000; Sundie et al., 2011). In line with this, men who display conspicuous consumption appear to be particularly inclined toward the pursuit of a short-term mating strategy and are perceived as such (Sundie et al., 2011).

On the other hand, women seek long-term mates who provide cues to resource acquisition ability, future resources (e.g., intelligence, ambition; Buss, 1989; Li et al., 2002), and the willingness to invest the resources in the woman and her offspring (Buss & Schmitt, 1993). Accordingly, men judge the display of resource acquisition ability and the willingness to provide the woman with resources in the long term as most effective to attract a woman in a long-term mating context (Schmitt & Buss, 1996). Thus, the following hypotheses were stated:

H_1: Men and women will perceive a man who owns a conspicuous smartphone as a more desirable short-term mate than a man who owns a nonconspicuous smartphone.

H_2: Men and women will perceive a man who owns a conspicuous smartphone as a less desirable long-term mate than a man who owns a nonconspicuous smartphone.

H_3: Men and women will perceive a man who owns a conspicuous smartphone as more inclined toward short-term mating than a man who owns a nonconspicuous smartphone.

To extend previous research on conspicuous consumption as part of a sexual signaling system, Study 1 aimed to examine whether male conspicuous consumption would influence perceptions of a man as a mate and same-sex competitor differently depending on the man's facial attractiveness (RQ_2). As described above (see 2.3.11), facial attractiveness honestly indicates a man's biological fitness and mate quality (e.g., Gangestad & Scheyd, 2005; Little et al., 2011). Women favor men with higher facial attractiveness particularly in a short-term mating context (e.g., Gangestad et al., 2007; Gangestad & Simpson, 2000; Little et al., 2011; Valentine et al., 2014) so that these men have a larger number of mating opportunities (e.g., Valentine et al., 2014), and are more likely to pursue a short-term mating strategy and to engage in extra-pair mating (Gangestad & Thornhill, 1997; Simpson & Gangestad, 1992; Waynforth, 1998). Recent research showed that men were more willing to take

financial risks when faced with a rival who was more attractive than themselves, to enhance their desirability as a mate (Chan, 2015). Hence, male conspicuous consumption of smartphones could compensate for a lack of attractiveness and increase a less attractive man's desirability as a short-term mate. It is also possible that a more attractive man benefits from conspicuous consumption of smartphones leading to a further increase in his desirability as a short-term mate. As no previous research has investigated the effects of male conspicuous consumption on perceptions of a man's desirability as a mate and perceived mating strategy as a function of man facial attractiveness, this was included as a research question.

3.2 Method

3.2.1 Participants

Participants were recruited via university mailing lists, online local advertisements, and social networking sites. A total of 440 German-speaking participants completed the web-based questionnaire. Participants who reported that they had seen the male target before or knew him (see below) were excluded from analyses (n = 12). Moreover, 15 participants had to be excluded because their data had not been recorded properly due to system failures. Participants stating to have a homosexual orientation were omitted as well (n = 24), given that mate preferences and mating psychology of homosexuals and heterosexuals have been shown to differ (Gobrogge et al., 2007; Kenrick, Keefe, Bryan, Barr, & Brown, 1995).

The final sample included 389 participants (52.4% women) aged between 16 and 56 (M_{age} = 24.9 years, SD = 5.5, Md = 24). Almost all (95.6%) reported a heterosexual orientation; 4.4% indicated a bisexual orientation. Most participants (92.8%) were highly educated (i.e., university entrance certificate or university degree). The remaining participants had left school with less than thirteen years of formal education. About two-thirds (68.4%) of the participants were undergraduate students enrolled in different degree programs (e.g., psychology, social work, medicine, biology), followed by employees (17.2%), self-employed and apprentices (both 3.1%), school students (2.3%), unemployed (2.1%), and other (3.9%). Almost half of the participants (45.0%) reported a net monthly income of less than €500, 29.3% reported a net monthly income between €500 and €1000, and 25.7% indicated a net monthly income of more than €1000. More than half of the participants (56.0%) were in a committed long-term relationship of whom 7.2% were in a civil partnership or married. More than a third (36.2%) were single and 7.7% indicated to be in an uncommitted sexual relationship (e.g., liaison, love affair). Most participants owned Samsung (33.2%) and Apple (23.7%) smartphones. About a tenth of the participants (11.1%) did not own a smartphone. Participants were gratified by taking part in a drawing of vouchers.

3.2.2 Design and statistical analyses

Study 1 followed a 2 (smartphone type: conspicuous vs. nonconspicuous) x 2 (facial attractiveness: higher vs. lower) x 2 (participant sex: male vs. female) between-subjects design.

Prior to performing statistical analyses, test assumptions were checked. As parametric tests were employed, data were tested for outliers using boxplots and Cook's distance, and for normality using P-P plots and the Shapiro-Wilk test. Additivity, linearity, homogeneity of variance, and independence of observations were tested using diagnostic plots of estimated residuals. Homogeneity was additionally tested using Levene's test (Field, 2013). When repeated measures or mixed ANOVA was employed, the assumption of sphericity was checked using Mauchly's test (Field, 2013). Whenever the assumption of sphericity was violated, either the Huynth-Feldt correction (for a Greenhouse-Geisser estimate of sphericity $\varepsilon > .75$) or the Greenhouse-Geisser correction (for a Greenhouse-Geisser estimate of sphericity $\varepsilon < .75$) was applied to adjust the degrees of freedom for the *F*-statistics (Field, 2013). All test assumptions were met, unless otherwise reported. Violations of homogeneity of variance were frequently observed for the ANOVAs carried out in this doctoral dissertation. However, ANOVA can be considered robust against this violation when cell sizes are roughly equal (Eid, Gollwitzer, & Schmitt, 2010; Hussy & Jain, 2002). This applied to all statistical analyses of the current research so that ANOVAs were employed, although the assumption of homogeneity of variance was not met.

For reasons of clarity and brevity, violations of the normal distribution are only reported for sample sizes with less than 30 cases. Otherwise, for non-normally distributed samples with $N \geq 30$, the central limit theorem holds and a normal distribution can be assumed (Backhaus, Erichson, Plinke, & Weiber, 2011). Moreover, when describing effects of factorial or mixed ANOVA, estimated marginal means and their standard deviations are reported instead of descriptive means, as *F*-ratio calculations rely on the estimated marginal means when cell sizes slightly differ (which was the case for all pre-ratings and main studies). Means and standard deviations for every ANOVA are reported in the Appendices and referred to at the appropriate position in the text. All statistical analyses were conducted using IBM SPSS (version 23.0). An alpha level of .05 was set for all statistical tests, unless otherwise reported. Effect sizes are classified according to Cohen (1988).

3.2.3 Materials

Smartphone stimuli. To identify current smartphone models varying in conspicuousness and status, a pre-rating was carried out in May 2013. Eleven current smartphone models were selected from popularity ratings and sales figures (Huch, 2013; Nixon, 2014). The pre-rating included the following devices (in alphabetical order): Apple iPhone 4s, Apple iPhone 5, HTC One X+, LG Optimus 4X, Nokia Lumia 720, RIM BlackBerry Bold 9900, Samsung Galaxy Ace 2, Samsung Galaxy Note II, Samsung Galaxy S4, Samsung Galaxy S3, Sony Xperia Z (see Appendix A, Figure A1 to Figure A11).

Smartphones were pre-rated by an independent sample of 106 participants (60.4% women) aged between 17 and 30 (M_{age} = 21.8 years, *SD* = 2.3, *Md* = 21). The majority (96.2%) held at least a university entrance certificate and most participants (86.8%) were enrolled as university students. More than the half of the participants (55.6%) reported a net monthly income of less than €500, followed by 27.4% who indicated a net monthly income of more than €500. More than a sixth (17.0%) declined to provide information on their income.

Participants pre-rated the smartphones on conspicuousness ("To which extent is this smartphone used for conspicuous consumption?"), status ("To which extent do you associate status with this smartphone?"), and their suitability to show off ("How flashy and showy do you perceive this smartphone to be?"). In addition, participants rated the smartphones on desirability ("How desirable is it to own this smartphone?"). To ensure appropriate ratings, participants were provided with the following definition of conspicuous consumption derived from Veblen (1899): "Conspicuously consuming money, referred to as conspicuous consumption, aims to show others what you can afford to purchase. Specifically, individuals purchase conspicuous products and services to enhance their (social) status and to impress others. Conspicuous consumption can thus be considered as one form of imposing behavior by means of status symbols." All answers were given on 7-point Likert-type scales (1 = *not at all* to 7 = *very much*). To rule out possible sequence effects, smartphone stimuli were presented in a random order. See Appendix B for the questionnaire of the pre-rating.

Mixed ANOVAs with smartphone model as within-subjects factor and participant sex as between-subjects factor were performed. Conspicuousness, status, desirability, and show off ratings served as dependent variables (DVs). Mauchly's tests indicated that the assumption of sphericity was violated for all DVs, χ^2s$_{(54)} \geq 158.82$, *p*s $< .001$; thus degrees of freedom for the *F*-statistics were corrected. Levene's tests further suggested that the assumption of homogeneity of variance was violated for the desirability and show off ratings of the Sony Xperia Z and for the show-off ratings of the Apple iPhone 4s, *Levene's F*s$_{(1, 104)} \geq 4.66$, *p*s $\leq .033$.

Effects of smartphone model were significant for ratings of conspicuousness, $F_{(8.54, 887.85)} = 80.49$, $p < .001$, $\eta_p^2 = .436$, status, $F_{(7.73, 804.04)} = 49.90$, $p < .001$, $\eta_p^2 = .324$, show off, $F_{(8.34, 873.51)} = 60.63$, $p < .001$, $\eta_p^2 = .368$, and desirability, $F_{(6.20, 644.36)} = 15.18$, $p < .001$, $\eta_p^2 = .127$. Main effects of participant sex were non-significant, *F*s$_{(1, 104)} \leq 2.71$, *p*s $\geq .103$, η_p^2s $\leq .025$. The interaction between smartphone type and participant sex reached significance for show off ratings, $F_{(8.34, 873.51)} = 2.21$, $p = .023$, $\eta_p^2 = .021$. For the other DVs, interaction effects were non-significant, *F*s ≤ 1.50, *p*s $\geq .146$, η_p^2s $\leq .014$.

To further examine the significant interaction, simple effects analyses were employed (Field, 2013). Results showed that both male, $F_{(10, 95)} = 25.02$, $p < .001$, $\eta_p^2 = .724$, and female participants, $F_{(10, 95)} = 41.16$, $p < .001$, $\eta_p^2 = .812$, rated the smartphones as differently suitable for showing off. Moreover, female participants rated the RIM BlackBerry Bold 9900 as showier ($M = 3.84$, $SD = 1.60$) than male participants ($M = 2.93$, $SD = 1.45$, $F_{(1, 104)} = 8.93$, $p = .003$, $\eta_p^2 = .079$, $d = 0.59$). Female

participants further tended to rate the Nokia Lumia 720 as showier (M = 3.48, SD = 1.58) than male participants (M = 2.90, SD = 1.48), $F_{(1, 104)} = 8.52$, $p = .061$, $\eta_p^2 = .075$, $d = 0.57$. No significant sex differences were observed for ratings of the other smartphones ($ps \geq .112$). See Appendix F, Table F1 to Table F4 for the descriptive statistics.

Based on the means and standard deviations (Table 4), the highest-ranking smartphone (Apple iPhone 5) and the lowest-ranking smartphone (Samsung Galaxy Ace 2) were selected. Paired-samples *t*-tests confirmed that participants rated the Apple iPhone 5 as more indicative of conspicuous consumption, $t_{(105)} = 18.68$, $p < .001$, $d = 1.81$, and ranked it higher on status, $t_{(105)} = 13.22$, $p < .001$, $d = 1.28$, the suitability to show off, $t_{(105)} = 17.72$, $p < .001$, $d = 1.72$, and desirability, $t_{(105)} = 6.45$, $p < .001$, $d = 0.63$, than the Samsung Galaxy Ace 2. The Apple iPhone 5 is hereafter referred to as conspicuous smartphone and the Samsung Galaxy Ace 2 as nonconspicuous smartphone.

Table 4. Means and Standard Deviations of Smartphone Conspicuousness, Status, Suitability to Show Off, and Desirability (Pre-rating, Study 1)

Smartphone model	Conspicuousness		Status		Show off		Desirability		Price[1]
	M	*SD*	*M*	*SD*	*M*	*M*	*M*	*SD*	
Apple iPhone 4s	5.86	1.48	5.25	1.77	5.51	1.58	4.17	1.95	€629
Apple iPhone5	**6.10**	**1.38**	**5.50**	**1.90**	**5.80**	**1.49**	**4.36**	**2.10**	**€679**
HTC One X+	3.33	1.34	3.21	1.50	3.23	1.38	3.24	1.50	€599
LG Optimus 4X	2.86	1.28	2.63	1.36	2.78	1.30	2.74	1.35	€500
Nokia Lumia 720	3.48	1.68	3.07	1.56	3.25	1.56	2.90	1.60	€379
RIM BlackBerry Bold 9900	3.75	1.58	3.83	1.78	3.48	1.60	2.94	1.66	€550
Samsung Galaxy Ace 2	**2.61**	**1.29**	**2.61**	**1.36**	**2.57**	**1.35**	**2.78**	**1.47**	**€379**
Samsung Galaxy Note II	3.99	1.46	3.76	1.56	3.77	1.65	3.58	1.77	€699
Samsung Galaxy S4	4.05	1.47	3.88	1.65	3.77	1.52	4.01	1.77	€749
Samsung Galaxy S3	3.98	1.63	3.56	1.78	3.60	1.72	3.76	1.72	€729
Sony Xperia Z	3.89	1.50	3.54	1.65	3.75	1.58	3.46	1.75	€499

Note. N = 106. Smartphones selected as stimuli in the main study are shown in bold letters. Answers were given on 7-point Likert-type scales. [1]Prices represent introductory retail prices.

Male target models. A pre-rating was conducted to identify two male target models who differed in facial attractiveness. The pre-rating involving female participants included ten photographs depicting Caucasian men in their early twenties (see Appendix C, Figure C1 to Figure C10). The pre-rating involving male participants was carried out after the pre-rating involving female participants. Thus, it only included the male target models that had been selected based on female pre-ratings.

Male target models were recruited as part of an undergraduate research seminar. Each recruited male target model provided written consent that he agreed to the use of his photograph for scientific research and received a compensation of €12. Photographs were taken under standardized lighting conditions and displayed the male target's head and part of his shoulders in front of a neutral, white

background. Male targets were instructed to pose with a neutral facial expression, given that smiling has been shown to enhance attractiveness (Reis et al., 1990).

An independent sample of 178 participants completed the pre-rating. Participants who reported a homosexual orientation (n = 4) and those who had at least seen one of the male targets before (n = 17) were excluded. The final sample comprised 157 participants (47.1% women) between the ages 18 and 67 (M_{age} = 25.4 years, SD = 7.5, Md = 24). Almost all participants (96.2%) indicated a heterosexual orientation; the remaining proportion were bisexual (3.8%). Most participants (89.8%) were highly educated (university entrance certificate or university degree), and about two thirds of them (66.2%) were enrolled as university students.

Participants pre-rated male target models on their facial attractiveness and their desirability as a short-term and long-term mate. Male participants gave attractiveness ratings from their own perspective ("I find the depicted man very unattractive/very attractive") as well as from a female perspective ("Women find the depicted man very unattractive/very attractive"). Male participants further rated the male target's desirability as a long-term and short-term mate from a female perspective ("Women could imagine being in an uncommitted sexual relationship with the depicted man"; "Women could imagine being in a committed long-term relationship with the depicted man"). Female participants provided ratings from their own perspective ("I find the depicted man very unattractive/very attractive", "I could imagine being in an uncommitted sexual relationship with the depicted man", "I could imagine being in a committed long-term relationship with the depicted man"). Answers were given on visual analogue scales (attractiveness: 1 = *very unattractive* to 101 = *very attractive*; desirability as a short-term/long-term mate: 1 = *not at all* to 101 = *very likely*). Female participants were asked to provide the ratings irrespective of their current relationship status. It was further assessed whether participants had seen one the male targets before or knew one of them. Photographs of the male target models were presented in a random order to avoid sequence effects. At the end of the questionnaire, female participants provided information on their ovulatory cycle using the modified backward method (Schwarz & Hassebrauck, 2006)[3], as research suggests that women's perceptions of a man's attractiveness and desirability as a mate can be affected by ovulatory cycle (Gangestad et al., 2007; Gildersleeve et al., 2014). See Appendix D for the questionnaire of the pre-rating.

Repeated measures ANOVAs were employed with the ratings of attractiveness, desirability as a short-term mate, and long-term mate as DVs[4]. Male target model served as within-subjects factor. Mauchly's tests indicated that the assumption of sphericity was violated for all DVs, $\chi^2 s_{(44)} \geq 74.20$, $ps \leq .001$. Hence, degrees of freedom were adjusted. Effects of male target model were significant for attractiveness ratings, $F_{(8.23,\ 601.03)} = 14.83$, $p < .001$, $\eta_p^2 = .169$, and ratings of the male targets' desirability as a short-term, $F_{(7.52,\ 548.73)} = 12.64$, $p < .001$, $\eta_p^2 = .148$, and long-term mate, $F_{(7.88,\ 574.85)} = 9.04$, $p < .001$, $\eta_p^2 = .110$. Descriptive statistics (Table 5) suggested that male target

[3] An exploratory analysis did not reveal any cycle effects on female perceptions of the male target models.
[4] These analyses were performed for female participants only, as they gave ratings for all ten male target models.

model 2 ranked lowest, whereas male target model 5 ranked highest. After the pre-rating, however, it turned out that both men were likely to be popular in the area in which the research was conducted (e.g., one of them was a member in a local student band). Thus, the decision was taken to select the male target models who ranked second lowest (target model 3) and second highest (target model 7) as stimuli for the main study. Paired-samples *t*-tests corroborated that female participants perceived the two selected male target models as differently attractive, $t_{(73)} = 6.25$, $p < .001$, $d = 0.73$, as well as differently desirable short-term, $t_{(73)} = 5.54$, $p < .001$, $d = 0.64$, and long-term mates, $t_{(73)} = 5.84$, $p < .001$, $d = 0.68$. Similarly, male participants rated male target model 7 higher on attractiveness both from their own perspective ($M_{\text{model7}} = 46.47$, $SD = 21.29$ vs. $M_{\text{model3}} = 35.48$, $SD = 18.03$), $t_{(82)} = 4.65$, $p < .001$, $d = 0.51$, as well as from a female perspective ($M_{\text{model7}} = 58.05$, $SD = 16.80$ vs. $M_{\text{model3}} = 48.08$, $SD = 18.85$), $t_{(82)} = 3.44$, $p = .001$, $d = 0.38$. Moreover, male participants judged male target model 7 as a more desirable long-term mate for women ($M = 62.72$, $SD = 19.15$) than male target model 3 ($M = 57.13$, $SD = 21.74$), $t_{(82)} = 2.10$, $p = .038$, $d = 0.23$, whereas male participants considered both male targets as equally desirable short-term mates for women, ($M_{\text{model7}} = 49.92$, $SD = 24.69$ vs. $M_{\text{model3}} = 45.66$, $SD = 22.61$), $t_{(82)} = 1.12$, $p = .268$, $d = 0.12$. Finally, there were sex differences in the ratings. Male participants perceived both male targets as more attractive, $ts_{(155)} \geq 4.12$, $ps < .001$, $ds \geq 0.65$, and as more desirable short-term, $ts_{(155)} \geq 3.93$, $ps < .001$, $ds \geq 0.63$, and long-term mates from a female perspective, $ts_{(155)} \geq 9.84$, $ps < .001$, $ds \geq 1.57$, compared to the ratings female participants actually provided.

Table 5. Means and Standard Deviations of the Male Target Models' Attractiveness and their Desirability as a Short-Term and Long-Term Mate (Pre-rating, Study 1)

	Attractiveness		Desirability as a short-term mate		Desirability as a long-term mate	
	M	*SD*	*M*	*SD*	*M*	*SD*
Male target model 1	34.49	23.04	26.64	29.92	19.81	23.67
Male target model 2	21.31	18.72	7.78	12.87	9.32	13.19
Male target model 3	**27.81**	**20.93**	**13.86**	**19.07**	**12.62**	**17.26**
Male target model 4	28.11	19.76	14.70	19.07	20.05	24.01
Male target model 5	49.24	23.27	35.07	29.57	31.43	26.48
Male target model 6	36.09	21.60	21.99	24.99	21.30	23.34
Male target model 7	**45.57**	**21.09**	**33.41**	**27.91**	**28.05**	**24.34**
Male target model 8	30.49	22.19	18.62	23.24	17.82	22.63
Male target model 9	37.36	22.23	23.30	26.52	27.62	26.63
Male target model 10	32.59	23.34	20.34	24.09	23.69	25.50

Note. $N = 74$ women. Male target models selected as stimuli for the main study are shown in bold letters. Answers were given on visual analogue scales (range: 1 to 100).

To summarize, the results of the pre-ratings indicated that the selected male target models were perceived as differently attractive and as differently desirable short-term and long-term mates. Male target model 7 is hereafter referred to as more attractive male model target and male target model 3 is referred to as less attractive male target model. For the experimental manipulation, the images of the two selected smartphones were pasted next to the male targets' heads (Figure 5 and Figure 6).

Figure 5. More Attractive Male Target Depicted as Owner of the Conspicuous Smartphone[5]

Figure 6. Less Attractive Male Target Depicted as Owner of the Nonconspicuous Smartphone[5]

3.2.4 Procedure

Study 1 was conducted between January and August 2014. The conduct followed the APA ethical rules (American Psychological Association, 2010) and fully complied with the university's ethical guidelines of experimental research involving human subjects.

In the introduction, participants were provided with information on the study and informed that its goal was to explore how men and women perceived male smartphone owners. Afterwards, participants provided demographic information (see Appendix E for the questionnaire) and indicated their relationship status, sexual orientation, and the type of mobile device (brand and model) they owned. Then, participants were randomly assigned to one experimental condition, in which they were presented the image of the male target model (facial attractiveness: higher vs. lower) depicted as owner of either the conspicuous or the nonconspicuous smartphone[6]. Because conspicuously displaying status products to advertise biological fitness and mate quality is only reasonable in a place where potential mates and same-sex competitors can perceive the signal, participants were instructed to imagine seeing the man with his smartphone in a bar at night (see also Lycett & Dunbar, 2000). In the instruction, smartphone model and brand were explicitly named.

[5] Due to copyright concerns, product images of the smartphones have been blurred for publication.

[6] In the initial version of the questionnaire, participants were presented two male target models. Participants were randomly presented the first image of the male target model, whereas the second image of the male target model was dependent on the first and showed the opposite combination of male target and smartphone. As this questionnaire structure would lead to an incomplete factorial design and to carry-over effects on the participants' rating of the second target, perceptions of only the first male target model were analyzed. During data collection, the structure of the questionnaire was edited and participants were randomly presented only one combination of male target and smartphone.

Female participants rated the male target's attractiveness and his desirability as a short-term and long-term mate from their own perspective. Male participants evaluated the male target's attractiveness and desirability as a short-term and long-term mate from a female perspective. Attractiveness ratings served as a manipulation check. Participants further evaluated the male target's inclination toward short-term mating and indicated whether they had seen the male target before. Female participants were asked to provide the ratings independent of their relationship status. Serving as a second manipulation check, participants rated the smartphones used as stimuli on conspicuousness, status, and desirability[7]. As in the pre-rating (see 3.2.3), they were provided with a definition of conspicuous consumption. Moreover, information on the female participants' ovulatory cycle was collected using the modified backward method (Schwarz & Hassebrauck, 2006)[8]. See Appendix E for the questionnaire.

3.2.5 Measures

Desirability as a short-term and long-term mate. Using the items of the pre-rating (see 3.2.3), male participants rated the male target's desirability as a short-term and long-term mate from a female perspective. Female participants rated the male target's desirability as a short-term and long-term mate from their own perspective. All responses were given on visual analogue scales (1 = *not at all* to 100 = *very likely*).

Inclination toward short-term mating. Participants indicated their perceptions of the male target's orientation toward short-term mating using the German version of the Revised Sociosexual Orientation Inventory (SOI-R, Penke & Asendorpf, 2008). SOI-R measures sociosexual orientation, which indicates mating strategy, on three different facets: Behavior (e.g., "With how many different partners have you had sex within the past 12 months?", 1= *0* to 5 = *8 or more*), Attitude (e.g., "Sex without love is ok", 1= *strongly disagree* to 5 = *strongly agree*), and Desire (e.g., "How often do you experience sexual arousal when you are in contact with someone you are not in a committed romantic relationship with?", 1= *never* to 5 = *nearly every day*). All answers were provided on 5-point Likert-type scales. Higher scores indicate a stronger inclination toward short-term mating. The mean of the three facets was used as a measure of perceived mating strategy. For this research, the wording of the SOI-R items was changed from first to third person (e.g., "This man holds the view that sex without love is ok."). Cronbach's alpha was .84.

Manipulation checks. Using the items of the pre-ratings (see 3.2.3), participants rated the smartphones used in the experimental conditions on conspicuousness, status, and desirability (visual analogue scales, 1 = *not at all* to 100 = *very likely*). Moreover, as in the pre-rating (see 3.2.3)

[7] Additionally to the conspicuous and the nonconspicuous smartphone used in the two experimental conditions, participants rated in the initial version of the questionnaire two more smartphones on conspicuousness, status, and desirability. These ratings were collected for further studies and are thus not reported.

[8] An exploratory analysis did not reveal significant cycle effects on female ratings.

participants rated the male target's attractiveness. Thereby, female participants gave ratings from their own perspective, whereas male participants provided their ratings from a female perspective (visual analogue scales, 1 = *very unattractive* to 100 = *very attractive*).

3.3 Results

3.3.1 Manipulation checks

Smartphone conspicuousness, status, and desirability. Mixed ANOVAs with the two between-subjects-factors of facial attractiveness and participant sex and the within-subjects factor of smartphone type were employed. Perceptions of smartphone conspicuousness, status, and desirability served as DVs. The assumption of homogeneity of variance was violated for conspicuousness ratings for the nonconspicuous smartphone, $F_{(3, 385)} = 3.26$, $p = .022$.

The main effect of smartphone type was significant for ratings of conspicuousness, $F_{(1, 385)} = 1322.38$, $p < .001$, $\eta_p^2 = .775$, status, $F_{(1, 385)} = 597.29$, $p < .001$, $\eta_p^2 = .608$, and desirability, $F_{(1, 385)} = 50.85$, $p < .001$, $\eta_p^2 = .115$. Moreover, the main effect of participant sex reached significance for conspicuousness, $F_{(1, 385)} = 6.65$, $p = .010$, $\eta_p^2 = .017$, and status ratings, $F_{(1, 385)} = 6.74$, $p = .010$, $\eta_p^2 = .017$. All other effects were non-significant, $Fs_{(1, 385)} \leq 2.12$, $ps \geq .146$, $\eta_p^2 s \leq .002$.

Relative to the nonconspicuous (NC) smartphone, participants ranked the conspicuous (C) smartphone higher on conspicuousness ($M_C = 82.22$, $SD = 19.94$ vs. $M_{NC} = 30.24$, $SD = 21.63$, $d = 3.71$), status ($M_C = 63.32$, $SD = 31.69$ vs. $M_{NC} = 23.57$, $SD = 18.98$, $d = 2.49$), and desirability ($M_C = 40.21$, $SD = 31.87$ vs. $M_{NC} = 30.25$, $SD = 23.81$, $d = 0.72$). In addition, compared to female participants, male participants perceived the nonconspicuous smartphone as less conspicuous ($M_{♂} = 27.43$, $SD = 21.61$ vs. $M_{♀} = 33.04$, $SD = 21.59$, $d = 0.26$), and attached lower status to it ($M_{♂} = 21.15$, $SD = 18.96$ vs. $M_{♀} = 25.99$, $SD = 18.95$, $d = 0.26$, see Appendix F, Table F5 to Table F7 for the descriptive statistics). Thus, despite minor sex differences for perceptions of the nonconspicuous smartphone, results suggested that participants perceived the smartphones as intended.

Facial attractiveness. ANOVA with the three between-subjects factors of smartphone type, facial attractiveness, and participant sex were employed. Attractiveness ratings served as DV. The ANOVA was significant, $F_{(7,381)} = 4.96$, $p < .001$, $\eta_p^2 = .083$. *F*-values, *p*-values, and effect sizes for main and interaction effects are presented in Table 6. Main effects of facial attractiveness and participant sex were significant, whereas the main effect of smartphone type was non-significant. Male and female participants ranked the more attractive male target higher on attractiveness ($M = 50.89$, $SD = 18.57$) than the less attractive male target ($M = 47.09$, $SD = 18.52$, $d = 0.21$). Moreover, male participants gave higher attractiveness ratings ($M = 53.70$, $SD = 18.83$) than female participants ($M = 44.28$, $SD = 18.42$, $d = 0.51$, see Appendix F, Table F8 for the descriptive statistics).

All two-way or three-way interaction effects were non-significant. Hence, as intended, participants perceived the male target models as differently attractive.

3.3.2 Desirability as a short-term mate

ANOVA with the three between-subjects factors of smartphone type, male facial attractiveness, and participant sex was conducted. Perceptions of the male target's desirability as a short-term mate were included as DV. The ANOVA was significant, $F_{(7,381)} = 12.96$, $p < .001$, $\eta_p^2 = .192$. *F*-values, *p*-values, and effect sizes for main and interaction effects are reported in Table 6. Contrary to H_1, the effect of smartphone type was non-significant. There was a significant main effect of participant sex, such that male participants ($M = 47.88$, $SD = 24.75$) perceived the male targets as more desirable short-term mates for women than women actually did ($M = 24.26$, $SD = 24.57$, $d = 0.97$, see Appendix F, Table F9 for the descriptive statistics). Other effects did not reach significance (RQ_2).

Thus, H_1 (men and women will perceive a man who owns a conspicuous smartphone as a more desirable short-term mate than a man who owns a nonconspicuous smartphone) was rejected. Furthermore, no interaction effect between owning a conspicuous smartphone and facial attractiveness was observed (RQ_2).

Table 6. Effects of Smartphone Type (ST), Facial Attractiveness (FA), and Participant Sex (PS) on Perceptions of a Man's Attractiveness (Manipulation Check), his Desirability as a Short-Term Mate (H_1) and Long-Term Mate (H_2), and his Inclination Toward Short-Term Mating (H_3), Study 1

DVs	Main effects			Interaction effects			
	ST	FA	PS	ST*FA	ST*PS	FA*PS	ST*FA*PS
Attractiveness$_a$	$F < 1$ $p = .791$ $\eta_p^2 < .001$	**$F = 4.07$** **$p = .044$** **$\eta_p^2 = .011$**	**$F = 25.08$** **$p < .001$** **$\eta_p^2 = .062$**	$F < 1$ $p = .823$ $\eta_p^2 < .001$	$F < 1$ $p = .375$ $\eta_p^2 = .002$	$F < 1$ $p = .399$ $\eta_p^2 = .002$	$F = 2.02$ $p = .156$ $\eta_p^2 = .005$
Desirability as a short-term mate$_b$	$F < 1$ $p = .683$ $\eta_p^2 < .001$	$F < 1$ $p = .669$ $\eta_p^2 < .001$	**$F = 87.29$** **$p < .001$** **$\eta_p^2 = .186$**	$F = 1.85$ $p = .175$ $\eta_p^2 = .005$	$F < 1$ $p = .873$ $\eta_p^2 < .001$	$F < 1$ $p = .568$ $\eta_p^2 = .001$	$F < 1$ $p = .707$ $\eta_p^2 < .001$
Desirability as a long-term mate$_c$	**$F = 11.46$** **$p = .001$** **$\eta_p^2 = .029$**	$F = 3.38$ $p = .067$ $\eta_p^2 = .009$	**$F = 123.88$** **$p < .001$** **$\eta_p^2 = .259$**	$F < 1$ $p = .889$ $\eta_p^2 < .001$	$F < 1$ $p = .425$ $\eta_p^2 = .002$	$F < 1$ $p = .819$ $\eta_p^2 < .001$	$F < 1$ $p = .322$ $\eta_p^2 = .002$
Inclination toward short-term mating$_d$	**$F = 21.16$** **$p < .001$** **$\eta_p^2 = .053$**	$F < 1$ $p = .744$ $\eta_p^2 < .001$	$F < 1$ $p = .837$ $\eta_p^2 = .002$	$F < 1$ $p = .401$ $\eta_p^2 = .002$	$F < 1$ $p = .772$ $\eta_p^2 < .001$	$F < 1$ $p = .557$ $\eta_p^2 = .001$	$F = < 1$ $p = .956$ $\eta_p^2 < .001$

Note. Significant effects ($p < .05$) are shown in bold letters. All *df*s = 1, 381. [a]$R^2 = .083$, $R^2_{adj} = .067$. [b]$R^2 = .192$, $R^2_{adj} = .177$. [c]$R^2 = .287$, $R^2_{adj} = .265$. [d]$R^2 = .059$, $R^2_{adj} = .041$.

3.3.3 Desirability as a long-term mate

The same statistical analysis as reported above (see 3.3.2) was employed. Desirability as a long-term mate served as DV. Analyses yielded a significant ANOVA, $F_{(7,381)} = 20.99$, $p < .001$, $\eta_p^2 = .278$. See Table 6 for *F*-values, *p*-values, and effect sizes of main and interaction effects. The assumption of

homogeneity of variance was violated, *Levene's* $F_{(7, 381)} = 6.40$, $p < .001$. The main effect of smartphone type was significant. Supporting H_2, participants perceived the male target model as a less desirable long-term mate when he was depicted as the owner of the conspicuous smartphone ($M_C = 36.58$, $SD = 22.17$ vs. $M_{NC} = 44.22$, $SD = 22.21$, Figure 7). Furthermore, the main effect of facial attractiveness approached significance ($p = .067$). A trend was observed that participants preferred the more attractive male target ($M = 42.48$, $SD = 22.23$) as a long-term mate over the less attractive male target ($M = 38.32$, $SD = 22.25$, $d = 0.19$). In addition, the effect of participant sex was significant, indicating that male participants evaluated the male target models as more desirable short-term mates for women ($M = 53.41$, $SD = 21.94$) than female participants perceived them to be ($M = 27.39$, $SD = 22.14$, $d = 1.18$, see Appendix F, Table F10 for the descriptive statistics). The main effect of facial attractiveness and the two-way and three-way interaction effects were non-significant.

Given these findings, H_2 (men and women will perceive a man who owns a conspicuous smartphone as a less desirable long-term mate than a man who owns a nonconspicuous smartphone) was accepted. No interaction effects between owning a conspicuous smartphone and facial attractiveness were found (RQ_2).

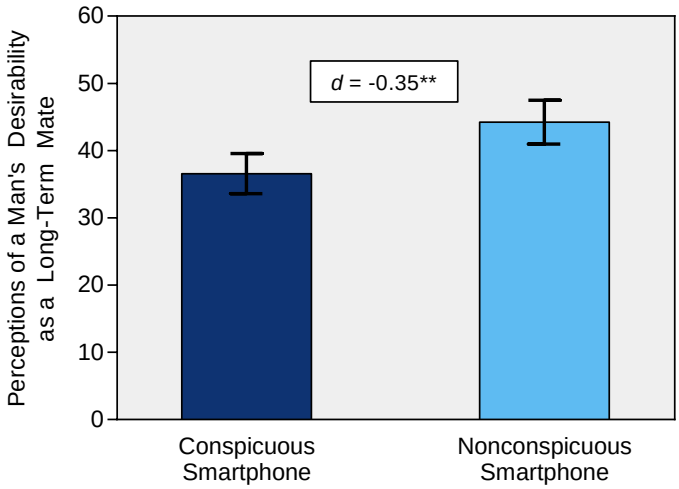


Figure 7. Perceptions of a Man's Desirability as a Long-Term Mate as a Function of the Man Owning a Conspicuous vs. Nonconspicuous Smartphone (H_2), Study 1

Note. $^{**}p < .01$, two-tailed. Error bars indicate 95% confidence intervals. The figure displays the estimated marginal means.

3.3.4 Inclination toward short-term mating

The same statistical analyses as before (see 3.3.2) were performed with the mean of the three facets of the SOI-R as DV. Analyses yielded a significant ANOVA, $F_{(7, 381)} = 3.40$, $p = .002$, $\eta_p^2 = .059$. See Table 6 for *F*-values, *p*-values, and effect sizes of main and interaction effects. The main effect of smartphone type was significant. Supporting H_3, participants perceived the male target as more inclined toward short-term mating when he was depicted as the owner of the conspicuous smartphone ($M = 3.42$, $SD = 0.58$) compared to when he was depicted as the owner of the nonconspicuous

smartphone (*M* = 3.13, *SD* = 0.67, Figure 8, see Appendix F, Table F11 for the descriptive statistics). No other effects reached significance.

Hence, H_3 (men and women will perceive a man who owns a conspicuous smartphone as more inclined toward short-term mating than a man who owns a nonconspicuous smartphone) was accepted. Owning a conspicuous smartphone did not affect perceptions of a man's mating strategy differently for more or less attractive man (RQ_2).

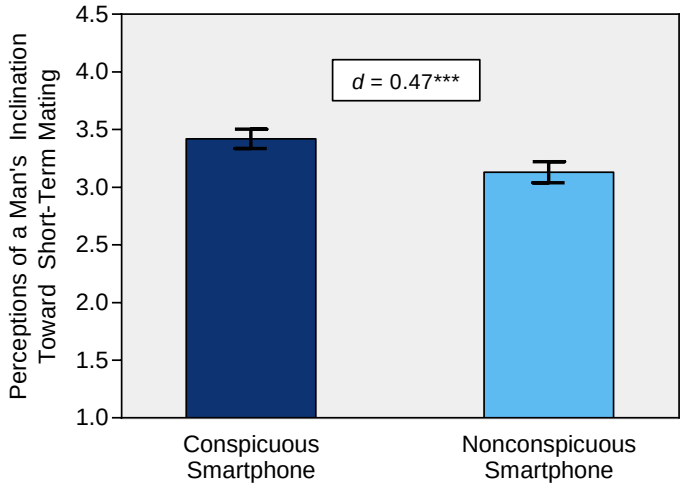


Figure 8. Perceptions of a Man's Inclination Toward Short-Term Mating as a Function of the Man Owning a Conspicuous vs. Nonconspicuous Smartphone (H_3), Study 1

Note. ***$p < .001$, two-tailed. Error bars indicate 95% confidence intervals. The figure displays the estimated marginal means.

3.4 Discussion

As expected, results revealed that men and women perceived a man who was presented as the owner of a conspicuous, high-status smartphone as a less desirable long-term mate and as more inclined toward short-term mating relative to a man who was depicted as the owner of a nonconspicuous, low-status smartphone. These findings are in line with previous research that revealed that men who follow a short-term mating strategy are more likely to engage in conspicuous consumption of conspicuous smartphones from luxury brands (Hennighausen & Schwab, 2014) and luxury products in general (Sundie et al., 2011). Moreover, Sundie et al. (2011) found that women were able to correctly interpret these signals sent by men, which fits with the results of Study 1.

Extending the research of Sundie et al. (2011), the present results further showed that men perceived another man who owns a conspicuous smartphone as a less desirable long-term mate for women and as more inclined toward short-term mating. These results suggest that men notice and correctly understand the signals other men send by engaging in conspicuous consumption, too. Male conspicuous consumption might thus have a dual function (Berglund et al., 1996), that is, to signal biological fitness and mate quality to both mates and same-sex competitors. Accordingly, men might

use the information other men provide by displays of conspicuous consumption to assess their own mating opportunities in the presence of same-sex rivals. To further elucidate the role of male conspicuous consumption in intrasexual competition, Study 2 will investigate perceptions of a man who owns a conspicuous smartphone as a male rival, male friend, and mate poacher.

Contrary to expectations and at odds with prior research (Sundie et al., 2011), the results of Study 1 did not show that owning a conspicuous smartphone increased a man's desirability as a short-term mate, although such a device decreased a man's desirability as a long-term mate. At first glance, these two findings may seem contradictive. One possible explanation is that the traits women seek in short-term and long-term mates are not mutually exclusive so that a man who displays traits that are desired in a long-term mating context might not necessarily be considered as a less desirable short-term mate and vice versa. In favor of this explanation, research suggests that women are especially attracted to men who display traits that are desirable in both a short-term and long-term mating context (Gangestad et al., 2007).

A second possible explanation is that the conspicuous smartphone that was used was not expensive and conspicuous enough to boost a man's desirability as a short-term mate. Indeed, previous studies indicating that conspicuous consumption increases a man's attractiveness and his desirability as a short-term mate used stronger manipulations of product conspicuousness, such as sports cars (Dunn & Searle, 2010; Guéguen & Lamy, 2012; Shuler & McCord, 2010; Sundie et al., 2011) or luxury apartments (Dunn & Hill, 2014). Thus, future research could use an even more expensive and conspicuous smartphone to increase the strength of the manipulation. The smartphone used in Study 1, however, was already one of the most expensive and conspicuous devices that was available on the market and that individuals actually buy (Huch, 2013; Nixon, 2014). Even more expensive smartphones are often made of special material (e.g., gold plated) or decorated with specific materials (e.g., diamonds; Hughes, 2015). Depicting a man as the owner of such a smartphone, however, could influence perceptions of him as a mate and same-sex competitor in unintended ways, as adorned mobile devices might evoke associations rather with feminine than with masculine traits.

As for RQ_2, results did not reveal any interaction effects between male conspicuous consumption of smartphones and male facial attractiveness. These results suggest that owning a conspicuous smartphone influences men's and women's perceptions of a man as mate and same-sex competitor to the same extent irrespective of the man's facial attractiveness. However, inspecting the attractiveness ratings in Study 1 revealed that, although both male targets were perceived as differently attractive, the effect size was smaller than in the pre-rating (mean $d_{\text{pre-rating}} = 0.54$ vs. $d_{\text{Study 1}} = 0.21$). This observation calls the effectiveness of the manipulation of facial attractiveness into question. In the pre-rating, male targets were rated in a within-subjects design, whereas in the main study, male targets were rated in a between-subjects design so that the attractiveness ratings were independent of each other. Thus, due to a contrast effect (Kenrick & Gutierres, 1980), the less attractive male target might have appeared even less attractive in comparison with the other male targets in the pre-rating. This might explain the

stronger effect size that was observed in the pre-rating. Supporting this explanation, studies show that individuals are rated differently in a mate choice context contingent on the other potential mates the individual is compared with (Bateson & Healy, 2005). Beyond that, the more attractive male target was perceived as rather moderately attractive (with a mean attractiveness rating ranging around the mid-point of the scale) than highly attractive. It is possible that a male target model of above-average attractiveness is needed to find interaction effects between owning a conspicuous smartphone and male facial attractiveness on perceptions of a man as a mate and same-sex competitor. Altogether, drawing conclusions on how male conspicuous consumption of smartphones influences perceptions of a man in these contexts contingent on the man's facial attractiveness would be premature. Hence, future studies should apply stronger manipulations of facial attractiveness. One frequently used procedure to obtain faces with high averageness and symmetry is morphing. In this technique, faces of different individuals are morphed into a composite image, leading to an "artifical" face that yields high levels of facial averageness and symmetry (e.g., Apicella et al., 2007; Gründl, 2013; Rhodes, Zebrowitz, et al., 2001). Future studies could also use specific computer programs to create avatars with systematic variations in facial attractiveness and facial features (e.g., Sobieraj, 2012). Study 2 will address this issue and apply a stronger manipulation of facial attractiveness.

Finally, the results yielded large sex differences in the ratings of the male targets' attractiveness and their desirability as short-term and long-term mates such that male participants gave higher ratings than female participants. These findings fit with studies that indicate that men assign higher attractiveness values to male faces than women (Fisher, 2004) and that men give higher attractiveness ratings to the opposite sex than women (Tracy & Beall, 2011). Moreover, these results are similar to research that suggests that men overestimate women's attraction to another man for a short-term and a long-term relationship (Kruger & Fitzgerald, 2011). A possible explanation for this asymmetry is that, due to a higher minimal obligatory parental investment (Bateman, 1948; Trivers, 1972), women are more selective in mate choice and may therefore give lower ratings than men. Similarly, research has consistently demonstrated that women are rather reserved and less quickly willing to engage in sexual activities than men (e.g., Clark & Hatfield, 1989; Gangestad & Simpson, 2000; Penke & Asendorpf, 2008; Schmitt et al., 2003; Simpson & Gangestad, 1991). These results can be further explained by error management theory (Haselton & Buss, 2000, 2009), which suggests that male sexual overperception bias serves as an adaptation. According to error management theory, it was adaptive for men to overestimate women's sexual interest and intent, as this facilitates male courtship, decreases a man's anxiety to be rejected by women, and might thus eventually increase male reproductive success.

In summary, the findings of Study 1 indicate that men's and women's perceptions of a man's mate quality and mating strategy are indeed influenced by the type of smartphone the man owns. In particular, a conspicuous, high-status smartphone decreased a man's desirability as a long-term mate and elicited the impression that he was rather inclined toward short-term than long-term mating.

Hence, boosting status through purchasing and owning conspicuous smartphones from luxury brands could provide a man with benefits specifically in a short-term mating context. In addition, the results of Study 1 support the idea that male conspicuous consumption might not only play a role in mate attraction but also in intrasexual competition.

Nevertheless, the findings of Study 1 raise further questions. It remains unclear, which specific traits owning conspicuous smartphones signal. Building on the obtained results and the research of Sundie et al. (2011), it is possible that men's conspicuous consumption of smartphones could be associated with characteristics desired in a short-term mate, such as sexual willingness, attractiveness, and the availability of immediate resources (e.g., Greiling & Buss, 2000). It further remains open to which extent male conspicuous consumption of smartphones affects perceptions of another man in a more explicit same-sex competition context. Study 2 will address these questions.

4 Study 2: Perceptions of a man depending on the type of smartphone the man owns and his facial attractiveness (II)

4.1 Hypotheses

The first goal of Study 2 was to extend the findings of Study 1 by further addressing RQ_1 (Does owning a conspicuous smartphone influence perceptions of a man as a mate and same-sex competitor?). The second goal of Study 2 was to apply a stronger manipulation of the male target's facial attractiveness to overcome the limitations of Study 1, and to be able to answer RQ_2 (Does owning a conspicuous smartphone influence perceptions of a man as a mate and same-sex competitor differently depending on the man's facial attractiveness?) more conclusively. The hypotheses about how owning a conspicuous smartphone would influence perceptions of a man's desirability as a short-term and long-term mate, and mating strategy were the same as in Study 1:

H_1: Men and women will perceive a man who owns a conspicuous smartphone as a more desirable short-term mate than a man who owns a nonconspicuous smartphone.

H_2: Men and women will perceive a man who owns a conspicuous smartphone as a less desirable long-term mate than a man who owns a nonconspicuous smartphone.

H_3: Men and women will perceive a man who owns a conspicuous smartphone as more inclined toward short-term mating than a man who owns a nonconspicuous smartphone.

In addition, Study 2 aimed to investigate in further detail the traits owning a conspicuous smartphone are associated with. Based on the results of Study 1 and on the research of Sundie et al. (2011), male conspicuous consumption of smartphones could be linked to characteristics women favor in a short-term mate. These may include, among others, attractiveness, sexual willingness, and the availability of immediate resources (e.g., Greiling & Buss, 2000; Schmitt & Buss, 1996; Sundie et al., 2011; see also 2.3.4). Hence, the following was hypothesized:

H_4: Men and women will be more likely to assign traits that are associated with the pursuit of a short-term mating strategy to a man who owns a conspicuous smartphone than to a man who owns a nonconspicuous smartphone.

The findings of Study 1 suggested that male conspicuous consumption of smartphones might not only be directed toward mates but also toward same-sex competitors. Previous research also hints at such a function of male conspicuous consumption in the case of mobile phones (Lycett & Dunbar, 2000) and luxury sports cars (Hennighausen et al., 2016; Hennighausen & Lange, 2016; see also 2.3.9 and 2.3.10). By signaling mate quality through conspicuous consumption, men might aim to deter same-sex rivals in order to gain advantages in the mating market, such as an easier access to mates.

Thus, male conspicuous consumption of smartphones might influence men's assessments of other men as rivals. It would be interesting to investigate how women perceive the role of conspicuous consumption in male-male competition, too. Women prefer mating with men who display status, resources, and "good genes" (e.g., Buss, 1989; Gangestad et al., 2007); that is, those men who are likely to be successful in intrasexual competition. Hence, also women should be able to evaluate the role of conspicuous consumption in male-male competition and perceive a man who displays conspicuous consumption as a stronger rival and mate poacher, and less as a friend for other men. It was thus hypothesized:

H_5: Men and women will perceive a man who owns a conspicuous smartphone more as a male rival than a man who owns a nonconspicuous smartphone.

H_6: Men and women will perceive a man who owns a conspicuous smartphone less as a male friend than a man who owns a nonconspicuous smartphone.

H_7: Men and women will perceive a man who owns a conspicuous smartphone more as a mate poacher than a man who owns a nonconspicuous smartphone

Like Study 1 (see 3.1), Study 2 had the goal to explore whether male conspicuous consumption of smartphones would affect perceptions of a man as a mate and same-sex competitor differently depending on the man's facial attractiveness (RQ_2).

4.2 Method

4.2.1 Participants

Participants were recruited in the same way as in Study 1 (see 3.2.1). Three hundred twelve German-speaking participants completed the questionnaire. Homosexual participants and those who declined to give information on their sexual orientation were dropped from further analyses (n = 12). Moreover, individuals aged under 14 (n = 2) were excluded. The final sample comprised 299 participants (53.5% women) between the ages of 14 and 56 (M_{age} = 25.3 years, SD = 6.7, Md = 24.00). Most participants (96.0%) were heterosexual; 4.0% were bisexual. In terms of education, most participants (84.9%) were highly educated (university entrance certificate or university degree); the remaining proportion had left school with less than thirteen years of formal education or were still school students. More than half of the participants (57.9%) were university students from various degree programs (e.g., psychology, media communication, special needs education, law), followed by employees (24.4%), apprentices (5.0%), school students (4.3%), self-employed or unemployed (both 2.3%), officials (2.0%), or other (1.7%). About a quarter of the participants reported a net monthly income of less than €500 (26.8%) and a net monthly income between €500 and €1000 (26.1%). Twenty-eight point eight percent indicated a net monthly income of more than €1000, 14.0% did not have an own income, and 4.3% did not provide information. More than the half (61.2%) were in a committed long-term relationship of

whom 9.0% were in a civil partnership or married. About a third (34.1%) of them were single and 4.7% reported to be in an uncommitted sexual relationship (e.g., love affair, liaison). Participants most frequently owned Samsung (36.5%) and Apple (29.1%) smartphones. Seven participants (2.3%) did not own a smartphone but a mobile phone and one participant (0.3%) neither owned a mobile phone nor a smartphone. Participants were gratified by taking part in a drawing of vouchers.

4.2.2 Design and statistical analyses

Study 2 followed a 2 (smartphone type: conspicuous vs. nonconspicuous) x 2 (facial attractiveness: higher vs. lower) x 2 (participant sex: male vs. female) between-subjects design.

The employed statistical procedures were the same as in Study 1 (see 3.2.2). Test assumptions were met, unless otherwise stated. For effects of factorial or mixed ANOVA, estimated marginal means and their standard deviations are presented instead of descriptive means given that *F*-ratios are calculated based on the estimated marginal means when cell sizes are slightly different. Means and standard deviations for all ANOVAs are presented in the Appendices and referred to at the respective positions in the text.

4.2.3 Materials

Smartphone stimuli. As in Study 1 (see 3.2.3), current smartphone models varying in conspicuousness and status were selected from test ratings and popularity rankings (CHIP, 2015) and evaluated in a pre-rating. The pre-rating was conducted between October and November 2015. The following devices were selected (in alphabetical order): Apple iPhone 6s, LG G4 c, Motorola Moto G, Phicomm CLUE M, Samsung Galaxy S6 edge, Wiko Sunset 2 (see Appendix G, Figure G1 to Figure G6).

An independent sample of 65 participants (49.2% women) between the ages of 18 and 61 (M_{age} = 27.9 years, *SD* = 10.9, *Md* = 24) completed the pre-rating. Most of them (90.7%) were highly educated (university entrance certificate, university degree). About the half were university students (50.8%), followed by employees (24.6%), and apprentices (10.8%). Approximately one quarter (24.6%) indicated a net monthly income of less than €500, 18.5% reported a net monthly income between €500 and €1000, and about at third (33.8 %) indicated a net monthly income of more than €1000. Almost a quarter of the participants (23.1%) did not provide information on their income.

Similar to Study 1 (see 3.2.3), participants were provided with a definition of conspicuous consumption and rated smartphones on conspicuousness ("I consider purchasing the [smartphone model] as conspicuous consumption), status ("I attach status to the [smartphone model]"), and desirability ("I would like to own the [smartphone model]", 7-point Likert-type scales, 1 = *I do not agree at all* to 7 = *I completely agree*). Smartphone models were named, randomly presented, and accompanied with information on their release date and their current retail price. See Appendix H for the questionnaire of the pre-rating.

Mixed ANOVAs with smartphone model as within-subjects factor and participant sex as between-subjects factor were employed. The assumption of sphericity was violated for all DVs, χ^2s $\geq$ 108.67, *p*s $\leq$ .001. Hence, degrees of freedom were corrected (Field, 2013). The assumption of homogeneity of variance was violated for the conspicuousness, status, and desirability rating of the Motorola Moto G, *Levene's F*s$_{(1, 63)} \geq$ 5.12, *p*s $\leq$ .027. Effects of smartphone model were significant for ratings of conspicuousness, $F_{(2.15, 135,52)}$ = 148.26, $p < .001$, η_p^2 = .702, status, $F_{(2.07, 130.43)}$ = 117.13, $p < .001$, η_p^2 = .650, and desirability, $F_{(3.11, 196.18)}$ = 56.35, $p < .001$, η_p^2 = .472. Neither main effects of participant sex nor interaction effects between smartphone model and participant sex were significant, *F*s $\leq$ 1.49, *p*s $\geq$ .228, η_p^2s $\leq$ .023.

Based on the means and standard deviations (Table 7), the highest-ranking smartphone (Apple iPhone 6s) and the lowest-ranking smartphone (Wiko Sunset 2) were selected. Paired-samples *t*-tests confirmed that the selected smartphones were perceived as differently indicative of conspicuous consumption, $t_{(64)}$ = 15.62, $p < .001$, d = 1.94, and status, $t_{(64)}$ = 12.63, $p < .001$, d = 1.57, and were differently desirable to own, $t_{(64)}$ = 10.17, $p < .001$, d = 1.26. The Apple iPhone 6s is hereafter referred to as the conspicuous smartphone and the Wiko Sunset 2 as the nonconspicuous smartphone.

Table 7. Means and Standard Deviations of Smartphone Conspicuousness, Status, and Desirability (Pre-rating, Study 2)

Smartphone	Conspicuousness		Status		Desirability		Price[1]
	M	*SD*	*M*	*SD*	*M*	*SD*	
Apple iPhone 6s	**5.43**	**2.00**	**4.92**	**1.87**	**4.35**	**2.18**	**€943**
LG G4 c	2.35	1.18	2.46	1.13	2.72	1.55	€154
Motorola Moto G	2.11	1.13	2.20	1.14	2.09	1.21	€189
Phicomm CLUE M	1.62	0.80	1.77	0.88	1.78	1.18	€93
Samsung Galaxy S6 edge	4.46	1.80	4.37	1.61	4.35	1.92	€659
Wiko Sunset 2	**1.34**	**0.64**	**1.60**	**0.92**	**1.46**	**0.75**	**€59**

Note. *N* = 65. Smartphones selected as stimuli for the main study are shown in bold letters. Answers were given on 7-point Likert-type scales. All indicated retail prices were adopted from CHIP (http://www.chip.de) and refer to the current retail prices at the time the pre-rating was conducted (October and November 2015).

Male target models. Male target stimuli were adapted with permission from Gründl (2013). The male target stimuli had been successfully used in previous research (Braun, Gründl, Marberger, & Scherber, 2001; van Leeuwen, Veling, van Baaren, & Dijksterhuis, 2009). Stimuli were morphed composite images of either low-attractiveness or high-attractiveness male faces (Caucasian men in their twenties) and represented the prototype of an unattractive and an attractive male face (see Appendix I, Figure I1 and Figure I2; for further details, see Gründl, 2013). Both stimuli were pre-rated as differently attractive (7-point Likert-type scale, 1 = *very unattractive* to7 = *very attractive*) such that the prototype of an attractive male face was rated as more attractive (*M* = 5.55, *SD* = 1.01) than the

prototype of an unattractive male face[9] (M = 3.94, SD = 1.05), $t_{(52)}$ = 9.26, p < .001, d = 1.33 (for further details, see Gründl, 2013). A qualitative analysis by Gründl (2013) suggested that the prototype of the attractive male face displays features that indicate youthfulness as well as more masculine facial characteristics (e.g., strong lower jaw) compared with the prototype of an unattractive male face. The prototype of an attractive male face further displays more feminine facial characteristics (e.g., fuller lips, narrower neck, and fuller hair) than the prototype on an unattractive male face. In the following, the prototype of an attractive male face is referred to as more attractive male target, whereas the prototype of an unattractive male face is referred to as less attractive male target.

For this research, the original stimuli of Gründl (2013) were slightly modified to adjust them to the materials used in Study 1 (see 3.2.3). In particular, the colors of the male targets' t-shirts were changed from white to black and the background of the image was cropped using Adobe Photoshop. Smartphone stimuli were pasted next to the male target's heads (Figure 9 and Figure 10).

Figure 9. More Attractive Male Target Depicted as Owner of the Conspicuous Smartphone[10]

Figure 10. Less attractive Male Target Depicted as Owner of the Nonconspicuous Smartphone[10]

4.2.4 Procedure

Study 2 was carried out between December 2015 and January 2016. The online questionnaire was structured as the questionnaire of Study 1 and used the same instructions (see 3.2.4). See Appendix J for the questionnaire. In addition to the measures collected in Study 1 (i.e., perceptions of the male target's desirability as a short-term and long-term mate, and his mating strategy), participants rated the male target model on eleven traits that relate to mate value (including attractiveness, which served as a

[9] A mean attractiveness rating of M = 3.94 might suggest that participants perceived the prototype of an unattractive male face as rather moderately attractive than unattractive. In their study, van Leeuwen et al. (2009) used the stimuli of Gründl (2013) and pointed to this fact. Van Leuuwen et al. (2009) explained it as follows: "Participants in general do not rank faces a 1 or 2, unless they are scarred or deformed" (p.14). For further explanations, van Leeuwen et al. (2009) refer the reader to van Leeuwen and Neil Macrae (2004).

[10] Due to copyright concerns, product images of the smartphones have been blurred for publication.

manipulation check). In addition, participants indicated to which extend they perceived the male target as a male rival, male friend, and mate poacher. For the ratings as a male rival, male friend, and mate poacher, male participants gave ratings from their own perspective; female participants were asked to take a male perspective and indicate how men would perceive the male target model as a rival, friend, and mate poacher[11]. At the end of the questionnaire, participants evaluated the smartphone model the male target was presented with on conspicuousness, status, and desirability (manipulation check).

4.2.5 Measures

Desirability as a short-term mate and long-term mate. Using the items of Study 1 (see 3.2.3), male participants evaluated the male target's desirability as a short-term and long-term mate for women. Female participants indicated perceptions of the male target's desirability as a short-term and long-term mate from their own perspective (for all items, visual analogue scales, 1 = *not at all* to 100 = *very likely*).

Inclination toward short-term mating. Perceptions of the male target's mating strategy were measured twofold. As in Study 1, the adapted items of the SOI-R (Penke & Asendorpf, 2008) were used (see 3.2.5 for further information on the SOI-R). Cronbach's alpha was .86. As a second measure, the relationship exclusivity scale of the "Sexy Seven" sexuality attributes (Schmitt & Buss, 2000; Schmitt & Shackelford, 2008) was used. This instrument assesses variability in short-term mating using the following items: adulterous, devoted, faithful, loose, monogamous, polygamous, promiscuous, and unfaithful (9-point Likert-type scales, 1 = *extremely inaccurate* to 9 = *extremely accurate*). German translations of the items were taken from Klopp (2005). In the original version of the relationship exclusivity scale, individuals are asked to compare themselves on these adjectives with others they know (Schmitt & Buss, 2000). For this research, participants were asked to rate the male target on these items. The items relating to long-term mating (i.e., devoted, faithful, and monogamous) were reverse-coded so that, similar to the SOI-R, higher values of the relationship exclusivity scale indicated a *lack* of relationship exclusivity. This was done to make an interpretation of both measures of the male target's perceived mating strategy more straightforward. The scale was hence referred to as "lack of relationship exclusivity scale" (for a similar method, see Schmitt & Shackelford, 2008). Cronbach's alpha was .86.

Mate value. Perceptions of the male target's mate value were assessed using 13 adjectives that cover six important dimensions of mate value. These dimensions are agreeableness ("agreeable"), attractiveness ("sexy", "attractive", "youthful"), sexual willingness ("flirty", "loyal"), intelligence ("mature", "smart", "talented"), ambition ("ambitious", "passionate"), and status ("rich", "wealthy"; see also Buss, 1989). All items were adapted from Hudders et al. (2014). Answers were given on

[11] Participants further reported their perceptions of the male target model's personality. These measures were collected for another research question that would go beyond the scope of this doctoral dissertation. Measures and analyses are thus not reported.

visual analogue scales (1 = *I do not agree at all* to 100 = *I completely agree*). Items were translated into German by the researcher. German translations were then back-translated into English by a native speaker (proficient in German) who was not involved in this research and thus naïve to the questionnaire's purpose, the research questions, and the hypotheses of this research.

Perceptions as a male rival, male friend, and mate poacher. Male participants rated the male target model as a rival ("I can imagine the depicted man as a rival"), as a friend ("I can imagine being friends with the depicted man"), and as a mate poacher ("I can imagine introducing the depicted man to my girlfriend", "I would let my girlfriend spend time with the depicted man"; items adapted from Vaillancourt & Sharma, 2011). Female participants indicated perceptions from a male perspective ("Men can imagine the depicted man as a rival"; "Men can imagine being friends with the depicted man"; "Men can imagine introducing the depicted man to their girlfriend", and "Men would let their girlfriend spend time with the depicted man"). All answers were provided on 7-point Likert-type scales (1 = *not at all* to 7 = *very much*).

Manipulation checks. Participants rated smartphones on conspicuousness, status, and desirability, using the items of the pre-rating (see 4.2.3). Moreover, participants rated the male target's attractiveness using the item "attractive" (1 = *I do not agree at all* to 100 = *I completely agree*) of the mate value scale by Hudders et al. (2014).

4.3 Results

4.3.1 Manipulation checks

Smartphone conspicuousness, status, and desirability. ANOVAs with the three between-subjects factors of smartphone type, facial attractiveness, and participant sex were conducted. Conspicuousness, status, and desirability perceptions of the smartphones served as DVs. The assumption of homogeneity of variance was violated for all DVs, *Levene's Fs*$_{(7, 291)} \geq 5.78$, *p*s $\leq .001$. Results yielded significant ANOVAs for ratings of conspicuousness, $F_{(7, 291)} = 45.99$, $p < .001$, $\eta_p^2 = .525$, $R^2 = .525$, $R^2_{adj} = .514$, status, $F_{(7, 291)} = 19.73$, $p < .001$, $\eta_p^2 = .322$, $R^2 = .322$, $R^2_{adj} = .305$, and desirability, $F_{(7, 291)} = 3.60$, $p = .001$, $\eta_p^2 = .080$, $R^2 = .080$, $R^2_{adj} = .057$. Effects of smartphone type were significant for conspicuousness, $F_{(1, 291)} = 306.93$, $p < .001$, $\eta_p^2 = .513$, status, $F_{(1, 291)} = 129.04$, $p < .001$, $\eta_p^2 = .307$, and desirability, $F_{(1, 291)} = 25.04$, $p < .001$, $\eta_p^2 = .079$. Moreover, the effect of facial attractiveness reached significance for status ratings, $F_{(1, 291)} = 4.34$, $p = .038$, $\eta_p^2 = .015$. The three-way interaction between smartphone type, facial attractiveness, and participant sex was marginally significant for conspicuousness perception, $F_{(1, 291)} = 3.63$, $p = .058$, $\eta_p^2 = .012$. As the three-way interaction failed to reach conventional levels of significance and no hypotheses regarding such an effect were stated, it was not further analyzed. All other effects were non-significant, *Fs*$_{(1, 291)} \leq 2.67$, *p*s $\geq .103$, η_p^2s $\leq .009$. Analyses revealed that, relative to the nonconspicuous

smartphone, participants rated the conspicuous smartphone higher on conspicuousness (M_C = 4.95, *SD* = 1.60 vs. M_{NC} = 1.71, *SD* = 1.60, *d* = 2.05), status (M_C = 4.07, *SD* = 1.77 vs. M_{NC} = 1.77, *SD* = 1.72, *d* = 1.33), and desirability (M_C = 3.32, *SD* = 1.89 vs. M_{NC} = 2.34, *SD* = 1.84, *d* = 0.59). Furthermore, participants attached more status to both smartphones when they were presented with the more attractive male target (*M* = 3.13, *SD* = 1.74) than when they were shown with the less attractive male target (*M* = 2.71, *SD* = 1.75, *d* = 0.25, see Appendix K, Table K1 to Table K3 for the descriptive statistics). To summarize, results suggested that the conspicuousness manipulation was effective.

Facial attractiveness. The same statistical analysis as for the manipulation checks of the smartphones was employed with attractiveness perceptions as DV. Variances were unequal across experimental conditions, *Levene's* $F_{(7, 291)}$ = 2.41, *p* = .021. The ANOVA proved significant, $F_{(7, 291)}$ = 12.54, *p* < .001, η_p^2 = .232, R^2 = .232, R^2_{adj} = .213. Results revealed a significant main effect of facial attractiveness, $F_{(1, 291)}$ = 82.47, *p* < .001, η_p^2 = .221. In addition, the main effect of smartphone type yielded marginal significance, $F_{(1, 291)}$ = 2.94, *p* = .088, η_p^2 = .010. All other effects were non-significant, $Fs_{(1, 291)} \leq 2.51$, $ps \geq .114$, $\eta_p^2 s \leq .009$. Specifically, participants rated the more attractive male target (*M* = 47.56, *SD* = 22.56) as more attractive than the less attractive male target (*M* = 23.82, *SD* = 22.63). The effect size was similar to the one reported by Gründl (2013; d_{Study2} = 1.07 vs. $d_{Gründl}$ = 1.33). Participants further tended to rate the male targets as less attractive when they were depicted as owners of the conspicuous smartphone (M_C = 37.94, *SD* = 22.27 vs. M_{NC} = 33.45, *SD* = 22.94, *p* = .088, *d* = -0.20). See Appendix K, Table K4 for the descriptive statistics. Altogether, these findings suggested that the manipulation of facial attractiveness was successful and much stronger than in Study 1 (see 3.3.1).

4.3.2 Desirability as a short-term mate

The same statistical analyses as reported above (see 4.3.1) were performed. Ratings of the male target model's desirability as a short-term mate served as DV. The assumption of homogeneity of variance was violated, $F_{(7,291)}$ = 6.25, *p* < .001. The ANOVA was significant, $F_{(7,291)}$ = 20.48, *p* < .001, η_p^2 = .330. *F*-values, *p*-values, and effect sizes for main and interaction effects are displayed in Table 8. Analyses yielded significant effects of facial attractiveness and participant sex. Both main effects were qualified by significant interactions between smartphone type and facial attractiveness, as well as between facial attractiveness and participant sex. The three-way interaction between smartphone type, facial attractiveness, and participant sex was marginally significant (*p* = .067). Other effects did not reach significance. Given that the three-way interaction yielded marginal significance and no hypotheses were formulated regarding a three-way interaction, the interaction was not further analyzed.

Table 8. Effects of Smartphone Type (ST), Facial Attractiveness (FA), and Participant Sex (PS) on Perceptions of a Man's Desirability as a Short-Term Mate (H_1), Long-Term Mate (H_2), and his Inclination Toward Short-Term Mating (H_3), Study 2

DVs	Main effects			Interaction effects			
	ST	FA	PS	ST*FA	ST*PS	FA*PS	ST*FA*PS
Desirability as a short-term mate[a]	$F = 1.04$ $p = .308$ $\eta_p^2 = .004$	**$F = 58.91$** **$p < .001$** **$\eta_p^2 = .168$**	**$F = 71.62$** **$p < .001$** **$\eta_p^2 = .198$**	**$F = 4.88$** **$p = .028$** **$\eta_p^2 = .016$**	$F < 1$ $p = .974$ $\eta_p^2 < .001$	**$F = 8.00$** **$p = .005$** **$\eta_p^2 = .027$**	$F = 3.37$ $p = .067$ $\eta_p^2 = .011$
Desirability as a long-term mate[b]	**$F = 18.62$** **$p < .001$** **$\eta_p^2 = .060$**	**$F = 7.77$** **$p = .006$** **$\eta_p^2 = .026$**	**$F = 114.96$** **$p < .001$** **$\eta_p^2 = .283$**	$F = 1.29$ $p = .257$ $\eta_p^2 = .004$	$F = 2.34$ $p = .128$ $\eta_p^2 = .008$	$F = 1.68$ $p = .197$ $\eta_p^2 = .006$	$F = 3.81$ $p = .052$ $\eta_p^2 = .013$
Inclination toward short-term mating (SOI-R)[c]	**$F = 23.10$** **$p < .001$** **$\eta_p^2 = .074$**	**$F = 5.73$** **$p = .017$** **$\eta_p^2 = .019$**	$F = 3.88$ $p = .050$ $\eta_p^2 = .013$	$F = 3.02$ $p = .083$ $\eta_p^2 = .010$	$F = 2.14$ $p = .145$ $\eta_p^2 = .007$	$F < 1$ $p = .854$ $\eta_p^2 < .001$	$F = 1.32$ $p = .252$ $\eta_p^2 = .005$
Inclination toward short-term mating (lack of relationship exclusivity scale)[d]	**$F = 10.22$** **$p = .002$** **$\eta_p^2 = .034$**	**$F = 6.60$** **$p = .011$** **$\eta_p^2 = .022$**	$F < 1$ $p = .344$ $\eta_p^2 = .003$	$F = 1.79$ $p = .182$ $\eta_p^2 = .006$	$F = 2.79$ $p = .096$ $\eta_p^2 = .010$	$F < 1$ $p = .532$ $\eta_p^2 = .001$	$F < 1$ $p = .904$ $\eta_p^2 < .001$

Note. Significant effects ($p < .05$) are shown in bold letters. All *df*s = 1, 291. [a]$R^2 = .330$, $R^2_{adj} = .314$. [b]$R^2 = .340$, $R^2_{adj} = .324$. [c]$R^2 = .123$, $R^2_{adj} = .102$. [d]$R^2 = .078$, $R^2_{adj} = .056$.

To further examine the significant two-way interactions, simple effects analyses were employed. Addressing RQ_2, results showed that participants perceived the more attractive male target as a more desirable short-term mate when he was depicted as the owner of the conspicuous smartphone ($M_C = 41.15$, $SD = 21.87$ vs. $M_{NC} = 32.98$, $SD = 21.77$), $F_{(1, 291)} = 5.05$, $p = .025$, $\eta_p^2 = .017$. For the less attractive male target, perceptions did not significantly differ between smartphone conditions ($M_C = 16.15$, $SD = 21.78$ vs. $M_{NC} = 19.15$, $SD = 21.97$), $F_{(1, 291)} < 1$, $p = .394$, $\eta_p^2 = .003$ (Figure 11A). Furthermore, participants perceived the more attractive male target as a more desirable short-term mate than the less attractive male target in both the conspicuous, $F_{(1, 291)} = 48.23$, $p < .001$, $\eta_p^2 = .142$, and the nonconspicuous smartphone condition, $F_{(1, 291)} = 15.13$, $p < .001$, $\eta_p^2 = .049$ (Figure 11B, see Appendix K, Table K5 for the descriptive statistics).

Simple effects analyses for the interaction between facial attractiveness and participant sex showed that female participants perceived the more attractive male target ($M = 22.78$, $SD = 21.80$) as a more desirable short-term mate than the less attractive target ($M = 10.53$, $SD = 21.80$), $F_{(1, 291)} = 12.58$, $p < .001$, $\eta_p^2 = .041$, $d = 0.41$. Similarly, male participants rated the more attractive male target as a more desirable short-term mate for women ($M = 51.35$, $SD = 21.79$) than the less attractive target ($M = 24.79$, $SD = 21.77$), $F_{(1, 291)} = 51.72$, $p < .001$, $\eta_p^2 = .151$, $d = 0.84$. Furthermore, there were sex differences such that male participants perceived both the more attractive, $F_{(1, 291)} = 61.68$, $p < .001$, $\eta_p^2 = .175$, $d = 0.92$, and the less attractive male target, $F_{(1, 291)} = 16.42$, $p < .001$, $\eta_p^2 = .053$, $d = 0.47$, as more desirable short-term mates for women compared to the ratings female participants actually gave (see Appendix K, Table K5 for the descriptive statistics).

Based on these results, H_1 (men and women will perceive a man who owns a conspicuous smartphone as a more desirable short-term mate than a man who owns a nonconspicuous smartphone) was partially accepted. In particular, results showed that owning a conspicuous smartphone influenced a man's desirability as a short-term mate differently depending on the man's facial attractiveness (RQ_2). Owning a conspicuous smartphone enhanced the desirability as a short-term mate for a more attractive man but not for a less attractive man.

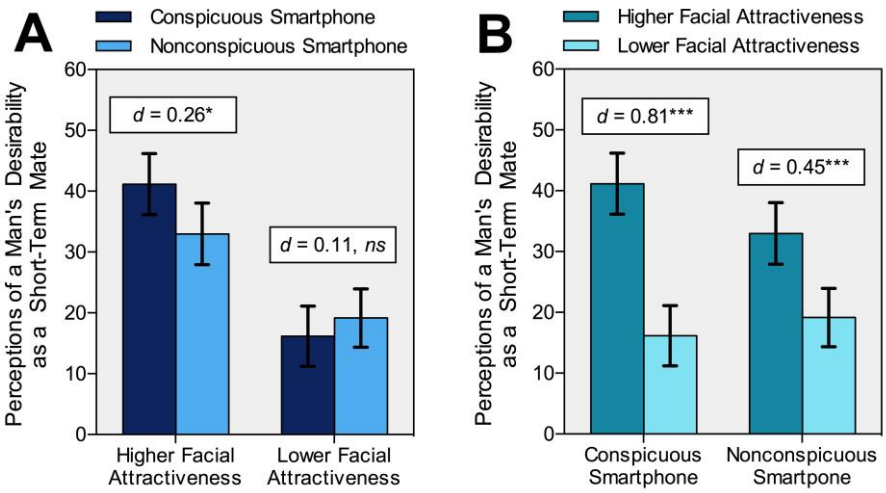


Figure 11. Perceptions of a Man's Desirability as a Short-Term Mate as a Function of the Man Owning a Conspicuous vs. Nonconspicuous Smartphone and of the Man's Facial Attractiveness (H_1, RQ_2), Study 2

Note. **p* < .05; ****p* < .001, two-tailed. Error bars indicate 95% confidence intervals. The figure displays the estimated marginal means.

4.3.3 Desirability as a long-term mate

Statistical analyses were the same as above (see 4.3.2). Perceptions of the male target model's desirability as a long-term mate were inserted as DV. Levene's test indicated heterogeneity of variance, *Levene's* $F_{(7,291)} = 13.91$, $p < .001$. Results yielded a significant ANOVA for desirability as a long-term mate, $F_{(7,291)} = 21.43$, *p*s < .001, $\eta_p^2 = .340$. *F*-values, *p*-values, and effect sizes of main and interaction effects are displayed in Table 8. Effects of smartphone type, facial attractiveness, and participant sex were significant. In addition, the three-way interaction between smartphone type, facial attractiveness, and participant sex yielded marginal significance ($p = .052$). Two-way interactions were non-significant. The marginally significant three-way interaction was not further analyzed, as no explicit hypotheses regarding such an effect were stated.

Supporting H_2, participants perceived the male target as a less desirable long-term mate when he was depicted as the owner of the conspicuous smartphone, ($M_C = 38.76$, $SD = 26.16$ vs. $M_{NC} = 51.85$, $SD = 26.27$, Figure 12). Moreover, participants perceived the more attractive male target as a more desirable long-term mate ($M = 49.53$, $SD = 26.16$) than the less attractive male target ($M = 41.08$, $SD = 26.25$, $d = 0.33$). Finally, sex differences were found such that male participants rated the male

targets as more desirable long-term mates for women (M = 61.56, SD = 26.11) than female participants actually did (M = 29.04, SD = 26.21, d = 1.26, see Appendix K, Table K6 for the descriptive statistics).

Thus, H_2 (men and women will perceive a man who owns a conspicuous smartphone as a less desirable long-term mate than a man who owns a nonconspicuous smartphone) was accepted. Interaction effects between facial attractiveness and smartphone type were not observed (RQ_2).

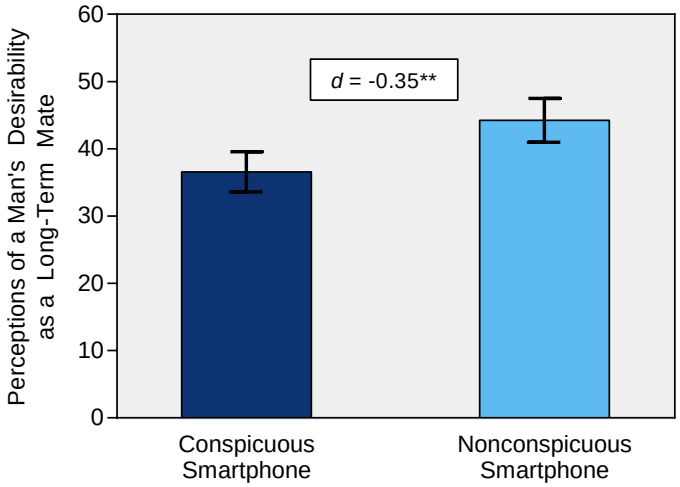


Figure 12. Perceptions of a Man's Desirability as a Long-Term Mate as a Function of the Man Owning a Conspicuous vs. Nonconspicuous Smartphone (H_2), Study 2

Note. **p < .01, two-tailed. Error bars indicate 95% confidence intervals. The figure displays the estimated marginal means.

4.3.4 Inclination toward short-term mating

The same statistical analyses as before (see 4.3.2) were employed to examine perceptions of the male target's mating strategy. Means of the SOI-R (Penke & Asendorpf, 2008) and of the lack of relationship exclusivity scale (Schmitt & Buss, 2000) were used as DVs. Results yielded significant ANOVAs for both measures (SOI-R: $F_{[7,291]}$ = 5.83, p < .001, η_p^2 = .123; lack of relationship exclusivity scale: $F_{[7,291]}$ = 3.52, p = .001, η_p^2 = .078). F-values, p-values, and effect sizes of main and interaction effects are displayed in Table 8.

For the SOI-R, main effects of smartphone type and facial attractiveness were significant. The effect of participant sex was on the very edge of significance (p = .050). Main effects of smartphone type and facial attractiveness were further qualified by a marginally significant interaction effect (p = .083). Although the interaction effect yielded only marginal significance, it was further analyzed, as it was one goal of Study 2 to explore interactions between owning a conspicuous smartphone and male facial attractiveness. All other effects were non-significant.

In favor of H_3 simple effects analyses revealed that male and female participants rated both the more attractive male target (M_C = 3.40, SD = 0.69 vs. M_{NC} = 2.87, SD = 0.70), $F_{(1, 291)}$ = 20.72, p < .001, η_p^2 = .066, and the less attractive male target (M_C = 3.07, SD = 0.69 vs. M_{NC} = 2.82,

SD = 0.70), $F_{(1, 291)} = 4.87$, $p = .028$, $\eta_p^2 = .016$, as more inclined toward short-term mating when they were presented as the owner of the conspicuous smartphone. With regard to RQ_2, effect sizes suggested that this effect was more pronounced for the more attractive target than for the less attractive target (Figure 13A). Comparing the participants' perceptions of the male target's mating strategy between the two smartphone conditions showed that in the conspicuous smartphone condition, participants perceived the more attractive male target as more inclined toward short-term mating than the less attractive male target, $F_{(1, 291)} = 8.43$, $p = .004$, $\eta_p^2 = .028$, whereas in the nonconspicuous smartphone condition perceptions did not differ, $F_{(1, 291)} < 1$, $p = .641$, $\eta_p^2 = .01$ (Figure 13B, see Appendix K, Table K7 for the descriptive statistics). Finally, male participants tended to perceive the male targets as more inclined toward short-term mating (*M* = 3.12, *SD* = 0.69) than female participants (*M* = 2.96, *SD* = 0.69, *d* = 0.23, see Appendix K, Table K7 for the descriptive statistics).

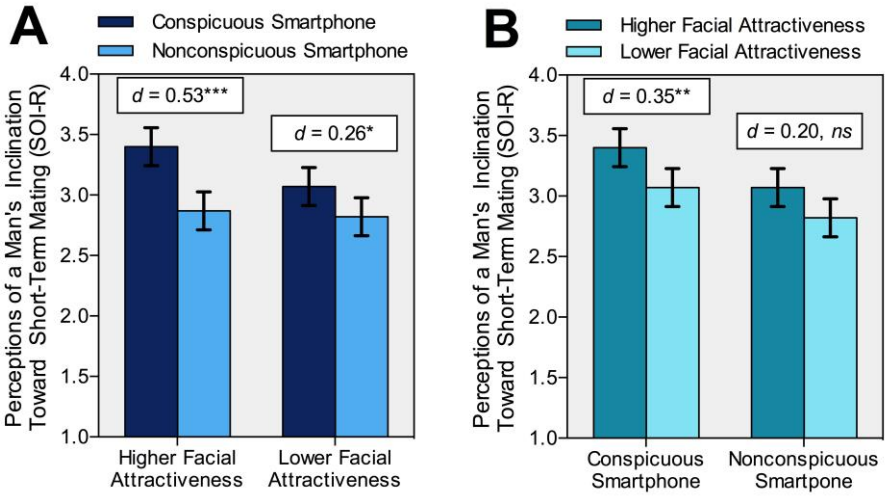


Figure 13. Perceptions of a Man's Inclination Toward Short-Term Mating (SOI-R) as a Function of the Man Owning a Conspicuous vs. Nonconspicuous Smartphone and the Man's Facial Attractiveness (H_3, RQ_2), Study 2

Note. *p < .05; **p < .01; ***p <.001, two-tailed. Error bars indicate 95% confidence intervals. The figure displays the estimated marginal means.

For the lack of relationship exclusivity scale, main effects of smartphone type and facial attractiveness proved significant. In addition, the interaction effect between smartphone type and participant sex yielded marginal significance ($p = .096$). All other effects did not reach significance (see Table 8). As no explicit hypotheses were stated for an interaction effect between smartphone type and participant sex, this effect was not further analyzed. Supporting H_3, participants perceived the male target as more inclined toward short-term mating in the conspicuous smartphone condition ($M_C = 4.47$, *SD* = 1.48 vs. $M_{NC} = 3.92$, *SD* = 1.49, Figure 14). Furthermore, participants rated the more attractive male target (*M* = 4.42, *SD* = 1.48) as more oriented toward short-term mating than the less attractive male target (*M* = 3.98, *SD* = 1.49, *d* = 0.30, see Appendix K, Table K8 for the descriptive statistics).

Given these findings, H_3 (men and women will perceive a man who owns a conspicuous smartphone

as more inclined toward short-term mating than a man who owns a nonconspicuous smartphone) was accepted. Moreover, for one measure of perceived mating strategy (SOI-R), there was a marginally significant interaction effect suggesting that owning a conspicuous smartphone fostered perceptions of a man's inclination toward short-term mating more for the more attractive than for the less attractive male target (RQ_2).

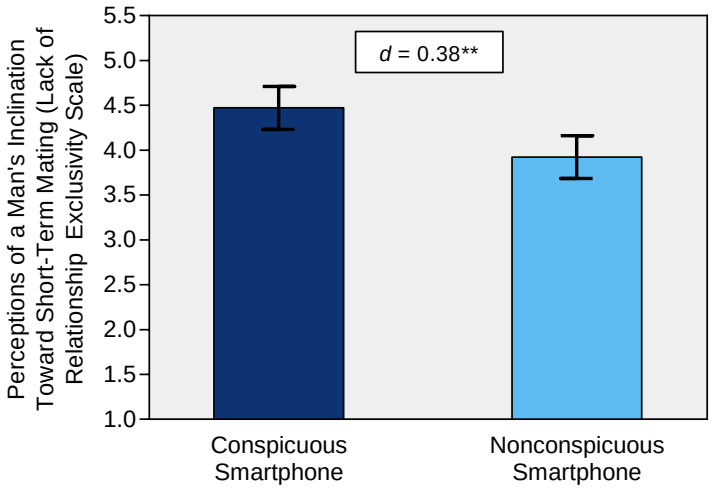


Figure 14. Perceptions of a Man's Inclination Toward Short-Term Mating (Lack of Relationship Exclusivity Scale) as a Function of the Man Owning a Conspicuous vs. Nonconspicuous Smartphone (H_3), Study 2

Note. $^{**}p < .01$, two-tailed. Error bars indicate 95% confidence intervals. The figure displays the estimated marginal means.

4.3.5 Mate value

MANOVA was employed to analyze the effects of smartphone type and facial attractiveness on perceptions of the male target's mate value (for a similar procedure, see Hudders et al., 2014). Smartphone type, facial attractiveness, and participant sex served as between-subjects factors, whereas the adjectives assessing mate value (i.e., agreeable, sexy, attractive, youthful, flirty, loyal, smart, talented, ambitious, passionate, rich, wealthy) were included as DVs. The majority of them were significantly correlated (see Appendix K, Table K9), indicating the appropriateness of MANOVA (Field, 2013).

Box's test showed that variances were unequal across experimental groups, Box's $M = 971.00$, $F_{(637,\ 90526.59)} = 1.30$, $p < .001$. However, cell sizes were roughly equal so that so that Hotelling's and Pillai's statistics could be assumed robust (Field, Miles, & Field, 2012). Analyses revealed significant MANOVA effects for smartphone type, *Pillai's trace* $V = 0.38$, $F_{(13,\ 279)} = 12.95$, $p < .001$, $\eta_p^2 = .376$, and facial attractiveness, *Pillai's trace* $V = 0.40$, $F_{(13,\ 279)} = 14.29$, $p < .001$, $\eta_p^2 = .400$. All other effects were non-significant, *Pillai's trace Vs* ≤ 0.07, $Fs_{(13,\ 279)} \leq 1.54$, $ps \geq .102$, $\eta_p^2 s \leq .067$.

Univariate ANOVAs were conducted to further investigate the significant main effects of smartphone type and facial attractiveness (Field, 2013). Levene's test indicated heterogeneity of variance for the adjectives sexy, attractive, flirty, ambitious, and passionate, *Levene's* $Fs_{(7, 380)} \geq 2.25$, $ps \leq .031$. Results yielded significant ANOVAs for ratings of agreeableness, $F_{(7, 291)} = 4.19$, $p < .001$, $\eta_p^2 = .091$, sexiness, $F_{(7, 291)} = 9.81$, $p < .001$, $\eta_p^2 = .191$, attractiveness, $F_{(7, 291)} = 12.54$, $p < .001$, $\eta_p^2 = .232$, youthfulness, $F_{(7, 291)} = 4.51$, $p < .001$, $\eta_p^2 = .089$, flirting behavior, $F_{(7, 291)} = 8.57$, $p < .001$, $\eta_p^2 = .171$, loyalty, $F_{(7, 291)} = 4.00$, $p < .001$, $\eta_p^2 = .088$, maturity, $F_{(7, 291)} = 3.48$, $p = .001$, $\eta_p^2 = .077$, smartness, $F_{(7, 291)} = 2.65$, $p = .011$, $\eta_p^2 = .060$, passion, $F_{(7, 291)} = 3.92$, $p < .001$, $\eta_p^2 = .086$, richness, $F_{(7, 291)} = 17.67$, $p < .001$, $\eta_p^2 = .298$, and wealth, $F_{(7, 291)} = 17.23$, $p < .001$, $\eta_p^2 = .293$. ANOVAs did not reach significance for talent and ambition, $Fs_{(7, 291)} \leq 2.03$, $ps \geq .051$, $\eta_p^2 s \leq .047$.

Effects of smartphone type were significant for agreeableness, loyalty, maturity, smartness, richness, and wealth, and approached significance for attractiveness ($p = .088$) and flirting behavior ($p = .050$). See Table 9 for *F*-values, *p*-values, and effect sizes of main and interaction effects. Providing at least partial support for H_4, participants rated the male target depicted as the owner of the conspicuous smartphone as less agreeable ($M_C = 56.26$, $SD = 22.31$ vs. $M_{NC} = 69.81$, $SD = 22.40$), less loyal ($M_C = 54.76$, SD = 23.09 vs. $M_{NC} = 66.36$, $SD = 23.19$), less mature ($M_C = 39.99$, $SD = 23.33$ vs. $M_{NC} = 47.18$, $SD = 23.42$), less smart ($M_C = 50.17$, $SD = 22.38$ vs. $M_{NC} = 59.95$, $SD = 22.47$), and tended to rate him as less attractive ($M_C = 33.45$, $SD = 22.56$ vs. M_{NC} 37.94, $SD = 22.65$). On the other hand, participants rated him as richer ($M_C = 56.86$, $SD = 23.43$ vs. $M_{NC} = 29.03$, $SD = 23.53$) and wealthier ($M_C = 55.26$, $SD = 24.09$ vs. $M_{NC} = 28.46$, $SD = 24.19$), and tended to perceive him as flirtier ($M_C = 36.84$, $SD = 23.48$ vs. $M_{NC} = 31.50$, $SD = 23.57$, Figure 15, see Appendix K, Table K10 to Table K22 for the descriptive statistics).

Effects of facial attractiveness proved significant for perceptions of sexiness, attractiveness, youthfulness, flirting behavior, loyalty, maturity, passion, richness, and wealth. Table 9 displays *F*-values, *p*-values, and effect sizes of main and interaction effects. Participants perceived the more attractive male target as sexier ($M_{\text{more attr.}} = 38.41$, $SD = 21.74$ vs. $M_{\text{less attr.}} = 18.22$, $SD = 21.81$, $d = 0.94$), more attractive ($M_{\text{more attr.}} = 47.57$, $SD = 22.56$ vs. $M_{\text{less attr.}} = 23.82$, $SD = 22.63$, $d = 1.07$), more youthful ($M_{\text{more attr.}} = 78.06$, $SD = 24.51$ vs. $M_{\text{less attr.}} = 63.25$, $SD = 24.59$, $d = 0.61$), flirtier ($M_{\text{more attr.}} = 43.98$, $SD = 23.47$ vs. $M_{\text{less attr.}} = 24.36$, $SD = 23.55$, $d = 0.85$), more passionate ($M_{\text{more attr.}} = 38.82$, $SD = 21.96$ vs. $M_{\text{less attr.}} = 27.30$, $SD = 22.03$, $d = 0.53$), richer ($M_{\text{more attr.}} = 45.81$, $SD = 23.43$ vs. $M_{\text{less attr.}} = 40.08$, $SD = 23.51$, $d = 0.23$), and wealthier ($M_{\text{more attr.}} = 47.31$, $SD = 24.09$ vs. $M_{\text{less attr.}} = 36.41$, $SD = 24.17$, $d = 0.46$) than the less attractive male target. Moreover, they rated the more attractive male target as less loyal ($M_{\text{more attr.}} = 57.24$, $SD = 23.09$ vs. $M_{\text{less attr.}} = 63.87$, $SD = 23.16$, $d = -0.29$) and less mature ($M_{\text{more attr.}} = 40.49$, $SD = 23.33$ vs. $M_{\text{less attr.}} = 46.68$, $SD = 23.40$, $d = -0.27$) than the less attractive male target (see Appendix K, Table K10 to Table K22 for the descriptive statistics).

Table 9. Effects of Smartphone Type (ST), Facial Attractiveness (FA), and Participant Sex (PS) on Perceptions of a Man's Mate Value (H_4), Study 2

	Main effects			Interaction effects			
DV	ST	FA	PS	ST*FA	ST*PS	FA*PS	ST*FA*PS
Agreeableness[a]	**F = 27.41** **p < .001** **η_p^2 = .086**	F < 1 p = .627 η_p^2 = .001	F < 1 p = .341 η_p^2 = .003	F < 1 p = .899 η_p^2 < .001	F < 1 p = .747 η_p^2 < .001	F < 1 p = .795 η_p^2 < .001	F < 1 p = .999 η_p^2 < .001
Sexiness[b]	F < 1 p = .854 η_p^2 < .001	**F = 64.23** **p < .001** **η_p^2 = .181**	F < 1 p = .481 η_p^2 = .002	F = 1.16 p = .283 η_p^2 = .004	F < 1 p = .578 η_p^2 = .001	F < 1 p = .389 η_p^2 = .003	F = 1.88 p = .171 η_p^2 = .006
Attractiveness[c]	F = 2.94 p = .088 η_p^2 = .010	**F = 82.47** **p < .001** **η_p^2 = .221**	F < 1 p = .467 η_p^2 = .002	F = 2.51 p = .114 η_p^2 = .009	F < 1 p = .621 η_p^2 = .001	F < 1 p = .645 η_p^2 = .001	F < 1 p = .802 η_p^2 < .001
Youthfulness[d]	F < 1 p = .534 η_p^2 = .001	**F = 27.18** **p < .001** **η_p^2 = .085**	F = 1.25 p = .265 η_p^2 = .004	F < 1 p = .375 η_p^2 = .003	F = 1.74 p = .188 η_p^2 = .006	F = 1.02 p = .314 η_p^2 = .003	F < 1 p = .897 η_p^2 < .001
Flirting behavior[e]	F = 3.86 p = .050 η_p^2 = .013	**F = 52.03** **p < .001** **η_p^2 = .152**	F < 1 p = .912 η_p^2 < .001	F = 1.74 p = .188 η_p^2 = .006	F < 1 p = .530 η_p^2 = .001	F < 1 p = .673 η_p^2 = .001	F < 1 p = .354 η_p^2 = .003
Loyalty[f]	**F = 18.78** **p < .001** **η_p^2 = .061**	**F = 6.14** **p = .014** **η_p^2 = .021**	F < 1 p = .336 η_p^2 = .003	F < 1 p = .853 η_p^2 < .001	F < 1 p = .850 η_p^2 < .001	F = 1.57 p = .211 η_p^2 = .005	F < 1 p = .543 η_p^2 = .001
Maturity[g2]	**F = 7.07** **p = .008** **η_p^2 = .024**	**F = 5.24** **p = .023** **η_p^2 = .018**	F = 1.79 p = .182 η_p^2 = .006	F = 4.35 p = .038 η_p^2 = .015	F = 3.36 p = .068 η_p^2 = .011	F = 1.44 p = .230 η_p^2 = .005	F < 1 p = .368 η_p^2 = .003
Smartness[h]	**F = 14.22** **p < .001** **η_p^2 = .047**	F = 1.49 p = .223 η_p^2 = .005	F < 1 p = .522 η_p^2 = .001	F = 3.58 p = .059 η_p^2 = .012	F < 1 p = .430 η_p^2 = .002	F < 1 p = .656 η_p^2 = .001	F < 1 p = .975 η_p^2 < .001
Talent[i1]	F = 5.01 p = .026 η_p^2 = .017	F = 7.62 p = .006 η_p^2 = .026	F < 1 p = .676 η_p^2 = .001	F < 1 p = .711 η_p^2 < .001	F = 1.41 p = .235 η_p^2 = .005	F < 1 p = .608 η_p^2 = .001	F < 1 p = .960 η_p^2 < .001
Ambition[j1]	F < 1 p = .419 η_p^2 = .002	F = 2.67 p = .104 η_p^2 = .009	F < 1 p = .861 η_p^2 < .001	F < 1 p = .470 η_p^2 = .002	F = 2.08 p = .150 η_p^2 = .007	F < 1 p = .540 η_p^2 = .001	F = 2.04 p = .154 η_p^2 = .007
Passion[k]	F = 1.03 p = .311 η_p^2 = .004	**F = 20.46** **p < .001** **η_p^2 = .066**	F = 3.58 p = .059 η_p^2 = .012	F = 2.57 p = .110 η_p^2 = .009	F < 1 p = .620 η_p^2 = .001	F < 1 p = .870 η_p^2 < .001	F < 1 p = .946 η_p^2 < .001
Richness[l2]	**F = 104.93** **p < .001** **η_p^2 = .265**	**F = 4.45** **p = .036** **η_p^2 = .015**	F < 1 p = .432 η_p^2 = .002	F = 1.63 p = .202 η_p^2 = .006	F = 7.11 p = .008 η_p^2 = .024	F < 1 p = .486 η_p^2 = .002	F < 1 p = .971 η_p^2 < .001
Wealth[m2]	**F = 92.07** **p < .001** **η_p^2 = .240**	**F = 15.25** **p < .001** **η_p^2 = .050**	F < 1 p = .964 η_p^2 < .001	F = 1.24 p = .266 η_p^2 = .004	F = 5.12 p = .024 η_p^2 = .017	F = 3.89 p = .050 η_p^2 = .013	F < 1 p = .739 η_p^2 < .001

Note. Significant effects (p < .05) that were interpreted appear in bold letters. All *df*s = 1, 291. [1]Due to non-significant ANOVAs, effects were not interpreted. [2]Due to non-significant MANOVA effects, interaction effects were not interpreted. [a]R^2 = .091, R^2_{adj} = .070. [b]R^2 = .191, R^2_{adj} = .171. [c]R^2 = .232, R^2_{adj} = .213. [d]R^2 = .098, R^2_{adj} = .076. [e]R^2 = .171, R^2_{adj} = .151. [f]R^2 = .088, R^2_{adj} = .066. [g]R^2 = .077, R^2_{adj} = .055. [h]R^2 = .060, R^2_{adj} = .037. [i]R^2 = .047, R^2_{adj} = .024. [j]R^2 = .030, R^2_{adj} = .007. [k]R^2 = .086, R^2_{adj} = .064. [l]R^2 = .298, R^2_{adj} = .281, [m]R^2 = .293, R^2_{adj} = .276.

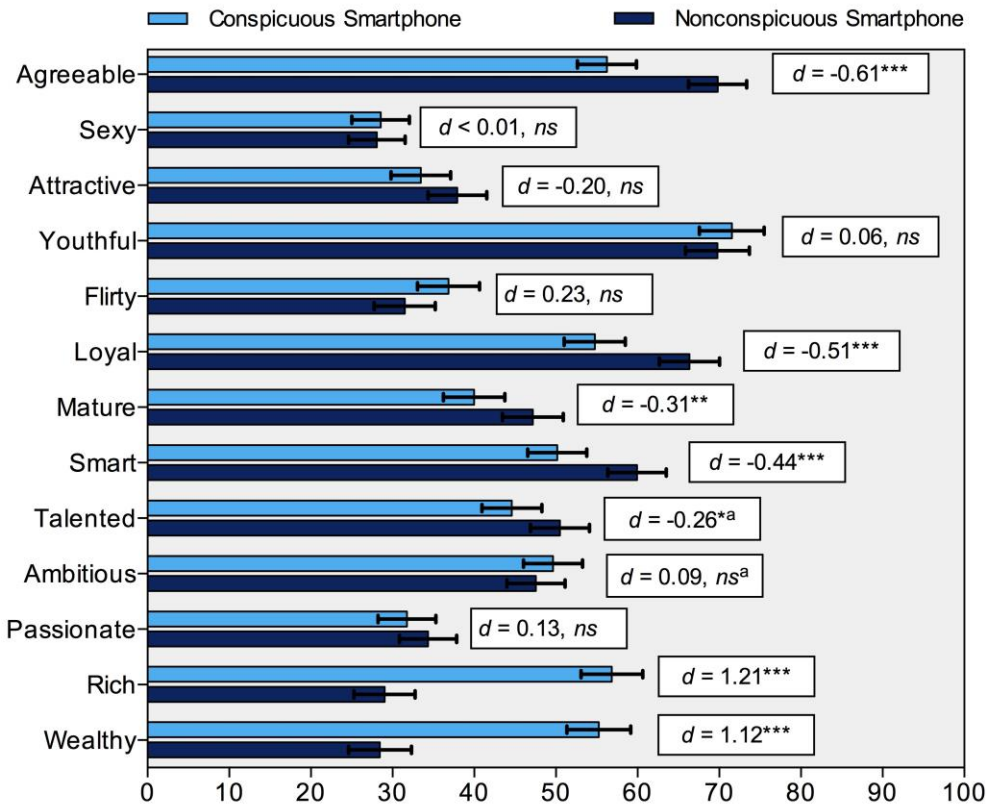


Figure 15. Perceptions of a Man's Mate Value as a Function of the Man Owning a Conspicuous vs. Nonconspicuous Smartphone (H_4), Study 2

Note. *p < .05; **p < .01; ***p <.001, two-tailed. Error bars indicate 95% confidence intervals. The figure displays the estimated marginal means. [a]Effects are not interpreted because ANOVAs were non-significant.

Given these results, H_4 (men and women will be more likely to assign traits that are associated with the pursuit of a short-term mating strategy to a man who owns a conspicuous smartphone than to a man who owns a nonconspicuous smartphone) was, at least, partially supported. Specifically, when the male target was depicted as the owner of the conspicuous smartphone, participants perceived him as less agreeable, less loyal, less mature, less smart, but richer and wealthier. Moreover, they tended to perceive him as less attractive and as more engaged in flirting behavior. Interaction effects between owning a conspicuous smartphone and the male target's facial attractiveness were not observed (RQ_2).

4.3.6 Male rival

ANOVAs with the three between-subjects factors of smartphone type, facial attractiveness, and participant sex were employed. Male and female perceptions of the male target as a male rival served as DVs. The ANOVA was significant, $F_{(7, 291)} = 8.22$, $p < .001$, $\eta_p^2 = .265$. Table 10 displays F-values, p-values, and effect sizes of main and interaction effects. Main effects of smartphone type, facial attractiveness, and participant sex proved significant. Moreover, main effects were qualified by significant interaction effects between smartphone type and facial attractiveness and smartphone type and participant sex, respectively. Other interaction effects were non-significant.

Table 10. Effects of Smartphone Type (ST), Facial Attractiveness (FA), and Participant Sex (PS) on Perceptions of a Man as a Male Rival (H_5), Male Friend (H_6), and Mate Poacher (H_7), Study 2

DVs	Main effects			Interaction effects			
	ST	FA	PS	ST*FA	ST*PS	FA*PS	ST*FA*PS
Male rival[a]	**F = 6.38** **p = .012** **η_p^2 = .021**	**F = 16.12** **p < .001** **η_p^2 = .052**	**F = 21.57** **p < .001** **η_p^2 = .067**	**F = 5.08** **p = .025** **η_p^2 = .017**	**F = 6.21** **p = .013** **η_p^2 = .021**	F < 1 p = .602 η_p^2 = .001	F < 1 p = .541 η_p^2 = .001
Male friend[b]	**F = 9.80** **p = .002** **η_p^2 = .033**	F < 1 p = .324 η_p^2 = .003	**F = 17.56** **p < .001** **η_p^2 = .057**	F < 1 p = .631 η_p^2 = .001	F = 1.88 p = .172 η_p^2 = .006	F < 1 p = .659 η_p^2 = .001	F < 1 p = .626 η_p^2 = .001
Mate poacher: Introduce man to girlfriend[c]	**F = 14.81** **p < .001** **η_p^2 = .049**	F = 3.84 p = .051 η_p^2 = .013	F = 3.41 p = .066 η_p^2 = .012	F < 1 p = .577 η_p^2 = .001	F < 1 p = .359 η_p^2 = .003	F < 1 p = .381 η_p^2 = .003	F = 1.36 p = .245 η_p^2 = .005
Mate poacher: Let girlfriend spend time alone with man[d]	**F = 7.26** **p = .007** **η_p^2 = .024**	**F = 7.00** **p = .009** **η_p^2 = .023**	F = 2.18 p = .141 η_p^2 = .007	F = 2.58 p = .109 η_p^2 = .009	F = 2.20 p = .139 η_p^2 = .007	F = 1.67 p = .195 η_p^2 = .006	F < 1 p = .966 η_p^2 < .001

Note. Significant effects (p < .05) are shown in bold letters. All *df*s = 1, 291. [a]R^2 = .165, R^2_{adj} = .145. [b]R^2 = .095, R^2_{adj} = .073. [c]R^2 = .078, R^2_{adj} = .056. [d]R^2 = .086, R^2_{adj} = .064.

Significant interactions effects were further explored using simple effects analyses. Addressing RQ_2, participants perceived the more attractive male target as a stronger male rival when he was depicted as the owner of the conspicuous smartphone (M_C = 3.91, SD = 1.58 vs. M_{NC} = 3.04, SD = 1.57), $F_{(1, 291)}$ = 11.05, p < .001, η_p^2 = .037. In contrast, perceptions of the less attractive male target as a male rival did not significantly differ between smartphone conditions (M_C = 2.77, SD = 1.57 vs. M_{NC} = 2.72, SD = 1.59), $F_{(1, 291)}$ < 1, p = .845, η_p^2 < .001, (Figure 16A). Moreover, in the conspicuous smartphone condition, participants rated the more attractive male target as a stronger rival than the less attractive male target, $F_{(1, 291)}$ = 19.40, p < .001, η_p^2 = .063. In the nonconspicuous smartphone condition, perceptions of the male targets were not significantly different, $F_{(1, 291)}$ = 1.57, p = .211, η_p^2 = .005 (Figure 16B, see Appendix K, Table K23 for the descriptive statistics).

Simple effects analyses of the interaction between smartphone type and participant sex analyses indicated that female participants perceived the male target model as a stronger rival for men when he was depicted as the owner of the conspicuous smartphone (M_C = 3.99, SD = 1.57 vs. M_{NC} = 3.07, SD = 1.60), $F_{(1, 291)}$ = 13.48, p < .001, η_p^2 = .044, d = 0.43; however, male participants' ratings of the male target as a rival did not differ between smartphone conditions (M_C = 2.69, SD = 1.57 vs. M_{NC} = 2.69, SD = 1.57), $F_{(1, 291)}$ < 1, p = .981, η_p^2 < .001, d < 0.01. In the conspicuous smartphone condition, female participants perceived the male target as stronger rival for men than male participants actually did, $F_{(1, 291)}$ = 24.75, p < .001, η_p^2 = .078, d = 0.58, whereas in the nonconspicuous smartphone condition, there were no sex differences in perceptions of the male target as a male rival, $F_{(1, 291)}$ = 2.23, p = .137, η_p^2 = .008, d = 0.18.

Thus, H_5 (men and women will perceive a man who owns a conspicuous smartphone more as a male rival than a man who owns a nonconspicuous smartphone) received partial support. Specifically,

an interaction effect could be observed such that owning a conspicuous smartphone increased perceptions of the more attractive man as a male rival, but not those of the less attractive man (RQ_2). Moreover, smartphone type and participant sex interacted such that female participants perceived the male target as a stronger rival for men when he was presented as the owner of the conspicuous smartphone, whereas male participants' ratings were not affected by the type of smartphone the male target owned.

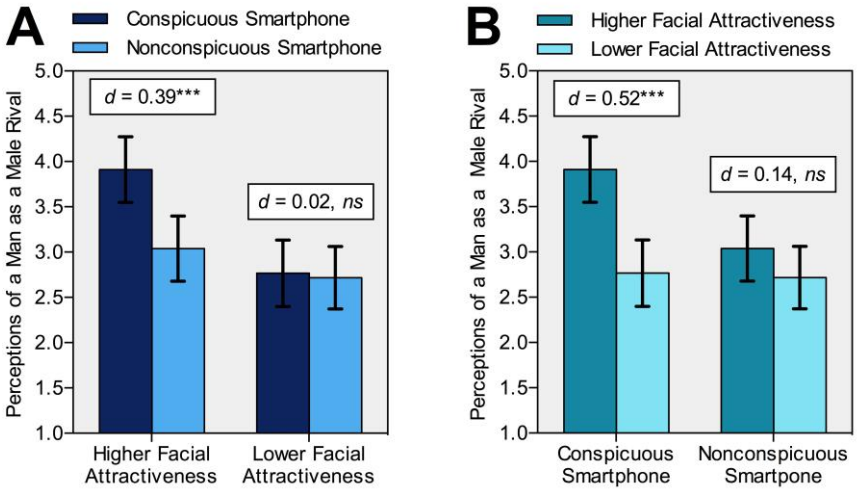


Figure 16. Perceptions of a Man as a Male Rival as a Function of the Man Owning a Conspicuous vs. Nonconspicuous Smartphone and of the Man's Facial Attractiveness (H_5, RQ_2), Study 2

Note. ***p <.001, two-tailed. Error bars indicate 95% confidence intervals. The figure displays the estimated marginal means.

4.3.7 Male friend

The same statistical analyses as above (see 4.3.6) were conducted. Male and female perceptions of the male target as a male friend were inserted as DV. The ANOVA was significant, $F_{(7,291)} = 4.67$, $p < .001$, $\eta_p^2 = .095$. Table 10 displays F-values, p-values, and effect sizes of main and interaction effects. Main effects of smartphone type and participant sex were significant. All other effects were non-significant.

In favor of H_6, participants perceived the male target less as a male friend when he was presented as the owner of the conspicuous smartphone ($M_C = 4.81$, $SD = 1.34$ vs. $M_{NC} = 5.29$, $SD = 1.34$, Figure 17). In addition, female participants perceived the male targets more as potential friends for men ($M = 5.37$, $SD = 1.34$) than male participants actually indicated ($M = 4.72$, $SD = 1.33$, $d = 0.49$, see Appendix K, Table K24 for the descriptive statistics).

Thus, H_6 (men and women will perceive a man who owns a conspicuous smartphone less as a male friend than a man who owns a nonconspicuous smartphone) was accepted. No interaction effects between the ownership of a conspicuous smartphone and facial attractiveness were found (RQ_2).

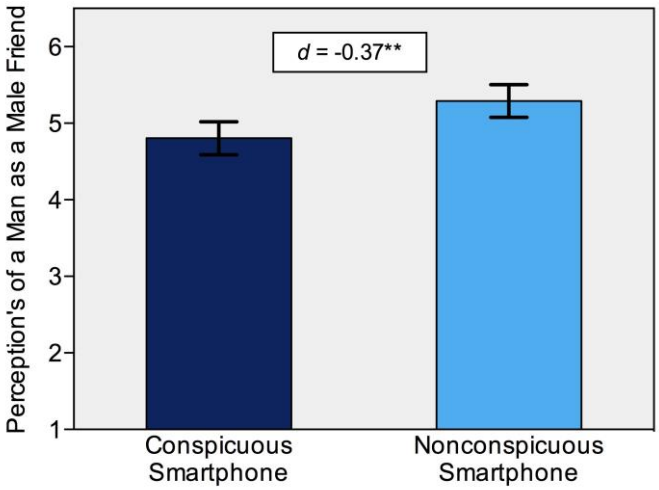


Figure 17. Perceptions of a Man as a Male Friend (H_6) as a Function of the Man Owning a Conspicuous vs. Nonconspicuous Smartphone, Study 2

Note. **p < .01, two-tailed. Error bars indicate 95% confidence intervals. The figure displays estimated marginal means.

4.3.8 Mate poacher

Statistical analyses were the same as above (see 4.3.6). Male and female perceptions of the male target as a mate poacher (i.e., "introduce man to girlfriend", "let girlfriend spend time alone with man") were included as DVs. Levene's test suggested heterogeneity of variance for the item "introduce man to girlfriend", $F_{(7,291)}$ = 2.06, p = .048. Results yielded significant ANOVAs for both items (introduce man to girlfriend: $F_{[7,291]}$ = 3.93, p < .001, η_p^2 = .086; let girlfriend spend time alone with man: $F_{[7,291]}$ = 3.53, p = .001, η_p^2 = .078). See Table 10 for F-values, p-values, and effect sizes of main and interaction effects. The main effect of smartphone type was significant for both items. Moreover, the effect of facial attractiveness proved significant for the item "let girlfriend spend time alone with man". Finally, for the item "introduce man to girlfriend", effects of facial attractiveness (p = .051) and participant sex (p = .066) approached significance.

Corroborating H_7, male participants were less willing to introduce the male target to their girlfriend when he was depicted as the owner of the conspicuous smartphone, and female participants shared this perception (M_C = 5.04, SD = 1.42 vs. M_{NC} = 4.41, SD = 1.42, Figure 18). Similarly, male participants reported a lower willingness to let their girlfriend spend time alone with the male target when he was presented as the owner of the conspicuous smartphone, and female participants held the same view (M_C = 4.55, SD = 1.63 vs. M_{NC} = 5.06, SD = 1.63, Figure 18). Regarding the effects of facial attractiveness, male participants tended to be less willing to introduce the more attractive male target to their girlfriends, and female participants thought so as well ($M_{\text{more attr.}}$ = 4.65, SD = 1.42 vs. $M_{\text{less attr.}}$ = 4.89, SD = 1.42, d = -0.23). In a similar vein, male participants reported that they would be less willing to allow their girlfriend to spend time alone with the more attractive male target and, again, female participants also expected this ($M_{\text{more attr.}}$ = 4.55, SD = 1.63 vs. $M_{\text{less attr.}}$ = 5.05, SD = 1.63,

d = -0.31). Finally, female participants tended to overestimate a man's willingness to introduce their girlfriend to the depicted man ($M_{♀}$ = 4.88, *SD* = 1.42 vs. $M_{♂}$ = 4.57, *SD* = 1.41, *d* = 0.22, see Appendix K, Table K25 to Table K26 for the descriptive statistics).

Given these findings, H_7 (men and women will perceive a man who owns a conspicuous smartphone more as a mate poacher than a man who owns a nonconspicuous smartphone) was supported. No evidence for an interaction effect between owning a conspicuous smartphone and male facial attractiveness was found (RQ_2).

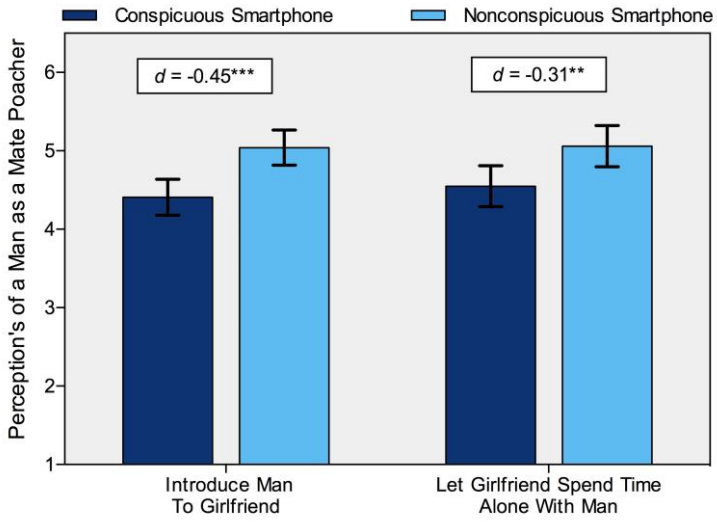


Figure 18. Perceptions of a Man as a Mate Poacher (H_7) as a Function of the Man Owning a Conspicuous vs. Nonconspicuous Smartphone, Study 2

Note. **p < .01; ***p <.001, two-tailed. Error bars indicate 95% confidence intervals. The figure displays estimated marginal means.

4.4 Discussion

In line with the hypotheses, perceptions of a man's desirability as a mate were influenced by the type of smartphone the man owned. More specifically, a male owner of a conspicuous, high-status smartphone was perceived as a more desirable short-term mate; however, this was only the case for a male owner with higher facial attractiveness but not for a male owner with lower facial attractiveness. These findings suggest that conspicuous consumption of smartphones could be an effective strategy for men to enhance their desirability as a short-term mate, specifically for attractive men. In contrast, this strategy appears to be less effective for less attractive men. Nevertheless, the extent of conspicuous consumption may also influence perceptions of a man's mate quality. For instance, Dunn and Searle (2010) showed that luxury car ownership enhanced a moderately attractive man's attractiveness as a mate. Hence, stronger displays of male conspicuous consumption (as in the case of luxury car purchase and ownership) could be an effective strategy to boost desirability as a mate for a less attractive man, too. This would be in line with the findings of Chan (2015), which revealed that

less attractive men engaged in financial risk taking to accrue resources with the goal to boost their mate quality when they were faced with same-sex competitors of high attractiveness.

Moreover, men and women evaluated a male owner of a conspicuous smartphone as a less desirable long-term mate. This finding replicates the results of Study 1 and further corroborates the assumption that male conspicuous consumption of smartphones might decrease a man's desirability as a mate in a long-term mating context. This result also fits with research that suggested that men's consumption of a nonconspicuous, low-status smartphone could signal an interest in committing to a long-term relationship by saving precious resources (Hennighausen & Schwab, 2014).

Men's and women's perceptions of the male smartphone owner's mating strategy were assessed using two measures. For the first measure (SOI-R, Penke & Asendorpf, 2008), an interaction effect between smartphone type and male facial attractiveness appeared. Men and women rated a male owner of a conspicuous smartphone as more inclined toward the pursuit of a short-term mating strategy. The effect, however, was more pronounced for a male owner with higher facial attractiveness than for a male owner with lower facial attractiveness (moderate vs. small effect size). As this interaction effect yielded only marginal significance, it should be interpreted with caution. For the second measure (lack of relationship exclusivity scale, Schmitt & Buss, 2000), no interaction effect between male conspicuous consumption of smartphones and facial attractiveness occurred but main effects were found. Men and women perceived a male owner of a conspicuous smartphone as more inclined toward short-term mating; likewise they perceived a man of higher facial attractiveness as more oriented toward short-term mating. The former finding fits with the results of Study 1 and with previous research that suggests that male conspicuous consumption of smartphones is related to a man's orientation toward short-term mating (Hennighausen & Schwab, 2014). Taken together, the results of Study 1 and 2 corroborate that male conspicuous consumption of smartphones is associated with the pursuit of a short-term mating strategy. Moreover, this effect could be moderated by facial attractiveness such that it is stronger for men with higher facial attractiveness.

Analyzing perceptions of the man's mate value depending on the smartphone he owns further supported the assumption that male conspicuous consumption of smartphones could be associated with a man's inclination toward short-term mating. Both men and women perceived a male owner of a conspicuous smartphone as less agreeable, less loyal, less mature, and less smart, and tended to perceive him as less attractive relative to a male owner of a nonconspicuous smartphone. On the other hand, they perceived a male owner of a conspicuous smartphone as richer and wealthier (i.e., of higher status), and tended to rate him as more flirtatious relative to a male owner of a nonconspicuous smartphone. Most of these perceptions can be linked to a short-term mating context. Low levels of agreeableness facilitate a man's pursuit of a short-term mating strategy (e.g., Jonason & Buss, 2012; Jonason, Li, Webster, & Schmitt, 2009) so that women specifically value agreeableness and kindness in a long-term mate (Botwin, Buss, & Shackelford, 1997; Furnham, 2009; Gangestad et al., 2007; Li et al., 2002). Similarly, lower loyalty and an inclination toward flirting contribute to a man's pursuit of a

short-term mating strategy. In line with this, women strongly value loyalty and faithfulness in a long-term mate, in particular, emotional fidelity (e.g., Buss, Larsen, Westen, & Semmelroth, 1992; B. P. Buunk, Angleitner, Oubaid, & Buss, 1996). Women seek men with resources for both long-term and short-term relationships. On the one hand, resources provide cues to a man's status and future resources, which is a trait women favor in a long-term mate (e.g., Buss, 1989). On the other hand, the availability of resources may also facilitate male conspicuous consumption and the provision with tangible resources, which is a characteristic women specifically seek in short sexual affairs (Buss & Schmitt, 1993; Greiling & Buss, 2000). Lower levels of maturity might be also rather typical of a short-term than of a long-term mate, as maturity is positively associated with the willingness to commit to a long-term relationship (Simpson, Wilson, & Winterheld, 2004; Zimmer-Gembeck, 2002). Interestingly, participants perceived a male owner of a conspicuous smartphone as less smart than a male owner of a nonconspicuous smartphone. On the one hand, smartness and intelligence are traits predicting a man's resource acquisition ability and economic success (Judge et al., 2009; Li et al., 2002; Strenze, 2007), which is a characteristic women value in a long-term mating context (e.g., Buss, 1989). Nevertheless, intelligence and smartness are traits indicating high genetic quality, too (e.g., Miller, 2000), which is a characteristic that women specifically favor in a short-term mate. Maturity (see above) and intelligence, however, are negatively correlated (Cohn & Westenberg, 2004). This could explain why men and women rated a male owner of a conspicuous smartphone also as less smart, given that male conspicuous consumption of smartphones rather appears to be linked to the pursuit of a short-term than of a long-term mating strategy. Finally, men and women tended to perceive a male owner of a conspicuous smartphone as less attractive than a male owner of a nonconspicuous smartphone. This finding appears to conflict with previous research that showed that owning conspicuous, high-status products increased a man's attractiveness as a mate (Dunn & Hill, 2014; Dunn & Searle, 2010; Shuler & McCord, 2010). However, as this result failed to reach conventional levels of significance and its effect size indicated a small effect only, it should be interpreted with reservation. This result will be returned to in Study 3.

Study 2 examined perceptions of male owners of a conspicuous smartphone more explicitly in male-male competition. It surfaced that conspicuous consumption of smartphones affected perceptions of a man as a male rival differently depending on the man's facial attractiveness. In particular, owning a conspicuous smartphone increased perceptions of a more attractive man as a male rival only, whereas perceptions of a less attractive man as a male rival remained unaffected by the type of smartphone the man owned. These results are in line with research that suggests that mobile devices function as indicators of status in male-male competition (Lycett & Dunbar, 2000). Beyond that, this effect appears to be specifically pronounced for men with higher facial attractiveness. These results are similar to those found for a man's desirability as a short-term mate (see above). Hence, male conspicuous consumption of smartphones in intrasexual competition may be specifically effective at impressing rivals when the man who displays this behavior shows further cues of high biological

fitness. This interpretation is further bolstered by the fact that the man's facial attractiveness alone did not affect how he was perceived as a male rival.

In addition, an interaction effect between participant sex and smartphone type occurred. Men's perceptions of another man as a rival did not differ, irrespective of whether the other man owned a conspicuous or a nonconspicuous device. In contrast, women rated a male owner of a conspicuous smartphone as a stronger rival for other men than a male owner of a nonconspicuous smartphone. These findings suggest that women might attach more importance to male conspicuous consumption of smartphones in intrasexual competition than men. However, given that men perceived another man as a stronger rival when this man owned a conspicuous smartphone and when he was more attractive (see above) male conspicuous consumption of smartphones, may, at least, play a partial role in intrasexual competition. As discussed above for perceptions of a man's desirability as a short-term mate, it is possible that the extent of conspicuous consumption influences men's perceptions of other men as rivals. Men might also perceive less attractive men as stronger rivals when these less attractive men engaged in large displays of conspicuous consumption. In line with this, recent research found that male conspicuous consumption of luxury cars fostered male perceptions of another man as a rival to a moderate extent (Hennighausen et al., 2016; Hennighausen & Lange, 2016). This finding will be addressed again in Study 3.

Lastly, men were less willing to become friends with a male owner of a conspicuous smartphone than with a male owner of a nonconspicuous smartphone. In addition, women also thought that men would be less likely to become friends with another man who owns a conspicuous smartphone. Men and women further perceived a male owner of a conspicuous smartphone as a stronger mate poacher. More specifically, men were less willing to introduce a male owner of a conspicuous smartphone to their romantic partner and were also less willing to let their romantic partner spend time alone with this man. Again, women shared the same view. These results further point at a possible function of male conspicuous consumption in intrasexual competition.

Beyond the hypothesized effects, men's and women's perception of other men as mates and male rivals were affected by those men's facial attractiveness. In particular, men and women favored a man with higher facial attractiveness as a short-term mate and long-term mate over a man with lower facial attractiveness. They further perceived a more attractive man as more inclined toward the pursuit of a short-term mating strategy. In terms of mate value, men and women assigned traits to a more attractive man that are desirable in both a short-term and long-term mating context (i.e., higher attractiveness, sexual willingness, ambition, and status; lower maturity). Men and women further perceived a man with higher facial attractiveness as a stronger mate poacher than a man with lower facial attractiveness. All these findings are broadly consistent with research that suggests that male facial attractiveness indicates high mate quality (Gangestad & Scheyd, 2005; Little et al., 2011) so that more attractive men are specifically preferred as short-term mates (e.g., Gangestad et al., 2007; Gangestad & Simpson, 2000; Gildersleeve et al., 2014). Nevertheless, women favor more attractive men as

long-term mates as well (Buss & Shackelford, 2008). However, due to their higher mate quality, more attractive men have more mating opportunities (Rhodes et al., 2005), are more inclined toward short-term mating (Gangestad & Thornhill, 1997; Simpson & Gangestad, 1992; Waynforth, 1998), and thus harder to retain as long-term mates (Gangestad et al., 2007).

Apart from the sex differences reported above, additional sex differences were found. As in Study 1, men largely overestimated other men's desirability as short-term mates for women (see also discussion of Study 1, section 3.4). Women, on the other hand, overestimated men's willingness to become friends with another man. In addition, women tended to overestimate men's willingness to introduce their romantic partner to another man. One possible explanation for these findings is that men are exposed to an intense intrasexual competition (Puts, 2010, 2016). This strong selection pressure could have led them to being critical when selecting their allies and friends because these could also become rivals when it comes to mating. As intrasexual competition is less intense in females (Puts, 2010) and may take other forms, such as more self-promotion behavior and indirect aggression (e.g., Fisher, Cox, & Gordon, 2009), women might overperceive men's willingness to become friends with another man as well as their willingness to introduce their romantic partner to another man. These explanations would be also in line with error management theory (Haselton & Buss, 2000, 2009, see also discussion of Study 1).

Study 2 provided further insights into the signaling function of male conspicuous consumption of smartphones and supported a role of this behavior in both mate choice and same-sex competition. The findings of Study 2 suggested that men with higher facial attractiveness might benefit more from owning a conspicuous smartphone than men with lower facial attractiveness. Study 3 will examine the effects conspicuous consumption of smartphones has for men with different levels of social dominance.

5 Study 3: Perceptions of a man depending on the type of smartphone the man owns and his suggested social dominance

5.1 Hypotheses

Following the results of the first two studies, Study 3 considered a further costly signal of male mate quality and examined whether owning a conspicuous smartphone influenced perceptions of a man as a mate and same-sex competitor differently contingent on the man's social dominance (RQ_3). The hypotheses about the effects of male conspicuous consumption of smartphones on perceptions of a man as a mate and same-sex competitor were basically the same as in the first two studies (see 3.1 and 4.1). For perceptions of a man who owns a conspicuous smartphone as a same-sex competitor, Study 3 focused on men's evaluations. Hence, the following was expected:

H_1: Men and women will perceive a man who owns a conspicuous smartphone as a more desirable short-term mate than a man who owns a nonconspicuous smartphone.

H_2: Men and women will perceive a man who owns a conspicuous smartphone as a less desirable long-term mate than a man who owns a nonconspicuous smartphone.

H_3: Men and women will perceive a owning a conspicuous smartphone as more inclined toward short-term mating than a man who owns a nonconspicuous smartphone.

H_4: Men and women will be more likely to assign traits that are associated with the pursuit of a short-term mating strategy to a man who owns a conspicuous smartphone than to a man who owns a nonconspicuous smartphone.

H_5: Men will perceive a man who owns a conspicuous smartphone more as a rival than a man who owns a nonconspicuous smartphone.

H_6: Men will perceive a man who owns a conspicuous smartphone less as a friend than a man who owns a nonconspicuous smartphone.

H_7: Men will perceive a man who owns a conspicuous smartphone more as a mate poacher than a man owning a nonconspicuous smartphone

Similar to facial attractiveness, research suggests that social dominance indicates a man's biological fitness and thus mate quality (Kirby, 2014), as displaying high social dominance imposes a handicap on the individual (see also 2.3.7 and 2.3.11). As a result, socially dominant men are preferred as short-term mates (Gangestad et al., 2007; Gildersleeve et al., 2014; Mueller & Mazur, 1997; Sadalla et al., 1987; but see Bryan et al., 2011) so that these men are offered more mating opportunities, which leads to higher mating success (Slatcher et al., 2011; Valentine et al., 2014). Both financial risk taking and social dominance are facilitated by high levels of testosterone (Apicella et al., 2008; van Vugt &

Tybur, 2016) so that displaying conspicuous consumption and social dominance might be positively associated. Previous research, however, has either investigated the effects of male conspicuous consumption (e.g., Dunn & Hill, 2014; Sundie et al., 2011) or male social dominance (Bryan et al., 2011; Gangestad et al., 2007) on perceptions of a man's mate quality. Hence, it is unclear whether conspicuous consumption influences perceptions of a man's mate quality and same-sex competitor differently depending on the man's social dominance. It is possible that a more socially dominant man could gain advantages from displaying conspicuous consumption of smartphones, as this would provide cues to his biological fitness and mate quality on an additional dimension. This would be similar to the results concerning the interaction effects between male conspicuous consumption and facial attractiveness found in Study 2. However, a less socially dominant man could benefit from displaying conspicuous consumption of smartphones as well and enhance his mate desirability in a short-term mating context, as this behavior might compensate for a lack of social dominance. This would be similar to the results of Chan (2015), which suggested that less attractive men engage in financial risk taking to boost their mate quality as a compensation for their lack of physical attractiveness. As no specific expectations could be postulated on the nature of the interaction, it was included as a research question (RQ_3).

5.2 Method

5.2.1 Participants

Participants were recruited in the context of two bachelor theses in the same way as reported in the first study (see 3.2.1). Four hundred ten German-speaking participants completed the online questionnaire. Participants who had seen the male target before or knew him (n = 9) and participants below the age of 14 (n = 1) were excluded from analyses. Homosexual participants and those who declined to provide information on their sexual orientation (n = 12) were further dropped. The final sample consisted of 388 participants (51.3% women) between the ages of 15 and 80 (M_{age} = 25.9 years, SD = 8.5, Md = 23). Most participants (97.7%) indicated a heterosexual orientation, whereas 2.3% were bisexual. The majority (86.3%) were highly educated (i.e., university entrance certificate, university degree), whereas the remaining participants were less educated or still school students. More than the half (60.6%) were university students from different degree programs (e.g., media communication, teaching profession, psychology, law), followed by employees (24.5%), officials (4.1%), apprentices (3.6%), school students (2.6%), self-employed (1.8%), unemployed (0.5%), and other (2.3%). About a third (31.7%) reported a net monthly income of less than €500, 27.6% indicated a net monthly income between €500 and €1000, and 31.4% reported a net monthly income of more than €1000. About a tenth (9.3%) declined to provide information. More than half of the participants (56.7%) indicated to be in a committed long-term relationship with 10.3% who were in a civil partnership or married. Thirty-nine point two percent were single, 3.1% were in an uncommitted

sexual relationship (e.g., love affair, liaison), and 1% did not provide information. Most participants owned Apple (35.8%) and Samsung (32.5%) smartphones. Eight participants (2.1%) did not own a smartphone but a cell phone, and one person (0.3%) did neither own a smartphone nor a cell phone. Participants were compensated by taking part in a drawing of vouchers.

5.2.2 Design and statistical analyses

The design of Study 3 was a 2 (smartphone type: conspicuous vs. nonconspicuous) x 2 (social dominance: higher vs. lower) x 2 (participant sex: male vs. female) between-subjects design.

Employed statistical procedures were the same as in Studies 1 and 2 (see 3.2.2 and 4.2.2). Test assumptions were fulfilled, unless otherwise reported. Estimated marginal means and their standard deviations are reported instead of descriptive means for effects of factorial or mixed ANOVA. Means and standard deviations for ANOVAs are provided in the Appendices and referred to at the appropriate position in the text.

5.2.3 Materials

Smartphone stimuli. As Study 2 and Study 3 were conducted at the same time, the smartphone stimuli of Study 2 were used (for further information, see 4.2.3).

Male target models. As in Study 1 (see 3.2.3), a pre-rating was conducted to obtain a suitable male target model for Study 3. To avoid floor and ceiling effects on participants' ratings in Study 3, the aim of the pre-rating was to identify a male target model that was perceived as moderately dominant and as moderately attractive. Five men (4 Caucasian, 1 Asian) between the ages of 27 and 30 (M_{age} = 28.4 years, *SD* = 1.1, *Md* = 28) were recruited as male target models (see Appendix L, Figure L1 to Figure L5). Each of the men provided written consent that he agreed to the use of his photograph for scientific research and received a compensation of €10. Photographs were taken as described in Study 1 (see 3.2.3).

Seventy participants completed the pre-rating. Participants who had seen one of the male targets before, homosexual participants and those who did not give information on their sexual orientation (*n* = 5) were excluded from analyses. This left a final sample of 65 participants (46.2% women) aged between 17 and 61 (M_{age} = 26.6 years, *SD* = 10.7, *Md* = 22). Almost all participants (98.5 %) were heterosexual; one participant (1.5%) was bisexual. The majority (87.7%) held at least a university entrance certificate. About the half (49.2%) were undergraduate university students, followed by employees (38.5%), and apprentices (9.2%).

Participants rated the male target models on physical attractiveness ("This man is attractive") and dominance ("This man is dominant", visual analogue scales, 1 = *I do not agree at all* to 100 = *I*

completely agree)[12]. As age and social dominance are related (Sidanius & Pratto, 1999), participants were further asked to estimate the male targets' ages. To avoid sequence effects, images of the male target models were presented in a random order. Participants further reported for each male target whether they had him before or knew him (see Appendix M for the questionnaire of the pre-rating).

Mixed ANOVAs with the within-subjects factor male target model and the between-subjects factor participant sex were employed. Ratings of attractiveness, dominance, and estimates of age served as DVs. The assumption of sphericity was violated for attractiveness ratings and estimates of age, χ^2s$_{(9)} \geq 21.87$, ps $\leq .009$. Hence, adjusted degrees of freedom are reported. The assumption of homogeneity of variance was not fulfilled for the estimates of age for male target model 5, *Levene's* $F_{(1,\ 63)} = 5.77$, $p = .019$. Results yielded significant effects of male target model for ratings of attractiveness, $F_{(3.63,\ 228.93)} = 61.42$, $p < .001$, $\eta_p^2 = .494$, dominance, $F_{(4,\ 252)} = 50.21$, $p < .001$, $\eta_p^2 = .444$, and estimates of age, $F_{(3.74,\ 235.41)} = 18.60$, $p < .001$, $\eta_p^2 = .228$. Main effects of participant sex were non-significant, Fs$_{(1,\ 63)} \leq 1.10$, ps $\geq .198$, η_p^2s $\leq .017$. Interaction effects between male target model and participant sex proved significant for ratings of attractiveness, $F_{(3.63,\ 228.93)} = 3.63$, $p = .009$, $\eta_p^2 = .055$, and dominance, $F_{(4.252)} = 2.94$, $p = .021$, $\eta_p^2 = .045$. For estimates of age, the interaction was non-significant, $F_{(3.74,\ 235.41)} = 1.11$, $p = .350$, $\eta_p^2 = .017$.

Simple effects analyses were employed to investigate the interaction effects. Results indicated that male and female participants perceived the male target models as significantly varying in attractiveness (♂: $F_{[4,\ 60]} = 20.20$, $p < .001$, $\eta_p^2 = .574$; ♀: $F_{[4,\ 60]} = 43.10$, $p < .001$, $\eta_p^2 = .742$) and dominance (♂: $F_{[4,\ 60]} = 19.15$, $p < .001$, $\eta_p^2 = .561$; ♀: $F_{[4,\ 60]} = 33.03$, $p < .001$, $\eta_p^2 = .688$). Moreover, female participants perceived male target model 3 ($M = 12.67$, $SD = 11.07$) as less attractive than male participants ($M = 22.74$, $SD = 19.29$), $F_{(1,\ 63)} = 6.37$, $p = .014$, $\eta_p^2 = .092$, $d = -0.64$. Attractiveness ratings for the remaining male targets did not differ between the sexes, Fs$_{(1,\ 63)} \leq 2.37$, ps $\geq .129$, η_p^2s $\leq .036$. For perceptions of dominance, female participants tended to perceive male target model 5 as more dominant ($M = 60.13$, $SD = 19.72$) than male participants ($M = 50.00$, $SD = 22.07$), $F_{(1,\ 63)} = 3.76$, $p = .057$, $\eta_p^2 = .056$, $d = 0.49$. For dominance perceptions of the remaining male target models, no sex differences were observed, Fs$_{(1,\ 63)} \leq 2.71$, ps $\geq .105$, η_p^2s $\leq .041$.

To select a male target model of moderate-attractiveness and moderate-dominance, descriptive statistics (Table 11) were inspected. Male target model 5 received the highest ratings of attractiveness and dominance, which ranged around the midpoint of the scale. This result was similar to those of Studies 1 and 2, which revealed that the highest mean attractiveness ratings participants gave ranged mostly around the mid-point of the scale. Considering this pattern that indicated rather restrictive attractiveness ratings in general, it stood to reason that ratings around the mid-point of the scale might already represent high ratings. Hence, to avoid ceiling effects in the main study, the decision was taken

[12] Participants were further asked to take the perspective of the other sex when rating the male targets' attractiveness and dominance (i.e., for male participants: "Women find this man attractive", "Women find this man dominant"; for female participants: "Men find this man attractive", "Men find this man dominant"). Analyses revealed similar patterns with male target 5 ranking highest and male target 3 raking lowest on attractiveness and dominance.

Table 11. Means and Standard Deviations of the Male Targets' Attractiveness, Dominance, and Estimates of Age (Pre-rating, Study 3)

	Attractiveness		Social dominance		Estimated age	
	M	*SD*	*M*	*SD*	*M*	*SD*
Male target model 1	45.26	24.88	39.82	20.76	27.68	2.52
Male target model 2	20.54	18.96	36.15	22.74	26.54	3.34
Male target model 3	18.09	16.70	15.31	15.07	25.71	3.16
Male target model 4	**40.14**	**24.47**	**35.88**	**20.47**	**26.72**	**2.31**
Male target model 5	52.83	24.34	54.68	21.47	28.88	2.57

Note. $N = 65$. The male target model selected as stimuli for the main study is shown in bold letters. Answers were given on visual analogue scales (range: 1 to 100).

not to use the midpoint of the scale as a reference value for perceptions of moderate-attractiveness and moderate-dominance. Instead, the empirical means of all attractiveness ($M = 35.37$, $SD = 16.60$) and dominance ratings ($M = 36.37$, $SD = 13.99$) were calculated and the male target model who displayed ratings closest to these values was chosen (male target model 4)[13]. Comparing the attractiveness and dominance ratings of male target model 4 with the calculated empirical means yielded no significant differences, $ts_{(64)} \leq 1.57$, $ps \geq .121$, $ds \leq 0.19$. A comparison of the estimated age of male target model 4 with the calculated empirical mean of all age estimates ($M = 27.32$, $SD = 2.02$) neither revealed significant differences, $t(73) = -1.21$, $p = .232$, $d = -0.25$. As in in Studies 1 and 2, images of the conspicuous and the nonconspicuous smartphone were pasted next to the male target's head for the experimental manipulation (Figure 19 and Figure 20).

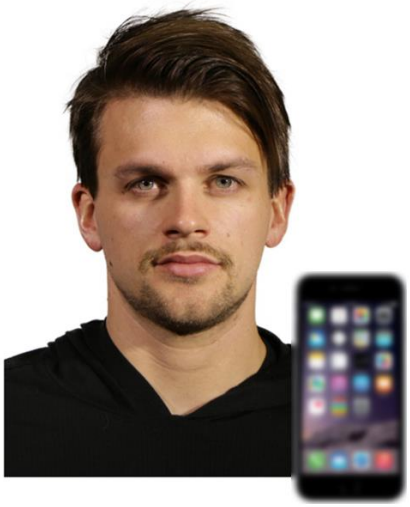


Figure 19. Male Target Model of Moderate-Attractiveness and Moderate-Dominance Depicted as Owner of the Conspicuous Smartphone[14]

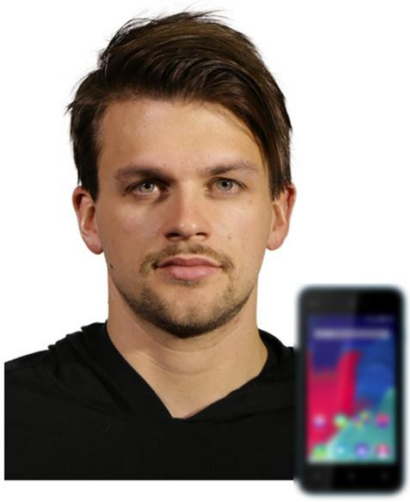


Figure 20. Male Target Model of Moderate-Attractiveness and Moderate-Dominance Depicted as Owner of the Nonconspicuous Smartphone[14]

[13] Descriptive statistics (Table 11) indicated that the mean dominance perception of male target model 2 was numerically even closer to the calculated empirical mean than the mean dominance perception of male target model 4. However, the mean attractiveness rating of male target model 2 was significantly lower than the empirical mean, $ts_{(64)} = -6.31$, $d = -0.78$.

[14] Due to copyright concerns, product images of the smartphones have been blurred for publication.

Manipulation of social dominance. Following research on the relationship between jealousy and characteristics of a same-sex rival (A. P. Buunk & Dijkstra, 2004; Dijkstra & Buunk, 1998), perceptions of social dominance were manipulated using two short descriptions of the male target's personality. Similar to A. P. Buunk and Dijkstra (2004), personality descriptions were based on the items of the Dominance scale of the Dutch Personality Questionnaire (DPQ, Luteijn, Starren, & Van Dijk, 2000). Items are: "I usually take charge in a group", "At parties, I liven things up", "I think teaching suits me", "I am a good judge of character", "I like to make decisions for other people", and "I think I have a lot of influence on other people". According to the DPQ, socially dominant individuals score high on these items, whereas individuals of low social dominance have low values (see also A. P. Buunk & Dijkstra, 2004). In the personality descriptions, the described man was named *Christian*. This name was chosen because it ranked among the most common first names of adults born between 1985 and 1987 in Germany (Bielefeld, n.d.). The personality description for a more socially dominant man was as follows:

> Christian is a master student at the Julius-Maximilians University of Würzburg. He is in the final phase of his degree program. Besides his studies, he works as a student tutor and teaches courses to undergraduates. Moreover, he is a member of the management board of a large student consulting group which numbers 600 members. The goal-oriented student knows exactly what he wants from life and is a good judge of character. Christian is an open-minded and active person, who often takes the initiative and makes decisions for other people. He further has a large influence on others. At parties, he always livens things up (for the German version, see Appendix O).

In contrast, the personality description for a less socially dominant man was the following:

> Christian is a bachelor student at the University of Würzburg. He is still at the beginning of his degree program. He regularly attends his classes and lectures. Besides his studies, he is a member of the student representative group of his degree program. The insecure student often does not know what he wants from life and often fails to understand what is going on in other people's mind. Usually, he waits for others to take the initiative and to make decision for him. Overall, he rather acts compliantly and can hardly convince others. At parties, he usually stays in the background (for the German version, see Appendix N).

To test the effectiveness of the personality descriptions, a pre-test was conducted involving 84 participants (48.4% women). Participants were aged between 15 and 61 (M_{age} = 28.38 years, *SD* = 9.49, *Md* = 26). Most participants held at least a university entrance certificate (86.9%). More than the half (56.0%) were undergraduate students; 27.4% were employees.

In the pre-test, participants were randomly presented one of the personality descriptions and asked to rate the man described by the text on the following traits: dominant, assertive, self-confident, extrovert, influential, social competent, and a good judge of character (visual analogue scales, 1 = *I do not agree at all* to 100 = *I completely agree*; for a similar procedure, see Buunk & Dijkstra, 2004).

Items were translated into German as described for the mate value adjectives in Study 2 (see 4.2.3). See Appendix N for the questionnaire of the pre-rating.

The items measuring dominance perceptions (see above) yielded a high internal consistency ($\alpha = .94$). Thus, they were summed up, averaged and a measure of mean dominance perception was calculated[15]. ANOVA with the two between-subjects factors of social dominance (higher vs. lower) and participant sex (male vs. female) was employed; perceptions of mean dominance were inserted as DV. The ANOVA was significant, $F_{(3, 80)} = 71.70$, $p < .001$, $\eta_p^2 = .732$, $R^2 = .732$, $R^2_{adj} = .722$. The main effect of condition proved significant, $F_{(1, 80)} = 200.44$, $p < .001$, $\eta_p^2 = .715$, whereas the main effect of participant sex did not reach significance, $F_{(1, 417)} = 2.52$, $p = .117$, $\eta_p^2 = .030$. The main effect of condition was further qualified by a significant interaction between condition and participant sex, $F_{(1, 80)} = 8.34$, $p = .005$, $\eta_p^2 = .094$.

Simple effects analyses indicated that male participants, $F_{(1, 80)} = 65.90$, $p < .001$, $\eta_p^2 = .452$, $d = 1.81$, and female participants, $F_{(1, 80)} = 140.19$, $p < .001$, $\eta_p^2 = .637$, $d = 2.65$, provided higher mean dominance ratings when the text described a more socially dominant man. When the man was described as more socially dominant, female participants indicated higher mean dominance ratings than male participants, $F_{(1, 80)} = 10.59$, $p = .002$, $\eta_p^2 = .117$, $d = 0.73$, whereas there were no sex differences when the man was described as less socially dominant, $F_{(1, 80)} < 1$, $p = .373$, $\eta_p^2 = .010$, $d = 0.20$ (see Table 12 for the descriptive statistics). Despite sex differences, the pre-rating suggested that perceptions of male social dominance were effectively manipulated by the personality descriptions.

Table 12. Means and Standard Deviations of Mean Social Dominance Ratings by Social Dominance and Participant Sex (Pre-rating, Study 3)

Participant sex	Higher social dominance			Lower social dominance		
	M	*SD*	*n*	*M*	*SD*	*n*
Male	67.14	14.35	20	27.68	12.08	23
Female	81.18	10.90	24	31.76	18.18	17

Note. $N = 84$. The mean social dominance was calculated by averaging perceptions of dominance, assertiveness, self-confidence, extroversion, influence, social competence, and good judge of character ($\alpha = .94$). Answers were given on visual analogue scales (range: 1 to 100).

5.2.4 Procedure

Study 3 was conducted in December 2015. The structure of the questionnaire followed those of the first and the second study (see 3.2.4 and 4.2.4) and used the same introduction and instructions. See Appendix O for the questionnaire. In the experimental condition, participants were shown the image of the male target model depicted as smartphone owner (conspicuous vs. nonconspicuous). The image

[15] Separate analyses of the items yielded similar results. All ANOVAs were significant, $Fs_{(1, 80)} \geq 6.12$, $ps \leq .001$, $\eta_p^2 s \geq .188$. The main effect of social dominance was significant; when the text described a man of higher social dominance, participants rated him as more assertive ($d = 2.72$), influential ($d = 1.88$), and socially competent ($d = 0.93$). Interaction effects between condition and participant sex were significant for the adjectives dominant, self-confident, extrovert, and good judge of character. When the text described a man of higher social dominance, women gave higher ratings on dominance ($d = 0.77$), self-confidence ($d = 0.88$), and extraversion ($d = 0.80$) than men, whereas there were no sex differences for these items when the text described a man of lower social dominance. For a good judge of character, women tended ($p = .056$) to provide lower ratings than men ($d = -0.43$) in the lower social dominance condition.

was accompanied by a short personality description (manipulation of social dominance) placed below. As in Study 2, participants rated the male target's mate value (including the items of the dominance pre-rating serving as a manipulation check), his desirability as a short-term man and long-term mate, and his mating strategy. Male participants further rated the male target as a rival, friend, and mate poacher. At the end of the questionnaire, participants indicated their perceptions of conspicuousness, status, and desirability for the smartphone the male target was depicted with (manipulation check) [16].

5.2.5 Measures

Desirability as a short-term and long-term mate. As in Studies 1 and 2, the participants' perceptions of the male target model's desirability as a short-term and long-term mate were assessed (for the items, see 3.2.3). Male participants evaluated the male target's desirability as a mate from a female perspective; female participants gave ratings from their own perspective. Answers were provided on visual analogue scales (1 = *not at all* to 100 = *very likely*).

Inclination toward short-term mating. Like in Studies 1 and 2, perceptions of the male target model's pursued mating strategy were measured using the adapted items of the SOI-R (Penke & Asendorpf, 2008). For more information on the SOI-R, see 3.2.5. Cronbach's alpha was .83.

Mate value. To measure perceptions of the male target's mate value, the same items as in Study 2 were used (i.e., agreeable, sexy, attractive, youthful, flirty, loyal, smart, talented, ambitious, passionate, rich, wealth). For further information, see 4.2.5. Answers were given on visual analogue scales (1 = *I do not agree at all* to 100 = *I completely agree*).

Perceptions as a rival, friend, and mate poacher. The items of Study 2 (see 4.2.5) were used to measure male participants' perceptions of the male target as a rival, friend, and mate poacher. All answers were given on 7-point Likert-type scales (1 = *not at all* to 7 = *very much*).

Manipulation checks. Participants evaluated the smartphone the male target was depicted with on conspicuousness, status, and desirability (for the items see 4.2.3; 7-point Likert-type scales, 1 = *I do not agree at all* to 7 = *I completely agree*). Participants further rated the male target's social dominance using the items of the pre-rating (i.e., dominant, assertive, self-confident, extrovert, influential, social competent, good judge of character; visual analogue scales, 1 = *I do not agree at all* to 100 *I completely agree*; see also 5.2.3).

[16] Prior to the manipulation check of smartphone perceptions, male participants were further instructed to imagine that the depicted man flirted with their romantic partner, and asked to indicate their feelings of jealousy (for a similar method, see Dijkstra & Buunk, 1998). This measure was assessed, as data were gathered in the context of two bachelor theses that examined the relationship between male sexual jealousy and a rival's conspicuous consumption. Including this research question, however, would go beyond the scope of this doctoral dissertation. Hence, jealousy measures and results are not reported.

5.3 Results

5.3.1 Manipulation checks

Smartphone conspicuousness, status, and desirability. ANOVAs with the three between-subjects factors of smartphone type (conspicuous vs. nonconspicuous), social dominance (higher vs. lower), and participant sex (male vs. female) were conducted. Conspicuousness, status, and desirability perceptions of the smartphones served as DVs. The assumption of homogeneity of variance was violated for all DVs, *Levene's Fs*$_{(7, 380)} \geq 7.23$, *p*s $\leq .001$.

ANOVAs were significant for ratings of conspicuousness, $F_{(7, 380)} = 64.55$, $p < .001$, $\eta_p^2 = .543$, $R^2 = .544$, $R^2_{adj} = .535$, status, $F_{(7, 380)} = 26.37$, $p < .001$, $\eta_p^2 = .327$, $R^2 = .327$, $R^2_{adj} = .316$, and desirability, $F_{(5, 289)} = 7.35$, $p < .001$, $\eta_p^2 = .113$, $R^2 = .113$, $R^2_{adj} = .097$. The effects of smartphone type were significant for conspicuousness, $F_{(7, 380)} = 448.801$, $p < .001$, η_p^2s = .542, status, $F_{(7, 380)} = 181.06$, $p < .001$, $\eta_p^2 = .323$, and desirability, $F_{(1, 289)} = 29.07$, $p < .001$, $\eta_p^2 = .091$. Other effects were non-significant[17], *Fs* ≤ 2.62, *p*s $\geq .106$, $\eta_p^2 \leq .007$. Compared with the nonconspicuous smartphone, participants ranked the conspicuous smartphone higher on conspicuousness ($M_C = 4.95$, $SD = 1.53$ vs. $M_{NC} = 1.67$, $SD = 1.53$, $d = 2.18$), status ($M_C = 3.80$, $SD = 1.62$ vs. $M_{NC} = 1.58$, $SD = 1.62$, $d = 1.38$), and desirability ($M_C = 3.31$, $SD = 1.88$ vs. $M_{NC} = 1.90$, $SD = 2.65$, $d = 0.63$), indicating the effectiveness of the manipulation (see Appendix P, Table P1 to Table P3 for the descriptive statistics).

Social dominance. Again, ANOVA with the three between-subjects factors of social dominance, smartphone type, and participant sex was employed. As in the pre-rating (see 5.2.3), the adjectives measuring perceptions of dominance showed high internal consistency ($\alpha = .93$). Hence, they were summed up and averaged to create a measure of mean dominance perception. Mean dominance perception was inserted as DV. Results yielded a significant ANOVA, $F_{(7, 380)} = 60.56$, $p < .001$, $\eta_p^2 = .527$, $R^2 = .527$, $R^2_{adj} = .519$. The main effect of social dominance was significant, $F_{(1, 380)} = 417.44$, $p < .001$, $\eta_p^2 = .523$. The main effect of participant sex reached marginal significance, $F_{(1, 380)} = 3.45$, $p = .064$, $\eta_p^2 = .009$. All other effects were non-significant, *Fs*$_{(1, 380)} \leq 1.82$, *p*s $\geq .179$, η_p^2s $\leq .005$. Supporting the effectiveness of the dominance manipulation, participants perceived the male target model as more socially dominant in the higher social dominance (HD) condition ($M = 65.84$, $SD = 15.70$) than in the lower social dominance (LD) condition ($M = 33.27$, $SD = 15.70$, $d = 2.09$). In addition, female participants tended to give higher mean dominance ratings ($M = 51.03$, $SD = 15.71$) than male participants ($M = 48.07$, $SD = 15.68$, $d = 0.19$, see Appendix P, Table P4 for the descriptive statistics).

[17] Due to a programming error, desirability ratings for the nonconspicuous smartphone were not recorded for female participants. The interaction effect between participant sex and smartphone type could hence not be calculated for desirability perceptions.

5.3.2 Desirability as a short-term mate

The same analyses as before (see 5.3.1) were conducted. Ratings of the male target model's desirability as a short-term mate were inserted as DV. The assumption of homogeneity of variance was violated, $F_{(7, 380)} = 4.04$, $p < .001$. Results revealed a significant ANOVA, $F_{(7, 380)} = 19.78$, $p < .001$, $\eta_p^2 = .267$. See Table 13 for *F*-values, *p*-values, and effect sizes of main and interaction effects. Main effects of social dominance and participant sex were significant. The main effect of participant sex was further qualified by a significant interaction with smartphone type. The interaction effect between social dominance and participant sex approached significance ($p = .064$). Because the latter interaction did not reach conventional levels of significance, and no explicit hypotheses were stated regarding an interaction between social dominance and participant sex, it was not further analyzed. Other effects were non-significant.

Simple effects analyses were employed to examine the interaction between smartphone type and participant sex. Partially confirming H_1, male participants perceived the male target model as a more desirable short-term mate for women when he was depicted as the owner of the conspicuous smartphone ($M_C = 62.01$, $SD = 25.26$ vs. $M_{NC} = 53.08$, $SD = 25.27$), $F_{(7, 380)} = 5.91$, $p = .016$, $\eta_p^2 = .015$. Female participants' perceptions of the male target model's desirability as a short-term mate did not differ between the smartphone conditions ($M_C = 28.62$, $SD = 25.26$ vs. $M_{NC} = 32.58$, $SD = 25.71$), $F_{(7,380)} = 1.21$, $p = .271$, $\eta_p^2 = .003$ (Figure 21A). Compared with female participants, male participants perceived the male target as a more desirable short-term mate for women in both smartphone conditions (conspicuous: $F_{[7, 380]} = 87.03$, $p < .001$, $\eta_p^2 = .186$; nonconspicuous: $F_{[7, 380]} = 30.93$, $p < .001$, $\eta_p^2 = .075$, Figure 21B, see Appendix P, Table P5 for the descriptive statistics).

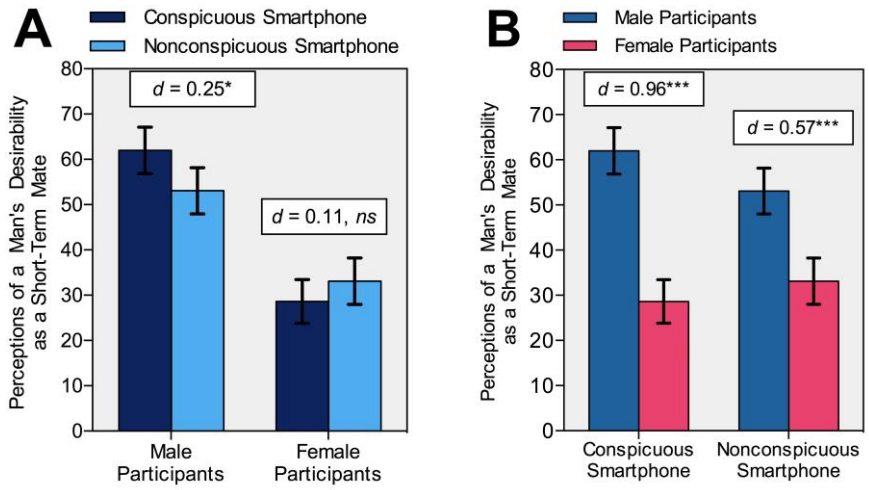


Figure 21. Perceptions of a Man's Desirability as a Short-Term Mate as a Function of the Man Owning a Conspicuous vs. Nonconspicuous Smartphone and Participant Sex (H_1), Study 3

Note. *$p < .05$; ***$p < .001$, two-tailed. Error bars indicate 95% confidence intervals. The figure displays the estimated marginal means.

Analyzing the main effect of social dominance revealed that participants judged the male target as a more desirable short-term mate when he was described as a more socially dominant man (M = 49.00, SD = 25.30) compared to when he was described as a less socially dominant man (M = 39.14, SD = 25.30, d = 0.39, see Appendix P, Table P5 for the descriptive statistics).

Thus, H_1 (men and women will perceive a man who owns a conspicuous smartphone as a more desirable short-term mate than a man who owns a nonconspicuous smartphone) received, at least, partial support. More specifically, male participants rated a man who owns a conspicuous smartphone as a more desirable short-term mate for women, whereas female participants' perceptions were not affected by the type of smartphone the man owned. No interaction effects between owning a conspicuous smartphone and social dominance were found for the ratings (RQ_3).

5.3.3 Desirability as a long-term mate

The same statistical analyses as before were conducted (see 5.3.1) with perceptions of the male target model's desirability as a long-term as DV. The assumption of homogeneity of variance was violated, $F_{(7, 380)} = 4.39$, $p < .001$. Results showed a significant ANOVA, $F_{(7, 380)} = 16.82$, ps $< .001$, $\eta_p^2 = .237$. Table 13 displays F-values, p-values, and effect sizes of main and interaction effects. The main effect of participant sex was significant; all other effects were non-significant. Male participants (M = 58.93, SD = 24.79) considered the male target as a more desirable long-term mate for women than female participants considered him to be (M = 32.55, SD = 24.84, d = 1.07, see Appendix P, Table P6 for the descriptive statistics).

Based on these results, H_2 (men and women will perceive a man who owns a conspicuous smartphone as a less desirable long-term mate than a man who owns a nonconspicuous smartphone) was not supported. Neither interaction effects between owning a conspicuous smartphone and social dominance were observed (RQ_3).

5.3.4 Inclination toward short-term mating

For the employed statistical analyses, see 5.3.1. Perceptions of the male target's inclination toward short-term mating were entered as DV. The assumption of homogeneity of variance was violated, $F_{(7, 380)} = 2.20$, $p = .033$. Results yielded a significant ANOVA, $F_{(7, 380)} = 8.76$, $p < .001$, $\eta_p^2 = .139$. Table 13 presents F-values, p-values, and effect sizes of main and interaction effects. Main effects of social dominance and participant sex were significant. Other effects did not reach significance. Investigating the main effect of social dominance showed that participants perceived the male target as more inclined toward short-term mating when he was described as a more socially dominant man (M_{HD} = 3.50, SD = 0.64 vs. M_{LD} = 3.04, SD = 0.64, d = 0.74). Moreover, male participants (M = 3.35, SD = 0.65) gave higher ratings than female participants (M = 3.19, SD = 0.64, d = 0.25, see Appendix P, Table P7 for the descriptive statistics).

Given these findings, H_3 (men and women will perceive a owning a conspicuous smartphone as more inclined toward short-term mating than a man who owns a nonconspicuous smartphone) did not receive support. Furthermore, there were no interaction effects between owning a conspicuous smartphone and social dominance affecting perceptions of the man's tendency toward short-term mating (RQ_3).

Table 13. Effects of Smartphone Type (ST), Social Dominance (SD), and Participant Sex (PS), on Perceptions of a Man's Desirability as a Short-Term Mate (H_1), Long-Term Mate (H_2), and his Inclination Toward Short-Term Mating (H_3), Study 3

DVs	Main effects			Interaction effects			
	ST	SD	PS	ST*SD	ST*PS	SD*PS	ST*SD*PS
Desirability as a Short-term Mate[a]	$F < 1$ $p = .333$ $\eta_p^2 = .002$	**$F = 14.74$** **$p < .001$** **$\eta_p^2 = .037$**	**$F = 110.01$** **$p < .001$** **$\eta_p^2 = .224$**	$F = 1.27$ $p = .261$ $\eta_p^2 = .003$	**$F = 6.29$** **$p = .013$** **$\eta_p^2 = .016$**	$F = 3.44$ $p = .064$ $\eta_p^2 = .009$	$F < 1$ $p = .357$ $\eta_p^2 = .002$
Desirability as a Long-term Mate[b]	$F = 2.23$ $p = .136$ $\eta_p^2 = .006$	$F < 1$ $p = .574$ $\eta_p^2 = .001$	**$F = 109.57$** **$p < .001$** **$\eta_p^2 = .224$**	$F < 1$ $p = .501$ $\eta_p^2 = .001$	$F = 1.20$ $p = .274$ $\eta_p^2 = .003$	$F < 1$ $p = .655$ $\eta_p^2 = .001$	$F < 1$ $p = .358$ $\eta_p^2 = .002$
Inclination toward short-term mating[c]	$F = 1.74$ $p = .188$ $\eta_p^2 = .005$	**$F = 51.69$** **$p < .001$** **$\eta_p^2 = .120$**	**$F = 5.78$** **$p = .017$** **$\eta_p^2 = .015$**	$F < 1$ $p = .504$ $\eta_p^2 = .001$	$F < 1$ $p = .969$ $\eta_p^2 < .001$	$F = 1.09$ $p = .298$ $\eta_p^2 = .003$	$F < 1$ $p = .500$ $\eta_p^2 = .001$

Note. Significant effects ($p < .05$) are shown in bold letters. All *df*s = 1, 380. [a]$R^2 = .267$, $R^2_{adj} = .254$. [b]$R^2 = .237$, $R^2_{adj} = .222$. [c]$R^2 = .139$, $R^2_{adj} = .123$.

5.3.5 Mate value

As in Study 2 (see 4.3.5), MANOVA was performed to analyze the effects of smartphone type and social dominance on perceptions of the male target's mate value. Smartphone type, social dominance, and participant sex were included as between-subjects factors, whereas the adjectives measuring mate value were inserted as DVs. Correlation analyses showed that the DVs were significantly correlated (see Appendix P, Table P8) so that MANOVA is an appropriate method (Field, 2013). Variances were unequal across experimental groups, Box's $M = 870.53$, $F_{(637,\ 159425.31)} = 1.22$, $p < .001$. However, cell sizes across groups were roughly equal so that Hotelling's and Pillai's statistics could be considered robust (Field et al., 2012). MANOVA effects were significant for smartphone type, *Pillai's trace* $V = 0.26$, $F_{(13,\ 368)} = 10.06$, $p < .001$, $\eta_p^2 = .262$, social dominance, *Pillai's trace* $V = 0.45$, $F_{(13,\ 368)} = 23.16$, $p < .001$, $\eta_p^2 = .450$, and participant sex, *Pillai's trace* $V = 0.10$, $F_{(13,\ 3698)} = 3.22$, $p < .001$, $\eta_p^2 = .102$. All remaining two-way and three-way interactions proved non-significant, *Pillai's trace* Vs ≤ 0.04, Fs$_{(13,\ 368)} \leq 1.08$, ps $\geq .376$, η_p^2s $\leq .037$.

Subsequently, univariate ANOVAs were employed to examine the significant main effects of smartphone type, social dominance, and participant sex. Table 14 displays *F*-values, *p*-values, and effect sizes of main and interaction effects. The homogeneity of variance was violated for passion, *Levene's* $F_{(7,\ 380)} = 2.42$, $p = .019$. ANOVAs were significant for agreeableness, $F_{(7,\ 380)} = 3.20$,

p = .003, η_p^2 = .055, attractiveness, $F_{(7, 380)}$ = 2.92, p = .006, η_p^2 = .051, flirting behavior, $F_{(7, 380)}$ = 21.43, p < .001, η_p^2 = .283, loyalty, $F_{(7, 380)}$ = 15.81, p < .001, η_p^2 = .226, maturity, $F_{(7, 380)}$ = 4.56, p < .001, η_p^2 = .077, smartness, $F_{(7, 380)}$ = 5.08, p < .001, η_p^2 = .086, talent, $F_{(7, 380)}$ = 6.13, p < .001, η_p^2 = .101, ambition, $F_{(7, 380)}$ = 16.02, p < .001, η_p^2 = .228, passion, $F_{(7, 380)}$ = 4.62, p < .001, η_p^2 = .078, richness, $F_{(7, 380)}$ = 9.60, p < .001, η_p^2 = .150, and wealth, $F_{(7, 380)}$ = 11.06, p < .001, η_p^2 = .166. ANOVAs for sexiness and youthfulness were non-significant, $Fs_{(7, 380)} \leq 1.63$, $ps \geq .124$, $\eta_p^2 s \leq .029$.

Effects of smartphone type proved significant for agreeableness, attractiveness, loyalty, smartness, talent, passion, richness, and wealth (Table 14). Marginally significant effects were observed for flirting behavior (p = .060) and maturity (p = .091, Table 14). When the male target was presented as the owner of the conspicuous smartphone, participants perceived him as less agreeable (M_C = 58.93, SD = 21.50 vs. M_{NC} = 66.34, SD = 21.47), less attractive (M_C = 44.18, SD = 23.53 vs. M_{NC} = 49.01, SD = 23.50), less loyal (M_C = 54.61, SD = 20.79 vs. M_{NC} = 62.83, SD = 20.76), less smart, (M_C = 61.35, SD = 18.95 vs. M_{NC} = 67.01, SD = 18.92), less talented (M_C = 53.76, SD = 18.90 vs. M_{NC} = 57. 94, SD = 18.87), less passionate (M_C = 43.87, SD = 20.58 vs. M_{NC} = 48.64, SD = 20.55), and tended to perceive him as less mature (M_C = 52.30, SD = 21.62 vs. M_{NC} = 56.03, SD = 21.59). They further perceived him as richer (M_C = 52.86, SD = 20.69 vs. M_{NC} = 39.20, SD = 20.66), and wealthier (M_C = 55.82, SD = 20.69 vs. M_{NC} = 39.20, SD = 20.66), and tended to rate him as more flirtatious (M_C = 49.04, SD = 22.07 vs. M_{NC} = 44.81, SD = 22.05, Figure 22, see Appendix P, Table P9 to Table P21 for the descriptive statistics).

For social dominance, results yielded significant effects for all mate value characteristics, except for youthfulness[18] (Table 14). When the male target was described as a more socially dominant man, participants rated him as more attractive (M_{HD} = 49.34, SD = 23.52 vs. M_{LD} = 43.85, SD = 23.52, d = 0.25), flirtier (M_{HD} = 60.27, SD = 22.08 vs. M_{LD} = 33.58, SD = 22.08, d = 1.22), more mature (M_{HD} = 59.98, SD = 21.61 vs. M_{LD} = 48.35, SD = 21.61, d = 0.54), smarter (M_{HD} = 67.58, SD = 18.94 vs. M_{LD} = 60.78, SD = 18.95, d = 0.36), more talented (M_{HD} = 61.19, SD = 18.89 vs. M_{LD} = 50.51, SD = 18.90, d = 0.57), more ambitious (M_{HD} = 75.28, SD = 21.53 vs. M_{LD} = 53.34, SD = 21.53, d = 1.03), more passionate (M_{HD} = 50.98, SD = 20.57 vs. M_{LD} = 41.53, SD = 20.58, d = 0.46), richer (M_{HD} = 47.27, SD = 20.31 vs. M_{LD} = 42.63, SD = 20.31, d = 0.23), and wealthier (M_{HD} = 51.30, SD = 20.68 vs. M_{LD} = 43.73, SD = 20.69, d = 0.37). In the higher social dominance condition, they further perceived the male target as less agreeable (M_{HD} = 59.97, SD = 21.49 vs. M_{LD}= 65.31, SD = 21.49, d = -0.26) and less loyal (M_{HD} = 49.47, SD = 20.78 vs. M_{LD} = 67.96, SD = 20.79, d = -0.90, see Appendix P, Table P9 to Table P21 for the descriptive statistics).

[18] The effect of social dominance on perceptions of sexiness was not interpreted, given that the MANOVA effect proved non-significant.

Table 14. Effects of Smartphone Type (ST), Social Dominance (SD), and Participant Sex (PS) on Perceptions of a Man's Mate Value (H_4), Study 3

DVs	Main effects			Interaction effects			
	ST	SD	PS	ST*SD	ST*PS	SD*PS	ST*SD*PS
Agreeableness[a]	**$F = 11.54$** **$p = .001$** **$\eta_p^2 = .029$**	**$F = 5.99$** **$p = .015$** **$\eta_p^2 = .016$**	$F = 2.61$ $p = .107$ $\eta_p^2 = .007$	$F < 1$ $p = .857$ $\eta_p^2 < .001$	$F = 1.96$ $p = .163$ $\eta_p^2 = .005$	$F < 1$ $p = .689$ $\eta_p^2 < .001$	$F < 1$ $p = .717$ $\eta_p^2 < .001$
Sexiness[b1]	$F < 1$ $p = .546$ $\eta_p^2 = .001$	$F = 5.91$ $p = .015$ $\eta_p^2 = .015$	$F = 3.28$ $p = .071$ $\eta_p^2 = .009$	$F < 1$ $p = .417$ $\eta_p^2 = .002$	$F = 1.40$ $p = .238$ $\eta_p^2 = .004$	$F < 1$ $p = .612$ $\eta_p^2 = .001$	$F < 1$ $p = .682$ $\eta_p^2 < .001$
Attractiveness[c2]	**$F = 4.07$** **$p = .044$** **$\eta_p^2 = .012$**	**$F = 5.27$** **$p = .022$** **$\eta_p^2 = .014$**	**$F = 3.92$** **$p = .048$** **$\eta_p^2 = .010$**	$F < 1$ $p = .407$ $\eta_p^2 = .002$	$F = 2.83$ $p = .093$ $\eta_p^2 = .007$	$F = 4.250$ $p = .040$ $\eta_p^2 = .011$	$F < 1$ $p = .898$ $\eta_p^2 < .001$
Youthfulness[d1]	$F < 1$ $p = .724$ $\eta_p^2 < .001$	$F < 1$ $p = .729$ $\eta_p^2 < .001$	$F < 1$ $p = .515$ $\eta_p^2 = .001$	$F < 1$ $p = .609$ $\eta_p^2 < .001$	$F < 1$ $p = .364$ $\eta_p^2 = .002$	$F < 1$ $p = .770$ $\eta_p^2 < .001$	$F < 1$ $p = .338$ $\eta_p^2 = .002$
Willingness to flirt[e]	$F = 3.56$ $p = .060$ $\eta_p^2 = .009$	**$F = 141.73$** **$p < .001$** **$\eta_p^2 = .272$**	$F < 1$ $p = .546$ $\eta_p^2 = .001$	$F < 1$ $p = .808$ $\eta_p^2 < .001$	$F = 2.63$ $p = .106$ $\eta_p^2 = .007$	$F = 1.05$ $p = .307$ $\eta_p^2 = .003$	$F = 1.25$ $p = .264$ $\eta_p^2 = .003$
Loyalty[f]	**$F = 15.18$** **$p < .001$** **$\eta_p^2 = .038$**	**$F = 76.81$** **$p < .001$** **$\eta_p^2 = .168$**	**$F = 18.41$** **$p < .001$** **$\eta_p^2 = .046$**	$F < 1$ $p = .990$ $\eta_p^2 < .001$	$F < 1$ $p = .856$ $\eta_p^2 < .001$	$F < 1$ $p = .980$ $\eta_p^2 < .001$	$F = 1.18$ $p = .278$ $\eta_p^2 = .003$
Maturity[g]	$F = 2.87$ $p = .091$ $\eta_p^2 = .008$	**$F = 28.08$** **$p < .001$** **$\eta_p^2 = .069$**	$F < 1$ $p = .740$ $\eta_p^2 < .001$	$F < 1$ $p = .343$ $\eta_p^2 = .002$	$F < 1$ $p = .814$ $\eta_p^2 < .001$	$F < 1$ $p = .815$ $\eta_p^2 < .001$	$F < 1$ $p = .780$ $\eta_p^2 < .001$
Smartness[h]	**$F = 8.63$** **$p = .004$** **$\eta_p^2 = .022$**	**$F = 12.52$** **$p < .001$** **$\eta_p^2 = .032$**	**$F = 13.29$** **$p < .001$** **$\eta_p^2 = .034$**	$F < 1$ $p = .689$ $\eta_p^2 < .001$	$F < 1$ $p = .504$ $\eta_p^2 = .001$	$F = 1.35$ $p = .246$ $\eta_p^2 = .004$	$F < 1$ $p = .808$ $\eta_p^2 < .001$
Talent[i2]	**$F = 4.76$** **$p = .030$** **$\eta_p^2 = .012$**	**$F = 31.02$** **$p < .001$** **$\eta_p^2 = .075$**	$F = 2.66$ $p = .104$ $\eta_p^2 = .007$	$F < 1$ $p = .784$ $\eta_p^2 < .001$	$F = 4.67$ $p = .031$ $\eta_p^2 = .012$	$F < 1$ $p = .673$ $\eta_p^2 < .001$	$F < 1$ $p = .598$ $\eta_p^2 = .001$
Ambition[j]	$F < 1$ $p = .851$ $\eta_p^2 < .001$	**$F = 100. 70$** **$p < .001$** **$\eta_p^2 = .209$**	**$F = 7.51$** **$p = .006$** **$\eta_p^2 = .019$**	$F = 1.05$ $p = .306$ $\eta_p^2 = .003$	$F < 1$ $p = .340$ $\eta_p^2 = .002$	$F < 1$ $p = .946$ $\eta_p^2 < .001$	$F = 3.52$ $p = .061$ $\eta_p^2 = .010$
Passion[k]	**$F = 5.21$** **$p = .023$** **$\eta_p^2 = .014$**	**$F = 20.47$** **$p < .001$** **$\eta_p^2 = .051$**	$F < 1$ $p = .520$ $\eta_p^2 = .001$	$F = 1.06$ $p = .304$ $\eta_p^2 = .003$	$F = 3.26$ $p = .072$ $\eta_p^2 = .009$	$F < 1$ $p = .582$ $\eta_p^2 = .001$	$F < 1$ $p = .337$ $\eta_p^2 = .002$
Richness[l]	**$F = 58.78$** **$p < .001$** **$\eta_p^2 = .134$**	**$F = 5.07$** **$p = .025$** **$\eta_p^2 = .013$**	$F < 1$ $p = .701$ $\eta_p^2 < .001$	$F = 2.79$ $p = .095$ $\eta_p^2 = .007$	$F < 1$ $p = .865$ $\eta_p^2 < .001$	$F < 1$ $p = .690$ $\eta_p^2 < .001$	$F < 1$ $p = .821$ $\eta_p^2 < .001$
Wealth[m]	**$F = 62.63$** **$p < .001$** **$\eta_p^2 = .141$**	**$F = 12.99$** **$p < .001$** **$\eta_p^2 = .033$**	$F < 1$ $p = .929$ $\eta_p^2 < .001$	$F < 1$ $p = .486$ $\eta_p^2 = .001$	$F < 1$ $p = .827$ $\eta_p^2 < .001$	$F = 1.18$ $p = .279$ $\eta_p^2 = .003$	$F < 1$ $p = .682$ $\eta_p^2 < .001$

Note. Significant effects ($p < .05$) that were interpreted appear in bold letters. All *df*s = 1, 380. [1]Due to non-significant ANOVAs, effects were not interpreted. [2]Due to non-significant MANOVA effects, interaction effects were not interpreted. [a]$R^2 = .055$, $R^2_{adj} = .038$. [b]$R^2 = .029$, $R^2_{adj} = .011$. [c]$R^2 = .051$, $R^2_{adj} = .033$. [d]$R^2 = .008$, $R^2_{adj} = -.011$. [e]$R^2 = .283$, $R^2_{adj} = .270$. [f]$R^2 = .226$, $R^2_{adj} = .211$. [g]$R^2 = .077$, $R^2_{adj} = .060$. [h]$R^2 = .086$, $R^2_{adj} = .069$. [i]$R^2 = .101$, $R^2_{adj} = .085$. [j]$R^2 = .228$, $R^2_{adj} = .214$. [k]$R^2 = .078$, $R^2_{adj} = .061$. [l]$R^2 = .150$, $R^2_{adj} = .135$, [m]$R^2 = .169$, $R^2_{adj} = .154$.

Finally, the effect of participant sex proved significant for attractiveness, loyalty, smartness, and ambition (Table 14). Relative to female participants, male participants provided lower ratings on attractiveness, ($M_{♂}$ = 44.23, *SD* = 23.49 vs. $M_{♀}$ = 48.96, *SD* = 23.54, *d* = -0.20), loyalty ($M_{♂}$ = 54.19, *SD* = 20.76 vs. $M_{♀}$ = 63.24, *SD* = 20.80, *d* = -0.44), smartness ($M_{♂}$ = 60.67, *SD* = 18.92 vs. $M_{♀}$ = 67.69, *SD* = 18.96, *d* = -0.38), and ambition ($M_{♂}$ = 61.32, *SD* = 21.50, *d* = -0.35 vs. $M_{♀}$ = 67.31, *SD* = 21.55, *d* = -0.28, see Appendix P, Table P9 to Table P21 for the descriptive statistics).

Hence, H_4 (men and women will be more likely to assign traits that are associated with the pursuit of a short-term mating strategy to a man who owns a conspicuous smartphone than to a man who owns a nonconspicuous smartphone) was, at least, partially supported. Participants perceived the male target as less agreeable, less loyal, richer, and wealthier, and tended to rate him as flirtier and less mature when he was presented as the owner of the conspicuous smartphone. However, they also rated him as less attractive, less smart, less talented, and less passionate (see discussion). Interaction effects between owning a conspicuous smartphone and social dominance were not observed (RQ_3).

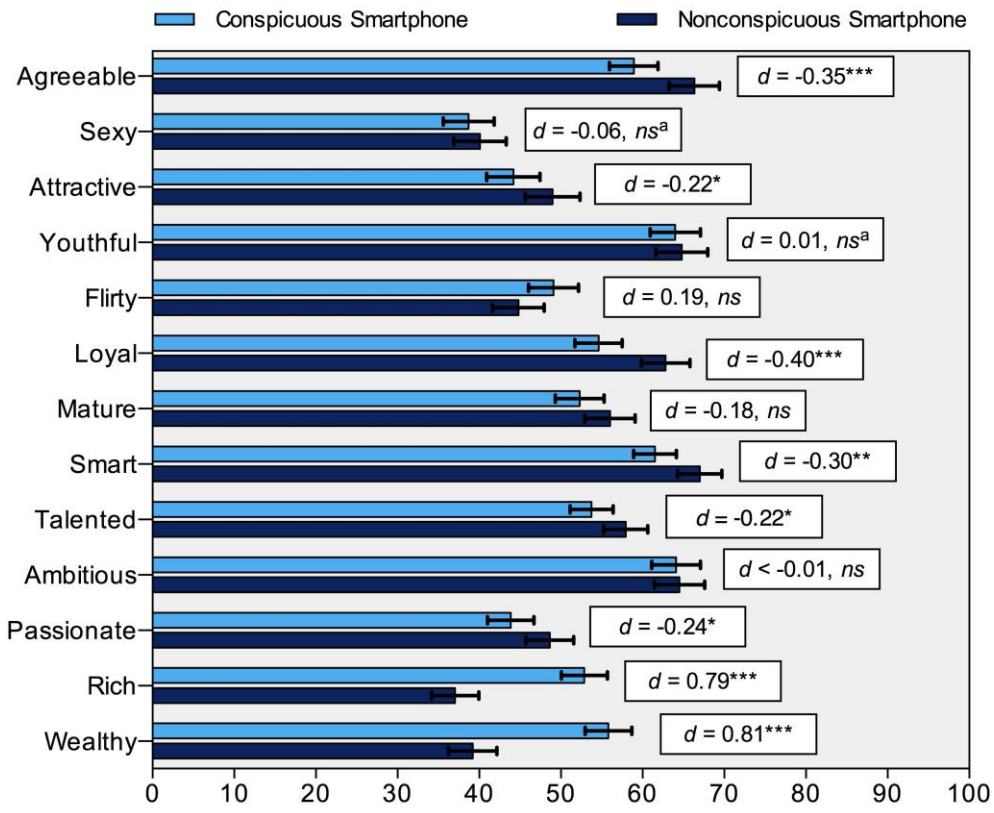


Figure 22. Perceptions of a Man's Mate Value as a Function of the Man Owning a Conspicuous vs. Nonconspicuous Smartphone (H_4), Study 3

Note. *p < .05; **p < .01; ***p <.001, two-tailed. Error bars indicate 95% confidence intervals. The figure displays the estimated marginal means. [a]Effects are not interpreted because ANOVAs were non-significant.

5.3.6 Male rival, male friend, and mate poacher

ANOVAs with smartphone type and social dominance as between-subjects factors were conducted. Male participants' perceptions of the male target as a rival, friend, and mate poacher served as DVs. The assumption of homogeneity of variance was not fulfilled for perceptions as a rival, *Levene's* $F_{(3, 185)} = 3.08$, $p = .029$. The ANOVA proved significant for perceptions as a rival, $F_{(3, 185)} = 7.52$, $p < .001$, $\eta_p^2 = .109$, $R^2 = .109$, $R^2_{adj} = .094$; all other ANOVAs did not reach significance, $Fs_{(3, 185)} \leq 1.09$, $ps \geq .335$, $\eta_p^2 s \leq .017$, $R^2 s \leq .017$, $R^2_{adj} s \leq .001$ (see Appendix P, Table P22 to Table P25 for the descriptive statistics).

For perceptions as a rival, main effects of smartphone type, $F_{(1, 185)} = 13.08$, $p < .001$, $\eta_p^2 = .066$, and social dominance, $F_{(1, 185)} = 10.03$, $p < .001$, $\eta_p^2 = .051$, were significant. The interaction effect proved non-significant, $F_{(1, 185)} < 1$, $p = .834$, $\eta_p^2 < .001$. Supporting H_5, male participants perceived the male target as a stronger rival when he was depicted as the owner of the conspicuous smartphone ($M_C = 3.56$, $SD = 1.61$ vs. $M_{NC} = 2.72$, $SD = 1.61$, Figure 23). In terms of social dominance, male participants rated the male target as a stronger rival when he was described as more socially dominant ($M_{HD} = 3.51$, $SD = 1.61$ vs. $M_{LD} = 2.78$, $SD = 1.61$, $d = 0.46$, see Appendix P, Table P22 for the descriptive statistics).

Thus, H_5 (men will perceive a man who owns a conspicuous smartphone more as a rival than a man who owns a nonconspicuous smartphone) was accepted. Neither H_6 (men will perceive a man who owns a conspicuous smartphone less as a friend than a man who owns a nonconspicuous smartphone) nor H_7 (men will perceive a man who owns a conspicuous smartphone more as a mate poacher than a man who owns a nonconspicuous smartphone) were supported. Interaction effects between owning a conspicuous smartphone and social dominance did not appear (RQ_3).

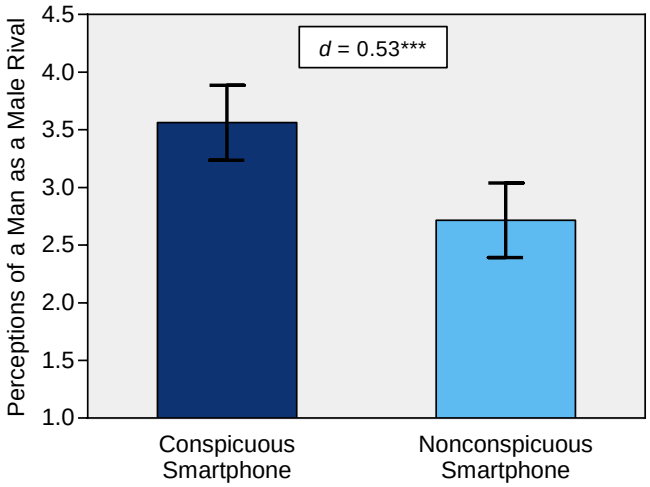


Figure 23. Men's Perceptions of a Man as a Rival as a Function of the Man Owning a Conspicuous vs. Nonconspicuous Smartphone (H_5), Study 3

Note. ***p <.001, two-tailed. Error bars indicate 95% confidence intervals. The figure displays the estimated marginal means.

5.4 Discussion

Whereas Study 1 and 2 examined whether the effects of owning a conspicuous, high-status smartphone on perceptions of a man as a mate and same-sex competitor differed for men with higher and lower facial attractiveness, Study 3 explored these perceptions for a more socially and a less socially dominant man, respectively.

First of all, no interaction effects between owning a conspicuous smartphone and male social dominance were found but main effects. For the desirability as a short-term mate, it surfaced that men perceived a male owner of a conspicuous smartphone as a more desirable short-term mate for women. In contrast, women's perceptions of the man's desirability for a potential short-term relationship were not affected by the type of smartphone the man owned. These findings are partially in line with those of Study 2, which demonstrated that men and women perceived a more attractive (but not a less attractive) male owner of a conspicuous smartphone as a more desirable short-term mate. Thus, conspicuous consumption of smartphones alone might not be sufficient to boost a man's desirability as a short-term mate from a female perspective (see also discussion of Study 1). Instead, a second signal indicating the man's biological fitness (e.g., facial attractiveness as shown in Study 2) might be needed to enhance his desirability as a short-term mate to women. Although Study 3 introduced social dominance as a further indicator of male mate quality, still no interaction effects between smartphone type and social dominance were found. One possible explanation is that male social dominance has primarily evolved through male-male competition (e.g., Puts, 2010, 2016; Puts et al., 2015) so that this signal might be more directed toward male competitors than toward potential mates. Male facial attractiveness, on the other hand, is, at least, partially selected through mate choice (Fink & Penton-Voak, 2002; Little et al., 2011) so that women might be more prone to consider this indicator of male biological fitness in their evaluations of a man's desirability as a short-term mate. This could explain why (a) conspicuous consumption of smartphones alone did not increase a man's desirability as a short-term mate to women and (b) why no interaction effect between owning a conspicuous smartphone and social dominance was observed for women's ratings. Nevertheless, it does not explain why no interaction effects between owning a conspicuous smartphone and social dominance were found for men's ratings of another man's desirability as a short-term mate for women nor for men's perceptions of him as a same-sex competitor (see also below).

At odds with expectations and contrary to the results of the first two studies, Study 3 did not reveal effects of the conspicuous smartphone on men's and women's perceptions of a man's desirability for a long-term relationship nor on his mating strategy. One possible explanation for the latter finding is that the manipulation of social dominance undermined the effects owning a conspicuous smartphone has on perceptions of a man's interest in short-term mating. Inspecting the effect sizes bolsters this explanation by revealing that suggested social dominance exerted a larger influence on evaluations of a man's inclination toward short-term mating (d = 0.74) than the conspicuous smartphone did in Study 1 (d = 0.47) and Study 2 (mean d = 0.34). However, this fails to explain why owning a

conspicuous smartphone did not affect a man's desirability as a long-term mate given that social dominance did not influence a man's desirability as a long-term mate either (for the effects of social dominance, see below).

Similar to the results of Study 2, men and women assigned traits that are rather typical of a short-term mate to a male owner of a conspicuous smartphone. Men and women rated him lower on agreeableness and loyalty, and tended to perceive him as less mature. On the other hand, they rated him as richer and wealthier and tended to rate him as more flirtatious. However, they also rated him as less smart, less talented, less attractive, and less passionate. As male conspicuous consumption provides cues to mate quality and good genetic dispositions (Apicella et al., 2008; Sundie et al., 2011), it could have been expected that men and women would judge a man who displays conspicuous consumption of smartphones as smarter and more talented. Talent and intelligence are positively related (e.g., Gagné, 1993; Preckel, Holling, & Wiese, 2006) so that talent may indicate biological fitness (e.g., Haselton & Miller, 2006; Miller, 2000). On the other hand, talent may also facilitate resource acquisition ability, which is a trait favored in a long-term mate (e.g., Buss, 1989; for a similar discussion pertaining to smartness, see Study 2). However, taking the other perceptions of the man's mate value into account, owning a conspicuous smartphone appears to be more strongly associated with traits of a short-term than of a long-term mate. This could explain why men and women perceived a male owner of a conspicuous smartphone as less talented and smart. In terms of attractiveness perceptions, Study 3 confirmed the trend observed in Study 2 that owning a conspicuous smartphone decreased a man's attractiveness. This results contrasts with expectations and research that demonstrates that male conspicuous consumption enhances a man's attractiveness as a mate (Dunn & Hill, 2014; Dunn & Searle, 2010; Shuler & McCord, 2010). One possible explanation for this finding is that attractiveness is a rather broad construct, not specifically relating to either short-term or long-term attractiveness. As a result, displaying conspicuous consumption might not enhance a man's general attractiveness as a mate but rather his attractiveness in in specific mating contexts. In favor of this explanation, Study 3 showed that men considered a male owner of a conspicuous smartphone as a more desirable short-term mate for women. In addition, Studies 1 and 2 showed specific effects of the conspicuous smartphone on a man's desirability as a mate in a long-term and short-term mating context. A further possible explanation is that conspicuous consumption might be considered a rather socially undesirable behavior given that it relates to the willingness to overtly display social disparities through status products and that it is linked with vanity (Netemeyer, Burton, & Lichtenstein, 1995). Hence, social desirability biases may have affected ratings, leading the participants to give lower attractiveness ratings (Al-Wugayan & Suprenant, 2006). In summary, the evaluations of the man's mate value dimensions suggest that male conspicuous consumption of smartphones is related to characteristics of a short-term mate. Nevertheless, it is not clear why these evaluations were only partially reflected in ratings of the man's desirability as a short-term mate and were absent in ratings of the man's desirability as a long-term mate (see also above).

Regarding an intrasexual competition context, men rated a male owner of a conspicuous smartphone as a stronger rival relative to a male owner of a nonconspicuous smartphone. These findings corroborate the assumption that male conspicuous consumption may serve a function in intrasexual competition. This result is partially in line with those of Study 2, which revealed that owning a conspicuous smartphone increased perceptions of a man with higher facial attractiveness as a male rival. Study 2, however, also showed an interaction effect between participant sex and smartphone type such that women (but not men) perceived a male owner of a conspicuous smartphone a stronger male rival than a male owner of a nonconspicuous smartphone. These partially contradictory findings will be addressed in more detail in the general discussion.

Men's perceptions of another man as a friend and mate poacher were not affected by the type of smartphone the man owned. These results contrast with those of Study 2, which showed that men were less willing to become friends with a male owner of a conspicuous smartphone and considered him as a stronger mate poacher relative to a male owner of a nonconspicuous smartphone. They results of Study 3 are further at odds with the research of Hennighausen and colleagues (Hennighausen and Lange, 2016; Hennighausen et al., 2016), which demonstrated that men judged another man who displays conspicuous consumption less as a friend and more as a mate poacher. It is possible that the effects of owning a conspicuous smartphone on men's perceptions of another man as a friend and mate poacher are rather small so that they do not consistently surface. Indeed, the effects a conspicuous smartphone had on perceptions of a man as a potential male friend and mate poacher found in Study 2 yielded small to moderate effect sizes. In contrast, the effects Hennighausen and colleagues found for male conspicuous consumption of a luxury car in male-male competition were of moderate to large size. Accordingly, owning a conspicuous smartphone might be a weaker display of male conspicuous consumption, which could explain why its effects on male perceptions of a man as a friend and mate poacher were not found in Study 3.

Besides the hypothesized effects discussed above, various effects of suggested social dominance on perceptions of a man as a mate and same-sex competitor were found. Men and women perceived a more socially dominant man as a more desirable short-term mate as much more inclined toward short-term mating than a less socially dominant man. Moreover, men and women assigned traits to a more socially dominant man that are desirable in both a short-term and long-term mating context given that they rated him higher on attractiveness, sexual willingness, intelligence, ambition, and status. These findings indicate that social dominance adds to a man's mate quality in both a short-term and long-term mating context. These results are in line with research that suggests that high levels of social dominance are indicative of a man's biological fitness and good genetic disposition (Gangestad et al., 2007; Slatcher et al., 2011; von Rueden et al., 2010). Women favor these traits in a short-term mating context so that a man who displays social dominance is preferred for a short sexual affair (Kruger & Fitzgerald, 2011). Because more socially dominant men are more likely to attain higher status and gain priority access to resources with which they can provide their mates and their offspring in the long-

term, more socially dominant men are also preferred for a long-term relationship (Bryan et al., 2011; van Vugt & Tybur, 2016). Results further revealed that men perceived a more socially dominant man as a stronger rival relative to a less socially dominant man, pointing at the role of male dominance displays in male-male competition. Given that more socially dominant men can accrue more precious resources (Cheng et al., 2013; Henrich & Gil-White, 2001) and have more mating success (Slatcher et al., 2011), it is conceivable that they are regarded as stronger same-sex competitors.

Finally, sex differences in the ratings were found. As in Studies 1 and 2, relative to women, men perceived other men as much more desirable mates for women in either a short-term and a long-term mating context (see also discussions of Study 1 and 2). In addition, men rated other men as more oriented toward short-term mating. Men further judged other men as less loyal, less attractive, less smart, and less ambitious than women did. Although men gave higher ratings than women regarding other men's mate desirability, men could have provided lower ratings on loyalty, attractiveness, smartness, and ambition as part of a competitor derogation tactic. Studies show that men degrade their rivals frequently in terms of their financial resources, resource acquisition ability, physical attractiveness, and loyalty depending on derogation context (short-term vs. long-term mating context; e.g., Buss & Dedden, 1990; DelPriore et al., 2012; Schmitt & Buss, 1996).

6 General discussion

Why are conspicuous luxury brand smartphones discussed as *the* new status symbols (e.g., Lasco, 2015; Roy, 2014), and which benefits does owning such a device provide? The results of this doctoral dissertation suggest that owning a conspicuous, high-status smartphone could increase a man's attractiveness as a romantic partner and thus add to his mating success, specifically in a short-term mating context. The findings of this research further indicate that owning a conspicuous smartphone might foster perceptions of a man as a same-sex rival and mate poacher, suggesting that male conspicuous consumption may not exclusively have evolved as a mate attraction tactic but also as one form of intrasexual competition.

Media and consumer psychological research indicates that individuals adopt, purchase, and use mobile devices to enhance their social status and image (e.g., Bødker et al., 2009; Kwon & Chidambaram, 2000; Müller-Lietzkow et al., 2014; Özcan & Koçak, 2003). These studies, however, do not provide an answer as to *why* individuals aim to boost their status through mobile device ownership, and which particular benefits these status boosts could have. The present work aimed to fill these research gaps by applying an evolutionary psychological perspective. An evolutionary psychological perspective does not only consider proximate but also ultimate causations, providing an explanation as to why specific human behaviors and mental structures have evolved and which purpose they serve (Buss, 2016; Cosmides & Tooby, 1997). Hence, evolutionary psychology provides a classification system that allows explaining also those human behaviors that, at first glance, appear to be "irrational" but make good sense in the light of evolution. Accordingly, applying an evolutionary perspective contributes to a more comprehensive understanding of why individuals engage in status-seeking behavior by purchasing and displaying conspicuous luxury brand smartphones.

Taking an evolutionary view, social status holds a lot of benefits, particularly for males. High status grants them priority access to precious resources and, as a consequence, increases their mating success (Cummins, 2006; van Vugt & Tybur, 2016). Seeking and maintaining status is thus a fundamental human motive for which individuals have evolved specific psychological mechanisms (Bischof, 1985; Griskevicius & Kenrick, 2013; van Vugt & Tybur, 2016). In modern days, conspicuous purchases and displays of luxuries aiming to enhance and show status tap into these ancestral psychological mechanisms. In line with this, studies suggest that men engage in conspicuous spending to boost and demonstrate their status (e.g., Dubois, Rucker, & Galinsky, 2012; Mazzocco et al., 2012; Rucker et al., 2012) with the goal to attract mates and to enhance their desirability as a mate (e.g., Griskevicius et al., 2007; Janssens et al., 2011; Saad, 2013). By displaying conspicuous consumption (Veblen, 1899), men impose a hard-to-fake handicap on them (Zahavi, 1975), which advertises their biological fitness and mate quality (Miller, 2009). Accordingly, male conspicuous consumption of luxuries is particularly

associated with a man's interest in short-term mating and appears to boost his attractiveness as a mate in this particular context (Greiling & Buss, 2000; Sundie et al., 2011).

For mobile devices, there is some evidence pointing to a similar function. Research on male conspicuous consumption as a means to mate attraction has included mobile devices and demonstrated that men are more willing to spend money on conspicuous, high-status devices when mating cues are activated (Griskevicius et al., 2007; Janssens et al., 2011; Sundie et al., 2011). In addition, unmated men who are inclined toward short-term mating prefer to purchase conspicuous smartphones from luxury brands (Hennighausen & Schwab, 2014). Signaling social and economic status by the conspicuous display of mobile devices further appears to play a role in male-male competition. Research suggests that with increasing male-to-female ratio, men are more likely to show off their cell phones which serve as indicators of economic resources with the goal to attract women and to stand out from their competitors (Lycett & Dunbar, 2000).

Drawing on these findings, this doctoral dissertation investigated how owning a conspicuous, high-status smartphone affected evaluations of a man (a) as a mate and (b) same-sex competitor to elucidate the benefits that conspicuous consumption of smartphones may provide with regard to mating and reproduction. In a mate choice context, perceptions of a male smartphone owner's desirability as a short-term and long-term mate, his pursued mating strategy, and his mate value were explored. In a same-sex competition context, perceptions of a male smartphone owner as a rival, friend, and mate poacher were examined. Conspicuous consumption, however, is only one handicap that advertises a man's mate quality. To broaden the literature on conspicuous consumption, it was hence explored whether conspicuous consumption of smartphones affected perceptions of a man as a mate and same-sex competitor differently depending on the man's facial attractiveness (Studies 1 and 2) and his suggested social dominance (Study 3).

6.1 Summary of the results

The results of this doctoral dissertation showed that owning a conspicuous, high-status smartphone influenced perceptions of a man as a potential mate and same-sex competitor (see Table 15 for an overview of the results obtained in all three studies). For perceptions of a man's desirability as a mate, owning a conspicuous smartphone increased a man's desirability for a potential short-term relationship, fostered perceptions of him being interested in short-term mating, and decreased his desirability for a potential long-term relationship. In line with this, men and women rated a male owner of a conspicuous smartphone as less agreeable, less loyal, more flirtatious, richer, and wealthier than a male owner of a nonconspicuous smartphone. These traits can be related to short-term mating, suggesting that owning a conspicuous smartphone might be indicative of a man's quality as a short-term mate. For perceptions of a man as a same-sex competitor, some evidence was found that owning a conspicuous smartphone enhanced perceptions of him as a rival.

Table 15. Summary of Study Results Pertaining to Male Conspicuous Consumption of Smartphones

Hypothesis	Study 1: Conspicuous consumption of smartphones and facial attractiveness (I)	Study 2: Conspicuous consumption of smartphones and facial attractiveness (II)	Study 3: Conspicuous consumption of smartphones and social dominance
Increases a man's desirability as a short-term mate	X[a]	✓[b]	✓[e]
Decreases a man's desirability as a long-term mate	✓[a]	✓	X
Fosters perceptions of a man's inclination toward short-term mating	✓[a]	✓[c]	X
Is associated with traits of a short-term mate	N/T	✓	✓
Fosters perceptions of a man as a male rival	N/T	✓[bd]	✓
Decreases perceptions of a man as a male friend	N/T	✓	X
Fosters perceptions of a man as a mate poacher	N/T	✓	X

Note. ✓= Hypothesis supported. X = Hypothesis not supported. N/T = Hypothesis not tested. [a]Manipulation checks suggested a weak manipulation of male facial attractiveness, which could explain why no interaction effects between facial attractiveness and owning a conspicuous smartphone were found. [b]The effect was only found for a man with higher facial attractiveness. [c]Owning a conspicuous smartphone fostered perceptions of a man's inclination toward short-term mating with a larger effect for a man with higher facial attractiveness. [d]The main effect of smartphone conspicuousness was only found for female participants. [e]The main effect of smartphone conspicuousness was only found for male participants.

These findings are broadly in line with previous research that demonstrated that male conspicuous consumption affects female perceptions in mate choice such that it enhances a man's attractiveness in a short-term mating context (Sundie et al., 2011). The novel finding is that this effect is also evident for conspicuous smartphones. Although research has pointed at a relationship between men's interest in uncommitted sexual relationships and their preference for a conspicuous, high-status smartphone (Hennighausen & Schwab, 2014), and former studies have included mobile devices when investigating male conspicuous consumption in mate attraction (e.g., Griskevicius et al., 2007; Janssens et al., 2011; Sundie et al., 2011), information on the extent to which mobile devices influence perceptions of a man as a mate were lacking. The results of this doctoral dissertation fill these gaps by indicating foremost small to moderate effect sizes for conspicuous consumption of smartphones on perceptions of a man as a mate and same-sex competitor. Moreover, research has predominantly focused on conspicuous consumption as a signal of a man's interest in short-term mating (Sundie et al., 2011). The results of this doctoral dissertation, however, suggest that men who do not engage in conspicuous consumption might signal their willingness to commit to a long-term relationship, as men and women perceived a male owner of a nonconspicuous smartphone as a more desirable mate for a potential long-term relationship. This fits with the idea of Hennighausen and Schwab (2014), who proposed that men might use nonconspicuous smartphones to attract long-term mates. Hence, *not* displaying conspicuous consumption of smartphones might be one further male tactic to attract mates. Male conspicuous consumption has been further predominantly investigated in a mate choice context (Dunn & Hill, 2014; Dunn & Searle, 2010; Sundie et al., 2011), neglecting its role in male-male competition (see Hennighausen & Lange, 2016). The results of this research, however, indicate that male

conspicuous consumption could also serve a function in intra-sexual competition and might have evolved as one form of male-male competition.

Weaker support was found for the hypotheses that male conspicuous consumption of smartphones would foster perceptions of a man as a mate poacher and decrease perceptions of him as a potential friend. These effects were only found in one of two studies. One possible explanation is that although male conspicuous consumption of smartphones appears to play a role in same-sex competition (see above), its role in mate choice may be more pronounced. This would be in line with studies suggesting that the evolution of male conspicuous consumption is primarily driven through female mate choice (Griskevicius et al., 2007; Roney, 2003; Saad, 2007, 2013; Sundie et al., 2011). A second possible explanation is that male conspicuous consumption of mobile devices is a signal that is not strong enough to consistently elicit perceptions of a man as a mate poacher and decrease perceptions of a man as a friend. Supporting this idea, male conspicuous consumption of luxury cars (which might be a stronger signal of a man's mate quality, as more precious resources are involved so that only men with very high income can afford them) has been shown to foster perceptions of a man as a mate poacher and decrease perceptions of a man as a male friend with moderate to large effect sizes (Hennighausen et al., 2016; Hennighausen & Lange, 2016).

Specifically, attractive men appear to benefit from owning a conspicuous, high-status smartphone. A conspicuous smartphone enhanced a man's desirability as a short-term mate for a man with higher facial attractiveness, whereas this effect did not occur for a man with lower facial attractiveness. Although the conspicuous smartphone boosted a more attractive man's desirability as a short-term mate only to a small extent (yielding a small effect size), the effect should not be underestimated; even small differences adding to male mating success can accumulate and might have a considerable impact over time (e.g., Lange, Zaretsky, Schwarz, & Euler, 2013). Stronger effects were observed for perceptions of a man's mating strategy. Although owning a conspicuous smartphone generally elicited the perception of a man's interest in short-term mating, this effect was more pronounced for a man with higher facial attractiveness (moderate effect size) than for a man with lower facial attractiveness (small effect size). Owning a conspicuous smartphone may further have specific benefits for attractive men in male-male competition. Men and women evaluated a more attractive male owner of a conspicuous smartphone as a stronger male rival, whereas this effect did not occur for a less attractive male owner of a conspicuous smartphone. These findings suggest that displays of male handicaps could "add up" so that conspicuous consumption might be even more effective at attracting mates and intimidating rivals for men who display additional cues to biological fitness and mate quality. These findings specifically contribute to the literature on male conspicuous consumption, as, to the author's best knowledge, this is the first study to demonstrate interaction effects between conspicuous consumption and facial attractiveness on evaluations of a man as a potential mate and rival.

In contrast, male conspicuous consumption of smartphones did not influence perceptions of a man as a mate and same-sex competitor differently depending on the man's social dominance. It remains

unclear why such effects were observed for facial attractiveness but not for social dominance, although both traits honestly advertise a man's biological fitness and mate quality (Kirby, 2014; Little et al., 2011). Several explanations are possible. First, male social dominance may be a handicap that has primarily evolved in intrasexual competition (Berglund et al., 1996; Puts, 2010, 2016), whereas male facial attractiveness may have instead evolved through female mate choice (e.g., Gangestad & Scheyd, 2005; Little et al., 2011). Male handicaps that have both evolved through female mate choice could be more prone to interact with each other and influence a man's desirability in a mate choice context. Relying on this explanation, however, it could have been expected that conspicuous consumption of smartphones and social dominance would interact and affect perceptions of a man as a same-sex competitor. Nevertheless, these interaction effects did not appear.

A second possible explanation is that social dominance exhibited a stronger effect on perceptions of a man as a mate and same-sex competitor than conspicuous consumption of smartphones. Effects of male social dominance could have undermined the effects of male conspicuous consumption on perceptions of a man's mate quality. Bolstering this explanation, owning a conspicuous smartphone did not influence perceptions of a man's inclination toward short-term mating in Study 3, whereas social dominance largely affected perceptions of a man's inclination toward short-term mating and perceptions of his mate value on the dimension sexual willingness. Inspecting the effect sizes further suggests that owning a conspicuous smartphone affected perceptions of a man as a mate and same-sex competitor in Study 3 mostly to a smaller extent than in the first two studies. Nevertheless, for perceptions of another man as a rival, Study 3 yielded comparable effects of owning a conspicuous smartphone and suggested social dominance. For perceptions of another man's desirability as a long-term mate neither effect was observed (although owning a conspicuous smartphone decreased a man's desirability as a long-term mate in Studies 1 and 2).

Finally, it is possible that these findings are the results of methodological artifacts. In Studies 1 and 2, smartphone ownership and male attractiveness were both manipulated within the image of the male target and were thus immediately visible. In Study 3, however, social dominance was manipulated through a text description placed below the image of the male target so that participants had to read this description prior to providing their ratings. Hence, the participants' attention could have been drawn away from the picture to the text or vice versa leading to different effects caused by the various modalities of the experimental manipulation. This might explain why one manipulation might have predominated the other (as for perceptions of a man's inclination toward short-term mating observed in Study 3, see also above). In a similar vein, differential effects of pictures vs. text on drawing attention have been shown for advertising (e.g., Pieters & Wedel, 2004).

6.2 Alternative explanations, limitations, and future research

The findings of this doctoral dissertation provide only one possible explanation of why individuals adopt, purchase, and use mobile devices. As described in the theoretical part (see 2.2), individuals

often acquire and use mobiles for more obvious reasons that relate to the devices' utility and usefulness (e.g., being reachable and getting in contact with others, coordination) or hedonic enjoyment (e.g., entertainment, time consumption, and relaxation; e.g., Bødker et al., 2009; D. Kim et al., 2014; Müller-Lietzkow et al., 2014; Peters & Allouch, 2005; Teo & Pok, 2003; Trepte et al., 2003). Evolutionary psychology claims that humans are "instinct blind" to most of their evolved psychological mechanisms designed to solve adaptive problems (Cosmides & Tooby, 1997; see also 2.3.1). This might also hold for the status boosts gained from the display of conspicuous luxury brand smartphones and the ultimate benefits this behavior could have for men in the mating market. Nevertheless, given that the scientific literature as well as the media have repeatedly discussed seeking and displaying status as a motive for mobile device adoption, purchase, and use, individuals may at least partially conscious of this motivation to purchase and display specific smartphones.

Whereas most media and consumer psychological studies do not explicitly differentiate between men and women when investigating mobile devices as indicators of status, the present work has focused on male smartphone owners and has neglected female smartphone owners. The rationale behind this was that based on theories from evolutionary psychology (e.g., Buss, 1989; Buss & Schmitt, 1993) and previous research (Griskevicius et al., 2007; Hennighausen & Schwab, 2014; Sundie et al., 2011) it was expected that men would be more likely to benefit in the realm of mating from owning a conspicuous, high-status smartphone than women. Indeed, studies suggest that women are more prone to display conspicuous consumption of luxuries against other women to maintain or guard a mate (Wang & Griskevicius, 2014), or to deter other women in competitions for a desirable mate (Hudders et al., 2014). Thereby, conspicuous mobile devices appear to be of rather low importance, as women primarily desire attractiveness-enhancing products, such as clothing, jewelry, fashion accessories, or cosmetics (Hudders et al., 2014; Wang & Griskevicius, 2014)[19]. Compared to men, however, numbers suggest that women are at least as likely (if not even more likely) to prefer and purchase conspicuous smartphones from luxury brands[20] (Matyszczyk, 2014; Williams, 2015). Hence, future studies could explore the particular reasons that underlie women's motivations for smartphone purchases and uses by applying an evolutionary perspective.

A noteworthy limitation of this research is that it investigated the effects of owning a conspicuous smartphone on *perceptions* of a man as a mate and same-sex competitor and not on a man's *actual* success in mating and intrasexual competition. Hence, to further examine the benefits owning a conspicuous smartphone could provide for men, it would be interesting to conduct a field study. In this field study, it could be investigated whether men who display their conspicuous smartphones more

[19] In line with this, two unpublished studies conducted by the author of this doctoral dissertation did not reveal effects of female conspicuous consumption of smartphones on men's perceptions of a woman's desirability as a potential short-term and long-term mate. However, these studies yielded mixed findings regarding the perceptions of a woman's mating strategy; one of the two studies indicated a moderate effect such that men rated a female owner of a conspicuous smartphone as more oriented toward short-term mating. In contrast, the other study did not reveal such an effect.

[20] A similar trend was found in this doctoral dissertation. Observed sex ratios of individuals owning a conspicuous luxury brand smartphone (i.e., Apple smartphones) were as follows: ♂24.9% vs. ♀22.5% (Study 1); ♂27.3% vs. ♀30.6% (Study 2); ♂33.9% vs. ♀37.7% (Study 3).

often are preferred for dates and whether these conspicuous displays intimidate rivals. For instance, Guéguen and Lamy (2012) manipulated male status by seating a man either into a high-status or low-status car. When a woman approached the car, the man got off the car and asked for her number. Male mating success was then measured by the proportion of women who were willing to give their telephone number to the man. Similarly, Lycett and Dunbar (2000) carried out a field study in which they observed men's display of mobile phones in bars and recorded whether its frequency varied with the number of women and men in the room. Settings like these could be adapted to investigate the effects owning a conspicuous smartphone may have for men in a real-life environment.

A further limitation of this research is that university students were overrepresented in the samples. Although it was taken care that participants were recruited in different ways and not only at the university, the recruiting was foremost carried out via internet, email, and social networks. This was done for pragmatic reasons, as all three studies were conducted as online experiments. Hence, the results obtained in this doctoral dissertation may be somewhat biased. It is possible that own economic resources and income influence to which extent an individual perceives conspicuous consumption of smartphones as a handicap that provides cues about a man's mate quality. Hence, from a student's perspective, purchasing a conspicuous luxury brand smartphone that costs upwards of €745 (Apple Inc., 2015), might be a strong costly signal given that the mean income for students in Germany is €864 (Middendorff, Apolinarski, Poskowsky, Kandulla, & Netz, 2013). To extend the generalizability of the results, it would be thus interesting to conduct future studies that include participants with higher net monthly incomes.

Future studies could broaden the findings of this doctoral dissertation by taking female cycle effects into account. Research suggests that women's mate preferences differ during their ovulatory cycle with preferences for men providing cues to high genetic quality being strongest at peak fertility (Gangestad et al., 2007; Gildersleeve et al., 2014). In line with this, women are more prone to notice conspicuous status products (including mobile devices) when their chance of conception is the highest (Lens et al., 2012). Although data on the female participants' ovulatory cycle were collected in Study 1, an exploratory analysis did not show effects. This might be due to the chosen method, namely the modified backward method (Schwarz & Hassebrauck, 2006). The accuracy of this method to assess risk of conception has recently been called into question (Harris, Chabot, & Mickes, 2013; Wideman, Montgomery, Levine, Beynnon, & Shultz, 2013), which might explain why no effects were observed. Hence, future studies could use more reliable methods, such biological measures (e.g., S. E. Hill & Durante, 2009) to assess female cycle in studies on the effects of conspicuous consumption of smartphones on women's perceptions of a man as a mate. In particular, it would be interesting to examine cycle effects on women's evaluations male owners of conspicuous smartphones who vary in facial attractiveness and social dominance. It is possible that, when the women is a peak fertility, a man with higher facial attractiveness would even benefit more from owning a conspicuous smartphone in a short-term mating context because then women specifically favor men who show cues

to high biological fitness (Gangestad et al., 2007; Gildersleeve et al., 2014).

In addition, future research could consider individual characteristics of the participants when investigating their perceptions of a male owner of a conspicuous smartphone in a mate choice and same-sex competition context. Studies show that self-esteem and self-perceived mate value can influence which mating strategy a man pursues such that men with rather low self-perceptions of mate value are likely to shift their mating strategy from short-term to long-term mating. In doing so, they aim to increase their reproductive success by exclusively investing in one romantic partner (Penke & Denissen, 2008). The opposite has been also demonstrated such that boosts in self-esteem can increase a man's inclination toward the pursuit of a short-term mating strategy (Surbey & Brice, 2007). Similarly, studies drawing on life-history theory (Kenrick, Griskevicius, et al., 2010; Kenrick & Keefe, 1992) suggest that men's mating strategies vary to increase individual reproductive success (Sundie et al., 2011). These individual differences in men's mating strategies could affect their perceptions of another man's desirability as a mate to women and perceptions of another man as a same-sex competitor. For instance, men rather following a long-term mating strategy could be less likely to perceive a man who displays conspicuous consumption as a rival, whereas men pursuing a short-term mating strategy might be particularly prone to rate another man who engages in conspicuous consumption as a rival. Also women calibrate the standards they seek in their mates according to their own mate value. Women with high mate value seek mates who display characteristics that are both desirable in a short-term mate and in a long-term mate (Buss & Shackelford, 2008). Hence, women's self-perceived mate value could also affect their evaluations of a male owner of a conspicuous smartphone as a mate. Beyond self-perceived mate value and own mating strategy, the participants' relationship status could be a further variable that influences their evaluations. Research suggests that unmated (but not mated) men who are interested in short-term mating are more willing to purchase a conspicuous, high-status smartphone (Hennighausen & Schwab, 2014). Similarly, single men pay attention to status products when exposed to mating cues, whereas men in relationships do not (Janssens et al., 2011). Maner and colleagues (Maner, Gailliot, & Miller, 2009; Maner, Rouby, & Gonzaga, 2008) suggest that these mechanisms could have evolved to maintain and protect existing long-term relationships. Hence, future research could take relationship status into account when investigating perceptions of a male owner of a conspicuous smartphone as a mate and same-sex competitor.

Studies could further investigate whether the obtained results can be transferred to other mobile devices and handheld electronics. Beyond cell phones and smartphones, tablet computer ownership is constantly rising (Pew Internet & American Life Project, 2016). As for smartphones, conspicuous tablet computers from luxury brands are expensive amounting up to over €1200 (Apple Inc., 2016), whereas nonconspicuous tablet computers are available starting at €50 (CHIP, 2016). Therefore, male conspicuous consumption of tablet computers could yield similar effects on their perceptions as a mate and rival.

The present research investigated the role of conspicuous smartphones with a focus on the specific smartphone model. However, costly signaling with conspicuous smartphones might not only include the monetary costs of a specific device but also the way individuals communicate with their smartphone. Research suggests that perceptions of popularity in the peer group are influenced by the number of received text messages and the number of mobile contacts (Ling & Yttri, 2006). Thus, receiving a lot of messages and calls on one's smartphone could also serve as a costly signal indicating one's high social status and thus mate value. In a similar vein, being busy using one's smartphone could signal time poverty, which could serve as a further display of one's social status (Vanden Abeele, et al., 2014). Future research should thus also explore the signaling function of constantly incoming calls or text messages on perceptions of a man as a mate and potential same-sex competitor.

Lastly, it is important to note that mate choice and male-male competition are very complex processes, in which a huge variety of cues and characteristics play a role. Male conspicuous consumption of smartphones can be thus considered a further piece in a big mosaic influencing perceptions of a man as a mate and male rival. As Miller (2009) remarks in his book *Spent* with regard to fitness advertisements of mate quality by consumerism, the human brain has been shaped by selection pressures during a long time. Due to these selection pressures, it has developed psychological mechanisms that accurately assess a mate's quality. These mechanisms primarily rely on behavioral (e.g., reaction to stressful situations, levels of emotional stability), physiological (e.g., sleep, injury, pregnancy), and physical cues (e.g., attractiveness, size, age), that is, cues that have been important to solve adaptive problems over a long and stable period of time during human evolution (Miller, 2009). Conspicuous consumption of smartphones, however, is a rather new behavior so that human's assessment of these cues as an indicator of mate quality might be less accurately than their assessment of another person's mate quality based on behavioral, physiological, or physical cues. Thus, the effects owning a conspicuous smartphone has on evaluations of a man as a mate and rival might be weaker than those of these handicaps that have a rather long history of evolution. Nevertheless, men's conspicuous displays of wealth and resources (as in the case of conspicuous consumption) tap into old psychological mechanisms that evolved to solve adaptive problems pertaining to survival and reproduction (Plourde, 2008), which is also reflected by the findings of this doctoral dissertation.

6.3 Conclusion

The results of this doctoral dissertation contribute to a more profound and complete understanding of why individuals seek to gain and demonstrate status through mobile device adoption, purchase, and use. Thereby, the findings of this research extend the proximate perspective, which is mostly applied by media and consumer psychological research that focuses on mobile devices.

By taking an interdisciplinary view and introducing an ultimate perspective (Buss, 1995; Schwab, 2011; Tinbergen, 1963), the function of smartphones as status symbols was interpreted within fundamental human motives (Bischof, 1985; Kenrick, Griskevicius, et al., 2010). By applying an

evolutionary psychological view it was examined which potential benefits owning and displaying conspicuous, high-status smartphones might have in the realm of mating.

The present experiments suggest that men may benefit from owning a conspicuous smartphone specifically in the context of short-term mating. In addition, the experiments indicate that male conspicuous consumption of smartphones may not only serve a function in mate attraction but also in intrasexual competition. Of specific value are the findings that owning a conspicuous, high-status smartphone influenced men's and women's perceptions of other men as mates and same-sex competitors differently depending on the men's facial attractiveness such that more attractive men appear to benefit more from displaying conspicuous consumption. To the author's best knowledge, this doctoral dissertation represents the first attempt to explore how the combination of conspicuous consumption with a further costly signal that indicates mate quality influences evaluations of men as potential romantic partners and same-sex competitors.

This doctoral dissertation demonstrates that both a proximate and an ultimate perspective are necessary to understand the motivations that drive mobile device adoption, purchase and use. It provides valuable insights into the function of mobile devices as status instruments and shows the utility of an evolutionary perspective for media and consumer psychological research. It is hoped that this research will inspire future studies to further investigate mobile device adoption, purchase, and use – not only from a media and consumer psychological perspective but also from an evolutionary psychological perspective.

7 References

Abe, T., Kearns, C. F., & Fukunaga, T. (2003). Sex differences in whole body skeletal muscle mass measured by magnetic resonance imaging and its distribution in young Japanese adults. *British Journal of Sports Medicine*, *37*(5), 436-440.

Acikalin, S., Gul, E., & Develioglu, K. (2009). Conspicuous consumption patterns of Turkish youth: Case of cellular phones. *Young Consumers, 10*(3), 199-209. doi: 10.1108/17473610910986017

American Psychological Association. (2010, June 1). American Psychological Association ethical principles of psychologists and code of conduct. Retrieved from http://www.apa.org/ethics/code/

Anderson, C., John, O. P., Keltner, D., & Kring, A. M. (2001). Who attains social status? Effects of personality and physical attractiveness in social groups. *Journal of Personality and Social Psychology, 81*(1), 116-132. doi: 10.1037//0022-3514.81.1.116

Anderson, M. (2015, October 29). Technology device ownership: 2015. Retrieved from http://www.pewinternet.org/ 2015/ 10/29/technology-device-ownership-2015/

Andersson, M. (1994). *Sexual selection*. Princeton, NJ: Princeton University Press.

Aoki, K., & Downes, E. J. (2003). An analysis of young people's use of and attitudes toward cell phones. *Telematics and Informatics, 20*(4), 349-364. doi: 10.1016/S0736-5853(03)00018-2

Apicella, C. L., Dreber, A., Campbell, B., Gray, P. B., Hoffman, M., & Little, A. C. (2008). Testosterone and financial risk preferences. *Evolution and Human Behavior, 29*(6), 384-390. doi: 10.1016/j.evolhumbehav.2008.07.001

Apicella, C. L., Little, A. C., & Marlowe, F. W. (2007). Facial averageness and attractiveness in an isolated population of hunter-gatherers. *Perception, 36*(12), 1813-1820. doi: 10.1068/p5601

Apple Inc. (2015). iPhone 6s. Retrieved from http://www.apple.com/shop/buy-iphone/iphone6s

Apple Inc. (2016). iPad Pro kaufen [Purchasing iPad Pro]. Retrieved from http://www.apple.com/de/shop/buy-ipad/ipad-pro

Archer, J. (2009). Does sexual selection explain human sex differences in aggression? *Behavioral and Brain Sciences, 32*(3-4), 249-266; discussion 266-311. doi: 10.1017/s0140525x09990951

Backhaus, K., Erichson, B., Plinke, W., & Weiber, R. (2011). *Multivariate Analysemethoden [Methods of multivariate analysis]* (13th ed.). Berlin, Germany: Springer.

Bagwell, L. S., & Bernheim, B. D. (1996). Veblen effects in a theory of conspicuous consumption. *The American Economic Review, 86*(3), 349-373.

Barkow, J. H., Tooby, J., & Cosmides, L. (1992). *The adapted mind: Evolutionary psychology and the generation of culture*. New York, NY: Oxford University Press.

Bateman, A. J. (1948). Intra-sexual selection in Drosophila. *Heredity, 2*(3), 349-368. doi: 10.1038/hdy.1948.21

Bateson, M., & Healy, S. D. (2005). Comparative evaluation and its implications for mate choice. *Trends in Ecology & Evolution, 20*(12), 659-664. doi: 10.1016/j.tree.2005.08.013

Bateup, H. S., Booth, A., Shirtcliff, E. A., & Granger, D. A. (2002). Testosterone, cortisol, and women's competition. *Evolution and Human Behavior, 23*(3), 181-192. doi: 10.1016/S1090-5138(01)00100-3

Berglund, A., Bisazza, A., & Pilastro, A. (1996). Armaments and ornaments: An evolutionary explanation of traits of dual utility. *Biological Journal of the Linnean Society, 58*(4), 385-399. doi: 10.1111/j.1095-8312. 1996.tb01442.x

Bielefeld, K. (n.d.). Christian. Retrieved from http://www.beliebte-vornamen.de/4617-christian.htm

Bischof, N. (1985). *Das Rätsel Ödipus [The puzzle of Oedipus]*. Munich, Germany: Piper.

Bitkom. (2015, March 25). 44 Millionen Deutsche nutzen ein Smartphone [44 million Germans use a smartphone]. Retrieved from https://www.bitkom.org/Presse/Presseinformation/Pressemitteilung_3895.html

Blaker, N. M., Rompa, I., Dessing, I. H., Vriend, A. F., Herschberg, C., & van Vugt, M. (2013). The height leadership advantage in men and women: Testing evolutionary psychology predictions about the perceptions of tall leaders. *Group Processes & Intergroup Relations, 16*(1), 17-27. doi: 10.1177/1368430212437211

Blanchard, D. C., Sakai, R. R., McEwen, B., Weiss, S. M., & Blanchard, R. J. (1993). Subordination stress: Behavioral, brain, and neuroendocrine correlates. *Behavioural Brain Research, 58*(1-2), 113-121. doi: 10.1016/0166-4328(93)90096-9

Bloch, F., Rao, V., & Desai, S. (2004). Wedding celebrations as conspicuous consumption: Signaling social status in rural India. *The Journal of Human Resources, 39*(3), 675-695. doi: 10.2307/3558992

Bødker, M., Gimpel, G., & Hedman, J. (2009). *The user experience of smart phones: A consumption values approach*. Paper presented at the 8th Global Mobility Roundtable (GMR), Cairo, Egypt. Retrieved from http://citeseerx.ist.psu.edu/ viewdoc/download?doi=10.1.1.472.30&rep=rep1&type=pdf

Boothroyd, L. G., Meins, E., Vukovic, J., & Burt, D. M. (2014). Developmental changes in children's facial preferences. *Evolution and Human Behavior, 35*(5), 376-383. doi: 10.1016/j.evolhumbehav.2014.05.002

Botwin, M. D., Buss, D. M., & Shackelford, T. K. (1997). Personality and mate preferences: Five factors in mate selection and marital satisfaction. *Journal of Personality, 65*(1), 107-136. doi: 10.1111/j.1467-6494.1997.tb00531.x

Braun, C., Gründl, M., Marberger, C., & Scherber, C. (2001). *Beautycheck - Ursachen und Folgen von Attraktivität. Projektabschlussbericht [Beautycheck - Causes and effects of attractiveness. Project closure report]*. Retrieved from http://www.beautycheck.de/cmsms/index.php/der-ganze-bericht

Braveman, P., Egerter, S., & Williams, D. R. (2011). The social determinants of health: Coming of age. *Annual Review of Public Health, 32*(1), 381-398. doi: 10.1146/annurev-publhealth-031210-101218

Bressler, E. R., Martin, R. A., & Balshine, S. (2006). Production and appreciation of humor as sexually selected traits. *Evolution and Human Behavior, 27*(2), 121-130. doi: 10.1016/j.evolhumbehav.2005.09.001

Brown, D. E. (1991). *Human universals*. New York, NY: McGraw-Hill.

Bryan, A. D., Webster, G. D., & Mahaffey, A. L. (2011). The big, the rich, and the powerful: Physical, financial, and social dimensions of dominance in mating and attraction. *Personality and Social Psychology Bulletin, 37*(3), 365-382. doi: 10.1177/0146167210395604

Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences, 12*(01), 1-14. doi: 10.1017/S0140525X00023992

Buss, D. M. (1995). Evolutionary psychology: A new paradigm for psychological science. *Psychological Inquiry, 6*(1), 1-30. doi: 10.1207/s15327965pli0601_1

Buss, D. M. (2006). *The murderer next door: Why the mind is designed to kill*. New York, NY: Penguin Press.

Buss, D. M. (2016). *Evolutionary psychology: The new science of the mind* (5th ed.). New York, NY: Routledge Publishing.

Buss, D. M., & Dedden, L. A. (1990). Derogation of competitors. *Journal of Social and Personal Relationships, 7*(3), 395-422. doi: 10.1177/0265407590073006

Buss, D. M., Larsen, R. J., Westen, D., & Semmelroth, J. (1992). Sex differences in jealousy: Evolution, physiology, and psychology. *Psychological Science, 3*(4), 251-255. doi: 10.1111/j.1467-9280.1992.tb00038.x

Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review, 100*(2), 204-232. doi: 10.1037/0033-295X.100.2.204

Buss, D. M., & Shackelford, T. K. (2008). Attractive women want it all: Good genes, economic investment, parenting proclivities, and emotional commitment. *Evolutionary Psychology, 6*(1), 134-146. doi: 10.1177/14747049 0800600116

Buunk, A. P., & Dijkstra, P. (2004). Gender differences in rival characteristics that evoke jealousy in response to emotional versus sexual infidelity. *Personal Relationships, 11*(4), 395-408. doi: 10.1111/j.1475-6811.2004.00089.x

Buunk, A. P., & Massar, K. (2012). Intrasexual competition among males: Competitive towards men, prosocial towards women. *Personality and Individual Differences, 52*(7), 818-821. doi: 10.1016/j.paid.2012.01.010

Buunk, A. P., Pollet, T. V., Dijkstra, P. l., & Massar, K. (2011). Intrasexual competition within organizations. In G. Saad (Ed.), *Evolutionary psychology in the business sciences* (pp. 41-70). Berlin, Germany: Springer.

Buunk, B. P., Angleitner, A., Oubaid, V., & Buss, D. M. (1996). Sex differences in jealousy in evolutionary and cultural perspective: Tests from the Netherlands, Germany, and the United States. *Psychological Science, 7*(6), 359-363. doi: 10.1111/j.1467-9280.1996.tb00389.x

Campbell, S. W. (2007). A cross-cultural comparison of perceptions and uses of mobile telephony. *New Media & Society, 9*(2), 343-363. doi: 10.1177/1461444807075016

Campbell, S. W. (2008). Mobile technology and the body: Apparatgeist, fashion, and function. In J. E. Katz (Ed.), *Handbook of mobile communication studies* (pp. 153-164). Cambridge, MA: MIT Press.

Chan, E. Y. (2015). Physically-attractive males increase men's financial risk-taking. *Evolution and Human Behavior*. doi: 10.1016/j.evolhumbehav.2015.03.005

Chen, B. B., & Chang, L. (2015). Creativity and aggression as ornament and armament: Intersexual and intrasexual selection on men's mating behaviors. *Evolutionary Psychology, 13*(1), 266-282. doi: 10.1177/ 147470491501300118

Chen, G. M. (2011). Tweet this: A uses and gratifications perspective on how active Twitter use gratifies a need to connect with others. *Computers in Human Behavior, 27*(2), 755-762. doi: 10.1016/j.chb.2010.10.023

Chen, J. V., Yen, D. C., & Chen, K. (2009). The acceptance and diffusion of the innovative smart phone use: A case study of a delivery service company in logistics. *Information & Management, 46*(4), 241-248. doi: 10.1016/j.im.2009.03.001

Cheng, J. T., & Tracy, J. L. (2013). The Impact of wealth on prestige and dominance rank relationships. *Psychological Inquiry, 24*(2), 102-108. doi: 10.1080/1047840X.2013.792576

Cheng, J. T., Tracy, J. L., Foulsham, T., Kingstone, A., & Henrich, J. (2013). Two ways to the top: Evidence that dominance and prestige are distinct yet viable avenues to social rank and influence. *Journal of Personality and Social Psychology, 104*(1), 103-125. doi: 10.1037/a0030398

Cheng, J. T., Tracy, J. L., & Henrich, J. (2010). Pride, personality, and the evolutionary foundations of human social status. *Evolution and Human Behavior, 31*(5), 334-347. doi: 10.1016/j.evolhumbehav.2010.02.004

CHIP. (2015). CHIP Preisvergleich - Handys & Smartphones [CHIP Price comparison - cell phones and smartphones]. Retrieved from www.chip.de/preisvergleich/Handys-Smartphones,2/teuerste

CHIP. (2016, January 1). Vergesst das Aldi-Tablet für 99 Euro: Diese Alternative ist deutlich billiger [Forget about the Aldi-Tablet for 99 Euros: This alternative is much cheaper]. Retrieved from http://www.chip.de/news/Schnaeppchen- Tablet-bei- Aldi-mit-Android-5.0-Medion-Lifetab-P7332-fuer-99-Euro_88533907.html

Chitika, Inc. (2015). Infographic: iPhone usage rates by state. Retrieved from https://chitika.com/files/iPhone_Usage_by_State-Correlation_White_Paper_ChitikaInsights.pdf

Chun, H., Lee, H., & Kim, D. (2012). The integrated model of smartphone adoption: Hedonic and utilitarian value perceptions of smartphones among Korean college students. *Cyberpsychology, Behavior, and Social Networking, 15*(9), 473-479. doi: 10.1089/cyber.2012.0140

Clark, R. D., & Hatfield, E. (1989). Gender differences in receptivity to sexual offers. *Journal of Psychology & Human Sexuality, 2*(1), 39-55. doi: 10.1300/J056v02n01_04

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Cohn, L. D., & Westenberg, P. M. (2004). Intelligence and maturity: Meta-analytic evidence for the incremental and discriminant validity of Loevinger's measure of ego development. *Journal of Personality and Social Psychology, 86*(5), 760-772. doi: 10.1037/0022-3514.86.5.760

Confer, J. C., Perilloux, C., & Buss, D. M. (2010). More than just a pretty face: Men's priority shifts toward bodily attractiveness in short-term versus long-term mating contexts. *Evolution and Human Behavior, 31*(5), 348-353. doi: 10.1016/j.evolhumbehav.2010.04.002

Consumer psychology. (2015). In *Encyclopedia Britannica*. Retrieved from http://www.britannica.com/science/consumer psychology

Cooper, M., Dronsuth, R. W., Leitich, A. J., Lynk, J. C. N., Mikulski, J. J., Mitchell, J. F., . . . Sangster, J. H. (1975). Chicago, IL Patent No. 3, 906, 166. U.S. Patent and Trademark Office.

Cosmides, L., & Tooby, J. (1997). Evolutionary psychology: A primer. Retrieved from http://www.cep.ucsb.edu/primer.html

Coy, A. E., Green, J. D., & Price, M. E. (2014). Why is low waist-to-chest ratio attractive in males? The mediating roles of perceived dominance, fitness, and protection ability. *Body Image, 11*(3), 282-289. doi: 10.1016/j.bodyim. 2014.04.003

Cummins, D. (2006). Dominance, status, and social hierarchies. In D. M. Buss (Ed.), *The handbook of evolutionary psychology* (2nd ed., pp. 676-697). Hoboken, NJ: John Wiley & Sons Inc.

Cunningham, M. R. (1986). Measuring the physical in physical attractiveness: Quasi-experiments on the sociobiology of female facial beauty. *Journal of Personality and Social Psychology, 50*(5), 925-935. doi: 10.1037/0022-3514.50.5.925

Cunningham, M. R., Barbee, A. P., & Pike, C. L. (1990). What do women want? Facialmetric assessment of multiple motives in the perception of male facial physical attractiveness. *Journal of Personality and Social Psychology, 59*(1), 61-72. doi: 10.1037/0022-3514.59.1.61

Darwin, C. (1859). *On the origin of species by means of natural selection: Or the preservation of the favoured races in the struggle for life*. London, UK: John Murray.

Darwin, C. (1871). *The descent of man and selection in relation to sex*. London, UK: John Murray.

Date, A. L., & Ronan, G. F. (2000). An examination of attitudes and behaviors presumed to mediate partner abuse: A rural incarcerated sample. *Journal of Interpersonal Violence, 15*(11), 1140-1155. doi: 10.1177/088626000015011002

Davis, F. D. (1986). *A technology acceptance model for empirically testing new end-user information systems: Theory and results*. (Doctoral dissertation). Massachusetts Institute of Technology, Cambridge, MA.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340. doi: 10.2307/249008

Dawkins, R. (1982). *The extended phenotype: The gene as the unit of selection*. New York, NY: Oxford University Press.

Dawkins, R. (1999). *The extended phenotype: The long reach of the gene. Revised edition.* New York, NY: Oxford University Press.

Dawkins, R. (2004). Extended phenotype – But not too extended. A reply to Laland, Turner and Jablonka. *Biology and Philosophy, 19*(3), 377-396. doi: 10.1023/B:BIPH.0000036180.14904.96

DeBruine, L. M., Jones, B. C., Little, A. C., Boothroyd, L. G., Perrett, D. I., Penton-Voak, I. S., . . . Tiddeman, B. P. (2006). Correlated preferences for facial masculinity and ideal or actual partner's masculinity. *Proceedings of the Royal Society of London B: Biological Sciences, 273*(1592), 1355-1360. doi: 10.1098/rspb.2005.3445

DelPriore, D. J., Hill, S. E., & Buss, D. M. (2012). Envy: Functional specificity and sex-differentiated design features. *Personality and Individual Differences, 53*(3), 317-322. doi: 10.1016/j.paid.2012.03.029

Dijkstra, P., & Buunk, A. P. (1998). Jealousy as a function of rival characteristics: An evolutionary perspective. *Personality and Social Psychology Bulletin, 24*(11), 1158-1166. doi: 10.1177/01461672982411003

Dijkstra, P., & Buunk, B. P. (2002). Sex differences in the jealousy-evoking effect of rival characteristics. *European Journal of Social Psychology, 32*(6), 829-852. doi: 10.1002/ejsp.125

Dixson, B. J., & Vasey, P. L. (2012). Beards augment perceptions of men's age, social status, and aggressiveness, but not attractiveness. *Behavioral Ecology, 23*(3), 481-490. doi: 10.1093/beheco/arr214

Dixson, B. J., Vasey, P. L., Sagata, K., Sibanda, N., Linklater, W. L., & Dixson, A. F. (2011). Men's preferences for women's breast morphology in New Zealand, Samoa, and Papua New Guinea. *Archives of Sexual Behavior, 40*(6), 1271-1279. doi: 10.1007/s10508-010-9680-6

Döring, N. (2004). Wie verändern sich soziale Beziehungen durch Mobilkommunikation? Eine Analyse von Paar-, Familien- und Freundschaftsbeziehungen [How does mobile communication chance social relationships? An analysis of romantic relationships, family relationships, and friendships.]. In U. Thiedeke (Ed.), *Soziologie des Cyberspace* (pp. 240-280). Wiesbaden, Germany: VS Verlag für Sozialwissenschaften.

Döring, N. (2006). Handy-Kids: Wozu brauchen sie das Mobiltelefon? [Cell phone kids: Why do they need a cell phone?]. In U. Dittler & M. Hoyer (Eds.), *Machen Computer Kinder dumm? Wirkung interaktiver,digitaler Medien auf Kinder und Jugendliche aus medienpsychologischer und mediendidaktischer Sicht*. München, Germany: KoPaed.

Dubois, D., Rucker, D. D., & Galinsky, A. D. (2012). Super size me: Product size as a signal of status. *Journal of Consumer Research, 38*(6), 1047-1062. doi: 10.1086/661890

Dunham, B. (2011). The role for signaling theory and receiver psychology in marketing. In G. Saad (Ed.), *Evolutionary psychology in the business sciences* (pp. 225-256). Heidelberg, Germany: Springer.

Dunn, M. J., & Hill, A. (2014). Manipulated luxury-apartment ownership enhances opposite-sex attraction in females but not males. *Journal of Evolutionary Psychology, 12*(1), 1-17. doi: 10.1556/JEP.12.2014.1.1

Dunn, M. J., & Searle, R. (2010). Effect of manipulated prestige-car ownership on both sex attractiveness ratings. *British Journal of Psychology, 101*(1), 69-80. doi: 10.1348/000712609x417319

Eastman, J. K., Goldsmith, R. E., & Flynn, L. R. (1999). Status consumption in consumer behavior: Scale development and validation. *Journal of Marketing Theory and Practice, 7*(3), 41-52. doi: 10.1080/10696679.1999.11501839

Eid, M., Gollwitzer, M., & Schmitt, M. (2010). *Statistik und Forschungsmethoden [Statistics and research methods]*. Weinheim, Germany: Beltz.

Eisenegger, C., Haushofer, J., & Fehr, E. (2011). The role of testosterone in social interaction. *Trends in Cognitive Sciences, 15*(6), 263-271. doi: 10.1016/j.tics.2011.04.008

Ellis, L. (1995). Dominance and reproductive success among nonhuman animals: A cross-species comparison. *Ethology and Sociobiology, 16*(4), 257-333. doi: 10.1016/0162-3095(95)00050-U

eMarketer. (2014, December 11). 2 billion consumers worldwide to get smart(phones) by 2016. Retrieved from http://www.emarketer.com/Article/2-Billion-Consumers-Worldwide-Smartphones-by-2016/1011694

Fernandez-Duque, E., Valeggia, C. R., & Mendoza, S. P. (2009). The biology of paternal care in human and nonhuman primates. *Annual Review of Anthropology, 38*(1), 115-130. doi: 10.1146/annurev-anthro-091908-164334

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). London, UK: Sage.

Field, A., Miles, J., & Field, Z. (2012). *Discovering statistics using R*. London, UK: Sage.

Fink, B., Klappauf, D., Brewer, G., & Shackelford, T. K. (2014). Female physical characteristics and intra-sexual competition in women. *Personality and Individual Differences, 58*, 138-141. doi: 10.1016/j.paid.2013.10.015

Fink, B., Neave, N., Manning, J. T., & Grammer, K. (2006). Facial symmetry and judgements of attractiveness, health and personality. *Personality and Individual Differences, 41*(3), 491-499. doi: 10.1016/j.paid.2006.01.017

Fink, B., & Penton-Voak, I. S. (2002). Evolutionary psychology of facial attractiveness. *Current Directions in Psychological Science, 11*(5), 154-158. doi: 10.1111/1467-8721.00190

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Fisher, M. L. (2004). Female intrasexual competition decreases female facial attractiveness. *Proceedings of the Royal Society of London. Series B: Biological Sciences, 271*(Suppl 5), S283-S285. doi: 10.1098/rsbl.2004.0160

Fisher, M. L., & Cox, A. (2011). Four strategies used during intrasexual competition for mates. *Personal Relationships, 18*(1), 20-38. doi: 10.1111/j.1475-6811.2010.01307.x

Fisher, M. L., Cox, A., & Gordon, F. (2009). Self-promotion versus competitor derogation: The influence of sex and romantic relationship status on intrasexual competition strategy selection. *Journal of Evolutionary Psychology, 7*(4), 287-308. doi: 10.1556/JEP.7.2009.4.6

Flanagin, A. J., & Metzger, M. J. (2001). Internet use in the contemporary media environment. *Human Communication Research, 27*(1), 153-181. doi: 10.1111/j.1468-2958.2001.tb00779.x

Fortunati, L. (2002). Italy: Stereotypes, true and false. In J. E. Katz & M. Aakhus (Eds.), *Perpetual contact, mobile communication. Private talk, public performance* (pp. 42-64). Cambridge, UK: Cambridge University Press.

Fortunati, L. (2005). Mobile phones and fashion in post-modernity. *Telektronikk, 101*(3/4), 35-48.

Furman, D., Hejblum, B. P., Simon, N., Jojic, V., Dekker, C. L., Thiébaut, R., . . . Davis, M. M. (2014). Systems analysis of sex differences reveals an immunosuppressive role for testosterone in the response to influenza vaccination. *Proceedings of the National Academy of Sciences, 111*(2), 869-874. doi: 10.1073/pnas.1321

Furnham, A. (2009). Sex differences in mate selection preferences. *Personality and Individual Differences, 47*(4), 262-267. doi: 10.1016/j.paid.2009.03.013

Gagné, F. (1993). Constructs and models pertaining to exceptional human abilities. In K. A. Heller, F. J. Mönks & A. H. Passow (Eds.), *International handbook of research and development of giftedness and talent* (pp. 69-87). Elmsford, NY: Pergamon Press.

Gangestad, S. W., Garver-Apgar, C. E., Simpson, J. A., & Cousins, A. J. (2007). Changes in women's mate preferences across the ovulatory cycle. *Journal of Personality and Social Psychology, 92*(1), 151-163. doi: 10.1037/0022-3514.92.1.151

Gangestad, S. W., & Scheyd, G. J. (2005). The evolution of human physical attractiveness. *Annual Review of Anthropology, 34*, 523-548. doi: 10.1146/annurev.anthro.33.070203.143733

Gangestad, S. W., & Simpson, J. A. (2000). The evolution of human mating: Trade-offs and strategic pluralism. *Behavioral and Brain Sciences, 23*(04), 573-587. doi: 10.1017/S0140525X0000337X

Gangestad, S. W., Simpson, J. A., Cousins, A. J., Garver-Apgar, C. E., & Christensen, P. N. (2004). Women's preferences for male behavioral displays change across the menstrual cycle. *Psychological Science, 15*(3), 203-206. doi: 10.1111/j.0956-7976.2004.01503010.x

Gangestad, S. W., & Thornhill, R. (1997). The evolutionary psychology of extrapair sex: The role of fluctuating asymmetry. *Evolution and Human Behavior, 18*(2), 69-88. doi: 10.1016/S1090-5138(97)00003-2

Gangestad, S. W., Thornhill, R., & Yeo, R. A. (1994). Facial attractiveness, developmental stability, and fluctuating asymmetry. *Ethology and Sociobiology, 15*(2), 73-85. doi: 10.1016/0162-3095(94)90018-3

Gierl, H., & Huettl, V. (2010). Are scarce products always more attractive? The interaction of different types of scarcity signals with products' suitability for conspicuous consumption. *International Journal of Research in Marketing, 27*(3), 225-235. doi: 10.1016/j.ijresmar.2010.02.002

Gigerenzer, G., & Selten, R. (2001). *Bounded rationality: The adaptive toolbox*. Cambridge, MA: The MIT Press.

Gildersleeve, K., Haselton, M. G., & Fales, M. R. (2014). Do women's mate preferences change across the ovulatory cycle? A meta-analytic review. *Psychological Bulletin, 140*(5), 1205-1259. doi: 10.1037/a0035438

Gladue, B. A., Boechler, M., & McCaul, K. D. (1989). Hormonal response to competition in human males. *Aggressive Behavior, 15*(6), 409-422. doi: 10.1002/1098-2337(1989)15:6<409::AID-AB2480150602>3.0.CO;2-P

Gobrogge, K. L., Perkins, P. S., Baker, J. H., Balcer, K. D., Breedlove, S. M., & Klump, K. L. (2007). Homosexual mating preferences from an evolutionary perspective: sexual selection theory revisited. *Archives of Sexual Behavior, 36*(5), 717-723. doi: 10.1007/s10508-007-9216-x

Godoy, R., Reyes-García, V., Huanca, T., Leonard, W. R., McDade, T., Tanner, S., . . . Seyfried, C. (2007). Signaling by consumption in a native Amazonian society. *Evolution and Human Behavior, 28*(2), 124-134. doi: 10.1016/j.evolhumbehav.2006.08.005

Grafen, A. (1990). Biological signals as handicaps. *Journal of Theoretical Biology, 144*(4), 517-546. doi: 10.1016/S0022-5193(05)80088-8

Grammer, K., Fink, B., Møller, A. P., & Thornhill, R. (2003). Darwinian aesthetics: Sexual selection and the biology of beauty. *Biological Reviews, 78*(3), 385-407. doi: 10.1017/S1464793102006085

Grammer, K., & Thornhill, R. (1994). Human (Homo sapiens) facial attractiveness and sexual selection: The role of symmetry and averageness. *Journal of Comparative Psychology, 108*(3), 233-242. doi: 10.1037/0735-7036.108.3.233

Greiling, H., & Buss, D. M. (2000). Women's sexual strategies: The hidden dimension of extra-pair mating. *Personality and Individual Differences, 28*(5), 929-963. doi: 10.1016/S0191-8869(99)00151-8

Griffey, J. A. F., & Little, A. C. (2014). Infant's visual preferences for facial traits associated with adult attractiveness judgements: Data from eye-tracking. *Infant Behavior and Development, 37*(3), 268-275. doi: 10.1016/j.infbeh.2014.03.001

Griffin, A. (2015, September 22). iPhone 6s release date: New phones to go on sale at 8am, queues likely to form long before that. Retrieved from http://www.independent.co.uk/life-style/gadgets-and-tech/news/iphone-6s-release-date-new-phones-to-go-on-sale-at-8am-queues-likely-to-form-long-before-that-10512208.html

Griskevicius, V., & Durante, K. M. (2015). Evolution and consumer behavior. In M. I. Norton, D. D. Rucker & C. Lamberton (Eds.), *The Cambridge handbook of consumer psychology* (pp. 122-151). Cambridge, MA: Cambridge University Press

Griskevicius, V., Goldstein, N. J., Mortensen, C. R., Cialdini, R. B., & Kenrick, D. T. (2006). Going along versus going alone: When fundamental motives facilitate strategic (non)conformity. *Journal of Personality and Social Psychology, 91*(2), 281-294. doi: 10.1037/0022-3514.91.2.281

Griskevicius, V., & Kenrick, D. T. (2013). Fundamental motives: How evolutionary needs influence consumer behavior. *Journal of Consumer Psychology, 23*(3), 372-386. doi: 10.1016/j.jcps.2013.03.003

Griskevicius, V., Tybur, J. M., Gangestad, S. W., Perea, E. F., Shapiro, J. R., & Kenrick, D. T. (2009). Aggress to impress: Hostility as an evolved context-dependent strategy. *Journal of Personality and Social Psychology, 96*(5), 980-994. doi: 10.1037/a0013907

Griskevicius, V., Tybur, J. M., Sundie, J. M., Cialdini, R. B., Miller, G. F., & Kenrick, D. T. (2007). Blatant benevolence and conspicuous consumption: When romantic motives elicit strategic costly signals. *Journal of Personality and Social Psychology, 93*(1), 85-102. doi: 10.1037/0022-3514.93.1.85

Gründl, M. (2013). *Determinanten physischer Attraktivität – der Einfluss von Durchschnittlichkeit, Symmetrie und sexuellem Dimorphismus auf die Attraktivität von Gesichtern [Determinants of physical attractiveness - The influence of averageness, symmetry, and sexual dimorphism on facial attractiveness]*(Professorial dissertation, University of Regensburg, Regensburg, Germany). Retrieved from http://nbn-resolving.de/urn:nbn:de:bvb:355-epub-276639

Guéguen, N., & Lamy, L. (2012). Men's social status and attractiveness: Women's receptivity to men's date requests. *Swiss Journal of Psychology, 71*(3), 157-160. doi: 10.1024/1421-0185/a000083

Han, Y. J., Nunes, J. C., & Drèze, X. (2010). Signaling status with luxury goods: The role of brand prominence. *Journal of Marketing, 74*(July), 15-30. doi: 10.1509/jmkg.74.4.15

Harris, C. R., Chabot, A., & Mickes, L. (2013). Shifts in methodology and theory in menstrual cycle research on attraction. *Sex Roles, 69*(9), 525-535. doi: 10.1007/s11199-013-0302-3

Haselton, M. G., & Buss, D. M. (2000). Error management theory: A new perspective on biases in cross-sex mind reading. *Journal of Personality and Social Psychology, 78*(1), 81-91. doi: 10.1037110022-3514.78.1.81

Haselton, M. G., & Buss, D. M. (2009). Error management theory and the evolution of misbeliefs. *Behavioral and Brain Sciences, 32*(06), 522-523. doi: doi:10.1017/S0140525X09991440

Haselton, M. G., & Miller, G. F. (2006). Women's fertility across the cycle increases the short-term attractiveness of creative intelligence. *Human Nature, 17*(1), 50-73. doi: 10.1007/s12110-006-1020-0

Havlicek, J., Roberts, S. C., & Flegr, J. (2005). Women's preference for dominant male odour: Effects of menstrual cycle and relationship status. *Biology Letters, 1*(3), 256-259. doi: 10.1098/rsbl.2005.0332

Hawley, P. H. (1999). The ontogenesis of social dominance: A strategy-based evolutionary perspective. *Developmental Review, 19*(1), 97-132. doi: 10.1006/drev.1998.0470

Hennighausen, C., Hudders, L., Lange, B. P., & Fink, H. (2016). What if the rival drives a Porsche? Luxury car spending as a costly signal in male intrasexual competition. *Evolutionary Psychology, 14*(4), 1-13. doi: 10.1177/1474704916678217

Hennighausen, C., & Lange, B. P. (2016). Stags, Porsches, and Thorstein Veblen: Männlicher Geltungskonsum im gleichgeschlechtlichen Wettbewerb [Stags, Porsches, and Thorstein Veblen: Male conspicuous consumption in intrasexual competition]. In C. Hennighausen, B. P. Lange & F. Schwab (Eds.), *Evolution des Sozialen* (pp. 118-127). Lengerich, Germany: Pabst.

Hennighausen, C., & Schwab, F. (2014). Relationship status moderates men's conspicuous consumption of smartphones. *Letters on Evolutionary Behavioral Science, 5*(2), 13-16. doi: 10.5178/lebs.2014.30

Hennighausen, C., & Schwab, F. (2015a). Evolutionäre Medienpsychologie [Evolutionary media psychology]. In B. P. Lange & S. Schwarz (Eds.), *Die menschliche Psyche zwischen Natur und Kultur* (pp. 96-104). Lengerich, Germany: Pabst.

Hennighausen, C., & Schwab, F. (2015b). Evolutionary media psychology and its epistemological foundation. In T. Breyer (Ed.), *Epistemological dimensions of evolutionary psychology* (pp. 131-158). New York, NY: Springer.

Henrich, J., & Gil-White, F. J. (2001). The evolution of prestige: Freely conferred deference as a mechanism for enhancing the benefits of cultural transmission. *Evolution and Human Behavior, 22*(3), 165-196. doi: 10.1016/S1090-5138(00)00071-4

Hew, J.-J., Lee, V.-H., Eng, S.-W., Koo, X.-M., Soo, L.-N., & Tan, Y.-S. (2012). Factors affecting the adoption of touchscreen mobile phones: an empirical study among Generation Y. *International Journal of Information Technology and Business Management, 5*(1), 41-67.

Hill, A. K., Hunt, J., Welling, L. L. M., Cárdenas, R. A., Rotella, M. A., Wheatley, J. R., . . . Puts, D. A. (2013). Quantifying the strength and form of sexual selection on men's traits. *Evolution and Human Behavior, 34*(5), 334-341.doi: 10.1016/j.evolhumbehav.2013.05.004

Hill, K., & Kaplan, H. (1988). Tradeoffs in male and female reproductive strategies among the Ache: Part I. In L. Betzig, P. Turke & M. Morgerhoff-Mulder (Eds.), *Human reproductive behavior: A Darwinian perspective* (pp. 277-289). Cambridge, MA: Cambridge University Press.

Hill, S. (2015, June 26). 10 great smartphones you can buy for $300 or less. Retrieved from http://www.digitaltrends.com/mobile/best-cheap-phones/2/

Hill, S. E., & Durante, K. M. (2009). Do women feel worse to look their best? Testing the relationship between self-esteem and fertility status across the menstrual cycle. *Personality and Social Psychology Bulletin, 35*(12), 1592-1601. doi: 10.1177/0146167209346303

Hindin, M. J. (2000). Women's power and anthropometric status in Zimbabwe. *Social Science & Medicine, 51*(10), 1517-1528. doi: 10.1016/S0277-9536(00)00051-4

Hofstede, G. (2003). *Culture's consequences. Comparing values, behaviors, institutions, and organizations across nations* (2nd ed.). London, UK: Sage Publications.

Holcomb, H. (1998). Testing evolutionary hypotheses. In C. B. Crawford & D. L. Krebs (Eds.), *Handbook of evolutionary psychology: Ideas, issues, and applications* (pp. 303-334). Mahwah, NJ: Lawrence Erlbaum.

Hopcroft, R. L. (2006). Sex, status, and reproductive success in the contemporary United States. *Evolution and Human Behavior, 27*(2), 104-120. doi: 10.1016/j.evolhumbehav.2005.07.004

Hosch, W. L. (2015). Smartphone. In *Encyclopaedia Britannica Online*. Retrieved from http://www.britannica.com/technology/smartphone

Hsu, C.-L., & Lin, J. C.-C. (2015). An empirical study of smartphone user behavior: The effect of innovation characteristics, brand equity and social influence. *International Journal of Mobile Human Computer Interaction, 7*(1), 1-24. doi: 10.4018/ijmhci.2015010101

Huch, M. (2013, May 16). Das sind die beliebtesten Smartphones der Deutschen [The most popular smartphones among the Germans]. Retrieved from http://www.welt.de/wirtschaft/webwelt/article116258687/Das-sind-die-beliebtesten-Smartphones-der-Deutschen.html

Hudders, L., De Backer, C., Fisher, M. L., & Vyncke, P. (2014). The rival wears prada: Female luxury consumption as an intrasexual competition strategy. *Evolutionary Psychology, 12*(3), 570-587. doi: 10.1177/147470491401200306

Hughes, S. (2015). iPhone 5 black diamond. Retrieved from http://stuarthughes.com/product/iphone-5-black-diamond/

Hussy, W., & Jain, A. (2002). *Experimentelle Hypothesenprüfung in der Psychologie [Experimental hypotheses testing in psychology]*. Göttingen, Germany: Hogrefe.

Iredale, W., van Vugt, M., & Dunbar, R.I.M. (2008). Showing off in humans: Male generosity as a mating signal. *Evolutionary Psychology, 6*(3), 386-392. doi: 10.1177/147470490800600302

Ismail, A. R. (2012). Understanding the factors that affect the adoption of innovative high-technology brands: The case of Apple iPhone in Malaysia. *Journal of Global Marketing, 25*(4), 226-239. doi: 10.1080/08911762.2012.753564

Janssens, K., Pandelaere, M., Van den Bergh, B., Millet, K., Lens, I., & Roe, K. (2011). Can buy me love: Mate attraction goals lead to perceptual readiness for status products. *Journal of Experimental Social Psychology, 47*(1), 254-258. doi: 10.1016/j.jesp.2010.08.009

Johnstone, R. A., Reynolds, J. D., & Deutsch, J. C. (1996). Mutual mate choice and sex differences in choosiness. *Evolution, 50*(4), 1382-1391. doi: 10.2307/2410876

Jonason, P. K., & Buss, D. M. (2012). Avoiding entangling commitments: Tactics for implementing a short-term mating strategy. *Personality and Individual Differences, 52*(5), 606-610. doi: 10.1016/j.paid.2011.12.015

Jonason, P. K., Li, N. P., Webster, G. D., & Schmitt, D. P. (2009). The dark triad: Facilitating a short-term mating strategy in men. *European Journal of Personality, 23*(1), 5-18. doi: 10.1002/per.698

Jones, B. C., DeBruine, L. M., & Little, A. C. (2007). The role of symmetry in attraction to average faces. *Perception & Psychophysics, 69*(8), 1273-1277. doi: 10.3758/BF03192944

Jones, B. C., Little, A. C., Penton-Voak, I. S., Tiddeman, B. P., Burt, D. M., & Perrett, D. I. (2001). Facial symmetry and judgements of apparent health: Support for a "good genes" explanation of the attractiveness–symmetry relationship. *Evolution and Human Behavior, 22*(6), 417-429. doi: 10.1016/S1090-5138(01)00083-6

Joo, J., & Sang, Y. (2013). Exploring Koreans' smartphone usage: An integrated model of the technology acceptance model and uses and gratifications theory. *Computers in Human Behavior, 29*(6), 2512-2518. doi: 10.1016/j.chb.2013.06.002

Judge, T. A., & Cable, D. M. (2004). The effect of physical height on workplace success and income: Preliminary test of a theoretical model. *Journal of Applied Psychology, 89*(3), 428-441. doi: 10.1037/0021-9010.89.3.428

Judge, T. A., Hurst, C., & Simon, L. S. (2009). Does it pay to be smart, attractive, or confident (or all three)? Relationships among general mental ability, physical attractiveness, core self-evaluations, and income. *Journal of Applied Psychology, 94*(3), 742-755. doi: 10.1037/a0015497

Kalma, A. (1991). Hierarchisation and dominance assessment at first glance. *European Journal of Social Psychology, 21*(2), 165-181. doi: 10.1002/ejsp.2420210206

Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratifications research. *The Public Opinion Quarterly, 37*(4), 509-523. doi: 10.1086/268109

Katz, J. E. (2003). *Machines that become us*. New Brunswick, NJ: Transaction.

Katz, J. E. (2008). *Handbook of mobile communication studies*. Cambridge, MA: The MIT Press.

Katz, J. E., & Aakhus, M. (2002). *Perpetual contact: Mobile communication, private talk, public performance*. Cambridge, UK: Cambridge University Press.

Katz, J. E., & Sugiyama, S. (2005). Mobile phones as fashion statements: The co-creation of mobile communication's public meaning. In R. Ling & P. E. Pedersen (Eds.), *Mobile communications: Re-negotiation of the social sphere* (pp. 63-81). London, UK: Springer.

Katz, J. E., & Sugiyama, S. (2006). Mobile phones as fashion statements: Evidence from student surveys in the US and Japan. *New Media & Socienty, 8*(2), 321-337. doi: 10.1177/1461444806061950

Keane, B., Waser, P. M., Creel, S. R., Creel, N. M., Elliott, L. F., & Minchella, D. J. (1994). Subordinate reproduction in dwarf mongooses. *Animal Behaviour, 47*(1), 65-75. doi: 10.1006/anbe.1994.1008

Keating, C. F., & Heltman, K. R. (1994). Dominance and deception in children and adults: Are leaders the best misleaders? *Personality and Social Psychology Bulletin, 20*(3), 312-321. doi: 10.1177/0146167294203009

Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing, 57*(1), 1-22. doi: 10.2307/1252054

Kenrick, D. T., Griskevicius, V., Neuberg, S. L., & Schaller, M. (2010). Renovating the pyramid of needs: Contemporary extensions built upon ancient foundations. *Perspectives on Psychological Science, 5*(3), 292-314. doi: 10.1177/ 1745691610369469

Kenrick, D. T., & Gutierres, S. E. (1980). Contrast effects and judgments of physical attractiveness: When beauty becomes a social problem. *Journal of Personality and Socia Psychology, 38*(1), 131-140. doi: 10.1037/0022-3514.38.1.131

Kenrick, D. T., & Keefe, R. C. (1992). Age preferences in mates reflect sex differences in human reproductive strategies. *Behavioral and Brain Sciences, 15*(01), 75-91. doi: 10.1017/S0140525X00067595

Kenrick, D. T., Keefe, R. C., Bryan, A., Barr, A., & Brown, S. (1995). Age preferences and mate choice among homosexuals and heterosexuals: A case for modular psychological mechanisms. *Journal of Personality and Social Psychology, 69*(6), 1166-1172. doi: 10.1037/0022-3514.69.6.1166

Kenrick, D. T., Neuberg, S. L., Griskevicius, V., Becker, D. V., & Schaller, M. (2010). Goal-driven cognition and functional behavior: The fundamental-motives framework. *Current Directions in Psychological Science, 19*(1), 63-67. doi: 10.1177/0963721409359281

Kilgallon, S. J., & Simmons, L. W. (2005). Image content influences men's semen quality. *Biology Letters, 1*(3), 253-255. doi: 10.1098/rsbl.2005.0324

Kim, D., Chun, H., & Lee, H. (2014). Determining the factors that influence college students' adoption of smartphones. *Journal of the Association for Information Science and Technology, 65*(3), 578-588. doi: 10.1002/asi.22987

Kim, K. J., Shin, D.-H., & Park, E. (2015). Can coolness predict technology adoption? Effects of perceived coolness on user acceptance of smartphones with curved screens. *Cyberpsychology, Behavior, and Social Networking, 18*(9), 528-533. doi: 10.1089/cyber.2014.0675

Kim, K. J., & Sundar, S. S. (2014). Does screen size matter for smartphones? Utilitarian and hedonic effects of screen size on smartphone adoption. *Cyberpsychology, Behavior, and Social Networking, 17*(7), 466-473. doi: 10.1089/ cyber.2013.0492

Kim, T.-Y., & Shin, D.-H. (2013). The usage and the gratifications about smartphone models and applications. *International Telecommunications Policy Review, 20*(4).

Kirby, R. (2014). Testosterone and the struggle for higher social status. *Trends in Urology & Men's Health, 5*(1), 11-14. doi: 10.1002/tre.372

Klopp, E. (2005). *Persönlichkeit und Partnerwahl. Evolutionäre Aspekte im Kontext der Big Five [Personality and mate choice. Evolutionary aspects in context of Big Five]*. (Diploma thesis), University of Saarland, Saarbrücken, Germany.

Kohn, M., & Mithen, S. (1999). Handaxes: Products of sexual selection? *Antiquity, 73*(339), 518-526.

Kowner, R. (1996). Facial asymmetry and attractiveness judgment in developmental perspective. *Journal of Experimental Psychology: Human Perception and Performance, 22*(3), 662-675. doi: 10.1037/0096-1523.22.3.662

Krause, A. E., North, A. C., & Heritage, B. (2014). The uses and gratifications of using Facebook music listening applications. *Computers in Human Behavior, 39*, 71-77. doi: 10.1016/j.chb.2014.07.001

Krebs, J. R., & Davies, N. B. (1993). *An introduction to behavioural ecology*. Oxford, UK: Blackwell.

Kruger, D. J. (2008). Male financial consumption is associated with higher mating intentions and mating success. *Evolutionary Psychology, 6*(4), 603-612. doi: 10.1177/147470490800600407

Kruger, D. J., & Fitzgerald, C. J. (2011). Reproductive strategies and relationship preferences associated with prestigious and dominant men. *Personality and Individual Differences, 50*(3), 365-369. doi: 10.1016/j.paid.2010.10.022

Ku, Y.-C., Chu, T.-H., & Tseng, C.-H. (2013). Gratifications for using CMC technologies: A comparison among SNS, IM, and e-mail. *Computers in Human Behavior, 29*(1), 226-234. doi: 10.1016/j.chb.2012.08.009

Kwon, H. S., & Chidambaram, L. (2000, 4-7 January). *A test of the technology acceptance model: The case of cellular telephone adoption.* Paper presented at the 33rd Annual Hawaii International Conference on System Sciences. Retrieved from IEEE Xplore. doi: 10.1109/HICSS.2000.926607

Lane, A. (2015, June 5). The Apple of my eye: Why is the iPhone the world's bestselling status symbol?. Retrieved from http://phone.instantcheckmate.com/dialed-in/iphone-status-symbol

Lange, B. P., Schwarz, S., & Euler, H. A. (2013). The sexual nature of human culture. *The Evolutionary Review: Art, Science, Culture, 44*(1), 76-85.

Lange, B. P., Zaretsky, E., Schwarz, S., & Euler, H. A. (2013). Words won't fail: Experimental evidence on the role of verbal proficiency in mate choice. *Journal of Language and Social Psychology*. doi: 10.1177/ 0261927x13515886

Langlois, J. H., Kalakanis, L., Rubenstein, A. J., Larson, A., Hallam, M., & Smoot, M. (2000). Maxims or myths of beauty? A meta-analytic and theoretical review. *Psychological Bulletin, 126*(3), 390-423. doi: 10.1037/0033-2909.126.3.390

Langlois, J. H., & Roggman, L. A. (1990). Attractive faces are only average. *Psychological Science, 1*(2), 115-121. doi: 10.1111/j.1467-9280.1990.tb00079.x

Lasco, G. (2015, October 22). The smartphone as status symbol. Retrieved from http://opinion.inquirer.net/89605/ the-smartphone-as-status-symbol

Lassek, W. D., & Gaulin, S. J. C. (2009). Costs and benefits of fat-free muscle mass in men: Relationship to mating success, dietary requirements, and native immunity. *Evolution and Human Behavior*, *30*(5), 322-328. doi: 10.1016/j.evolhumbehav.2009.04.002

Laugesen, J., & Yuan, Y. (2010). *What factors contributed to the success of Apple's iPhone?*. Paper presented at the Ninth International Conference on Mobile Business/Ninth Global Mobility Roundtable (ICMB-GMR). Retrieved from IEEE Xplore. doi: 10.1109/ICMB-GMR.2010.63

Lazarsfeld, P. F., Berelson, B., & Gaudet, H. (1944). *The people's choice: How the voter makes up his mind in a presidential campaign*. New York, NY: Columbia University Press.

Lee, A. J., Mitchem, D. G., Wright, M. J., Martin, N. G., Keller, M. C., & Zietsch, B. P. (2016). Facial averageness and genetic quality: Testing heritability, genetic correlation with attractiveness, and the paternal age effect. *Evolution and Human Behavior, 37*(1), 61-66. doi: 10.1016/j.evolhumbehav.2015.08.003

Lee, S. Y. (2014). Examining the factors that influence early adopters' smartphone adoption: The case of college students. *Telematics and Informatics, 31*(2), 308-318. doi: 10.1016/j.tele.2013.06.001

Lefevre, C. E., Lewis, G. J., Perrett, D. I., & Penke, L. (2013). Telling facial metrics: Facial width is associated with testosterone levels in men. *Evolution and Human Behavior, 34*(4), 273-279. doi: 10.1016/j.evolhumbehav. 2013.03.005

Lella, A. (2014, August 14). iPhone users earn higher income, engage more on apps than Android users. Retrieved from https://www.comscore.com/Insights/Data-Mine/iPhone-Users-Earn-Higher-Income-Engage-More-on-Apps-than-Android-Users

Lens, I., Driesmans, K., Pandelaere, M., & Janssens, K. (2012). Would male conspicuous consumption capture the female eye? Menstrual cycle effects on women's attention to status products. *Journal of Experimental Social Psychology, 48*(1), 346-349. doi: 10.1016/j.jesp.2011.06.004

Leung, L., & Wei, R. (2000). More than just talk on the move: Uses and gratifications of the cellular phone. *Journalism & Mass Communication Quarterly, 77*(2), 308-320. doi: 10.1177/107769900007700206

Li, N. P., Bailey, J. M., Kenrick, D. T., & Linsenmeier, J. A. (2002). The necessities and luxuries of mate preferences: testing the tradeoffs. *Journal of Personality and Social Psychology, 82*(6), 947-955. doi: 10.1037/0022-3514.82.6.947

Li, N. P., & Kenrick, D. T. (2006). Sex similarities and differences in preferences for short-term mates: What, whether, and why. *Journal of Personality and Social Psychology, 90*(3), 468-489. doi: 10.1037/0022-3514.90.3.468

Liao, C.-H., & Hsieh, I. Y. (2013). Determinants of consumer's willingness to purchase gray-market smartphones. *Journal of Business Ethics, 114*(3), 409-424. doi: 10.1007/s10551-012-1358-7

Lin, C.-P., & Bhattacherjee, A. (2010). Extending technology usage models to interactive hedonic technologies: A theoretical model and empirical test. *Information Systems Journal, 20*(2), 163-181. doi: 10.1111/j.1365-2575. 2007.00265.x

Ling, R., & Yttri, B. (2002). Hyper-coordination via mobile phones in Norway. In J. E. Katz & M. Aakhus (Eds.), *Perpetual contact: Mobile communication, private talk, public performance* (pp. 139-169). Cambridge, UK: Cambridge University Press.

Little, A. C., & Hancock, P. J. B. (2002). The role of masculinity and distinctiveness in judgments of human male facial attractiveness. *British Journal of Psychology, 93*(4), 451-464. doi: 10.1348/000712602761381349

Little, A. C., & Jones, B. C. (2003). Evidence against perceptual bias views for symmetry preferences in human faces. *Proceedings of the Royal Society of London B: Biological Sciences, 270*(1526), 1759-1763. doi: 10.1098/ rspb.2003.2445

Little, A. C., & Jones, B. C. (2006). Attraction independent of detection suggests special mechanisms for symmetry preferences in human face perception. *Proceedings of the Royal Society of London B: Biological Sciences, 273*(1605), 3093-3099. doi: 10.1098/rspb.2006.3679

Little, A. C., Jones, B. C., & DeBruine, L. M. (2011). Facial attractiveness: Evolutionary based research. *Philosophical Transactions of the Royal Society B: Biological Sciences, 366*(1571), 1638-1659. doi: 10.1098/rstb. 2010.0404

Little, A. C., Jones, B. C., Feinberg, D. R., & Perrett, D. I. (2014). Men's strategic preferences for femininity in female faces. *British Journal of Psychology, 105*(3), 364-381. doi: 10.1111/bjop.12043

Little, A. C., & Mannion, H. (2006). Viewing attractive or unattractive same-sex individuals changes self-rated attractiveness and face preferences in women. *Animal Behaviour, 72*(5), 981-987. doi: 10.1016/j.anbehav. 2006.01.026

Liu, C.-J., & Liang, H.-Y. (2014). The deep impression of smartphone brand on the customers' decision making. *Procedia - Social and Behavioral Sciences, 109*, 338-343. doi: 10.1016/j.sbspro.2013.12.468

Logan, A. C., & Jacka, F. N. (2014). Nutritional psychiatry research: An emerging discipline and its intersection with global urbanization, environmental challenges and the evolutionary mismatch. *Journal of Physiological Anthropology, 33*(1), 22-22. doi: 10.1186/1880-6805-33-22

Loyau, A., Gomez, D., Moureau, B., Théry, M., Hart, N. S., Saint Jalme, M., . . . Sorci, G. (2007). Iridescent structurally based coloration of eyespots correlates with mating success in the peacock. *Behavioral Ecology, 18*(6), 1123-1131. doi: 10.1093/beheco/arm088

Loyau, A., Saint Jalme, M., Cagniant, C., & Sorci, G. (2005). Multiple sexual advertisements honestly reflect health status in peacocks (Pavo cristatus). *Behavioral Ecology and Sociobiology, 58*(6), 552-557. doi: 10.1007/s00265-005-0958-y

Lund, O. C. H., Tamnes, C. K., Moestue, C., Buss, D. M., & Vollrath, M. (2007). Tactics of hierarchy negotiation. *Journal of Research in Personality, 41*(1), 25-44. doi: 10.1016/j.jrp.2006.01.002

Luteijn, F., Starren, J., & Van Dijk, H. (2000). *Handleiding Nederlandse Persoonlijkheids-Vragenlijst (herziene uitgave) [Manual for the Dutch Personality Questionnaire: Revised edition]*. Lisse, Netherlands: Swets & Zeitlinger.

Lycett, J. E., & Dunbar, R. I. M. (2000). Mobile phones as lekking devices among human males. *Human Nature, 11*(1), 93-104. doi: 10.1007/s12110-000-1004-4

Magee, J. C., & Galinsky, A. D. (2008). 8 social hierarchy: The self-reinforcing nature of power and status. *The Academy of Management Annals, 2*(1), 351-398. doi: 10.1080/19416520802211628

Maner, J. K., Gailliot, M. T., & Miller, S. L. (2009). The implicit cognition of relationship maintenance: Inattention to attractive alternatives. *Journal of Experimental Social Psychology, 45*(1), 174-179. doi: 10.1016/j.jesp.2008.08.002

Maner, J. K., Rouby, D. A., & Gonzaga, G. C. (2008). Automatic inattention to attractive alternatives: The evolved psychology of relationship maintenance. *Evolution and Human Behavior, 29*(5), 343-349. doi: 10.1016/j.evolhumbehav.2008.04.003

Manning, J. T., & Chamberlain, A. T. (1993). Fluctuating asymmetry, sexual selection and canine teeth in primates. *Proceedings of the Royal Society of London B: Biological Sciences, 251*(1331), 83-87. doi: 10.1098/rspb.1993.0012

Manning, J. T., & Taylor, R. P. (2001). Second to fourth digit ratio and male ability in sport: Implications for sexual selection in humans. *Evolution and Human Behavior, 22*(1), 61-69. doi: 10.1016/S1090-5138(00)00063-5

Marangunić, N., & Granić, A. (2015). Technology acceptance model: A literature review from 1986 to 2013. *Universal Access in the Information Society, 14*(1), 81-95. doi: 10.1007/s10209-014-0348-1

Marcinkowska, U. M., Kozlov, M. V., Cai, H., Contreras-Garduño, J., Dixson, B. J., Oana, G. A., . . . Rantala, M. J. (2014). Cross-cultural variation in men's preference for sexual dimorphism in women's faces. *Biology Letters, 10*(4), 1-4. doi: 10.1098/rsbl.2013.0850

Marmot, M. G. (2004). *Status syndrome*. London, UK: Wiley.

Marmot, M. G., Shipley, M. J., & Rose, G. (1984). Inequalities in death - Specific explanations of a general pattern? *The Lancet, 323*(8384), 1003-1006. doi: 10.1016/S0140-6736(84)92337-7

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50*(4), 370-396. doi: 10.1037/h0054346

Matyszczyk, C. (2014, February 25). Women prefer Apple, gentlemen prefer Samsung. Retrieved from http://www.cnet.com/news/women-prefer-apple-gentlemen-prefer-samsung/

Mazur, A., & Booth, A. (1998). Testosterone and dominance in men. *Behavioral and Brain Sciences, 21*(3), 353-363. doi: 10.1017/S0140525X98001228

Mazzocco, P. J., Rucker, D. D., Galinsky, A. D., & Anderson, E. T. (2012). Direct and vicarious conspicuous consumption: Identification with low-status groups increases the desire for high-status goods. *Journal of Consumer Psychology, 22*(4), 520-528. doi: 10.1016/j.jcps.2012.07.002

Middendorff, E., Apolinarski, B., Poskowsky, J., Kandulla, M., & Netz, N. (2013). *Die wirtschaftliche und soziale Lage der Studierenden in Deutschland 2012. 20. Sozialerhebung des Deutschen Studentenwerks durchgeführt durch das HIS-Institut für Hochschulforschung [The economic and social situation of German university students in 2012. 20. Social survey conducted by the German Student Services and the Higher Education Information System (HIS)]*. Berlin, Germany: BMBF.

Miller, G. F. (1999). Sexual selection for cultural displays. In R.I.M. Dunbar, C. Knight & C. Power (Eds.), *The evolution of culture*. Edingburgh, UK: Edingburgh University Press.

Miller, G. F. (2000). *The mating mind: How sexual choice shaped the evolution of human nature*. New York, NY: Doubleday & Co.

Miller, G. F. (2009). *Spent: Sex, evolution, and consumer behavior*. New York, NY: Penguin/Putnam.

Mishra, A., Dash, S. B., & Cyr, D. (2014). Linking user experience and consumer-based brand equity: The moderating role of consumer expertise and lifestyle. *Journal of Product & Brand Management, 23*(4/5), 333-348. doi: 10.1108/ JPBM-12-2013-0459

Mithen, S. (2003). Handaxes: The first aesthetic artefacts. In E. Voland & K. Grammer (Eds.), *Evolutionary aesthetics* (pp. 261-275). Berlin, Germany: Springer

Mobiltelefon [Mobile phone]. (2015). In *Duden.* Retrieved from http://www.duden.de/rechtschreibung/Mobiltelefon

Møller, A. P., & Swaddle, J. P. (1997). *Asymmetry, developmental stability and evolution*. Oxford, UK: Oxford University Press.

Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information Systems Research, 2*(3), 192-222. doi: 10.1287/isre.2.3.192

Mueller, U., & Mazur, A. (1997). Facial dominance in Homo sapiens as honest signaling of male quality. *Behavioral Ecology, 8*(5), 569-579. doi: 10.1093/beheco/8.5.569

Müller-Lietzkow, J., Ganguin, S., & Hoblitz, A. (2014). Jenseits rationaler Entscheidungen: Smartphones als Schlüssel einer mediatisierten Gesellschaft [Beyond rational decisions: Smartphones a a key of a media society]. In J. Wimmer & M. Hartmann (Eds.), *Medienkommunikation in Bewegung* (pp. 283-300). Wiesbaden, Germany: Springer.

Murray, G. R., & Schmitz, J. D. (2011). Caveman politics: Evolutionary leadership preferences and physical stature. *Social Science Quarterly, 92*(5), 1215-1235. doi: 10.1111/j.1540-6237.2011.00815.x

Neave, N., & Shields, K. (2008). The effects of facial hair manipulation on female perceptions of attractiveness, masculinity, and dominance in male faces. *Personality and Individual Differences, 45*(5), 373-377. doi: 10.1016/ j.paid.2008.05.007

Nixon, D. (2014, January 4). Top 5 Selling Smartphones of 2013. Retrieved from http://www.insidermonkey.com/ blog/top-5-selling-smartphones-of-2013-308661/

O'Cass, A., & McEwen, H. (2004). Exploring consumer status and conspicuous consumption. *Journal of Consumer Behaviour, 4*(1), 25-39. doi: 10.1002/cb.155

Osman, M. A., Talib, A. Z., Sanusi, Z. A., Shiang-Yen, T., & Alwi, A. S. (2012). A study of the trend of smartphone and its usage behavior in Malaysia. *International Journal of New Computer Architectures and their Applications, 2*(1), 274-285.

Özcan, Y. Z., & Koçak, A. (2003). Research note: A need or a status symbol? Use of cellular telephones in Turkey. *European Journal of Communication, 18*(2), 241-254. doi: 10.1177/0267323103018002004

Pang, N., Zhang, X., Vu, S., & Foo, S. (2014). Smartphone use by older adults in Singapore. *Gerontechnology, 13*(2), 270. doi: 10.4017/gt.2014.13.02.324.00

Pani, L. (2000). Is there an evolutionary mismatch between the normal physiology of the human dopaminergic system and current environmental conditions in industrialized countries? *Molecular Psychiatry, 5*(5), 467-475. doi: 10.1038/ sj.mp.4000759

Park, Y., & Chen, J. V. (2007). Acceptance and adoption of the innovative use of smartphone. *Industrial Management & Data Systems, 107*(9), 1349-1365. doi: 10.1108/02635570710834009

Penke, L., & Asendorpf, J. B. (2008). Beyond global sociosexual orientations: A more differentiated look at sociosexuality and its effects on courtship and romantic relationships. *Journal of Personality and Social Psychology, 95*(5), 1113-1135. doi: 10.1037/0022-3514.95.5.1113

Penke, L., & Denissen, J. J. A. (2008). Sex differences and lifestyle-dependent shifts in the attunement of self-esteem to self-perceived mate value: Hints to an adaptive mechanism? *Journal of Research in Personality, 42*(4), 1123-1129. doi: dx.doi.org/10.1016/j.jrp.2008.02.003

Penton-Voak, I. S., & Chen, J. Y. (2004). High salivary testosterone is linked to masculine male facial appearance in humans. *Evolution and Human Behavior, 25*(4), 229-241. doi: 10.1016/j.evolhumbehav.2004.04.003

Penton-Voak, I. S., Jacobson, A., & Trivers, R. (2004). Populational differences in attractiveness judgements of male and female faces: Comparing British and Jamaican samples. *Evolution and Human Behavior, 25*(6), 355-370. doi: j.evolhumbehav.2004.06.002

Penton-Voak, I. S., Jones, B. C., Little, A. C., Baker, S., Tiddeman, B., Burt, D. M., & Perrett, D. I. (2001). Symmetry, sexual dimorphism in facial proportions and male facial attractiveness. *Proceedings of the Royal Society of London B: Biological Sciences, 268*(1476), 1617-1623. doi: 10.1098/rspb.2001.1703

Penton-Voak, I. S., Little, A. C., Jones, B. C., Burt, D. M., Tiddeman, B. P., & Perrett, D. I. (2003). Female condition influences preferences for sexual dimorphism in faces of male humans (Homo sapiens). *Journal of Comparative Psychology, 117*(3), 264-271. doi: 10.1037/0735-7036.117.3.264

Perrett, D. I., Burt, D. M., Penton-Voak, I. S., Lee, K. J., Rowland, D. A., & Edwards, R. (1999). Symmetry and human facial attractiveness. *Evolution and Human Behavior, 20*(5), 295-307. doi: 10.1016/S1090-5138(99)00014-8

Perrett, D. I., Lee, K. J., Penton-Voak, I., Rowland, D., Yoshikawa, S., Burt, D. M., . . . Akamatsu, S. (1998). Effects of sexual dimorphism on facial attractiveness. *Nature, 394*(6696), 884-887. doi: 10.1038/29772

Peters, O., & Allouch, S. B. (2005). Always connected: A longitudinal field study of mobile communication. *Telematics and Informatics, 22*(3), 239-256. doi: 10.1016/j.tele.2004.11.002

Petrie, M., & Halliday, T. (1994). Experimental and natural changes in the peacock's (Pavo cristatus) train can affect mating success. *Behavioral Ecology and Sociobiology, 35*(3), 213-217. doi: 10.1007/BF00167962

Petrie, M., Halliday, T., & Sanders, C. (1991). Peahens prefer peacocks with elaborate trains. *Animal Behaviour, 41*(2), 323-331. doi: 10.1016/S0003-3472(05)80484-1

Pew Internet & American Life Project (2016). Device ownership over time. Retrieved from www.pewinternet.org/data-trend/mobile/device-ownership/

Pflüger, L. S., Oberzaucher, E., Katina, S., Holzleitner, I. J., & Grammer, K. (2012). Cues to fertility: perceived attractiveness and facial shape predict reproductive success. *Evolution and Human Behavior, 33*(6), 708-714. doi: 10.1016/j.evolhumbehav.2012.05.005

Pieters, R., & Wedel, M. (2004). Attention capture and transfer in advertising: Brand, pictorial, and text-size effects. *Journal of Marketing, 68*(2), 36-50. doi: 10.1509/jmkg.68.2.36.27794

Plourde, A. M. (2008). The origins of prestige goods as honest signals of skill and knowledge. *Human Nature, 19*(4), 374-388. doi: 10.1007/s12110-008-9050-4

Pollet, T. V., & Nettle, D. (2008). Driving a hard bargain: Sex ratio and male marriage success in a historical US population. *Biology Letters, 4*(1), 31-33. doi: 10.1098/rsbl.2007.0543

Porsche design. (2015). Smartphones. Retrieved from http://www.porsche-design.us/Products/Electronics/Smartphones/

Pound, N., Penton-Voak, I. S., & Surridge, A. K. (2009). Testosterone responses to competition in men are related to facial masculinity. *Proceedings of the Royal Society of London B: Biological Sciences, 276*(1654), 153-159. doi: 10.1098/rspb.2008.0990

Preckel, F., Holling, H., & Wiese, M. (2006). Relationship of intelligence and creativity in gifted and non-gifted students: An investigation of threshold theory. *Personality and Individual Differences, 40*(1), 159-170. doi: 10.1016/ j.paid.2005.06.022

Prigg, M. (2015, March 20). Can Porsche drive up Blackberry sales? Firms reveals $2,000 luxury phone made with 'hand wrapped leather'. Retrieved from http://www.dailymail.co.uk/sciencetech/article-3004539/Can-Porsche-drive-Blackberry-sales-Firms-reveals-2-000-luxury-phone-hand-wrapped-leather.html

Puts, D. A. (2010). Beauty and the beast: Mechanisms of sexual selection in humans. *Evolution and Human Behavior, 31*(3), 157-175. doi: 10.1016/j.evolhumbehav.2010.02.005

Puts, D. A. (2016). Human sexual selection. *Current Opinion in Psychology, 7*, 28-32. doi: 10.1016/j.copsyc. 2015. 07.011

Puts, D. A., Bailey, D. H., & Reno, P. L. (2015). Contest competition in men. In D. M. Buss (Ed.), *The handbook of evolutionary psychology* (2nd ed., Vol. 1, pp. 385-403). Hoboken, NJ: John Wiley & Sons.

Puts, D. A., Gaulin, S. J. C., & Verdolini, K. (2006). Dominance and the evolution of sexual dimorphism in human voice pitch. *Evolution and Human Behavior, 27*(4), 283-296. doi: 10.1016/j.evolhumbehav.2005.11.003

Puts, D. A., Hodges, C. R., Cárdenas, R. A., & Gaulin, S. J. C. (2007). Men's voices as dominance signals: Vocal fundamental and formant frequencies influence dominance attributions among men. *Evolution and Human Behavior, 28*(5), 340-344. doi: 10.1016/j.evolhumbehav.2007.05.002

Putzer, G. J., & Park, Y. (2010). The effects of innovation factors on smartphone adoption among nurses in community hospitals. *Perspectives in Health Information Management, 7*(Winter), 1-20.

Reis, H. T., Wilson, I. M., Monestere, C., Bernstein, S., Clark, K., Seidl, E., . . . Radoane, K. (1990). What is smilingis beautiful and good. *European Journal of Social Psychology, 20*(3), 259-267. doi: 10.1002/ejsp.2420200307

Rhodes, G. (2006). The evolutionary psychology of facial beauty. *Annual Review of Psychology, 57*, 199-226. doi: 10.1146/ annurev.psych.57.102904.190208

Rhodes, G., Chan, J., Zebrowitz, L. A., & Simmons, L. W. (2003). Does sexual dimorphism in human faces signal health?. *Proceedings of the Royal Society of London B: Biological Sciences, 270*(Suppl 1), S93-S95. doi: 10.1098/ rsbl.2003.0023

Rhodes, G., Simmons, L. W., & Peters, M. (2005). Attractiveness and sexual behavior: Does attractiveness enhance mating success? *Evolution and Human Behavior, 26*(2), 186-201. doi: 10.1016/j.evolhumbehav.2004.08.014

Rhodes, G., Yoshikawa, S., Clark, A., Lee, K., McKay, R., & Akamatsu, S. (2001). Attractiveness of facial averageness and symmetry in non-Western cultures: In search of biologically based standards of beauty. *Perception, 30*(5), 611-625. doi: 10.1068/p3123

Rhodes, G., Zebrowitz, L. A., Clark, A., Kalick, S. M., Hightower, A., & McKay, R. (2001). Do facial averageness and symmetry signal health? *Evolution and Human Behavior, 22*(1), 31-46. doi: 10.1016/S1090-5138(00)00060-X

Rodriguez-Llanes, J. M., Verbeke, G., & Finlayson, C. (2009). Reproductive benefits of high social status in male macaques (Macaca). *Animal Behaviour, 78*(3), 643-649. doi: 10.1016/j.anbehav.2009.06.012

Rogers, E. M. (1983). *Diffusions of innovations*. New York, NY: Free Press.

Roney, J. R. (2003). Effects of visual exposure to the opposite sex: Cognitive aspects of mate attraction in human males. *Personality and Social Psychology Bulletin, 29*(3), 393-404. doi: 10.1177/0146167202250221

Rosvall, K. A. (2011). Intrasexual competition in females: Evidence for sexual selection? *Behavioral Ecology, 22*(6), 1131-1140. doi: 10.1093/beheco/arr106

Roy, S. (2014, November 11). Status insanity: Why the iPhone is the perfect status symbol. Retrieved from http://www.huffingtonpost.com/sandip-roy/status-insanity-why-the-i_b_5801748.html

Rucker, D. D., Dubois, D., & Galinsky, A. D. (2011). Generous paupers and stingy princes: Power drives consumer spending on self versus others. *Journal of Consumer Research, 37*(6), 1015-1029. doi: 10.1086/657162

Rucker, D. D., Galinsky, A. D., & Dubois, D. (2012). Power and consumer behavior: How power shapes who and what consumers value. *Journal of Consumer Psychology, 22*(3), 352-368. doi: 10.1016/j.jcps.2011.06.001

Rueden, C. (2014). The roots and fruits of social status in small-scale human societies. In T. J. Cheng, L. J. Tracy & C. Anderson (Eds.), *The psychology of social status* (pp. 179-200). New York, NY: Springer.

Ruggiero, T. E. (2000). Uses and gratifications theory in the 21st century. *Mass Communication and Society, 3*(1), 3-37. doi: 10.1207/S15327825MCS0301_02

Ryan, S., Oaten, M., Stevenson, R. J., & Case, T. I. (2012). Facial disfigurement is treated like an infectious disease. *Evolution and Human Behavior, 33*(6), 639-646. doi: 10.1016/j.evolhumbehav.2012.04.001

Saad, G. (2006). Applying evolutionary psychology in understanding the Darwinian roots of consumption phenomena. *Managerial and Decision Economics, 27*(2-3), 189-201. doi: 10.1002/mde.1292

Saad, G. (2007). *The evolutionary bases of consumption*. Mahwah, NJ: Lawrence Erlbaum.

Saad, G. (2013). Evolutionary consumption. *Journal of Consumer Psychology, 23*(3), 351-371. doi: 10.1016/j.jcps. 2013.03.002

Saad, G., & Gill, T. (2000). Applications of evolutionary psychology in marketing. *Psychology and Marketing, 17*(12), 1005-1034. doi: 10.1002/1520-6793(200012)17:12<1005::AID-MAR1>3.0.CO;2-H

Sadalla, E. K., Kenrick, D. T., & Vershure, B. (1987). Dominance and heterosexual attraction. *Journal of Personality and Social Psychology, 52*(4), 730-738. doi: 10.1037/0022-3514.52.4.730

Samson, C., & Hornby, L. (1998). Spending for tomorrow. *Far Eastern Economic Review, 161*(50), 46-52.

Sapolsky, R. M. (1990). Adrenocortical function, social rank, and personality among wild baboons. *Biological Psychiatry, 28*(10), 862-878. doi: 10.1016/0006-3223(90)90568-M

Sapolsky, R. M. (2004). Social status and health in humans and other animals. *Annual Review of Anthropology, 33*, 393-418. Doi: 10.1146/annurev.anthro.33.070203.144000

Sapolsky, R. M. (2005). The influence of social hierarchy on primate health. *Science, 308*(5722), 648-652. doi: 10.1126/ science.1106477

Sarker, S., & Wells, J. D. (2003). Understanding mobile handheld device use and adoption. *Communications of the ACM, 46*(12), 35-40. doi: 10.1145/953460.953484

Saxton, T. K., Mackey, L. L., McCarty, K., & Neave, N. (2015). A lover or a fighter? Opposing sexual selection pressures on men's vocal pitch and facial hair. *Behavioral Ecology, 00*(00), 1-8. doi: 10.1093/beheco/arv178

Schaedelin, F. C., & Taborsky, M. (2009). Extended phenotypes as signals. *Biological Reviews, 84*(2), 293-313. doi: 10.1111/j.1469-185X.2008.00075.x

Scheib, J. E., Gangestad, S. W., & Thornhill, R. (1999). Facial attractiveness, symmetry and cues of good genes. *Proceedings of the Royal Society of London. Series B: Biological Sciences, 266*(1431), 1913-1917. doi: 10.1098/ rspb.1999.0866

Schmitt, D. P., Alcalay, L., Allik, J., Ault, L., Austers, I., Bennett, K. L., . . . Zupaneie, A. (2003). Universal sex differences in the desire for sexual variety: Tests from 52 nations, 6 continents, and 13 islands. *Journal of Personality and Social Psychology, 85*(1), 85-104. doi: 10.1016/j.paid.2014.09.020

Schmitt, D. P., & Buss, D. M. (1996). Strategic self-promotion and competitor derogation: Sex and context effects on the perceived effectiveness of mate attraction tactics. *Journal of Personality and Social Psychology, 70*(6), 1185-1204. doi: 10.1037/0022-3514.70.6.1185

Schmitt, D. P., & Buss, D. M. (2000). Sexual dimensions of person description: Beyond or subsumed by the Big Five? *Journal of Research in Personality, 34*(2), 141-177. doi: 10.1006/jrpe.1999.2267

Schmitt, D. P., & Shackelford, T. K. (2008). Big five traits related to short-term mating: From personality to promiscuity across 46 nations. *Evolutionary Psychology, 6*(2), 246-282. doi: 10.1177/147470490800600204

Schramm, H., & Hasebrink, U. (2004). Fernsehnutzung und Fernsehwirkung [Uses and effects of TV viewing]. In R. Mangold, P. Vorderer & G. Bente (Eds.), *Lehrbuch der Medienpsychologie* (pp. 465-492). Göttingen, Germany: Hogrefe.

Schwab, F. (2011). Darwin als Sehhilfe für die Psychologie – Evolutionspsychologie [Darwin as vision aids for psychologists – Evolutionary psychology]. In J. Oehler (Ed.), *Der Mensch - Evolution, Natur und Kultur* (pp. 75-89). Berlin, Germany: Springer.

Schwab, F., & Hennighausen, C. (2016). Evolutionäre Erklärungsansätze in der Medienpsychologie [Evolutionary explanations in media psychology]. In N. C. Krämer, S. Schwan, D. Unz & M. Suckfüll (Eds.), *Medienpsychologie: Schlüsselbegriffe und Konzepte* (2nd ed., pp. 45-52). Stuttgart, Germany: Kohlhammer.

Schwarz, S., & Hassebrauck, M. (2006). Indirekte Methoden zur Bestimmung der weiblichen Fertilität–ein Beitrag zur Methodologie einer evolutionären (Sozial-) Psychologie [Indirect methods to measure female fertility – A contribution to the methodology of evolutionary (social) psychology] In E. H. Witte (Ed.), *Evolutionäre Sozialpsychologie und automatische Prozesse* (pp. 95-113). Lengerich, Germany: Pabst.

Scott, I. M., Clark, A. P., Josephson, S. C., Boyette, A. H., Cuthill, I. C., Fried, R. L., . . . Penton-Voak, I. S. (2014). Human preferences for sexually dimorphic faces may be evolutionarily novel. *Proceedings of the National Academy of Sciences, 111*(40), 14388-14393. doi: 10.1073/pnas.1409643111

Sell, A., Cosmides, L., Tooby, J., Sznycer, D., von Rueden, C., & Gurven, M. (2009). Human adaptations for the visual assessment of strength and fighting ability from the body and face. *Proceedings of the Royal Society of London B: Biological Sciences, 276*(1656), 575-584. doi: 10.1098/rspb.2008.1177

Sherry, J. L. (2004). Media effects theory and the nature/nurture debate: A historical overview and directions for future research. *Media Psychology, 6*(1), 83-109. doi: 10.1207/s1532785xmep0601_4

Sheth, J. N., Newman, B. I., & Gross, B. L. (1991). Why we buy what we buy: A theory of consumption values. *Journal of Business Research, 22*(2), 159-170. doi: 10.1016/0148-2963(91)90050-8

Shin, D. H. (2012). Cross-analysis of usability and aesthetic in smart devices: What influences users' preferences? *Cross Cultural Management: An International Journal, 19*(4), 563-587. doi:10.1108/13527601211270020

Shuler, G. A., & McCord, D. M. (2010). Determinants of male attractiveness:"Hotness" ratings as a function of perceived resources. *American Journal of Psychological Research, 6*(1), 10-23.

Sidanius, J., & Pratto, F. (1999). *Social dominance. An intergroup theory of social hierarchy and oppression*. Cambridge, UK: Cambridge Univeristy Press.

Simpson, J. A., & Gangestad, S. W. (1991). Individual differences in sociosexuality: Evidence for convergent and discriminant validity. *Journal of Personality and Social Psychology, 60*(6), 870-883. doi: 10.1037/0022-3514.60.6.870

Simpson, J. A., & Gangestad, S. W. (1992). Sociosexuality and romantic partner choice. *Journal of Personality, 60*(1), 31-51. doi: 10.1111/j.1467-6494.1992.tb00264.x

Simpson, J. A., Wilson, C. L., & Winterheld, H. A. (2004). Sociosexuality and romantic relationships. In J. A. Harvey, A. Wenzel & S. Sprecher (Eds.), *Handbook of sexuality in close relationships* (pp. 87-112). Mahwah, NJ: Erlbaum.

Singh, D., Dixson, B. J., Jessop, T. S., Morgan, B., & Dixson, A. F. (2010). Cross-cultural consensus for waist–hip ratio and women's attractiveness. *Evolution and Human Behavior, 31*(3), 176-181. doi: 10.1016/ j.evolhumbehav. 2009.09.001

Slatcher, R. B., Mehta, P. H., & Josephs, R. A. (2011). Testosterone and self-reported dominance interact to influence human mating behavior. *Social Psychological and Personality Science, 2*(5), 531-539 doi: 10.1177/ 1948550611400099

Slater, A., Von der Schulenburg, C., Brown, E., Badenoch, M., Butterworth, G., Parsons, S., & Samuels, C. (1998). Newborn infants prefer attractive faces. *Infant Behavior and Development, 21*(2), 345-354. doi: 10.1016/ S0163-6383(98)90011-X

Smith, A. (2015, April 1). U.S. Smartphone use in 2015. Retrieved from http://www.pewinternet.org/2015/04/01/us-smartphone-use-in-2015/

Smith, J. P. (1999). Healthy bodies and thick wallets: The dual relation between health and economic status. *Journal of Economic Perspectives, 13*(2), 144-166. doi: 10.1257/jep.13.2.145

Sobieraj, S. (2012). *What is virtually beautiful is good: der Einfluss physiognomischer Gesichtsmerkmale und nonverbalen Verhaltens auf die Attribution von Attraktivität, sozialer Kompetenz und Dominanz [What is virtually beautiful is good: The influce of physiognomic facial features and nonverbal behavior on attributions of attractiveness, social competency, and dominance]*(Doctoral dissertation, University of Duisburg-Essen, Essen, Germany). Retrieved from http://duepublico.uni-duisburg-essen.de/servlets/ DocumentServlet?id=28721

Spinella, M. (2003). Evolutionary mismatch, neural reward circuits, and pathological gambling. *International Journal of Neuroscience, 113*(4), 503-512. doi: 10.1080/00207450390162254

Stafford, T. F., & Gillenson, M. L. (2004). Motivations for mobile devices: Uses and gratifications for m-commerce. In *Proceedings of the Third Annual Workshop on HCI research in MIS* (pp. 70-74), Washington, D.C.

Stafford, T. F., Stafford, M. R., & Schkade, L. L. (2004). Determining uses and gratifications for the internet. *Decision Sciences, 35*(2), 259-288. doi: 10.1111/j.00117315.2004.02524.x

Statista. (2015a). Number of smartphone users in Germany from January 2009 to July 2015 (in millions). Retrieved from http://www.statista.com/statistics/461801/number-of-smartphone-users-in-germany/

Statista. (2015b). Number of smartphone users in the United States from 2010 to 2018 (in millions). Retrieved from http://www.statista.com/statistics/201182/forecast-of-smartphone-users-in-the-us/

Statista. (2015c). Prognose zur Anzahl der Mobiltelefonnutzer in Deutschland von 2013 bis 2019 (in Millionen) Prognose zur Anzahl der Mobiltelefonnutzer in Deutschland von 2013 bis 2019 (in Millionen) [Forecast of the number of cell phone users in Germany from 2013 to 2019 (in millions)]. Retrieved from http://de.statista.com/ statistik/daten/ studie/199070/umfrage/prognose-zur-anzahl-der-mobiltelefonnutzer-in-deutschland/

Statista. (2016a). Anzahl der Smartphone-Nutzer in Deutschland in den Jahren 2009 bis 2015 (in Millionen) [Number of smartphone user in Germany between the years 2009 to 2015 (in millions)]. Retrieved from http://de.statista.com/ statistik/daten/studie/198959/umfrage/anzahl-der-smartphonenutzer-in-deutschland-seit-2010/

Statista. (2016b). Sehen Sie mobile Endgeräte auch als Statussymbol? [Do you consider mobile devices as status symbols?]. Retrieved from http://de.statista.com/statistik/daten/studie/209188/umfrage/mobile-endgeraete-als-statussymbol-in-ausgewaehlten-laendern/

Steinmels, D. (2012). Wie alles begann: Die Geschichte des Smartphones [How it all started: The history of the smartphone]. Retrieved from http://www.pcwelt.de/ratgeber/Handy-Historie-Wie-alles-begann-Die-Geschichte-des-Smartphones-5882848.html

Stockley, P., & Campbell, A. (2013). Female competition and aggression: Interdisciplinary perspectives. *Philosophical Transactions of the Royal Society B: Biological Sciences, 368*(1631), 20130073. doi: 10.1098/rstb.2013.0073

Straus, M. A. (2004). Cross-cultural reliability and validity of the Rrevised Conflict Tactics Scales: A study of university student dating couples in 17 nations. *Cross-Cultural Research, 38*(4), 407-432. doi: 10.1177/ 1069397104269543

Strenze, T. (2007). Intelligence and socioeconomic success: A meta-analytic review of longitudinal research. *Intelligence, 35*(5), 401-426. doi: 10.1016/j.intell.2006.09.004

Suki, N. M. (2013). Students' demand for smartphones: Structural relationships of product features, brand name, product price and social influence. *Campus-Wide Information Systems, 30*(4), 236-248. doi: 10.1108/CWIS-03-2013-0013

Sundar, S. S., Tamul, D. J., & Wu, M. (2014). Capturing "cool": Measures for assessing coolness of technological products. *International Journal of Human-Computer Studies, 72*(2), 169-180. doi: 10.1016/ j.ijhcs.2013.09.008

Sundie, J. M., Kenrick, D. T., Griskevicius, V., Tybur, J. M., Vohs, K. D., & Beal, D. J. (2011). Peacocks, Porsches, and Thorstein Veblen: Conspicuous consumption as a sexual signaling system. *Journal of Personality and Social Psychology, 100*(4), 664-680. doi: 10.1037/a0021669

Surbey, M. K., & Brice, G. R. (2007). Enhancement of self-perceived mate value precedes a shift in men's preferred mating strategy. *Acta Psychologica Sinica, 39*(3), 513-522.

Swaddle, J. P., & Cuthill, I. C. (1995). Asymmetry and human facial attractiveness: Symmetry may not always be beautiful. *Proceedings of the Royal Society of London B: Biological Sciences, 261*(1360), 111-116. doi: 10.1098/rspb. 1995.0124

Swaddle, J. P., & Reierson, G. W. (2002). Testosterone increases perceived dominance but not attractiveness in human males. *Proceedings of the Royal Society B: Biological Sciences, 269*(1507), 2285-2289. doi: 10.1098/rspb.2002. 2165

Teo, T. S. H., & Pok, S. H. (2003). Adoption of WAP-enabled mobile phones among Internet users. *Omega, 31*(6), 483-498. doi: 10.1016/j.omega.2003.08.005

Thornhill, R., & Gangestad, S. W. (1993). Human facial beauty: Averageness, symmetry, and parasite resistance. *Human Nature, 4*(3), 237-269. doi: 10.1007/bf02692201

Thornhill, R., & Gangestad, S. W. (1999). Facial attractiveness. *Trends in Cognitive Sciences, 3*(12), 452-460. doi: 10.1016/S1364-6613(99)01403-5

Thornhill, R., & Gangestad, S. W. (2006). Facial sexual dimorphism, developmental stability, and susceptibility to disease in men and women. *Evolution and Human Behavior, 27*(2), 131-144. doi: 10.1016/j.evolhumbehav. 2005.06.001

Tinbergen, N. (1963). On the aims and methods of ethology. *Zeitschrift für Tierpsychologie, 20*(4), 410-433. doi: 10.1111/j.1439-0310.1963.tb01161.x

Townsend, J. M., & Levy, G. D. (1990). Effects of potential partners' costume and physical attractiveness on sexuality and partner delection. *The Journal of Psychology, 124*(4), 371-389. doi: 10.1080/00223980.1990.10543232

Tracy, J. L., & Beall, A. T. (2011). Happy guys finish last: The impact of emotion expressions on sexual attraction. *Emotion, 11*(6), 1379-1387. doi: 10.1037/a0022902

Trepte, S., Ranné, N., & Becker, M. (2003). 'Personal Digital Assistants': Patterns of user gratifications. *Communications, 28*(4), 457-473. doi: 10.1515/comm.2003.029

Trivers, R. L. (1972). *Parental investment and sexual selection*. Chicago, IL: Aldine.

Trujillo, L. T., Jankowitsch, J. M., & Langlois, J. H. (2014). Beauty is in the ease of the beholding: A neurophysiological test of the averageness theory of facial attractiveness. *Cognitive, Affective, & Behavioral Neuroscience, 14*(3), 1061-1076. doi: 10.3758/s13415-013-0230-2

Tse, W. S., & Bond, A. J. (2002). Serotonergic intervention affects both social dominance and affiliative behaviour. *Psychopharmacology, 161*(3), 324-330. doi: 10.1007/s00213-002-1049-7

Tung, J., Barreiro, L. B., Johnson, Z. P., Hansen, K. D., Michopoulos, V., Toufexis, D., . . . Gilad, Y. (2012). Social environment is associated with gene regulatory variation in the rhesus macaque immune system. *Proceedings of the National Academy of Sciences, 109*(17), 6490-6495. doi: 10.1073/pnas.1202734109

Urista, M. A., Dong, Q., & Day, K. D. (2009). Explaining why young adults use MySpace and Facebook through uses and gratifications theory. *Human Communication, 12*(2), 215-229.

Vaillancourt, T., & Sharma, A. (2011). Intolerance of sexy peers: Intrasexual competition among women. *Aggressive Behavior, 37*(6), 569-577. doi: 10.1002/ab.20413

Valentine, K. A., Li, N. P., Penke, L., & Perrett, D. I. (2014). Judging a man by the width of his face: The role of facial ratios and dominance in mate choice at speed-dating events. *Psychological Science, 25*(3), 806-811. doi: 10.1177/ 0956797613511823

van Biljon, J., & Kotzé, P. (2007). Modelling the factors that influence mobile phone adoption. *Proceedings of the 2007 annual research conference of the South African institute of computer scientists and information technologists on IT research in developing countries, Port Elizabeth, South Africa*. New York, NY: ACM Press.

van der Heijden, H. (2004). User acceptance of hedonic information systems. *MIS Quarterly, 28*(4), 695-704. doi: 10.1287/ mnsc.41.12.1827

van Kempen, L. (2003). Fooling the eye of the beholder: Deceptive status signalling among the poor in developing countries. *Journal of International Development, 15*(2), 157-177. doi: 10.1002/jid.973

van Leeuwen, M. L., Veling, H., van Baaren, R. B., & Dijksterhuis, A. (2009). The influence of facial attractiveness on imitation. *Journal of Experimental Social Psychology, 45*(6), 1295-1298. doi: 10.1016/j.jesp.2009.07.008

van Vugt, M., & Tybur, J. M. (2016). The evolutionary foundations of status hierarchy. In D. M. Buss (Ed.), *The handbook of evolutionary psychology* (2nd ed., Vol. 2, pp. 788-809). Hoboken, NJ: John Wiley & Sons, Inc.

Vanden Abeele, M., Antheunis, M. L., & Schouten, A. P. (2014). Me, myself and my mobile: A segmentation of youths based on their attitudes towards the mobile phone as a status instrument. *Telematics and Informatics, 31*(2),
194-208. doi: 10.1016/j.tele.2013.04.004

Veblen, T. (1899). *The theory of the leisure class: An economic theory of institutions*. New York, NY: Macmillen.

Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information Systems Research, 11*(4), 342-365. doi: 10.1287/isre.11.4.342.11872

Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences, 39*(2), 273-315. doi: 10.1111/j.1540-5915.2008.00192.x

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science, 46*(2), 186-204. doi: 10.2307/2634758

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 27*(3), 425-478. doi: 10.2307/30036540

von Rueden, C., Gurven, M., & Kaplan, H. (2010). Why do men seek status? Fitness payoffs to dominance and prestige. *Proceedings of the Royal Society of London B: Biological Sciences, 178*(1715), 2223-22232. doi: 10.1098/rspb. 2010.2145

Wang, Y., & Griskevicius, V. (2014). Conspicuous consumption, relationships, and rivals: Women's luxury products as signals to other women. *Journal of Consumer Research, 40*(5), 834-854. doi: 10.1086/673256

Watkins, C. D., Jones, B. C., Little, A. C., DeBruine, L. M., & Feinberg, D. R. (2012). Cues to the sex ratio of the local population influence women's preferences for facial symmetry. *Animal Behaviour, 83*(2), 545-553. doi: 10.1016/ j.anbehav.2011.12.002

Waynforth, D. (1998). Fluctuating asymmetry and human male life-history traits in rural Belize. *Proceedings of the Royal Society B: Biological Sciences, 265*(1405), 1497-1501. doi: 10.1098/rspb.1998.0463

Wideman, L., Montgomery, M. M., Levine, B. J., Beynnon, B. D., & Shultz, S. J. (2013). Accuracy of calendar-based methods for assigning menstrual cycle phase in women. *Sports Health, 5*(2), 143-149. doi: 10.1177/1941738112469930

Wijaya, I. M. (2013). The influence of brand image, brand personality and brand awareness on consumer purchase intention of Apple smartphones. *Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi, 1*(4), 562-570.

Wilcox, K., Kim, H. M., & Sen, S. (2009). Why do consumers buy counterfeit luxury brands? *Journal of Marketing Research, 46*(2), 247-259. doi: 10.1509/jmkr.46.2.247

Williams, R. (2015, January 9). Women more likely to own an iPhone than men. Retrieved from http://www.telegraph.co.uk/technology/apple/iphone/11335574/Women-more-likely-to-own-an-iPhone-than-men.html

Wilson, M., & Daly, M. (1985). Competitiveness, risk taking, and violence: The young male syndrome. *Ethology and Sociobiology, 6*(1), 59-73. doi: 10.1016/0162-3095(85)90041-X

Winterhoff-Spurk, P. (2004). *Medienpsychologie: Eine Einführung [Media psychology: An introduction]* (2nd ed.). Stuttgart, Germany: Kohlhammer.

Wong, E. M., Ormiston, M. E., & Haselhuhn, M. P. (2011). A face only an investor could love: CEOs' facial structure predicts their firms' financial performance. *Psychological Science, 22*(12), 1478-1483. doi: 10.1177/0956797611418838

Wroblewski, E. E., Murray, C. M., Keele, B. F., Schumacher-Stankey, J. C., Hahn, B. H., & Pusey, A. E. (2009). Male dominance rank and reproductive success in chimpanzees, Pan troglodytes schweinfurthii. *Animal Behaviour, 77*(4), 873-885. doi: 10.1016/j.anbehav.2008.12.014

Yesilova, Z., Ozata, M., Kocar, I. H., Turan, M., Pekel, A., Sengul, A., & Ozdemír, I. C. (2000). The effects of gonadotropin treatment on the immunological features of male patients with idiopathic hypogonadotropic hypogonadism. *The Journal of Clinical Endocrinology & Metabolism, 85*(1), 66-70. doi: 10.1210/jcem.85.1.6226

Zahavi, A. (1975). Mate selection - A selection for a handicap. *Journal of Theoretical Biology, 53*(1), 205-214. doi: 10.1016/0022-5193(75)90111-3

Zahavi, A., & Zahavi, A. (1997). *The handicap principle: a missing piece of Darwin's puzzle*. New York, NY: Oxford University Press.

Zebrowitz, L., & Rhodes, G. (2004). Sensitivity to "bad genes" and the anomalous face overgeneralization effect: Cue validity, cue utilization, and accuracy in judging intelligence and health. *Journal of Nonverbal Behavior, 28*(3), 167-185. doi: 10.1023/B:JONB.0000039648.30935.1b

Zhang, Y., Kong, F., Zhong, Y., & Kou, H. (2014). Personality manipulations: Do they modulate facial attractiveness ratings? *Personality and Individual Differences, 70*, 80-84. doi: 10.1016/j.paid.2014.06.033

Zietsch, B. P., Lee, A. J., Sherlock, J. M., & Jern, P. (2015). Variation in women's preferences regarding male facial masculinity is better explained by genetic differences than by previously identified context-dependent effects. *Psychological Science, 26*(9), 1440-1448. doi: 10.1177/0956797615591770

Zimmer-Gembeck, M. J. (2002). The development of romantic relationships and adaptations in the system of peer relationships. *Journal of Adolescent Health, 31*(6), 216-225. doi: 10.1016/S1054-139X(02)00504-9

Appendix A: Smartphone stimuli, Study 1 (pre-rating)

Due to copyright concerns, product images of the smartphones have been blurred for publication.

Figure A1. Apple iPhone 4s[21]

Figure A2. Apple iPhone 5[22]

Figure A3. HTC One X+[23]

Figure A4. LG Optimus 4X[24]

[21] [Untitled photograph of the Apple iPhone 4s]. Retrieved from http://technave.com/gadget/ iPhone-4S-Price-in-Malaysia-Specs-Review-189.html

[22] [Untitled photograph of the Apple iPhone 5]. Retrieved from http://www.macobserver.com/tmo/ article/apple-announces-4-inch-lte-unibody-iphone-5

[23] [Untitled photograph of HTC One X+]. Retrieved from http://www.trustedreviews.com/htc-one-x-1-review

[24] [Untitled photograph of the LG Optimus 4X]. Retrieved from http://www.techspot.com/products/smartphones/lg-p880-optimus-4x-hd.84545/

Appendix A – Continued

Figure A5. Nokia Lumia 720[25]

Figure A6. RIM BlackBerry Bold 9900[26]

Figure A7. Samsung Galaxy Ace 2[27]

Figure A8. Samsung Galaxy Note II[28]

[25][Untitled photograph of the Nokia Lumia 720]. Retrieved from http://nl.hardware.info/productinfo/181176/nokia-lumia-720-black#tab:fotos

[26][Untitled photograph of the RIM BlackBerry Bold 9900]. Retrieved from http://abhishek2410.blogspot.de/2011/08/blackberry-bold-9900-reviewed.html

[27] [Untitled photograph of the Samsung Galaxy Ace 2]. Retrieved from http://www.androidcentral.com/samsung-announces-galaxy-ace-2-and-galaxy-mini-2

[28][Untitled photograph of the Samsung Galaxy Note II]. Retrieved from http://www.3-mobileshop.co.uk/phones/samsung/galaxy-note-ii-grey/

Appendix A – Continued

Figure A9. Samsung Galaxy S3[29]

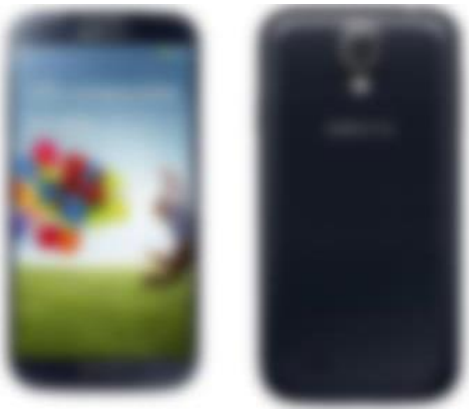


Figure A10. Samsung Galaxy S4[30]

Figure A11. Sony Xperia Z[31]

[29] [Untitled photograph of the Samsung Galaxy S3]. Retrieved from http://phandroid.com/2012/05/16/dual-core-samsung-galaxy-s3-with-2gb-of-ram-headed-to-japan-could-the-us-be-next/

[30] [Untitled photograph of the Samsung Galaxy S4]. Retrieved from http://bestbargainshop.net/index.php?route=product/product&product_id=75

[31] [Untitled photograph of the Sony Xperia Z]. Retrieved from https://hilfe-center.1und1.de/smartphones-und-handys-c84081/sony-c84509/xperia-z-serie-c85078/technische-daten-zum-sony-xperia-z-a792490.html

Appendix A – Continued

Table A1. Introductory Retail Prices and Release Dates of Smartphone Stimuli (Pre-rating, Study 1)

Smartphone	Price[a]	Release date
Apple iPhone 4s	€629[32]	November, 2011[29]
Apple iPhone5	€679[33]	September, 2012[30]
HTC One X+	€599[34]	October, 2012[35]
LG Optimus 4X	€500[36]	June, 2012[37]
Nokia Lumia 720	€379[38]	April, 2013[39]
RIM BlackBerry Bold 9900	€550[40]	August, 2011[41]
Samsung Galaxy Ace 2	€379[42]	May, 2012[39]
Samsung Galaxy Note II	€699[43]	September, 2012[40]
Samsung Galaxy S3	€749[44]	May, 2012[41]
Samsung Galaxy S4	€729[45]	April, 2013[42]
Sony Xperia Z	€499[46]	February, 2013[43]

Note. [a]All prices are introductory retail prices. See footnotes for the references.

[32] Apple iPhone 4S Preis mit und ohne Vertrag [Apple iPhone 4s retail price with and without contract]. (n.d.). Retrieved from http://www.areamobile.de/ handys/3013-apple-iphone-4s/kaufen

[33] Apple iPhone 5. (n.d.). Retrieved from http://www.areamobile.de/handys/2712-apple-iphone-5

[34] Testnote und Datenblatt - HTC One X [Test score and spec sheet - HTC One X]. (n.d.). Retrieved from http://www.focus.de/digital/handy/handyvergleich/tid-25501/htc-one-x-das-schnellste-handy-der-welt-und-das-beste-testnote-und-datenblatt_aid_738103.html

[35] HTC One X. (n.d.). Retrieved from http://www.areamobile.de/handys/3360-htc-one-x

[36] LG Optimus 4X HD: Test des Strahlemanns [Testing the shiny LG Optimus 4X HD]. (2013, July 9). Retrieved from http://www.computerbild.de/artikel/cb-Tests-Handy-LG-Optimus-4X-HD-7334250.html

[37] Maier, M. (2012, June 10). LG Optimus 4X HD offiziell in Deutschland erhältlich [LG Optimus 4X HD officially released in Germany]. Retrieved from http://www.androidpit.de/lg-optimus-4x-hd-offiziell-in-deutschland-erhaeltlich

[38] Kremp, M. (2013, March 14). Nokia Lumia 720 im Test: Oberklasse-Smartphone zum Mittelklassepreis - SPIEGEL ONLINE [Testing the Nokia Lumia 720: Upper class smartphone for a middle-class price - SPIEGE ONLINE. Retrieved from http://www.spiegel.de/netzwelt/gadgets/angefasst-nokia-lumia-720-im-test-a-896317.html

[39] Release in Deutschland - Nokia Lumia 520: Einsteigermodell kommt für 180 Euro [Release in Germany - Nokia Lumia 520: Basic model available for 180 Euro]. (2013, April 16). Retrieved from http://www.rp-online.de/digitales/smartphones/nokia-lumia-520-einsteigermodell-kommt-fuer-180-euro-aid-1.3333458

[40] Steinmels, D. (2011, September 21). BlackBerry Bold 9900 im Test [Testing the BlackBerry Bold 9900]. Retrieved from http://www.pcwelt.de/produkte/RIM-BlackBerry-Bold-9900-Smartphone-Test-3446388.html

[41] Datenblatt RIM Blackberry Bold 9900 [Technical features RIM Blackberry Bold 9900]. (n.d.). Retrieved from http://www.areamobile.de/handys/2948-rim-blackberry-bold-9900/datenblatt

[42] Samsung Galaxy Ace 2 Preis mit und ohne Vertrag [Samsung Galaxy Ace 2 retail price with and without contract]. (n.d.). Retrieved from http://www.areamobile.de/handys/3118-samsung-galaxy-ace-2/kaufen

[43] Samsung Galaxy Note II. (n.d.). Retrieved from http://www.areamobile.de/handys/3238-samsung-galaxy-note-2/kaufen

[44] Samsung Galaxy S3: Technische Daten [Samsung Galaxy S3: Technical data] (n.d.) Retrieved from http://www.areamobile.de/handys/3019-samsung-galaxy-s3

[45] Samsung Galaxy S4. (n.d.). Retrieved March 5, 2015, from http://www.areamobile.de/handys/3445-samsung-galaxy-s4

[46] Sony Xperia Z. Daten [Data of the Sony Xperia Z](n.d.). Retrieved from http://www.inside-handy.de/handys/sony-xperia-z/daten

Appendix B: Questionnaire, smartphone stimuli pre-rating, Study 1

To save space, photographs and images in the Appendix are displayed in smaller size and resolution than in the original online questionnaire. Moreover, due to copyright concerns, product images of the smartphones have been blurred for publication. Page changes of the original online questionnaire are indicated by headlines and the emblem of University of Würzburg. See electronic storage medium for the original version of the online questionnaire as .pdf file.

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Herzlich Willkommen!

Die folgende Online-Umfrage dient dazu herauszufinden, inwiefern bestimmte Smartphone-Modelle zum Zweck des sogenannten "Geltungskonsum" eingesetzt werden. Sie wird ungefähr 5 Minuten dauern. Alle Ihre Angaben und Daten werden anonymisiert und können Ihrer Person nicht zugeordnet werden. Die Daten aus dieser Umfrage werden ausschließlich zu wissenschaftlichen Zwecken verwendet.

Lesen Sie sich bitte zuerst aufmerksam die folgende Definition von "Geltungskonsum" durch.

Als „**demonstrativer Konsum**“ oder "**Geltungskonsum**“ zielt das öffentliche Konsumieren darauf ab, sein Geld mit dem Ziel auszugeben, anderen zu zeigen, was man sich alles leisten kann (zu prunken, zu prahlen, zu protzen). Besonders auffällige Produkte und Serviceleistungen werden erworben, um seinen (sozialen) Status zu erhöhen und seine Mitmenschen zu beeindrucken. Es kann daher als eine Form von Imponierverhalten durch Statussymbole angesehen werden.

Wir möchten untersuchen, inwiefern die dargestellten Produkte von Ihnen im Sinne des "Geltungskonsums" als prahlerisch und protzig angesehen werden.

Vielen Dank für Ihre Teilnahme!

Weiter

Dipl. Psych. Christine Hennighausen, Mensch-Computer-Medien, Julius-Maximilians-Universität, Würzburg - 2013

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Zunächst bitten wir Sie um einige Angaben zu Ihrer Person.

Welches Geschlecht haben Sie?

- ○ weiblich
- ○ männlich

Wie alt sind Sie?

Ich bin _____ Jahre.

Welchen Bildungsabschluss haben Sie?
Bitte wählen Sie den höchsten Bildungsabschluss, den Sie bisher erreicht haben.

- ○ Schule beendet ohne Abschluss
- ○ noch Schüler
- ○ Volks-, Hauptschulabschluss, Quali
- ○ Mittlere Reife, Realschul- oder gleichwertiger Abschluss
- ○ Abgeschlossene Lehre
- ○ Fachabitur, Fachhochschulreife
- ○ Abitur, Hochschulreife
- ○ Fachhochschul-/Hochschulabschluss
- ○ anderer Abschluss, und zwar: _____

Was machen Sie beruflich?

- ○ Schüler/in
- ○ in Ausbildung zum/zur _____
- ○ Student/in im Studienfach _____
- ○ Angestellte/r
- ○ Beamter
- ○ Selbstständig
- ○ arbeitslos/arbeitssuchend
- ○ sonstiges: _____

Wie hoch ist ungefähr Ihr monatliches Nettoeinkommen?

Gemeint ist der Betrag, der sich aus allen Einkünften zusammensetzt und nach Abzug der Steuern und Sozialversicherungen übrig bleibt**.**

- ○ unter 100 €
- ○ 100 € bis unter 250 €
- ○ 250 € bis unter 500 €
- ○ über 500 €
- ○ ich will darauf nicht antworten

Weiter

Dipl. Psych. Christine Hennighausen, Mensch-Computer-Medien, Julius-Maximilians-Universität, Würzburg - 2013

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Bewerten Sie die folgende Smartphones![47]

Zur Erinnerung noch einmal die Definition von "Geltungskonsum":

Als „**demonstrativer Konsum**“ oder "**Geltungskonsum**“ zielt das öffentliche Konsumieren darauf ab, sein Geld mit dem Ziel auszugeben, anderen zu zeigen, was man sich alles leisten kann (zu prunken, zu prahlen, zu protzen). Besonders auffällige Produkte und Serviceleistungen werden erworben, um seinen (sozialen) Status zu erhöhen und seine Mitmenschen zu beeindrucken. Es kann daher als eine Form von Imponierverhalten durch Statussymbole angesehen werden.

	überhaupt nicht						Sehr stark
	1	2	3	4	5	6	7
Wie stark wird dieses Smartphone-Modells im Sinne des „Geltungskonsums“ eingesetzt?	○	○	○	○	○	○	○
Wie stark verbinden Sie dieses Smartphonemodell mit Status?	○	○	○	○	○	○	○
Wie prollig/prahlerisch/protzig bewerten Sie dieses Smartphone	○	○	○	○	○	○	○
Wie wünschenswert und erstrebenswert ist es, dieses Smartphonemodell zu besitzen?	○	○	○	○	○	○	○

	überhaupt nicht						Sehr stark
	1	2	3	4	5	6	7
Wie stark wird dieses Smartphone-Modells im Sinne des „Geltungskonsums“ eingesetzt?	○	○	○	○	○	○	○
Wie stark verbinden Sie dieses Smartphonemodell mit Status?	○	○	○	○	○	○	○
Wie prollig/prahlerisch/protzig bewerten Sie dieses Smartphone	○	○	○	○	○	○	○
Wie wünschenswert und erstrebenswert ist es, dieses Smartphonemodell zu besitzen?	○	○	○	○	○	○	○

[47] Smartphone models were presented in a random order.

	überhaupt nicht						Sehr stark
	1	2	3	4	5	6	7
Wie stark wird dieses Smartphone-Modells im Sinne des „Geltungskonsums“ eingesetzt?	○	○	○	○	○	○	○
Wie stark verbinden Sie dieses Smartphonemodell mit Status?	○	○	○	○	○	○	○
Wie prollig/prahlerisch/protzig bewerten Sie dieses Smartphone	○	○	○	○	○	○	○
Wie wünschenswert und erstrebenswert ist es, dieses Smartphonemodell zu besitzen?	○	○	○	○	○	○	○

	überhaupt nicht						Sehr stark
	1	2	3	4	5	6	7
Wie stark wird dieses Smartphone-Modells im Sinne des „Geltungskonsums“ eingesetzt?	○	○	○	○	○	○	○
Wie stark verbinden Sie dieses Smartphonemodell mit Status?	○	○	○	○	○	○	○
Wie prollig/prahlerisch/protzig bewerten Sie dieses Smartphone	○	○	○	○	○	○	○
Wie wünschenswert und erstrebenswert ist es, dieses Smartphonemodell zu besitzen?	○	○	○	○	○	○	○

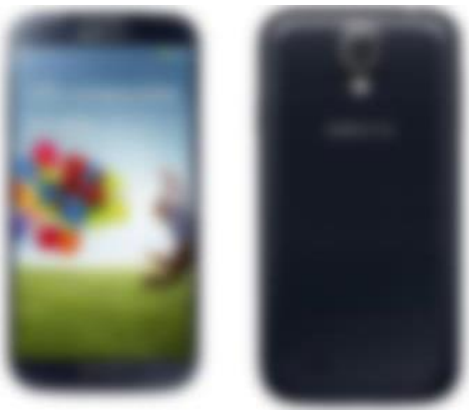
	überhaupt nicht						Sehr stark
	1	2	3	4	5	6	7
Wie stark wird dieses Smartphone-Modells im Sinne des „Geltungskonsums“ eingesetzt?	○	○	○	○	○	○	○
Wie stark verbinden Sie dieses Smartphonemodell mit Status?	○	○	○	○	○	○	○
Wie prollig/prahlerisch/protzig bewerten Sie dieses Smartphone	○	○	○	○	○	○	○
Wie wünschenswert und erstrebenswert ist es, dieses Smartphonemodell zu besitzen?	○	○	○	○	○	○	○

	überhaupt nicht						Sehr stark
	1	2	3	4	5	6	7
Wie stark wird dieses Smartphone-Modells im Sinne des „Geltungskonsums“ eingesetzt?	○	○	○	○	○	○	○
Wie stark verbinden Sie dieses Smartphonemodell mit Status?	○	○	○	○	○	○	○
Wie prollig/prahlerisch/protzig bewerten Sie dieses Smartphone	○	○	○	○	○	○	○
Wie wünschenswert und erstrebenswert ist es, dieses Smartphonemodell zu besitzen?	○	○	○	○	○	○	○

	überhaupt nicht						Sehr stark
	1	2	3	4	5	6	7
Wie stark wird dieses Smartphone-Modells im Sinne des „Geltungskonsums“ eingesetzt?	○	○	○	○	○	○	○
Wie stark verbinden Sie dieses Smartphonemodell mit Status?	○	○	○	○	○	○	○
Wie prollig/prahlerisch/protzig bewerten Sie dieses Smartphone	○	○	○	○	○	○	○
Wie wünschenswert und erstrebenswert ist es, dieses Smartphonemodell zu besitzen?	○	○	○	○	○	○	○

	überhaupt nicht						Sehr stark
	1	2	3	4	5	6	7
Wie stark wird dieses Smartphone-Modells im Sinne des „Geltungskonsums“ eingesetzt?	○	○	○	○	○	○	○
Wie stark verbinden Sie dieses Smartphonemodell mit Status?	○	○	○	○	○	○	○
Wie prollig/prahlerisch/protzig bewerten Sie dieses Smartphone	○	○	○	○	○	○	○
Wie wünschenswert und erstrebenswert ist es, dieses Smartphonemodell zu besitzen?	○	○	○	○	○	○	○

	überhaupt nicht						Sehr stark
	1	2	3	4	5	6	7
Wie stark wird dieses Smartphone-Modells im Sinne des „Geltungskonsums“ eingesetzt?	○	○	○	○	○	○	○
Wie stark verbinden Sie dieses Smartphonemodell mit Status?	○	○	○	○	○	○	○
Wie prollig/prahlerisch/protzig bewerten Sie dieses Smartphone	○	○	○	○	○	○	○
Wie wünschenswert und erstrebenswert ist es, dieses Smartphonemodell zu besitzen?	○	○	○	○	○	○	○



	überhaupt nicht						Sehr stark
	1	2	3	4	5	6	7
Wie stark wird dieses Smartphone-Modells im Sinne des „Geltungskonsums“ eingesetzt?	○	○	○	○	○	○	○
Wie stark verbinden Sie dieses Smartphonemodell mit Status?	○	○	○	○	○	○	○
Wie prollig/prahlerisch/protzig bewerten Sie dieses Smartphone	○	○	○	○	○	○	○
Wie wünschenswert und erstrebenswert ist es, dieses Smartphonemodell zu besitzen?	○	○	○	○	○	○	○

	überhaupt nicht						Sehr stark
	1	2	3	4	5	6	7
Wie stark wird dieses Smartphone-Modells im Sinne des „Geltungskonsums“ eingesetzt?	○	○	○	○	○	○	○
Wie stark verbinden Sie dieses Smartphonemodell mit Status?	○	○	○	○	○	○	○
Wie prollig/prahlerisch/protzig bewerten Sie dieses Smartphone	○	○	○	○	○	○	○
Wie wünschenswert und erstrebenswert ist es, dieses Smartphonemodell zu besitzen?	○	○	○	○	○	○	○

Weiter

Dipl. Psych. Christine Hennighausen, Mensch-Computer-Medien, Julius-Maximilians-Universität, Würzburg - 2013

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Danke für Ihre Teilnahme!

Wir möchten uns ganz herzlich für Ihre Mithilfe bedanken.

Fenster schließen

Dipl. Psych. Christine Hennighausen, Mensch-Computer-Medien, Julius-Maximilians-Universität, Würzburg - 2013

Appendix C: Male target stimuli, Study 1 (pre-rating)

Figure C1. Male target model 1

Figure C2. Male target model 2

Figure C3. Male target model 3

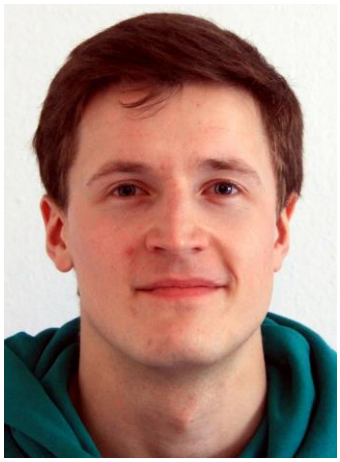


Figure C4. Male target model 4

Figure C5. Male target model 5

Figure C6. Male target model 6

Appendix C - Continued

Figure C7. Male target model 7

Figure C8. Male target model 8

Figure C9. Male target model 9

Figure C10. Male target model 10

Appendix D: Questionnaire, male target stimuli pre-rating, Study 1

To save space, photographs and images in the Appendix are displayed in smaller size and resolution than in the original online questionnaire. Page changes of the original online questionnaire are indicated by headlines and the emblem of University of Würzburg. Basically, the questionnaire displays the version for female participants. Differences between questionnaires for male and female participants are indicated by footnotes. See electronic storage medium for the original version of the online questionnaire as .pdf file.

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Herzlich Willkommen! [48]

Vielen Dank, dass Sie an unserer Vorstudie zur Attraktivität von Männern im Rahmen eines Vertiefungskurses im Studiengang Medienkommunikation der Universität Würzburg teilnehmen.

Bei dieser Umfrage geht es darum, 10 Männer nach ihrer Attraktivität zu bewerten. Dies wird ungefähr 10 Minuten dauern.

Die Umfrage ist anonym und ihre Angaben können Ihrer Person in keinem Fall zugeordnet werden. Die von Ihnen gemachten Angaben werden ausschließlich zu wissenschaftlichen Zwecken verwendet.

Bei auftretenden Fragen wenden Sie sich bitte an Frau Dipl. Psych. Christine Hennighausen: christine.hennighausen@uni-wuerzburg.de.

Klicken Sie nun auf „Weiter“ um zu beginnen!

Weiter

Dipl. Psych. Christine Hennighausen, Mensch-Computer-Medien, Julius-Maximilians-Universität, Würzburg - 2013

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Zunächst bitten wir Sie um einige Angaben zu Ihrer Person.

Welches Geschlecht haben Sie?

- weiblich
- männlich

Wie alt sind Sie?

Ich bin _____ Jahre.

Welchen Bildungsabschluss haben Sie?

Bitte wählen Sie den höchsten Bildungsabschluss, den Sie bisher erreicht haben.

- Schule beendet ohne Abschluss
- noch Schüler
- Volks-, Hauptschulabschluss, Quali
- Mittlere Reife, Realschul- oder gleichwertiger Abschluss
- Abgeschlossene Lehre

[48] In the version for male participants, a duration of 3 minutes was indicated and male participants were asked to rate only 2 male target models.

- Fachabitur, Fachhochschulreife
- Abitur, Hochschulreife
- Fachhochschul-/Hochschulabschluss
- anderer Abschluss, und zwar: _____

Was machen Sie beruflich?

- Schüler/in
- in Ausbildung zum/zur _____
- Student/in im Studienfach _____
- Angestellte/r
- Beamter
- Selbstständig
- arbeitslos/arbeitssuchend
- sonstiges: _____

Wie hoch ist ungefähr Ihr monatliches Nettoeinkommen?

Gemeint ist der Betrag, der sich aus allen Einkünften zusammensetzt und nach Abzug der Steuern und Sozialversicherungen übrig bleibt**.**

- unter 100 €
- 100 € bis unter 250 €
- 250 € bis unter 500 €
- 500 € bis unter 1000 €
- 1000 € bis unter 1500 €
- 1500 € bis unter 2000 €
- 2000 € bis unter 2500 €
- mehr als 2500 €
- ich möchte darauf nicht antworten

Wie ist Ihr aktueller Beziehungsstand?

- Single
- in einer lockeren/unverbindlichen Beziehung*
- in einer festen Beziehung**
- verheiratet

* Mit einer **lockeren/unverbindlichen Beziehung** sind alle sexuellen Begegnungen ohne daraus folgende Verpflichtungen gemeint. Man ist emotional nicht oder nur wenig involviert und die gegenseitige sexuelle Anziehungskraft steht im Vordergrund.

** Eine **feste Beziehung bezieht** sich auf eine Partnerschaft, die über einen längeren Zeitraum dauert. Diese schließt große Investitionen (z.B. zeitlich, finanziell) sowie einen hohen Grad an emotionaler Involviertheit ein. Ebenso sind Treue und sexuelle Exklusivität von großer Bedeutung. Man bindet sich an diese Person mittel- und langfristig und kann sich auch vorstellen, einmal zusammen eine Familie zu gründen.

Bitte geben Sie Ihre sexuelle Orientierung an.

- heterosexuell
- homosexuell
- bisexuell
- asexuell

Weiter

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Nun werden Ihnen Fotos von 10 verschiedenen Männern gezeigt.

Bewerten Sie in einem ersten Schritt die **Attraktivität der Männer**[49].

Für die Studie ist es wichtig, dass Sie die folgenden Fragen zu den Männern **unabhängig von Ihrem derzeitigen Beziehungsstatus** beantworten[50].

Antworten Sie spontan und intuitiv. Uns interessieren Ihre ehrlichen Antworten!

Um die Frage zu beantworten, klicken Sie auf die graue Linie. Es erscheint ein schwarzes Kreuz, welches Ihre Bewertung widerspiegelt. Durch einen Mausklick können Sie das Kreuz beliebig verschieben.[51]

Ich finde diesen Mann[52]….

Sehr unattraktiv — Sehr attraktiv

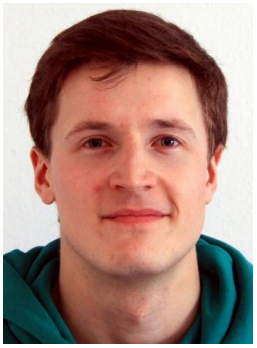
Ich finde diesen Mann….

Sehr unattraktiv — Sehr attraktiv

[49] Images of the male target models were presented in a random order. Male participants only rated male target model 3 and male target model 7.
[50] This instruction was not included in the questionnaire for male participants.
[51] The version for male participants included further the instruction: „Was denken Sie, wie reagieren Frauen auf diesen Mann?"
[52] Male participants additionally answered for each male target the item: "Frauen finden diesen Mann…. sehr attraktiv/sehr unattraktiv".

Ich finde diesen Mann….

Sehr unattraktiv — Sehr attraktiv



Ich finde diesen Mann….

Sehr unattraktiv — Sehr attraktiv

Ich finde diesen Mann….

Sehr unattraktiv — Sehr attraktiv

Ich finde diesen Mann….

Sehr unattraktiv — Sehr attraktiv

Ich finde diesen Mann….

Sehr unattraktiv — Sehr attraktiv

Ich finde diesen Mann….

Sehr unattraktiv — Sehr attraktiv

Ich finde diesen Mann….

Sehr unattraktiv — Sehr attraktiv

Ich finde diesen Mann….

Sehr unattraktiv — Sehr attraktiv

Weiter

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Bewerten Sie in einem weiteren Schritt noch einmal die 10 Männer.

Für die Studie ist es sehr wichtig, dass Sie die folgenden Fragen zu den Männern **unabhängig von Ihrem derzeitigen Beziehungsstatus** geben.

Antworten Sie spontan und intuitiv. Uns interessieren Ihre ehrlichen Antworten!

Um die Fragen zu beantworten, klicken Sie auf die graue Linie. Es erscheint ein schwarzes Kreuz, welches Ihre Bewertung widerspiegelt. Durch einen Mausklick können Sie das Kreuz beliebig verschieben.

Zur Definition für die kommenden Fragen:

Eine **feste und dauerhafte Beziehung** bezieht sich auf eine Partnerschaft, die über einen längeren Zeitraum dauert. Diese schließt große Investitionen (z.B. zeitlich, finanziell) sowie einen hohen Grad an emotionaler Involviertheit ein. Ebenso sind Treue und sexuelle Exklusivität von großer Bedeutung. Man bindet sich an diese Person mittel- und langfristig und kann sich auch vorstellen, einmal zusammen eine Familie zu gründen.

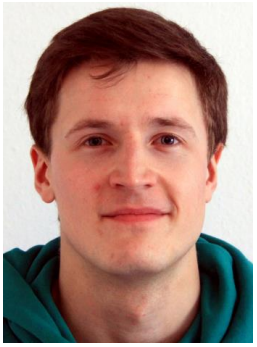
Mit **unverbindlicher sexueller Begegnung** sind alle sexuellen Begegnungen ohne daraus folgende Verpflichtungen gemeint. Man ist emotional nicht involviert und die gegenseitige sexuelle Anziehungskraft steht im Vordergrund. Ein One-Night-Stand fällt z.B. in diese Kategorie.

	trifft überhaupt nicht zu	trifft voll und ganz zu
Ich könnte mir eine **unverbindliche sexuelle Begegnung** mit diesem Mann vorstellen.[53]		
Ich könnte mir eine **feste und dauerhafte Beziehung** mit diesem Mann vorstellen.		

[53] Items for male participants were: "Frauen könnten sich ein eine unverbindliche sexuelle Begegnung mit diesem Mann vorstellen" and „Frauen könnten sich eine feste und dauerhafte Beziehung mit diesem Mann vorstellen." Moreover, in the questionnaire for male participants, items regarding perceptions of the male targets desirability as short-term and long-term mates for women were presented together with the items assessing perceptions of the male targets' attractiveness (see above).

	trifft überhaupt nicht zu	trifft voll und ganz zu
Ich könnte mir eine **unverbindliche sexuelle Begegnung** mit diesem Mann vorstellen.		
Ich könnte mir eine **feste und dauerhafte Beziehung** mit diesem Mann vorstellen.		

	trifft überhaupt nicht zu	trifft voll und ganz zu
Ich könnte mir eine **unverbindliche sexuelle Begegnung** mit diesem Mann vorstellen.		
Ich könnte mir eine **feste und dauerhafte Beziehung** mit diesem Mann vorstellen.		



	trifft überhaupt nicht zu	trifft voll und ganz zu
Ich könnte mir eine **unverbindliche sexuelle Begegnung** mit diesem Mann vorstellen.		
Ich könnte mir eine **feste und dauerhafte Beziehung** mit diesem Mann vorstellen.		

	trifft überhaupt nicht zu	trifft voll und ganz zu
Ich könnte mir eine **unverbindliche sexuelle Begegnung** mit diesem Mann vorstellen.		
Ich könnte mir eine **feste und dauerhafte Beziehung** mit diesem Mann vorstellen.		

	trifft überhaupt nicht zu	trifft voll und ganz zu
Ich könnte mir eine **unverbindliche sexuelle Begegnung** mit diesem Mann vorstellen.		
Ich könnte mir eine **feste und dauerhafte Beziehung** mit diesem Mann vorstellen.		

	trifft überhaupt nicht zu	trifft voll und ganz zu
Ich könnte mir eine **unverbindliche sexuelle Begegnung** mit diesem Mann vorstellen.		
Ich könnte mir eine **feste und dauerhafte Beziehung** mit diesem Mann vorstellen.		

	trifft überhaupt nicht zu	trifft voll und ganz zu
Ich könnte mir eine **unverbindliche sexuelle Begegnung** mit diesem Mann vorstellen.		
Ich könnte mir eine **feste und dauerhafte Beziehung** mit diesem Mann vorstellen.		

	trifft überhaupt nicht zu	trifft voll und ganz zu
Ich könnte mir eine **unverbindliche sexuelle Begegnung** mit diesem Mann vorstellen.		
Ich könnte mir eine **feste und dauerhafte Beziehung** mit diesem Mann vorstellen.		

	trifft überhaupt nicht zu	trifft voll und ganz zu
Ich könnte mir eine **unverbindliche sexuelle Begegnung** mit diesem Mann vorstellen.		
Ich könnte mir eine **feste und dauerhafte Beziehung** mit diesem Mann vorstellen.		

Weiter

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

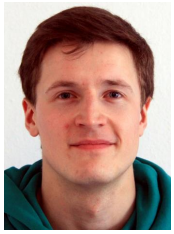
Kennen Sie einen der 10 Männer?[54]

Markieren Sie bitte die jeweils zutreffende Aussage.

- Nein, ich habe diesen Mann noch nie gesehen.
- Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- Ja, der Mann ist ein Bekannter von mir.
- Ja, der Mann ist ein guter Freund von mir.

- Nein, ich habe diesen Mann noch nie gesehen.
- Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- Ja, der Mann ist ein Bekannter von mir.
- Ja, der Mann ist ein guter Freund von mir.

- Nein, ich habe diesen Mann noch nie gesehen.
- Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- Ja, der Mann ist ein Bekannter von mir.
- Ja, der Mann ist ein guter Freund von mir.



- Nein, ich habe diesen Mann noch nie gesehen.
- Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- Ja, der Mann ist ein Bekannter von mir.
- Ja, der Mann ist ein guter Freund von mir.

- Nein, ich habe diesen Mann noch nie gesehen.
- Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- Ja, der Mann ist ein Bekannter von mir.
- Ja, der Mann ist ein guter Freund von mir.

[54] Male participants indicated the degree of acquaintance for male target model 3 and 7 only.

- Nein, ich habe diesen Mann noch nie gesehen.
- Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- Ja, der Mann ist ein Bekannter von mir.
- Ja, der Mann ist ein guter Freund von mir.

- Nein, ich habe diesen Mann noch nie gesehen.
- Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- Ja, der Mann ist ein Bekannter von mir.
- Ja, der Mann ist ein guter Freund von mir.

- Nein, ich habe diesen Mann noch nie gesehen.
- Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- Ja, der Mann ist ein Bekannter von mir.
- Ja, der Mann ist ein guter Freund von mir.

- Nein, ich habe diesen Mann noch nie gesehen.
- Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- Ja, der Mann ist ein Bekannter von mir.
- Ja, der Mann ist ein guter Freund von mir.

- Nein, ich habe diesen Mann noch nie gesehen.
- Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- Ja, der Mann ist ein Bekannter von mir.
- Ja, der Mann ist ein guter Freund von mir.

Weiter

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Studien haben gezeigt, dass weibliche Hormone Einfluss darauf haben können, welches Merkmal eine Frau als besonders attraktiv bei einem Mann bewertet.[55]

Daher bitten wir Sie abschließend um folgende Angaben:

Benutzen Sie die „ Pille“ oder ein anderes hormonelles Verhütungsmittel?

Wenn ja, geben Sie nach Möglichkeit den Produktnamen an. Wenn sie schon einmal hormonell verhütet haben, aber diese Form der Verhütung zurzeit aussetzen, dann geben Sie an, seit wann Sie nicht mehr hormonell verhüten! Wenn Sie noch nie hormonell verhütet haben, dann kreuzen Sie bitte das entsprechende Feld an.

- ○ ja, und zwar das Produkt _____
- ○ nein, seit ca. _____ nicht mehr.
- ○ nein, noch nie.

Bitte geben Sie das **heutige Datum** an, sowie das Datum, an dem Ihre **letzte Menstruation** begonnen hat.
Zur Orientierung sehen Sie hier die Kalenderblätter von April, Mai und Juni dieses Jahres.

[Screen shots of calendar sheets of April, May, and June 2013]

Das heutige Datum ist: _____
Beginn der letzten Menstruation: _____

Wie lange dauert üblicherweise Ihr Menstruationszyklus?

(gemeint ist damit die Dauer vom Beginn des ersten Tages der Periode bis zum Beginn des ersten Tages der nächsten Periode – also NICHT die Dauer der eigentlichen Menstruation!). Wenn Ihr Menstruationszyklus sehr unregelmäßig ist, dann geben Sie bitte eine „ 99“ an.

Mein Zyklus dauert ca. _____ Tage.

Weiter

Dipl. Psych. Christine Hennighausen, Mensch-Computer-Medien, Julius-Maximilians-Universität, Würzburg - 2013

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Danke für Ihre Teilnahme!

Wir möchten uns ganz herzlich für Ihre Mithilfe bedanken.

Fenster schließen

Dipl. Psych. Christine Hennighausen, Mensch-Computer-Medien, Julius-Maximilians-Universität, Würzburg - 2013

[55] The assessment of the ovulatory cycle was not included in the questionnaire for male participants.

Appendix E: Questionnaire, Study 1

For the sake of brevity, the online questionnaire of Study 1 is only presented for one experimental condition (nonconspicuous smartphone, higher facial attractiveness). To save space, photographs and images in the Appendix are displayed in smaller size and resolution than in the original online questionnaire. Moreover, due to copyright concerns, product images of the smartphones have been blurred for publication. Page changes of the original online questionnaire are indicated by headlines and the emblem of the University of Würzburg. The presented questionnaire refers to the second data collection and displays the version for male participants, except for the items that assess female ovulatory cycle. See electronic storage medium for the original versions of the online questionnaires as .pdf file of both data collections. Differences between questionnaires for male and female participants are indicated by footnotes.

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Herzlich Willkommen!

Vielen Dank, dass Sie an meiner psychologischen Studie **"Wie wirkt Man(n) mit seinem Smartphone?"** welche ich im Rahmen meiner Dissertation an der Universität Würzburg durchführe. Da es sich um eine Nacherhebung handelt, suche ich diesmal nur **männliche Teilnehmer**[56].

Sie sind allgegenwärtig: Im Café und in Bars, in öffentlichen Verkehrsmitteln, im Supermarkt, ja sogar bei einem Date. Mittlerweile besitzt jeder Dritte ein Smartphone (BITKOM, 2012) und, Prognosen zufolge, wird die Anzahl der Smartphone-Nutzer in Zukunft weiter stark zunehmen (Statista, 2013). Für viele ist dieses Multifunktionstelefon zum unentbehrlichen, ständigen Begleiter und modischen Accessoire geworden. Es gibt eine Vielzahl von verschiedenen Smartphone Herstellern und ebenso viele unterschiedliche Smartphone Modelle. Doch sagt ein bestimmtes Smartphone auch etwas über seinen Besitzer aus?

Mit dieser Untersuchung soll der Frage nachgegangen werden, wie ein Mann mit seinem Smartphone wirkt.

Die Befragung wird insgesamt ca. **3-5 Minuten** dauern. Als Dankeschön werden unter allen Teilnehmern **2 Amazon-Gutscheine im Wert von jeweils 10 €** verlost.

Wenn Sie während der Untersuchung die Studie abbrechen, können Sie diese leider nicht später fortsetzen und wir können Ihre Daten nicht verwenden. Füllen Sie daher bitte die Fragen fortlaufend aus. Die Umfrage läuft ohne Zeitbegrenzung und oben rechts auf jeder Seite wird Ihnen eine Fortschrittsanzeige angezeigt, die angibt, wieviel Prozent des Fragebogens Sie bereits ausgefüllt haben. Die Umfrage ist anonym und die Angaben können Ihrer Person in keinem Fall zugeordnet werden. Die von Ihnen gemachten Angaben werden ausschließlich zu wissenschaftlichen Zwecken verwendet. Bei Interesse informieren wir Sie gerne nach Abschluss der Studie über die Ergebnisse.

Bei auftretenden Fragen wenden Sie sich bitte an Frau Dipl. Psych. Christine Hennighausen: christine.hennighausen@uni-wuerzburg.de.

Klicken Sie nun auf „Weiter" um zu beginnen!

Weiter

Dipl. Psych. Christine Hennighausen, Mensch-Computer-Medien, Julius-Maximilians-Universität, Würzburg - 2014

[56] This sentence was left out in the version for female participants.

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Zunächst bitten wir Sie um einige Angaben zu Ihrer Person.

Welches Geschlecht haben Sie?

- ○ weiblich
- ○ männlich

Wie alt sind Sie?

Ich bin _____ Jahre.

Welchen Bildungsabschluss haben Sie?

Bitte wählen Sie den höchsten Bildungsabschluss, den Sie bisher erreicht haben.

- ○ Schule beendet ohne Abschluss
- ○ noch Schüler
- ○ Volks-, Hauptschulabschluss, Quali
- ○ Mittlere Reife, Realschul- oder gleichwertiger Abschluss
- ○ Abgeschlossene Lehre
- ○ Fachabitur, Fachhochschulreife
- ○ Abitur, Hochschulreife
- ○ Fachhochschul-/Hochschulabschluss
- ○ anderer Abschluss, und zwar: _____

Was machen Sie beruflich?

- ○ Schüler/in
- ○ in Ausbildung zum/zur _____
- ○ Student/in im Studienfach _____
- ○ Angestellte/r
- ○ Beamter
- ○ Selbstständig
- ○ arbeitslos/arbeitssuchend
- ○ sonstiges: _____

Wie hoch ist ungefähr Ihr monatliches Nettoeinkommen?

Gemeint ist der Betrag, der sich aus allen Einkünften zusammensetzt und nach Abzug der Steuern und Sozialversicherungen übrig bleibt.

- ○ bis unter 250 €
- ○ 250 € bis unter 500 €
- ○ 500 € bis unter 1000 €
- ○ 1000 € bis unter 1500 €
- ○ 1500 € bis unter 2000 €
- ○ mehr als 2000 €

Wie ist Ihr aktueller Beziehungsstand?

- ○ Single
- ○ Kurzzeitpartnerschaft (Affäre, Liebschaft, One-Night-Stand, unverbindlicher sexueller Kontakt o.ä)
- ○ feste Partnerschaft
- ○ Lebenspartnerschaft/verheiratet
- ○ darauf möchte ich nicht antworten

Bitte geben Sie Ihre sexuelle Orientierung an.

- ○ heterosexuell
- ○ homosexuell
- ○ bisexuell

Welches Handy-/Smartphonemodell* besitzen Sie?

Geben Sie bitte jeweils Hersteller und Modell an. Bsp.: Besitzen Sie das iPhone 5 geben Sie dies bitte wie folgt an:

Hersteller: Apple
Modell: iPhone 5

- Ich besitze ein Smartphone* _____ (Hersteller)
- Ich besitze ein Smartphone _____ (Marke)
- Ich besitze ein Handy _____ (Hersteller)
- Ich besitze ein Handy _____ (Marke)

* Als Smartphone gilt ein mobiles Endgerät mit Touchscreen, auf welchem Applikationen ("Apps") installiert und genutzt werden können.

Weiter

Dipl. Psych. Christine Hennighausen, Mensch-Computer-Medien, Julius-Maximilians-Universität, Würzburg - 2014

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Im ersten Teil der Untersuchung wird Ihnen ein Foto von einem Mann mit seinem Smartphone gezeigt[57].

Mich interessiert, a) wie Sie die Wirkung des Mannes auf Frauen bewerten und b) wie Sie selbst den Mann einschätzen[58].

Antworten Sie spontan und intuitiv. Uns interessieren Ihre ehrlichen Antworten.

Um die Fragen zu beantworten, klicken Sie auf die graue Linie. Es erscheint ein schwarzes Kreuz, welches Ihre Bewertung widerspiegelt. Durch einen Mausklick können Sie das Kreuz beliebig verschieben.

Stellen Sie sich Folgendes vor:

Sie sehen diesen Mann abends in einer Bar. Ihnen fällt auf, dass er ein **Samsung Galaxy Ace 2** Smartphone besitzt[59].

Was denken Sie? Wie reagieren Frauen auf diesen Mann?[60]

	Sehr unattraktiv	Sehr attraktiv
Frauen finden diesen Mann[61]….		

	trifft überhaupt nicht zu	trifft voll und ganz zu
Frauen könnten sich eine **unverbindliche sexuelle Begegnung** mit diesem Mann vorstellen.[62]		
Frauen könnten sich eine **feste und dauerhafte Beziehung** mit diesem Mann vorstellen.		

Wie schätzen Sie den Mann ein?

	0	1	2-3	4-7	8 oder mehr
Mit wie vielen verschiedenen Personen hat dieser Mann in den letzten 12 Monaten Geschlechtsverkehr gehabt?					
Mit wie vielen verschiedenen Personen hat dieser Mann in seinem Leben nur einmal Geschlechtsverkehr gehabt?					
Mit wie vielen verschiedenen Personen hatte dieser Mann schon Geschlechtsverkehr, ohne dabei ein Interesse an einer längerfristigen Beziehung mit dieser Person zu haben?					

[57] Participants were randomly assigned to one experimental condition.
[58] Female participants were asked to rate the depicted man from their own perspective only. The questionnaire for female participants further included the instruction: "Für die Studie ist es wichtig, dass Sie die folgenden Fragen unabhängig von Ihrem eigenenpersönlichen Beziehungsstatus beantworten".
[59] For female participants, the instruction was as follows: „Sie lernen diesen Mann an einem Abend in einer Bar kennen und kommen ins Gespräch. Während Sie sich unterhalten, fällt Ihnen auf, dass er ein Samsung Galaxy Ace 2 Smartphone besitzt.
[60] This instruction was omitted in the questionnaire for female participants.
[61] In the questionnaire for female participants the item was: "Ich finde diesen Mann sehr unattraktiv/sehr attraktiv"
[62] In the questionnaire for female participants the items were: "Ich könnte mir ein eine unverbindliche sexuelle Begegnung mit diesem Mann vorstellen" and „Ich könnte mir eine feste und dauerhafte Beziehung mit diesem Mann vorstellen."

	Ich stimme überhaupt nicht zu				Ich stimme völlig zu
	1	2	3	4	5
Dieser Mann vertritt die Absicht: “Sex ohne Liebe ist OK.”	○	○	○	○	○
Dieser Mann könnte sich vorstellen, dass er “unverbindlich” Sex mit verschiedenen Personen genießt und sich dabei wohl fühlt.	○	○	○	○	○
Dieser Mann möchte nicht eher Sex mit jemandem haben, solange er sich nicht sicher ist, dass es sich um eine ernste Langzeit-beziehung handelt.	○	○	○	○	○

	niemals 1	sehr selten 2	ca. 1 mal im Monat 3	ca. 1 mal/ Woche 4	fast jeden Tag 5
Wie oft hat dieser Mann Fantasievorstellungen, Sex mit einer Person zu haben, mit der er zur Zeit keine feste Beziehung führt?	○	○	○	○	○
Wie oft empfindet dieser Mann sexuelle Erregung im Kontakt mit Personen, mit denen er zur Zeit keine feste Beziehung führt?	○	○	○	○	○
Wie oft hat dieser Mann im Alltag spontan Fantasievorstellungen, Sex mit einer fremden Person zu haben, die er irgendwo zufällig gesehen hat?	○	○	○	○	○

Kennen Sie diesen Mann, bzw. haben Sie diesen Mann schon einmal gesehen oder im Rahmen einer anderen Untersuchung bewertet? (Mehrfachantworten sind möglich).

- ☐ Nein, ich habe diesen Mann noch nie gesehen.
- ☐ Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- ☐ Ja, der Mann ist ein Bekannter von mir.
- ☐ Ja, der Mann ist ein guter Freund von mir.
- ☐ Nein, ich kenne diesen Mann nicht, habe ihn aber im Rahmen einer anderen Untersuchung schon einmal bewertet.

Weiter

Dipl. Psych. Christine Hennighausen, Mensch-Computer-Medien, Julius-Maximilians-Universität, Würzburg - 2014

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Nun folgen einige persönliche Fragen[63]. Wir möchten Sie nochmal darauf hinweisen, dass die Umfrage anonym ist und Ihre Angaben Ihrer Person in keinem Fall zugeordnet werden können.

Aus Untersuchungen (z.B. Gangestad & Simpson, 2000) weiß man, dass weibliche Hormone beeinflussen können, welchen Mann eine Frau besonders attraktiv findet.

Füllen Sie daher bitte folgende Angaben zu Ihrem weiblichen Zyklus aus.

Benutzen Sie die „ Pille“ oder ein anderes hormonelles Verhütungsmittel?

Wenn ja, geben Sie nach Möglichkeit den Produktnamen an. Wenn sie schon einmal hormonell verhütet haben, aber diese Form der Verhütung zurzeit aussetzen, dann geben Sie an, seit wann Sie nicht mehr hormonell verhüten! Wenn Sie noch nie hormonell verhütet haben, dann kreuzen Sie bitte das entsprechende Feld an.

- ○ ja, und zwar das Produkt _____
- ○ nein, seit ca. _____ (Monat/Jahr) nicht mehr.
- ○ nein, noch nie.

Wann fand Ihre letzte Menstruation statt? (Mit Menstruation ist der 1. Tag der Regelblutung gemeint).

Bitte geben Sie das **heutige Datum** an, sowie das Datum, an dem Ihre **letzte Menstruation** begonnen hat.
Zur Orientierung sehen Sie hier die Kalenderblätter November und Dezember 2013 sowie vom Januar 2014.

[Screen shots of calendar sheets of November/ December 2013 and January 2014]

Beispiel: Haben Sie am 21. April den 1. Tag Ihre Regelblutung gehabt, geben Sie bitte den **21.04.13** als Datum an.

Das heutige Datum ist: _____ (TT.MM.JJ)

Beginn der letzten Menstruation: _____ (TT.MM.JJ)

Wie lange dauert üblicherweise Ihr Menstruationszyklus?

des ersten Tages der nächsten Periode/Regelblutung – also NICHT die Dauer der eigentlichen Menstruation! Wenn Ihr Menstruationszyklus sehr unregelmäßig ist, dann geben Sie bitte eine „ 99“ an.

Beispiel:
Petra bekommt ihre Regelblutung am 17. Mai, welches der erste Tag der Regelblutung ist. Am **17. Mai** beginnt damit Petras weiblicher Menstruationszyklus.
Am **13. Juni** bekommt sie das nächste Mal ihre Periode/Regelblutung. Am 12. Juni endet damit ihr Monatszyklus. Zwischen dem ersten Tag der Regelblutung im Mai und dem ersten Tag der Regelblutung im Juni liegen **28 Tage**. Das ist die Länge des Menstruationszyklus. Bitte berechnen Sie dem Beispiel folgend die ungefähre Dauer Ihres individuellen Menstruationszyklus‘ und tragen den Wert ein.

Mein Zyklus dauert ca. _____ Tage.

Weiter

[63] The assessment of the ovulatory cycle was omitted in the questionnaire for male participants.

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Sie haben es fast geschafft!

Bitte beantworten Sie im zweiten Teil der Untersuchung die folgenden Fragen zu zwei ausgewählten Smartphone Modellen[64]. Antworten Sie spontan und intuitiv. Uns interessiert Ihre persönliche Bewertung.

Lesen Sie sich für die Beantwortung der Fragen bitte aufmerksam die folgende Definition von "Geltungskonsum" durch.

Als **demonstrativer Konsum** oder **Geltungskonsum** zielt das öffentliche Konsumieren darauf ab, sein Geld mit dem Ziel auszugeben, seinem Umfeld zu zeigen, was man sich leisten kann. Besonders auffällige Produkte und Serviceleistungen werden erworben, um seinen (sozialen) Status zu erhöhen und seine Mitmenschen zu beeindrucken.

Die Fragen stehen jeweils direkt unter dem zu bewertenden Smartphonemodell. Um die Frage zu beantworten, klicken Sie auf die graue Linie. Es erscheint ein schwarzes Kreuz, welches Ihre Bewertung widerspiegelt. Durch einen Mausklick können Sie das Kreuz beliebig verschieben.

	überhaupt nicht	sehr stark
Wie stark wird das **Apple iPhone 5** im Sinne des **Geltungskonsums** eingesetzt?		
Wie stark verbinden Sie das **Apple iPhone 5** mit **Status**?		
Wie **wünschenswert** und **erstrebenswert** ist es, das **Apple iPhone 5** zu besitzen?		

	überhaupt nicht	sehr stark
Wie stark wird das **Samsung Galaxy Ace 2** im Sinne des **Geltungskonsums** eingesetzt?		
Wie stark verbinden Sie das **Samsung Galaxy Ace 2** mit **Status**?		
Wie **wünschenswert** und **erstrebenswert** ist es, das **Samsung Galaxy Ace 2** zu besitzen?		

Weiter

[64] Smartphones were presented in a random order.

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

10. Möchten Sie am Gewinnspiel teilnehmen und/oder nach Abschluss der Untersuchung über die Ergebnisse der Studie informiert werden?

Ihre E-mail Adresse wird separat von Ihrem Angaben in unserer Studie abgespeichert, sodass Ihre Anonymität und Datenschutz gewährt sind.

Wenn Sie weder am Gewinnspiel teilnehmen möchten noch Informationen zu den Ergebnissen der Studie erhalten möchten, klicken Sie einfach auf „weiter".

- ☐ Ja, ich möchte an der Verlosung von **zwei Amazon-Gutscheinen** im Wert von jeweils **10 €** teilnehmen.
- ☐ Ja, ich interessiere mich für die Ergebnisse der Studie und möchte eine kurze Ergebniszusammenfassung nach Abschluss der Studie per Email zugesendet bekommen.
- ☐ Ich würde auch künftig an **wissenschaftlichen Befragungen** teilnehmen. Das nichtkommerzielle SoSci Panel darf zu diesem Zweck meine E-Mail-Adresse speichern und mich (max. 4-mal pro Jahr) per E-Mail zu einer wissenschaftlichen Befragung einladen

Weiter

Dipl. Psych. Christine Hennighausen, Mensch-Computer-Medien, Julius-Maximilians-Universität, Würzburg – 2014

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Vielen Dank für Ihre Teilnahme!

Wir möchten uns ganz herzlich für Ihre Mithilfe bedanken.

Ihre Antworten wurden gespeichert, Sie können das Browser-Fenster nun schließen.

Fenster schließen

Dipl. Psych. Christine Hennighausen, Mensch-Computer-Medien, Julius-Maximilians-Universität, Würzburg - 2013

Appendix F: Descriptive statistics, Study 1

Table F1. Descriptive Statistics for Perceptions of Smartphone Conspicuousness by Smartphone Model and Participant Sex (Pre-rating Smartphones)

Smartphone model	Participant sex			
	Male (n = 42)		Female (n = 64)	
	M	*SD*	*M*	*SD*
Apple iPhone 4s	5.74	1.56	5.94	1.42
Apple iPhone5	6.14	1.22	6.08	1.48
HTC One X+	3.50	1.37	3.22	1.33
LG Optimus 4X	2.83	1.32	2.88	1.25
Nokia Lumia 720	3.10	1.65	3.73	1.66
RIM BlackBerry Bold 9900	3.36	1.65	4.02	1.50
Samsung Galaxy Ace2	2.38	1.25	2.77	1.31
Samsung Galaxy Note2	3.98	1.52	4.00	1.44
Samsung Galaxy S4	4.12	1.43	4.00	1.50
Samsung Galaxy S3	3.95	1.68	4.00	1.61
Sony Xperia Z	3.76	1.57	3.97	1.46

Table F2. Descriptive Statistics for Perceptions of Smartphone Status by Smartphone Model and Participant Sex (Pre-rating Smartphones)

Smartphone model	Participant sex			
	Male (n = 42)		Female (n = 64)	
	M	*SD*	*M*	*SD*
Apple iPhone 4s	5.00	1.86	5.41	1.70
Apple iPhone5	5.10	1.91	5.77	1.86
HTC One X+	3.21	1.47	3.20	1.53
LG Optimus 4X	2.62	1.43	2.64	1.33
Nokia Lumia 720	2.74	1.58	3.28	1.52
RIM BlackBerry Bold 9900	3.62	1.91	3.97	1.68
Samsung Galaxy Ace2	2.64	1.51	2.59	1.27
Samsung Galaxy Note2	3.93	1.64	3.66	1.50
Samsung Galaxy S4	3.79	1.52	3.94	1.74
Samsung Galaxy S3	3.67	1.65	3.48	1.88
Sony Xperia Z	3.57	1.65	3.52	1.65

Appendix F – Continued

Table F3. Descriptive Statistics for Perceptions of Smartphone Desirability by Smartphone Model and Participant Sex (Pre-rating Smartphones)

Smartphone model	Participant sex			
	Male (n = 42)		Female (n = 64)	
	M	*SD*	*M*	*SD*
Apple iPhone 4s	3.76	2.03	4.44	1.86
Apple iPhone5	3.90	2.29	4.66	1.93
HTC One X+	3.14	1.57	3.30	1.45
LG Optimus 4X	2.57	1.35	2.84	1.36
Nokia Lumia 720	2.62	1.62	3.08	1.57
RIM BlackBerry Bold 9900	2.43	1.45	3.28	1.71
Samsung Galaxy Ace2	2.81	1.61	2.77	1.39
Samsung Galaxy Note2	3.48	1.92	3.66	1.67
Samsung Galaxy S4	3.76	1.86	4.17	1.70
Samsung Galaxy S3	3.74	1.86	3.78	1.64
Sony Xperia Z	3.64	2.02	3.34	1.55

Table F4. Descriptive Statistics for Perceptions of Smartphone Suitability to Show Off by Smartphone Model and Participant Sex (Pre-rating Smartphones)

Smartphone model	Participant sex			
	Male (n = 42)		Female (n = 64)	
	M	*SD*	*M*	*SD*
Apple iPhone 4s	5.31	1.87	5.64	1.36
Apple iPhone5	5.64	1.59	5.91	1.42
HTC One X+	3.50	1.45	3.06	1.32
LG Optimus 4X	2.74	1.21	2.81	1.37
Nokia Lumia 720	2.90	1.48	3.48	1.58
RIM BlackBerry Bold 9900	2.93	1.45	3.84	1.60
Samsung Galaxy Ace2	2.50	1.45	2.61	1.29
Samsung Galaxy Note2	3.90	1.69	3.69	1.63
Samsung Galaxy S4	3.88	1.52	3.70	1.53
Samsung Galaxy S3	3.55	1.74	3.64	1.71
Sony Xperia Z	3.81	1.80	3.70	1.43

Appendix F – Continued

Table F5. Descriptive Statistics for Perceptions of Smartphone Conspicuous by Smartphone Type, Facial Attractiveness, and Participant Sex (Manipulation Check)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	83.67	15.95	102		Higher	32.72	19.27	102
Lower	83.16	17.68	102		Lower	28.80	25.03	102
				Male participants				
Higher	81.82	22.12	96		Higher	26.06	20.16	96
Lower	80.22	23.58	96		Lower	28.80	25.03	96

Note. Perceptions of smartphone type were assessed as within-subjects factor so that participants gave ratings for the conspicuous and the nonconspicuous smartphone in all experimental conditions.

Table F6. Descriptive Statistics for Perceptions of Smartphone Status by Smartphone Type, Facial Attractiveness, and Participant Sex (Manipulation Check)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	68.12	29.49	102		Higher	25.71	18.03	102
Lower	64.54	30.37	102		Lower	22.06	20.32	102
				Male participants				
Higher	58.31	33.52	96		Higher	20.24	17.47	96
Lower	62.30	33.34	96		Lower	22.06	20.32	96

Note. Perceptions of smartphone type were assessed as within-subjects factor so that participants gave ratings for the conspicuous and the nonconspicuous smartphone in all experimental conditions.

Table F7. Descriptive Statistics for Perceptions of Smartphone Desirability by Smartphone Type, Facial Attractiveness, and Participant Sex (Manipulation Check)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	44.56	30.36	102		Higher	33.55	24.47	102
Lower	43.49	33.36	102		Lower	27.29	23.92	102
				Male participants				
Higher	39.61	30.77	96		Higher	28.45	20.98	96
Lower	45.16	32.74	96		Lower	27.29	23.92	96

Note. Perceptions of smartphone type were assessed as within-subjects factor so that participants gave ratings for the conspicuous and the nonconspicuous smartphone in all experimental conditions.

Appendix F – Continued

Table F8. Descriptive Statistics for Perceptions of Facial Attractiveness by Smartphone Type, Facial Attractiveness, and Participant Sex (Manipulation Check)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	44.84	20.57	55		Higher	49.11	17.38	47
Lower	42.55	21.31	51		Lower	40.63	18.05	51
				Male participants				
Higher	57.02	17.89	54		Higher	52.60	14.16	42
Lower	52.56	18.33	50		Lower	52.64	17.90	39

Table F9. Descriptive Statistics for Perceptions of the Mail Target's Desirability as a Short-Term Mate by Smartphone Type, Facial Attractiveness, and Participant Sex (H_1)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	27.65	29.28	55		Higher	23.77	24.10	47
Lower	22.69	24.68	51		Lower	23.73	25.78	51
				Male participants				
Higher	50.19	24.62	54		Higher	45.21	20.65	42
Lower	46.20	23.12	50		Lower	49.92	21.40	39

Table F10. Descriptive Statistics for Perceptions of the Male Target's Desirability as a Long-Term Mate by Smartphone Type, Facial Attractiveness, and Participant Sex (H_2)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	25.35	25.50	55		Higher	33.06	29.40	47
Lower	23.59	20.52	51		Lower	27.55	22.95	51
				Male participants				
Higher	52.28	21.65	54		Higher	59.21	15.96	42
Lower	45.10	17.93	50		Lower	57.05	18.58	39

Appendix F – Continued

Table F11. Descriptive Statistics for Perceptions of the Male Target's Inclination Toward Short-term Mating (SOI-R) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_3)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	3.40	0.60	55		Higher	3.04	0.61	47
Lower	3.41	0.55	51		Lower	3.15	0.67	51
				Male participants				
Higher	3.48	0.57	54		Higher	3.15	0.56	42
Lower	3.41	0.70	50		Lower	3.19	0.69	39

Appendix G: Smartphone stimuli, Study 2 (pre-rating)

Due to copyright concerns, product images of the smartphones have been blurred for publication.

Figure G1. Apple iPhone 6s[65]

Figure G2. LG G4 c[66]

Figure G3. Motorola Moto G[67]

Figure G4. Phicomm CLUE M[68]

[65][Untitled photograph of the Apple iPhone 6s]. Retrieved from https://www.badenova.de/mediapool/media/bilder/produkte/telekommunikation/kampagnen_2/iphone_smart_l/iphone_61_Vorderseite.jpg

[66] [Untitled photograph of the LG G4 c]. Retrieved from http://www.lg.com/de/images/handy/g4-c/gallery/G4C_Titan_zoom_01.jpg

[67] [Untitled photograph of the Motorola Moto G]. Retrieved from http://cdn04.androidauthority.net/wp-content/uploads/2015/07/motorola-moto-G-3rd-gen-third-generation-2015-2.jpg

[68] [Untitled photograph of the Phicomm CLUE M]. Retrieved from http://ecx.images-amazon.com/images/I/61AAigZHgaL._SL1041_.jpg

Appendix G – Continued

Figure G5. Samsung Galaxy S6 edge[69]

Figure G6. Wiko Sunset 2[70]

Table G1. Introductory Retail Prices and Release Dates of Smartphone Stimuli (Pre-rating, Study 2)

Smartphone	Price[a]	Release date
Apple iPhone 6s	€943[71]	September, 2015[72]
LG G4 c	€154[73]	June, 2015[74]
Motorola Moto G	€189[75]	July, 2015[76]
Phicomm CLUE M	€93[77]	April, 2015[78]
Samsung Galaxy S6 edge	€659[79]	April, 2015[80]
Wiko Sunset 2	€59[81]	September, 2015[82]

Note. [1] All retail prices were adopted from CHIP (http://www.chip.de) and refer to the current retail prices at the time the study was conducted (October/November, 2015). See footnotes for exact sources.

[69] [Untitled photograph of the Samsung Galaxy S6 edge]. Retrieved from http://i-cdn.phonearena.com/images/phones/51963-xlarge/Samsung-Galaxy-S6-edge.jpg

[70] [Untitled photograph of the Wiko Sunset 2]. Retrieved from http://i2.areamobile.de/img/00/01/31/12/39-wiko_sunset_2_weiss_01.jpg

[71] Apple iPhone 6s 128GB. (2015). Retrieved from http://www.chip.de/preisvergleich/404150/Uebersicht-Apple-iPhone-6s-128GB.html

[72] Apple iPhone 6s. (n.d.). Retrieved from http://www.areamobile.de/handys/4421-apple-iphone-6s

[73] Schreiber, M. (2015, July 21). LG G4c: Großer Name, wenig dahinter [LG G4c: Big name but little behind it]. Retrieved from http://www.chip.de/artikel/LG-G4c-Test_81131925.html

[74] LG G4c. (n.d.) Retrieved from http://www.areamobile.de/handys/5177-lg-g4c

[75] Heinfling, B. (2015, July 31). Motorola Moto G (3. Generation): Mehr Geld für mehr Leistung [Motorola Moto G (3rd generation): More money for more value.] Retrieved from http://www.chip.de/artikel/Motorola-Moto-G-3.-Generation-Handy-Test_81463344.html

[76] Motorola Moto G (2015). (n.d.). Retrieved from http://www.areamobile.de/handys/5269-motorola-moto-g-2015

[77] Schreiber, M. (2015, July 21). Phicomm Clue M: Schnäppchen-Phone? [Phicomm Clue M: A bargain phone?]. Retrieved from http://www.chip.de/artikel/Phicomm-Clue_M-Handy-Test_81348080.html

[78] Phicomm Clue M. (n.d.). Retrieved from http://www.areamobile.de/handys/5207-phicomm-clue-m

[79] Heinfling, B. (2015, March 26). Samsung Galaxy S6 Edge: Scharfer Kurvenstar [Samsung Galaxy S6 Edge: Hot curved celebrity]. Retrieved from http://www.chip.de/artikel/Samsung-Galaxy_S6_Edge_32GB-Handy-Test_77529832.html

[80] Samsung Galaxy S6 edge M. (n.d.). Retrieved from http://www.areamobile.de/handys/4843-samsung-galaxy-s6-edge

[81] Wiko Sunset 2. (2015). Retrieved from http://www.chip.de/preisvergleich/402273/Uebersicht-Wiko-Sunset-2.html

[82] Wiko Sunset 2. (n.d.). Retrieved from http://www.areamobile.de/handys/5505-wiko-sunset-2

Appendix H: Questionnaire, smartphone stimuli pre-rating, Study 2

To save space, photographs and images in the Appendix are displayed in smaller size and resolution than in the original online questionnaire. Page changes of the original online questionnaire are indicated by headlines and the emblem of the department of Media Psychology, University of Würzburg. The pre-rating was carried out in the context of two bachelor theses. See electronic storage medium for the original version of the online questionnaire as .pdf file).

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Herzlich Willkommen!

Vielen Dank, dass Sie an dieser Studie zur Wahrnehmung von Smartphones im Rahmen unserer Bachelorarbeit an der Universität Würzburg am Lehrstuhl für Medienpsychologie teilnehmen.

Ihre Teilnahme erfolgt vollkommen **freiwillig**. Sie haben jederzeit die Möglichkeit, Ihr Einverständnis (siehe nächste Seite) ohne Angabe von Gründen zurückzuziehen und die Teilnahme an dieser Studie abzubrechen. Dadurch entsteht Ihnen kein Nachteil. Ihre Teilnahme wird ca. 5 **Minuten** in Anspruch nehmen.

Die Umfrage ist **anonym** und **vertraulich**. Die gespeicherten Daten können nicht auf Ihre Person zurückgeführt werden. Ihre Daten werden in elektronischer Form streng anonymisiert in Anlehnung an die ethischen Richtlinien der Deutschen Gesellschaft für Psychologie (DGPs) mind. 10 Jahre lang gespeichert. Wenn Sie im Nachhinein nicht mehr mit der Teilnahme einverstanden sein sollten, löschen wir auf Ihren Wunsch hin die Daten. Am Ende des Fragebogens haben Sie die Möglichkeit für diesen Zweck ein individuelles Codewort zu generieren.

Bei Fragen, Anmerkungen und Anregungen können Sie sich jederzeit an folgende Ansprechpartnerin wenden:

Dipl.-Psych. Christine Hennighausen, Universität Würzburg, Institut Mensch-Computer-Medien, Lehrstuhl für Medienpsychologie, Oswald-Külpe Weg 82, 97074 Würzburg

Telefon: 0931 31 89828, Email: christine.hennighausen@uni-wuerzburg.de

Vielen Dank für Ihre Unterstützung!

Klicken Sie nun auf „Weiter“ um zu beginnen.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Einverständniserklärung

Mit meiner Zustimmung erkläre ich mich zur Teilnahme an der Studie bereit. Ich erkläre, dass ich die Informationsschrift und Einverständniserklärung gelesen habe und bei meinerseits geäußertem Bedarf zusätzlich per Mail über die Studie aufgeklärt wurde.

Hiermit stimme ich der freiwilligen Teilnahme an der Studie sowie der Speicherung und Auswertung meiner Daten zu.

- ◯ Ja
- ◯ Nein

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Zunächst bitten wir Sie um einige Angaben zu Ihrer Person.

1. Welches Geschlecht haben Sie?

- ◯ weiblich
- ◯ männlich

2. Wie alt sind Sie?

Ich bin _____ Jahre.

3. Welchen Bildungsabschluss haben Sie?

Bitte wählen Sie den höchsten Bildungsabschluss, den Sie bisher erreicht haben.

- ◯ Schule beendet ohne Abschluss
- ◯ noch Schüler
- ◯ Volks-, Hauptschulabschluss, Quali
- ◯ Mittlere Reife, Realschul- oder gleichwertiger Abschluss
- ◯ Abgeschlossene Lehre
- ◯ Fachabitur, Fachhochschulreife
- ◯ Abitur, Hochschulreife
- ◯ Fachhochschul-/Hochschulabschluss
- ◯ anderer Abschluss, und zwar: _____

3. Was machen Sie beruflich?

- ◯ Schüler/in
- ◯ in Ausbildung zum/zur _____
- ◯ Student/in im Studienfach _____
- ◯ Angestellte/r
- ◯ Beamter
- ◯ Selbstständig
- ◯ arbeitslos/arbeitssuchend
- ◯ sonstiges: _____

4. Wie hoch ist ungefähr Ihr monatliches Nettoeinkommen?

Gemeint ist der Betrag, der sich aus allen Einkünften zusammensetzt und nach Abzug der Steuern und Sozialversicherungen übrig bleibt**.**

- ○ bis unter 250 €
- ○ 250 € bis unter 500 €
- ○ 500 € bis unter 1000 €
- ○ 1000 € bis unter 1500 €
- ○ 1500 € bis unter 2000 €
- ○ 2000 € bis unter 2500 €
- ○ 2500 € bis unter 3000 €
- ○ 3000 € bis unter 3500 €
- ○ 3500 € bis unter 4000 €
- ○ mehr als 4000 €
- ○ ich will darauf nicht antworten

5. Bitte geben Sie die Marke ihres aktuellen Smartphones an.

- ○ Apple
- ○ BlackBerry
- ○ HTC
- ○ Huawei
- ○ LG
- ○ Motorola
- ○ Phicomm
- ○ Samsung
- ○ Sony Ericsson
- ○ Wiko
- ○ Windows
- ○ Sonstiges: _____
- ○ Ich habe kein Smartphone, sondern ein Handy der Marke: _____
- ○ Ich habe kein Handy.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Nachfolgend werden Ihnen sechs verschiedene aktuelle Smartphonemodelle gezeigt[83].

Bitte bewerten Sie diese bezüglich verschiedener Aussagen auf einer Skala von 1("trifft überhaupt nicht zu") bis 7 ("trifft voll und ganz zu").

Antworten Sie spontan und intuitiv. Es interessiert Ihre persönliche Bewertung und Ihr erster Eindruck.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

[83] Smartphones were presented in a random order.

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Modell: Phicomm CLUE M
Erscheinungdatum: April, 2015 (Quelle: areamobile.de)
Preis: ab 93€ (Quelle: chip.de)
(Foto: amazon.de)

	trifft überhaupt nicht zu						trifft voll und ganz zu
	1	2	3	4	5	6	7
Ich betrachte den Kauf des **Phicomm CLUE M** als **Geltungskonsum***.	○	○	○	○	○	○	○
Ich würde das **Phicomm CLUE M** gerne besitzen	○	○	○	○	○	○	○
Ich verbinde das **Phicomm CLUE M** mit **Status**.	○	○	○	○	○	○	○

*Als „demonstrativer Konsum“ oder „Geltungskonsum“ zielt das öffentliche Konsumieren darauf ab, sein Geld mit dem Ziel auszugeben, anderen zu zeigen, was man sich alles leisten kann. Besonders auffällige Produkte und Serviceleistungen werden erworben, um seinen (sozialen) Status zu erhöhen und seine Mitmenschen zu beeindrucken. Es kann daher als eine Form von Imponierverhalten durch Statussymbole angesehen werden.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg – 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Modell: Motorola moto g
Erscheinungsdatum: Juli, 2015 (Quelle: areamobile.de)
Preis: ab 189€ (Quelle: chip.de), (Foto: androidauthority.com)

	trifft überhaupt nicht zu						trifft voll und ganz zu
	1	2	3	4	5	6	7
Ich betrachte den Kauf des **Motorola moto g** als **Geltungskonsum***.	○	○	○	○	○	○	○
Ich würde das **Motorola moto g** gerne besitzen	○	○	○	○	○	○	○
Ich verbinde das **Motorola moto g** mit **Status**.	○	○	○	○	○	○	○

*Als „demonstrativer Konsum“ oder „Geltungskonsum“ zielt das öffentliche Konsumieren darauf ab, sein Geld mit dem Ziel auszugeben, anderen zu zeigen, was man sich alles leisten kann. Besonders auffällige Produkte und Serviceleistungen werden erworben, um seinen (sozialen) Status zu erhöhen und seine Mitmenschen zu beeindrucken. Es kann daher als eine Form von Imponierverhalten durch Statussymbole angesehen werden.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Modell: Wiko SUNSET 2
Erscheinungsdatum: September, 2015 (Quelle: areamobile.de)
Preis: ab 59€ (Quelle: chip.de)
(Foto: istore.icross.de)

	trifft überhaupt nicht zu						trifft voll und ganz zu
	1	2	3	4	5	6	7
Ich betrachte den Kauf des **Wiko SUNSET 2** als **Geltungskonsum***.	○	○	○	○	○	○	○
Ich würde das **Wiko SUNSET 2** gerne besitzen	○	○	○	○	○	○	○
Ich verbinde das **Wiko SUNSET 2** mit **Status**.	○	○	○	○	○	○	○

*Als „demonstrativer Konsum“ oder „Geltungskonsum“ zielt das öffentliche Konsumieren darauf ab, sein Geld mit dem Ziel auszugeben, anderen zu zeigen, was man sich alles leisten kann. Besonders auffällige Produkte und Serviceleistungen werden erworben, um seinen (sozialen) Status zu erhöhen und seine Mitmenschen zu beeindrucken. Es kann daher als eine Form von Imponierverhalten durch Statussymbole angesehen werden.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Modell: Apple iPhone 6s
Erscheinungsdatum: September, 2015 (Quelle: areamobile.de)
Preis: ab 943€ (Quelle: chip.de)
(Foto: badenova.de)

	trifft überhaupt nicht zu						trifft voll und ganz zu
	1	2	3	4	5	6	7
Ich betrachte den Kauf des **Apple iPhone 6s** als **Geltungskonsum***.	○	○	○	○	○	○	○
Ich würde das **Apple iPhone 6s** gerne besitzen	○	○	○	○	○	○	○
Ich verbinde das **Apple iPhone 6s** mit **Status**.	○	○	○	○	○	○	○

*Als „demonstrativer Konsum“ oder „Geltungskonsum“ zielt das öffentliche Konsumieren darauf ab, sein Geld mit dem Ziel auszugeben, anderen zu zeigen, was man sich alles leisten kann. Besonders auffällige Produkte und Serviceleistungen werden erworben, um seinen (sozialen) Status zu erhöhen und seine Mitmenschen zu beeindrucken. Es kann daher als eine Form von Imponierverhalten durch Statussymbole angesehen werden.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Modell: LG G4 c
Erscheinungsdatum: Juni, 2015 (Quelle: areamobile.de)
Preis: ab 154€ (Quelle: chip.de)
(Foto: notebookcheck.com/)

	trifft überhaupt nicht zu						trifft voll und ganz zu
	1	2	3	4	5	6	7
Ich betrachte den Kauf des **LG G4 c** als **Geltungskonsum***.	○	○	○	○	○	○	○
Ich würde das **LG G4 c** gerne besitzen	○	○	○	○	○	○	○
Ich verbinde das **LG G4 c** mit **Status**.	○	○	○	○	○	○	○

*Als „demonstrativer Konsum“ oder „Geltungskonsum“ zielt das öffentliche Konsumieren darauf ab, sein Geld mit dem Ziel auszugeben, anderen zu zeigen, was man sich alles leisten kann. Besonders auffällige Produkte und Serviceleistungen werden erworben, um seinen (sozialen) Status zu erhöhen und seine Mitmenschen zu beeindrucken. Es kann daher als eine Form von Imponierverhalten durch Statussymbole angesehen werden.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Modell: Samsung Galaxy S6 edge
Erscheinungsdatum: April, 2015 (Quelle: areamobile.de)
Preis: ab 659€ (Quelle: chip.de)
(Foto: samsung.com)

	trifft überhaupt nicht zu 1	2	3	4	5	6	trifft voll und ganz zu 7
Ich betrachte den Kauf des **Samsung Galaxy S6 edge** als **Geltungskonsum***.	○	○	○	○	○	○	○
Ich würde das **Samsung Galaxy S6 edge** gerne besitzen	○	○	○	○	○	○	○
Ich verbinde das **Samsung Galaxy S6 edge** mit **Status**.	○	○	○	○	○	○	○

*Als „demonstrativer Konsum“ oder „Geltungskonsum“ zielt das öffentliche Konsumieren darauf ab, sein Geld mit dem Ziel auszugeben, anderen zu zeigen, was man sich alles leisten kann. Besonders auffällige Produkte und Serviceleistungen werden erworben, um seinen (sozialen) Status zu erhöhen und seine Mitmenschen zu beeindrucken. Es kann daher als eine Form von Imponierverhalten durch Statussymbole angesehen werden.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Damit Sie die Möglichkeit haben, Ihre Daten nach Teilnahme an der Studie löschen lassen zu können, können Sie an dieser Stelle ein individuelles Codewort erstellen. Das Codewort ist nur Ihnen bekannt. Wenn Sie nach Teilnahme an der Studie Ihre Daten löschen lassen möchten, senden Sie uns eine E-Mail mit diesem Codewort. Die Erstellung des Codeworts ist optional.

Möchten Sie ein Codewort erstellen?

- ○ ja
- ○ nein

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Wenn Sie möchten, geben Sie nun bitte ein sog. Codewort ein, und zwar nach folgendem Schema:

1. Erster Buchstabe des eigenen Geburtsortes
2. Zweiter Buchstabe des Vornamens des Vaters
3. Dritter Buchstabe des Mädchennamens der Mutter
4. Letzte Ziffer des Geburtsjahres

Allgemein gilt, dass eine Identifizierung Ihrer Person anhand eines solchen Codeworts ausgeschlossen ist. Es wäre sinnvoll, wenn Sie sich das Codewort zusätzlich auf einem Blatt Papier notieren würden (nach Möglichkeit zusammen mit dem Titel dieser Studie).

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Vielen Dank für Ihre Unterstützung!

Ihre Anonymität ist gewährleistet, da die E-Mail-Adresse getrennt von Ihren Angaben aus dem Fragebogen gespeichert wird.

Die E-Mail-Adresse kann nachher nicht mehr mit den Befragungsdaten in Verbindung gebracht werden, auch nicht damit, welchen Fragebogen Sie ausgefüllt haben.

☐ Ich interessiere mich für die Ergebnisse dieser Studie und hätte gern eine Zusammenfassung per E-Mail.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Wir bedanken uns ganz herzlich für Ihre Mithilfe.

Sie können das Browser-Fenster nun schließen.

Fenster schließen

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

Appendix I: Male target stimuli by Gründl (2013), Study 2

Adapted with permission from "Determinanten physischer Attraktivität – der Einfluss von Durchschnittlichkeit, Symmetrie und sexuellem Dimorphismus auf die Attraktivität von Gesichtern [Determinants of physical attractiveness – the role of averageness, symmetry, and sexual dimorphism on facial attractiveness]" by M. Gründl, 2013, urn:nbn:de:bvb:355-epub-276639, Copyright (2013) by University of Regensburg.

Figure I1. Prototype attractive man
(composite of four attractive male faces)

Figure I2. Prototype unattractive man
(composite of four unattractive male faces)

Appendix J: Questionnaire, Study 2

For the sake of brevity, the online questionnaire of Study 3 is only presented for one experimental condition (conspicuous smartphone, higher facial attractiveness). To save space, photographs and images in the Appendix are displayed in smaller size and resolution than in the original online questionnaire. Moreover, due to copyright concerns, product images of the smartphones have been blurred for publication.. Page changes of the original online questionnaire are indicated by headlines and the emblem of the department of Media Psychology, University of Würzburg. The presented questionnaire displays the version for male participants. Differences between questionnaires for male and female participants are indicated by footnotes. See electronic storage medium for the original version of the online questionnaire as .pdf file.

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Herzlich Willkommen!

Vielen Dank, dass Sie an dieser Studie zur Wahrnehmung von Smartphones und ihren Besitzern im Rahmen eines Forschungsseminars der Universität Würzburg am Lehrstuhl für Medienpsychologie teilnehmen.

In dieser Studie möchten wir erfahren, wie verschiedene Smartphones und ihre Besitzer von Ihnen wahrgenommen werden. Dies wird ingesamt ungefähr **10 Minuten** dauern.

Ihre Teilnahme erfolgt vollkommen **freiwillig**. Sie haben jederzeit die Möglichkeit, Ihr Einverständnis (siehe nächste Seite) ohne Angabe von Gründen zurückzuziehen und die Teilnahme an dieser Studie abzubrechen. Dadurch entsteht Ihnen kein Nachteil.

Die Umfrage ist **anonym** und **vertraulich**. Die gespeicherten Daten können nicht auf Ihre Person zurückgeführt werden. Ihre Daten werden in elektronischer Form streng anonymisiert in Anlehnung an die ethischen Richtlinien der Deutschen Gesellschaft für Psychologie (DGPs) mind. 10 Jahre lang gespeichert. Wenn Sie im Nachhinein nicht mehr mit der Teilnahme einverstanden sein sollten, löschen wir auf Ihren Wunsch hin die Daten. Am Ende des Fragebogens haben Sie die Möglichkeit für diesen Zweck ein individuelles Codewort zu generieren.

Bei Fragen, Anmerkungen und Anregungen können Sie sich jederzeit an folgende Ansprechpartnerin wenden:

Dipl.-Psych. Christine Hennighausen, Universität Würzburg, Institut Mensch-Computer-Medien, Lehrstuhl für Medienpsychologie, Oswald-Külpe Weg 82, 97074 Würzburg
Telefon: 0931 31 89828, Email: christine.hennighausen@uni-wuerzburg.de

Als Dankeschön für Ihre Zeit wird unter allen Teilnehmerinnen und Teilnehmern der Befragung ein **Amazon-Gutschein im Wert von 20 Euro** verlost.

Vielen Dank für Ihre Unterstützung!

Klicken Sie nun auf „Weiter“, um mit der Umfrage zu beginnen.

Weiter

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Einverständniserklärung

Mit meiner Zustimmung erkläre ich mich zur Teilnahme an der Studie bereit. Ich erkläre, dass ich die Informationsschrift und Einverständniserklärung gelesen habe und bei meinerseits geäußertem Bedarf zusätzlich per Mail über die Studie aufgeklärt wurde.

Hiermit stimme ich der freiwilligen Teilnahme an der Studie sowie der Speicherung und Auswertung meiner Daten zu.

- ○ Ja
- ○ Nein

Weiter

Research Project Medienpsychologie, Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Welches Geschlecht haben Sie?

- ○ weiblich
- ○ männlich

Wie alt sind Sie?

_____ Jahre.

Bitte geben Sie Ihren aktuellen Beziehungsstatus an.

- ○ Single
- ○ Kurzzeitpartnerschaft (Affäre, Liebschaft, One-Night-Stand, unverbindlicher sexueller Kontakt o.ä)
- ○ feste Partnerschaft
- ○ Lebenspartnerschaft/verheiratet

Bitte geben Sie Ihre sexuelle Orientierung an.

- ○ heterosexuell
- ○ homosexuell
- ○ bisexuell
- ○ Darauf möchte ich nicht antworten

Welchen Bildungsabschluss haben Sie?

Bitte wählen Sie den höchsten Bildungsabschluss, den Sie bisher erreicht haben.

- ○ Schule beendet ohne Abschluss
- ○ noch Schüler
- ○ Volks-, Hauptschulabschluss, Quali
- ○ Mittlere Reife, Realschul- oder gleichwertiger Abschluss
- ○ Abgeschlossene Lehre

- ○ Fachabitur, Fachhochschulreife
- ○ Abitur, Hochschulreife
- ○ Fachhochschul-/Hochschulabschluss
- ○ Promotion (z.B. Dr. rer. nat., Dr. phil., Dr. med.)
- ○ anderer Abschluss, und zwar: _____

Was machen Sie beruflich?

- ○ Schüler/in
- ○ in Ausbildung
- ○ Student/in _____
- ○ Angestellte/r
- ○ Beamter
- ○ Selbstständig
- ○ arbeitslos/arbeitssuchend
- ○ sonstiges: _____

Wie hoch ist ungefähr Ihr monatliches Nettoeinkommen?

Gemeint ist der Betrag, der sich aus allen Einkünften zusammensetzt und nach Abzug der Steuern und Sozialversicherungen übrig bleibt**.**

- ○ Ich habe kein eigenes Einkommen.
- ○ weniger als 250 €
- ○ 250 € bis unter 500 €
- ○ 500 € bis unter 1000 €
- ○ 1000 € bis unter 1500 €
- ○ 1500 € bis unter 2000 €
- ○ 2000 € bis unter 2500 €
- ○ 2500 € bis unter 3000 €
- ○ 3000 € bis unter 3500 €
- ○ 3500 € bis unter 4000 €
- ○ 4000 € oder mehr
- ○ ich will darauf nicht antworten.

Bitte geben Sie die Marke ihres aktuellen Smartphones an.

- ○ Apple
- ○ Archos
- ○ Blackberry
- ○ HTC
- ○ Huawei
- ○ LG
- ○ Motorola
- ○ Samsung
- ○ Sony Ericsson
- ○ Windows
- ○ Sonstiges: _____
- ○ Ich habe kein Smartphone, sondern ein Handy: _____
- ○ Ich habe kein Handy.
- ○ Ich habe weder Handy noch Smartphone.

Weiter

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Im ersten Teil der Untersuchung wird Ihnen auf den folgenden Seiten eine Person mit ihrem Smartphone präsentiert[84].

Uns interessiert a) wie die Person auf Sie wirkt und b) wie Sie diesen einschätzen.
Bitte schauen Sie sich dafür das Foto des Mannes an und lesen Sie die Beschreibung aufmerksam[85].

Antworten Sie spontan und intuitiv. Uns interessieren Ihre ehrlichen Antworten.

Weiter

Research Project Medienpsychologie, Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Stellen Sie sich nun bitte Folgendes vor:

Sie sehen diese Person abends in einer Bar. Ihnen fällt auf, dass sie das folgende Smartphone besitzt.

Apple iPhone 6s, Erscheinungsdatum: September 2015, Preis: ab 943€ (Quelle: chip.de)

Weiter

Research Project Medienpsychologie, Universität Würzburg - 2015

[84] Participants were randomly assigned to one experimental condition.
[85] The questionnaire for female participants further included the following instruction: „Für die Studie ist es wichtig, dass Sie die folgenden Fragen unabhängig von Ihrem persönlichen Beziehungsstatus beantworten."

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Wie schätzen Sie die dargestellte Person hinsichtlich folgender Eigenschaften an?

Um die Fragen zu beantworten, klicken Sie auf die graue Linie. Der blaue Regler kann somit beliebig verschoben werden.

	trifft überhaupt nicht zu	trifft voll und ganz zu
verträglich		
jung		
treu		
reich		
kokett/flirty		
sexy		
ehrgeizig		
Reif		
leidenschaftlich		
wohlhabend		
klug		
attraktiv		
talentiert		

Weiter

Research Project Medienpsychologie, Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Wie schätzen Sie die abgebildete Person ein?[86]

Diese Person…

	trifft überhaupt nicht zu	trifft eher nicht zu	weder noch	trifft eher zu	trifft voll und ganz zu
... ist eher zurückhaltend, reserviert.	○	○	○	○	○
... schenkt anderen leicht Vertrauen, glaubt an das Gute im Menschen.	○	○	○	○	○
... ist bequem, neigt zur Faulheit.	○	○	○	○	○
... ist entspannt, lässt sich durch Stress nicht aus der Ruhe bringen.	○	○	○	○	○
... hat nur wenig künstlerisches Interesse.	○	○	○	○	○
... geht aus sich heraus, ist gesellig.	○	○	○	○	○
... neigt dazu, andere zu kritisieren.	○	○	○	○	○
... erledigt Aufgaben gründlich.	○	○	○	○	○
... wird leicht nervös und unsicher.	○	○	○	○	○
... hat eine aktive Vorstellungskraft, ist phantasievoll.	○	○	○	○	○

Weiter

Research Project Medienpsychologie, Universität Würzburg - 2015

[86] These items were collected for another research question (perceptions of the male target's personality) that was not the subject of this dissertation.

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Wie schätzen Sie die abgebildete Person ein? [87]

	starke Ablehnung		neutral		starke Zustimmung
Diese Person würde keine Schmeicheleien benutzen, um eine Gehaltserhöhung zu bekommen oder befördert zu werden, auch wenn sie wüsste, dass es erfolgreich wäre.	○	○	○	○	○
Wenn diese Person wüsste, dass sie niemals erwischt wird, wäre sie bereit, eine Million zu stehlen.	○	○	○	○	○
Viel Geld zu haben ist nicht besonders wichtig für diese Person.	○	○	○	○	○
Diese Person denkt, dass sie mehr Respekt verdient als ein durchschnittlicher Mensch.	○	○	○	○	○
Wenn diese Person von jemandem etwas will, lacht sie auch noch über dessen schlechteste Witze.	○	○	○	○	○
Diese Person würde niemals Bestechungsgeld annehmen, auch wenn es sehr viel wäre.	○	○	○	○	○
Es würde dieser Person viel Freude bereiten, teure Luxusgüter zu besitzen.	○	○	○	○	○
Diese Person will, dass alle wissen, dass sie eine wichtige angesehene Person ist.	○	○	○	○	○
Diese Person würde nicht vortäuschen, jemanden zu mögen, nur um diesen Menschen dazu zu bringen, ihr Gefälligkeiten zu erweisen.	○	○	○	○	○
Diese Person würde in die Versuchung geraten, Falschgeld zu benutzen, wenn sie sicher sein könnte, damit durchzukommen.	○	○	○	○	○

Weiter

Research Project Medienpsychologie, Universität Würzburg - 2015

[87] These items were collected for another research question (perceptions of the male target's personality) that was not the subject of this dissertation.

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Wie schätzen Sie die abgebildete Person ein? [88]

	starke Ablehnung	Ablehnung	Weder Ablehung noch Zustimmung	Zustim-mung	starke Zustimmung
Menschen sehen diese Person als geborene Führungsperson.	○	○	○	○	○
Diese Person hasst es, das Zentrum der Aufmerksamkeit zu sein.	○	○	○	○	○
Viele Gruppenaktivitäten neigen dazu, ohne diese Person ziemlich langweilig zu sein.	○	○	○	○	○
Diese Person weiß, dass sie etwas Besonderes ist, da es ihr alle immer wieder sagen.	○	○	○	○	○
Diese Person mag es, wichtige Menschen kennenzulernen.	○	○	○	○	○
Dieser Person ist es peinlich, wenn ihr jemand Komplimente macht.	○	○	○	○	○
Diese Person ist schon mal mit berühmten Personen verglichen worden.	○	○	○	○	○
Diese Person ist ein durchschnittlicher Mensch.	○	○	○	○	○
Diese Person besteht darauf, den Respekt zu erhalten, der ihr gebührt.	○	○	○	○	○

Weiter

Research Project Medienpsychologie, Universität Würzburg - 2015

[88] These items were collected for another research question (perceptions of the male target's personality) that was not the subject of this dissertation.

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Bitte geben Sie an, inwiefern Sie den folgenden Aussagen zustimmen[89].

	trifft überhaupt nicht zu						trifft voll und ganz zu
	1	2	3	4	5	6	7
Ich könnte mir vorstellen, dass dieser Mann ein Rivale für mich ist.	○	○	○	○	○	○	○
Ich würde, meiner Partnerin erlauben mit diesem Mann alleine Zeit zu verbringen.	○	○	○	○	○	○	○
Ich könnte mir vorstellen, mit diesem Mann befreundet zu sein.	○	○	○	○	○	○	○
Ich könnte mir vorstellen, diesen Mann meiner Partnerin vorzustellen.	○	○	○	○	○	○	○

Weiter

Research Project Medienpsychologie, Universität Würzburg - 2015

[89] In the questionnaire for female participants items were the following: "Männer könnten sich vorstellen, dass dieser Mann ein Rivale für sie ist", "Männer würden ihrer Partnerin erlauben, mit diesem Mann alleine Zeit zu verbringen", "Männer könnten sich vorstellen mit diesem Mann befreundet zu sein", "Männer könnten sich vorstellen, diesen Mann ihrer Partnerin vorzustellen".

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Bitte geben Sie an, inwiefern Sie den folgenden Aussagen zustimmen.

	trifft voll und ganz zu								trifft überhaupt nicht zu
ehebrecherisch	○	○	○	○	○	○	○	○	○
treu	○	○	○	○	○	○	○	○	○
monogam	○	○	○	○	○	○	○	○	○
promiskuitiv (häufiger Partnerwechsel)	○	○	○	○	○	○	○	○	○
hingebungsvoll	○	○	○	○	○	○	○	○	○
polygam	○	○	○	○	○	○	○	○	○
treulos	○	○	○	○	○	○	○	○	○
locker	○	○	○	○	○	○	○	○	○

Weiter

Research Project Medienpsychologie, Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Wie schätzen Sie die abgebildete Person ein?

	trifft überhaupt nicht zu	trifft voll und ganz zu
Frauen könnten sich eine **unverbindliche sexuelle Begegnung** mit diesem Mann vorstellen.[90]		
Frauen könnten sich eine **feste und dauerhafte Beziehung** mit diesem Mann vorstellen.		

Wie schätzen Sie die Sexualität dieses Mannes ein?

	0	1	2-3	4-7	8 oder mehr
Mit wie vielen verschiedenen Personen hat dieser Mann in den letzten 12 Monaten Geschlechtsverkehr gehabt?					
Mit wie vielen verschiedenen Personen hat dieser Mann in seinem Leben nur einmal Geschlechtsverkehr gehabt?					
Mit wie vielen verschiedenen Personen hat dieser Mann schon Geschlechtsverkehr, ohne dabei ein Interesse an einer längerfristigen Beziehung mit dieser Person zu haben?					

	Ich stimme überhaupt nicht zu				Ich stimme völlig zu
	1	2	3	4	5
Dieser Mann vertritt die Absicht: “Sex ohne Liebe ist OK.”					
Dieser Mann könnte sich vorstellen, dass er “unverbindlich” Sex mit verschiedenen Personen genießt und sich dabei wohl fühlt.					
Dieser Mann möchte nicht eher Sex mit jemandem haben, solange er sich nicht sicher ist, dass es sich um eine ernste Langzeit-beziehung handelt.					

	niemals	sehr selten	ca. 1 mal im Monat	ca. 1 mal/ Woche	fast jeden Tag
	1	2	3	4	5
Wie oft hat dieser Mann Fantasievorstellungen, Sex mit einer Person zu haben, mit der er zur Zeit keine feste Beziehung führt?					
Wie oft empfindet dieser Mann sexuelle Erregung im Kontakt mit Personen, mit denen er zur Zeit keine feste Beziehung führt?					
Wie oft hat dieser Mann im Alltag spontan Fantasievorstellungen, Sex mit einer fremden Person zu haben, die er irgendwo zufällig gesehen hat?					

Weiter

Research Project Medienpsychologie, Universität Würzburg - 2015

[90] Items for female participants were: “Ich könnte mir eine unverbindliche sexuelle Begegnung mit diesem Mann vorstellen“ and „Ich könnte mir eine feste und dauerhafte Beziehung mit diesem Mann vorstellen“.

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Sie haben es fast geschafft!

Zum Abschluss bitten wir Sie noch drei kurze Fragen hinsichtlich Ihrer persönlichen Einschätzung des **abgebildeten Smartphones** zu beantworten.

Weiter

Research Project Medienpsychologie, Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Apple iPhone 6s, Erscheinungsdatum: September 2015, Preis: ab 943€ (Quelle: chip.de)

	trifft überhaupt nicht zu						trifft voll und ganz zu
	1	2	3	4	5	6	7
Ich betrachte den Kauf des **Apple iPhone 6s** als **Geltungskonsum***.	○	○	○	○	○	○	○
Ich würde das **Apple iPhone 6s** gerne besitzen	○	○	○	○	○	○	○
Ich verbinde das **Apple iPhone 6s** mit **Status**.	○	○	○	○	○	○	○

*Als **„demonstrativer Konsum“** oder **„Geltungskonsum“** zielt das öffentliche Konsumieren darauf ab, sein Geld mit dem Ziel auszugeben, anderen zu zeigen, was man sich alles leisten kann. Besonders auffällige Produkte und Serviceleistungen werden erworben, um seinen (sozialen) Status zu erhöhen und seine Mitmenschen zu beeindrucken. Es kann daher als eine Form von Imponierverhalten durch Statussymbole angesehen werden.

Weiter

Research Project Medienpsychologie, Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Falls Sie abschließende Bemerkungen hinsichtlich der eben durchgeführten Studie haben oder bereits an ähnlichen Studien teilgenommen haben, dann lassen Sie uns dies bitte wissen. Dafür können Sie das folgende Textfeld verwenden.

Weiter

Research Project Medienpsychologie, Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Falls Sie an der Verlosung des Amazon-Gutscheins teilnehmen möchten, bitten wir Sie hier Ihre E-Mail Adresse einzugeben. Diese wird nur zur Auswahl des Siegers genutzt und anschließend wieder gelöscht.

- ☐ Ich will am **Gewinnspiel** teilnehmen. Ich bin damit einverstanden, dass meine E-Mail-Adresse bis zur Ziehung der Gewinner gespeichert wird. Meine Angaben in dieser Befragung bleiben weiterhin anonym, meine E-Mail-Adresse wird nicht an Dritte weitergegeben.
- ☐ Ich interessiere mich für die **Ergebnisse dieser Studie** und hätte gerne eine Zusammenfassung per E-Mail.
- ☐ Ich würde auch künftig an **wissenschaftlichen Befragungen** teilnehmen. Das nichtkommerzielle SoSci Panel darf zu diesem Zweck meine E-Mail-Adresse speichern und mich (max. 4-mal pro Jahr) per E-Mail zu einer wissenschaftlichen Befragung einladen.

Damit Sie die Möglichkeit haben, Ihre Daten nach Teilnahme an der Studie löschen lassen zu können, können Sie an dieser Stelle ein individuelles Codewort erstellen. Das Codewort ist nur Ihnen bekannt. Wenn Sie nach Teilnahme an der Studie Ihre Daten löschen lassen möchten, senden Sie uns eine E-Mail mit diesem Codewort.

Die Erstellung des Codeworts ist optional.

Möchten Sie ein Codewort erstellen?

- ○ ja
- ○ nein

Weiter

Research Project Medienpsychologie, Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Wenn Sie möchten, geben Sie nun bitte ein sog. Codewort ein, und zwar nach folgendem Schema:

1. Erster Buchstabe des eigenen Geburtsortes
2. Zweiter Buchstabe des Vornamens des Vaters
3. Dritter Buchstabe des Mädchennamens der Mutter
4. Letzte Ziffer des Geburtsjahres

Allgemein gilt, dass eine Identifizierung Ihrer Person anhand eines solchen Codeworts ausgeschlossen ist. Es wäre sinnvoll, wenn Sie sich das Codewort zusätzlich auf einem Blatt Papier notieren würden (nach Möglichkeit zusammen mit dem Titel dieser Studie).

Weiter

Research Project Medienpsychologie, Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Vielen Dank für Ihre Teilnahme!

Wir möchten uns ganz herzlich für Ihre Mithilfe bedanken.

Ebenso möchten wir uns bei Herrn Dr. Martin Gründl (http://www.beautycheck.de) herzlich bedanken, der uns die Fotos der Personen für unsere Untersuchung zur Verfügung gestellt hat.

Ihre Antworten wurden gespeichert, Sie können das Browser-Fenster nun schließen.

Fenster schließen

Bachelorarbeit Medienpsychologie, Universität Würzburg – 2015

Appendix K: Descriptive statistics, Study 2

Table K1. Descriptive Statistics for Perceptions of Smartphone Conspicuousness by Smartphone Type, Facial Attractiveness, and Participant Sex (Manipulation Check)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	5.18	1.72	40		Higher	1.72	1.45	36
Lower	4.55	2.08	38		Lower	1.48	1.05	46
				Male participants				
Higher	4.82	2.01	33		Higher	2.11	1.53	35
Lower	5.25	1.73	36		Lower	1.51	0.89	35

Table K2. Descriptive Statistics for Perceptions of Smartphone Status by Smartphone Type, Facial Attractiveness, and Participant Sex (Manipulation Check)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	4.53	4.53	40		Higher	1.69	0.98	36
Lower	3.55	2.18	38		Lower	1.91	1.55	46
				Male participants				
Higher	4.36	2.13	33		Higher	1.94	1.45	35
Lower	3.83	2.08	36		Lower	1.54	0.95	35

Table K3. Descriptive Statistics for Perceptions of Smartphone Desirability by Smartphone Type, Facial Attractiveness, and Participant Sex (Manipulation Check)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	3.28	2.12	40		Higher	2.17	1.34	36
Lower	3.24	2.25	38		Lower	2.39	1.63	46
				Male participants				
Higher	3.42	2.08	33		Higher	2.20	1.55	35
Lower	3.38	2.14	36		Lower	2.20	1.37	35

Appendix K – Continued

Table K4. Descriptive Statistics for Perceptions of Facial Attractiveness by Smartphone Type, Facial Attractiveness, and Participant Sex (Manipulation Check)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	20.83	17.93	40		Higher	18.18	14.89	36
Lower	27.51	22.23	38		Lower	28.76	23.83	46
				Male participants				
Higher	49.27	25.52	33		Higher	45.53	24.07	35
Lower	48.97	25.61	36		Lower	46.50	23.76	35

Table K5. Descriptive Statistics for Perceptions of the Mail Target's Desirability as a Short-Term Mate by Smartphone Type, Facial Attractiveness, and Participant Sex (H_1)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	29.15	27.10	40		Higher	16.42	20.87	36
Lower	6.66	8.96	38		Lower	14.39	23.85	46
				Male participants				
Higher	53.15	24.80	33		Higher	49.54	26.53	35
Lower	25.64	17.38	36		Lower	23.91	18.18	35

Table K6. Descriptive Statistics for Perceptions of the Male Target's Desirability as a Long-Term Mate by Smartphone Type, Facial Attractiveness, and Participant Sex (H_2)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	31.05	30.26	40		Higher	39.42	34.57	36
Lower	9.32	12.48	38		Lower	36.39	34.88	46
				Male participants				
Higher	58.36	23.23	33		Higher	69.29	16.98	35
Lower	56.31	20.67	36		Lower	62.29	23.09	35

Appendix K – Continued

Table K7. Descriptive Statistics for Perceptions of the Male Target's Inclination Toward Short-term Mating (SOI-R) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_3)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	3.43	0.73	40		Higher	2.72	0.72	36
Lower	2.99	0.77	38		Lower	2.70	0.64	46
				Male participants				
Higher	3.37	0.74	33		Higher	3.05	0.64	35
Lower	3.14	0.64	36		Lower	2.92	0.60	35

Table K8. Descriptive Statistics for Perceptions of the Male Target's Inclination Toward Short-term Mating (Lack of Relationship Exclusivity) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_3)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	4.93	1.37	40		Higher	3.85	1.53	36
Lower	4.13	1.59	38		Lower	3.55	1.58	46
				Male participants				
Higher	4.68	1.30	33		Higher	4.21	1.37	35
Lower	4.14	1.26	36		Lower	4.09	1.74	35

Appendix K – Continued

Table K9. Correlations Between Variables Measuring Components of Mate Value (H_4)

Variables Listed by Mate Value Dimension		*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
Agreeableness	1. Agreeable	—											
Attractiveness	2. Sexy	.09	—										
	3. Attractive	.22***	.75***	—									
	4. Youthful	.16**	.14*	.19**	—								
Sexual Willingness	5. Flirty	.02	.77***	.60***	.21***	—							
	6. Loyal	.38***	.08	.08	-.01	-.03	—						
Intelligence	7. Mature	.20***	.30***	.36***	-.03	.17**	.31**	—					
	8. Smart	.37***	.30***	.39***	.08	.18**	.47***	.51***	—				
	9. Talented	.21***	.37***	.46***	.11	.31***	.27***	.35***	.61***	—			
Ambition	10. Ambitious	.15*	.33***	.35***	.12*	.34***	.25***	.38***	.49***	.44***	—		
	11. Passionate	.17**	.61***	.64***	.14*	.50***	.20***	.43***	.40***	.49***	.40***	—	
Status	12. Rich	-.13*	.29***	.20**	.14*	.37***	-.12*	.10	.05	.08	.29***	.21***	—
	13. Wealthy	-.15**	.33***	.24***	.13*	.42***	-.11	.15**	.09	.17**	.36***	.28***	.83***

Note. $N = 299$. *$p < .05$; **$p < .01$; ***$p < .001$, two-tailed.

Appendix K – Continued

Table K10. Descriptive Statistics for Perceptions of the Male Target's Mate Value Traits (Agreeableness) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	57.20	22.33	40		Higher	71.92	19.64	36
Lower	56.95	20.37	38		Lower	71.00	23.53	46
				Male participants				
Higher	56.24	21.99	33		Higher	69.29	22.60	35
Lower	54.64	25.50	36		Lower	67.03	21.18	35

Table K11. Descriptive Statistics for Perceptions of the Male Target Model's Mate Value Traits (Sexiness) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	40.45	24.13	40		Higher	32.42	21.49	36
Lower	16.26	14.20	38		Lower	20.57	20.45	46
				Male participants				
Higher	39.55	25.19	33		Higher	41.23	28.54	35
Lower	17.92	16.16	36		Lower	18.11	20.69	35

Table K12. Descriptive Statistics for Perceptions of the Male Target's Mate Value Traits (Attractiveness) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	45.53	24.07	40		Higher	46.50	23.76	36
Lower	18.18	14.89	38		Lower	28.76	23.83	46
				Male participants				
Higher	49.27	25.52	33		Higher	48.97	25.61	35
Lower	20.83	17.93	36		Lower	27.51	22.23	35

Appendix K – Continued

Table K13. Descriptive Statistics for Perceptions of the Male Target's Mate Value Traits (Youthfulness) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	72.98	28.41	40		Higher	77.11	22.85	36
Lower	63.18	24.13	38		Lower	63.00	26.78	46
				Male participants				
Higher	82.39	18.50	33		Higher	79.77	24.02	35
Lower	67.61	23.71	36		Lower	59.20	24.37	35

Table K14. Descriptive Statistics for Perceptions of the Male Target's Mate Value Traits (Willingness to Flirt) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	50.15	25.97	40		Higher	36.97	26.03	36
Lower	25.55	21.17	38		Lower	24.61	21.57	46
				Male participants				
Higher	46.76	26.61	33		Higher	42.06	27.31	35
Lower	24.92	19.59	36		Lower	22.34	17.67	35

Table K15. Descriptive Statistics for Perceptions of the Male Target's Mate Value Traits (Loyalty) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	54.73	23.44	40		Higher	65.69	24.11	36
Lower	56.87	23.55	38		Lower	70.11	20.19	46
				Male participants				
Higher	47.67	23.08	33		Higher	60.89	23.82	35
Lower	59.78	24.41	36		Lower	68.74	22.07	35

Appendix K – Continued

Table K16. Descriptive Statistics for Perceptions of the Male Target's Mate Value Traits (Maturity) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	39.98	18.35	40		Higher	34.14	23.20	36
Lower	41.34	20.16	38		Lower	51.65	25.64	46
				Male participants				
Higher	39.45	24.57	33		Higher	48.40	24.41	35
Lower	39.19	25.38	36		Lower	54.54	23.56	35

Table K17. Descriptive Statistics for Perceptions of the Male Target's Mate Value Traits (Smartness) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	54.63	22.56	40		Higher	59.17	23.76	36
Lower	49.42	21.33	38		Lower	60.35	25.15	46
				Male participants				
Higher	52.15	18.94	33		Higher	60.63	22.12	35
Lower	44.47	23.91	36		Lower	59.66	18.79	35

Table K18. Descriptive Statistics for Perceptions of the Male Target's Mate Value Traits (Talent) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	49.00	24.84	40		Higher	50.92	24.62	36
Lower	42.24	19.90	38		Lower	45.85	24.07	46
				Male participants				
Higher	48.45	18.10	33		Higher	56.37	23.66	35
Lower	38.72	21.93	36		Lower	48.86	22.42	35

Appendix K – Continued

Table K19. Descriptive Statistics for Perceptions of the Male Target's Mate Value Traits (Ambition) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	50.33	24.81	40		Higher	49.97	22.00	36
Lower	53.16	18.55	38		Lower	41.87	27.30	46
				Male participants				
Higher	51.42	19.81	33		Higher	51.14	19.75	35
Lower	43.69	21.61	36		Lower	47.26	20.75	35

Table K20. Descriptive Statistics for Perceptions of the Male Target's Mate Value Traits (Passion) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	36.40	19.03	40		Higher	36.00	25.29	36
Lower	21.05	14.65	38		Lower	29.15	24.56	46
				Male participants				
Higher	42.73	21.36	33		Higher	40.14	23.79	35
Lower	26.89	21.76	36		Lower	32.11	22.78	35

Table K21. Descriptive Statistics for Perceptions of the Male Target's Mate Value Traits (Richness) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	65.25	22.32	40		Higher	26.61	25.00	36
Lower	57.84	24.79	38		Lower	26.35	20.01	46
				Male participants				
Higher	57.67	23.00	33		Higher	33.71	24.80	35
Lower	46.67	23.65	36		Lower	29.46	23.96	35

Appendix K – Continued

Table K22. Descriptive Statistics for Perceptions of the Male Target's Mate Value Traits (Wealth) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	63.08	23.37	40		Higher	25.92	23.62	36
Lower	53.63	26.60	38		Lower	24.57	20.15	46
				Male participants				
Higher	61.45	25.17	33		Higher	38.80	28.95	35
Lower	42.86	25.21	36		Lower	24.57	18.56	35

Table K23. Descriptive Statistics for Perceptions of the Male Target's as a Rival by Smartphone Type, Facial Attractiveness, and Participant Sex (H_5)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	4.55	1.54	40		Higher	3.33	1.71	36
Lower	3.42	1.55	38		Lower	2.80	1.45	46
				Male participants				
Higher	3.27	1.66	33		Higher	2.74	1.75	35
Lower	2.11	1.26	36		Lower	2.63	1.65	35

Table K24. Descriptive Statistics for Perceptions of the Male Target's as a Friend by Smartphone Type, Facial Attractiveness, and Participant Sex (H_6)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	5.05	1.32	40		Higher	5.47	1.30	36
Lower	5.42	1.03	38		Lower	5.54	1.15	46
				Male participants				
Higher	4.33	1.69	33		Higher	5.03	1.27	35
Lower	4.42	1.50	36		Lower	5.11	1.39	35

Appendix K – Continued

Table K25. Descriptive Statistics for Perceptions of the Male Target's as a Mate Poacher (Willingness to Introduce Girlfriend to Man) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_7)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	4.10	1.48	40		Higher	5.17	1.23	36
Lower	4.87	1.14	38		Lower	5.37	1.02	46
				Male participants				
Higher	4.30	1.53	33		Higher	4.69	1.62	35
Lower	4.36	1.66	36		Lower	4.94	1.59	35

Table K26. Descriptive Statistics for Perceptions of the Male Target's as a Mate Poacher (Willingness to Let Girlfriend Spend Time With Man) by Smartphone Type, Facial Attractiveness, and Participant Sex (H_7)

Conspicuous smartphone					Nonconspicuous smartphone			
Facial attractiveness	*M*	*SD*	*n*		Facial attractiveness	*M*	*SD*	*n*
				Female participants				
Higher	3.75	1.53	40		Higher	4.83	1.46	36
Lower	4.79	1.45	38		Lower	5.28	1.42	46
				Male participants				
Higher	4.55	1.87	33		Higher	5.09	1.74	35
Lower	5.11	1.80	36		Lower	5.03	1.74	35

Appendix L: Male target stimuli, Study 3 (pre-rating)

Figure L1. Male target model 1

Figure L2. Male target model 2

Figure L3. Male target model 3

Figure L4. Male target model 4

Figure L5. Male target model 5

Appendix M: Questionnaire, male target stimuli pre-rating, Study 3

To save space, photographs and images in the Appendix are displayed in smaller size and resolution than in the original online questionnaire. Page changes of the original online questionnaire are indicated by headlines and the emblem of the department of Media Psychology, University of Würzburg. The questionnaire displays the version for female participants. Differences between questionnaires for male and female participants are indicated by footnotes. The pre-rating was carried out in the context of two bachelor theses. The original version of the online questionnaire as a .pdf file can be found on the electronic storage medium.

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Herzlich Willkommen!

Vielen Dank, dass Sie an dieser Studie zur Einschätzung von Männern im Rahmen unserer Bachelorarbeit an der Universität Würzburg am Lehrstuhl für Medienpsychologie teilnehmen.

Ihre Teilnahme erfolgt vollkommen **freiwillig**. Sie haben jederzeit die Möglichkeit, Ihr Einverständnis (siehe nächste Seite) ohne Angabe von Gründen zurückzuziehen und die Teilnahme an dieser Studie abzubrechen. Dadurch entsteht Ihnen kein Nachteil. Ihre Teilnahme wird ca. **5 Minuten** in Anspruch nehmen.

Die Umfrage ist **anonym** und **vertraulich**. Die gespeicherten Daten können nicht auf Ihre Person zurückgeführt werden. Ihre Daten werden in elektronischer Form streng anonymisiert in Anlehnung an die ethischen Richtlinien der Deutschen Gesellschaft für Psychologie (DGPs) mind. 10 Jahre lang gespeichert. Wenn Sie im Nachhinein nicht mehr mit der Teilnahme einverstanden sein sollten, löschen wir auf Ihren Wunsch hin die Daten. Am Ende des Fragebogens haben Sie die Möglichkeit für diesen Zweck ein individuelles Codewort zu generieren.

Bei Fragen, Anmerkungen und Anregungen können Sie sich jederzeit an folgende Ansprechpartnerin wenden:

Dipl.-Psych. Christine Hennighausen, Universität Würzburg, Institut Mensch-Computer-Medien, Lehrstuhl für Medienpsychologie, Oswald-Külpe Weg 82, 97074 Würzburg

Telefon: 0931 31 89828, Email: christine.hennighausen@uni-wuerzburg.de

Vielen Dank für Ihre Unterstützung!

Klicken Sie nun auf „Weiter“ um zu beginnen.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Einverständniserklärung

Mit meiner Zustimmung erkläre ich mich zur Teilnahme an der Studie bereit. Ich erkläre, dass ich die Informationsschrift und Einverständniserklärung gelesen habe und bei meinerseits geäußertem Bedarf zusätzlich per Mail über die Studie aufgeklärt wurde.

Hiermit stimme ich der freiwilligen Teilnahme an der Studie sowie der Speicherung und Auswertung meiner Daten zu.

- ○ Ja
- ○ Nein

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg – 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

1. Welches Geschlecht haben Sie?

- ○ weiblich
- ○ männlich

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg – 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Zunächst bitten wir Sie um einige Angaben zu Ihrer Person.

1. Wie alt sind Sie?

Ich bin _____ Jahre.

2. Welchen Bildungsabschluss haben Sie?

Bitte wählen Sie den höchsten Bildungsabschluss, den Sie bisher erreicht haben.

- ○ Schule beendet ohne Abschluss
- ○ noch Schüler
- ○ Volks-, Hauptschulabschluss, Quali
- ○ Mittlere Reife, Realschul- oder gleichwertiger Abschluss
- ○ Abgeschlossene Lehre
- ○ Fachabitur, Fachhochschulreife
- ○ Abitur, Hochschulreife
- ○ Fachhochschul-/Hochschulabschluss
- ○ anderer Abschluss, und zwar: _____

3. Was machen Sie beruflich?

- ○ Schüler/in
- ○ in Ausbildung zum/zur _____
- ○ Student/in im Studienfach _____
- ○ Angestellte/r
- ○ Beamter
- ○ Selbstständig
- ○ arbeitslos/arbeitssuchend
- ○ sonstiges: _____

4. Wie hoch ist ungefähr Ihr monatliches Nettoeinkommen?

Gemeint ist der Betrag, der sich aus allen Einkünften zusammensetzt und nach Abzug der Steuern und Sozialversicherungen übrig bleibt**.**

- ○ bis unter 250 €
- ○ 250 € bis unter 500 €
- ○ 500 € bis unter 1000 €
- ○ 1000 € bis unter 1500 €
- ○ 1500 € bis unter 2000 €
- ○ 2000 € bis unter 2500 €
- ○ 2500 € bis unter 3000 €
- ○ 3000 € bis unter 3500 €
- ○ 3500 € bis unter 4000 €
- ○ mehr als 4000 €
- ○ ich will darauf nicht antworten

5. Bitte geben Sie Ihre sexuelle Orientierung an.

- ○ heterosexuell
- ○ homosexuell
- ○ bisexuell
- ○ Darauf möchte ich nicht antworten

6. Bitte geben Sie Ihren Beziehungsstatus an.

- ○ Single
- ○ Kurzzeitpartnerschaft (Affäre, Liebschaft, One-Night-Stand, unverbindlicher sexueller Kontakt o.ä)
- ○ feste Partnerschaft
- ○ Lebenspartnerschaft/verheiratet
- ○ darauf möchte ich nicht antworten

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg – 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Nachfolgend werden Ihnen Fotos von fünf Männern gezeigt[91].

Bitte bewerten Sie diese bezüglich verschiedener Aussagen.

Antworten Sie spontan und intuitiv. Es interessiert Ihre persönliche Bewertung und Ihr erster Eindruck.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

[91] Images of the male target models were presented in a random order.

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Bitte schätzen Sie diesen Mann ein.
Um die Fragen zu beantworten, klicken Sie auf die graue Linie. Das schwarze Kreuz kann durch ziehen oder klicken beliebig verschoben werden.

	Sehr unattraktiv	Sehr attraktiv
Dieser Mann ist attraktiv.		
Dieser Mann ist dominant.		
Männer schätzen diesen Mann als attraktiv ein[92].		
Männer schätzen diesen Mann als dominant ein.		

Bitte schätzen Sie das Alter des Mannes.

_____

Kennen Sie diesen Mann?

- ○ Nein, ich habe diesen Mann noch nie gesehen.
- ○ Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- ○ Ja, der Mann ist ein Bekannter von mir.
- ○ Ja, der Mann ist ein guter Freund von mir.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

[92] Items for male participants were: "Frauen schätzen diesen Mann als attraktiv ein" and "Frauen schätzen diesen Mann als dominant ein".

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Bitte schätzen Sie diesen Mann ein.
Um die Fragen zu beantworten, klicken Sie auf die graue Linie. Das schwarze Kreuz kann durch ziehen oder klicken beliebig verschoben werden.

	Sehr unattraktiv	Sehr attraktiv
Dieser Mann ist attraktiv.		
Dieser Mann ist dominant.		
Männer schätzen diesen Mann als attraktiv ein.		
Männer schätzen diesen Mann als dominant ein.		

Bitte schätzen Sie das Alter des Mannes.

_____

Kennen Sie diesen Mann?

- ○ Nein, ich habe diesen Mann noch nie gesehen.
- ○ Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- ○ Ja, der Mann ist ein Bekannter von mir.
- ○ Ja, der Mann ist ein guter Freund von mir.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Bitte schätzen Sie diesen Mann ein.
Um die Fragen zu beantworten, klicken Sie auf die graue Linie. Das schwarze Kreuz kann durch ziehen oder klicken beliebig verschoben werden.

	Sehr unattraktiv	Sehr attraktiv
Dieser Mann ist attraktiv.		
Dieser Mann ist dominant.		
Männer schätzen diesen Mann als attraktiv ein.		
Männer schätzen diesen Mann als dominant ein.		

Bitte schätzen Sie das Alter des Mannes.

_____

Kennen Sie diesen Mann?

- ○ Nein, ich habe diesen Mann noch nie gesehen.
- ○ Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- ○ Ja, der Mann ist ein Bekannter von mir.
- ○ Ja, der Mann ist ein guter Freund von mir.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Bitte schätzen Sie diesen Mann ein.
Um die Fragen zu beantworten, klicken Sie auf die graue Linie. Das schwarze Kreuz kann durch ziehen oder klicken beliebig verschoben werden.

	Sehr unattraktiv	Sehr attraktiv
Dieser Mann ist attraktiv.		
Dieser Mann ist dominant.		
Männer schätzen diesen Mann als attraktiv ein.		
Männer schätzen diesen Mann als dominant ein.		

Bitte schätzen Sie das Alter des Mannes.

_____

Kennen Sie diesen Mann?

- ○ Nein, ich habe diesen Mann noch nie gesehen.
- ○ Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- ○ Ja, der Mann ist ein Bekannter von mir.
- ○ Ja, der Mann ist ein guter Freund von mir.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Bitte schätzen Sie diesen Mann ein.
Um die Fragen zu beantworten, klicken Sie auf die graue Linie. Das schwarze Kreuz kann durch ziehen oder klicken beliebig verschoben werden.

	Sehr unattraktiv	Sehr attraktiv
Dieser Mann ist attraktiv.		
Dieser Mann ist dominant.		
Männer schätzen diesen Mann als attraktiv ein.		
Männer schätzen diesen Mann als dominant ein.		

Bitte schätzen Sie das Alter des Mannes.

_____

Kennen Sie diesen Mann?

- ○ Nein, ich habe diesen Mann noch nie gesehen.
- ○ Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- ○ Ja, der Mann ist ein Bekannter von mir.
- ○ Ja, der Mann ist ein guter Freund von mir.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Damit Sie die Möglichkeit haben, Ihre Daten nach Teilnahme an der Studie löschen lassen zu können, können Sie an dieser Stelle ein individuelles Codewort erstellen. Das Codewort ist nur Ihnen bekannt. Wenn Sie nach Teilnahme an der Studie Ihre Daten löschen lassen möchten, senden Sie uns eine E-Mail mit diesem Codewort. Die Erstellung des Codeworts ist optional.

Möchten Sie ein Codewort erstellen?

- ja
- nein

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg – 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Wenn Sie möchten, geben Sie nun bitte ein sog. Codewort ein, und zwar nach folgendem Schema:

1. Erster Buchstabe des eigenen Geburtsortes
2. Zweiter Buchstabe des Vornamens des Vaters
3. Dritter Buchstabe des Mädchennamens der Mutter
4. Letzte Ziffer des Geburtsjahres

Allgemein gilt, dass eine Identifizierung Ihrer Person anhand eines solchen Codeworts ausgeschlossen ist. Es wäre sinnvoll, wenn Sie sich das Codewort zusätzlich auf einem Blatt Papier notieren würden (nach Möglichkeit zusammen mit dem Titel dieser Studie).

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Vielen Dank für Ihre Unterstützung!

Ihre Anonymität ist gewährleistet, da die E-Mail-Adresse getrennt von Ihren Angaben aus dem Fragebogen gespeichert wird.

Die E-Mail-Adresse kann nachher nicht mehr mit den Befragungsdaten in Verbindung gebracht werden, auch nicht damit, welchen Fragebogen Sie ausgefüllt haben.

- [ ] Ich interessiere mich für die Ergebnisse dieser Studie und hätte gern eine Zusammenfassung per E-Mail.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Vielen dank für Ihre Teilnahme.

Wir möchten uns ganz herzlich für Ihre Mithilfe bedanken.
Ihre Antworten wurden gespeichert, Sie können das Browser-Fenster nun schließen.

Fenster schließen

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

Appendix N: Questionnaire, pre-test social dominance manipulation, Study 3

To save space, photographs and images in the Appendix are displayed in smaller size and resolution than in the original online questionnaire. Page changes of the original online questionnaire are indicated by headlines and the emblem of the department of Media Psychology, University of Würzburg. The questionnaire displays the lower social dominance condition. The pre-rating was carried out in the context of two bachelor theses. The original version of the online questionnaire as a .pdf file can be found on the electronic storage medium.

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Herzlich Willkommen!

Vielen Dank, dass Sie an dieser Studie zur Einschätzung von Personen im Rahmen unserer Bachelorarbeit an der Universität Würzburg am Lehrstuhl für Medienpsychologie teilnehmen.

Ihre Teilnahme erfolgt vollkommen **freiwillig**. Sie haben jederzeit die Möglichkeit, Ihr Einverständnis (siehe nächste Seite) ohne Angabe von Gründen zurückzuziehen und die Teilnahme an dieser Studie abzubrechen. Dadurch entsteht Ihnen kein Nachteil. Ihre Teilnahme wird ca. 2 **Minuten** in Anspruch nehmen.

Die Umfrage ist **anonym** und **vertraulich**. Die gespeicherten Daten können nicht auf Ihre Person zurückgeführt werden. Ihre Daten werden in elektronischer Form streng anonymisiert in Anlehnung an die ethischen Richtlinien der Deutschen Gesellschaft für Psychologie (DGPs) mind. 10 Jahre lang gespeichert. Wenn Sie im Nachhinein nicht mehr mit der Teilnahme einverstanden sein sollten, löschen wir auf Ihren Wunsch hin die Daten. Am Ende des Fragebogens haben Sie die Möglichkeit für diesen Zweck ein individuelles Codewort zu generieren.

Bei Fragen, Anmerkungen und Anregungen können Sie sich jederzeit an folgende Ansprechpartnerin wenden:

Dipl.-Psych. Christine Hennighausen, Universität Würzburg, Institut Mensch-Computer-Medien, Lehrstuhl für Medienpsychologie, Oswald-Külpe Weg 82, 97074 Würzburg

Telefon: 0931 31 89828, Email: christine.hennighausen@uni-wuerzburg.de

Vielen Dank für Ihre Unterstützung!

Klicken Sie nun auf „Weiter“ um zu beginnen.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Einverständniserklärung

Mit meiner Zustimmung erkläre ich mich zur Teilnahme an der Studie bereit. Ich erkläre, dass ich die Informationsschrift und Einverständniserklärung gelesen habe und bei meinerseits geäußertem Bedarf zusätzlich per Mail über die Studie aufgeklärt wurde.

Hiermit stimme ich der freiwilligen Teilnahme an der Studie sowie der Speicherung und Auswertung meiner Daten zu.

- ○ Ja
- ○ Nein

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg – 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Zunächst bitten wir Sie um einige Angaben zu Ihrer Person.

1. Welches Geschlecht haben Sie?

- ○ weiblich
- ○ männlich

2. Wie alt sind Sie?

Ich bin _____ Jahre.

3. Welchen Bildungsabschluss haben Sie?

Bitte wählen Sie den höchsten Bildungsabschluss, den Sie bisher erreicht haben.

- ○ Schule beendet ohne Abschluss
- ○ noch Schüler
- ○ Volks-, Hauptschulabschluss, Quali
- ○ Mittlere Reife, Realschul- oder gleichwertiger Abschluss
- ○ Abgeschlossene Lehre
- ○ Fachabitur, Fachhochschulreife
- ○ Abitur, Hochschulreife
- ○ Fachhochschul-/Hochschulabschluss
- ○ anderer Abschluss, und zwar: _____

3. Was machen Sie beruflich?

- ○ Schüler/in
- ○ in Ausbildung zum/zur _____
- ○ Student/in im Studienfach _____
- ○ Angestellte/r
- ○ Beamter
- ○ Selbstständig

- arbeitslos/arbeitssuchend
- sonstiges: _____

4. Wie hoch ist ungefähr Ihr monatliches Nettoeinkommen?

Gemeint ist der Betrag, der sich aus allen Einkünften zusammensetzt und nach Abzug der Steuern und Sozialversicherungen übrig bleibt**.**

- bis unter 250 €
- 250 € bis unter 500 €
- 500 € bis unter 1000 €
- 1000 € bis unter 1500 €
- 1500 € bis unter 2000 €
- 2000 € bis unter 2500 €
- 2500 € bis unter 3000 €
- 3000 € bis unter 3500 €
- 3500 € bis unter 4000 €
- mehr als 4000 €
- ich möchte ich nicht antworten.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Nachfolgend werden Sie gebeten, eine kurze Beschreibung zu lesen und die Person anschließend zu bewerten[93].

Antworten Sie spontan und intuitiv. Es interessiert Ihre persönliche Bewertung und Ihr erster Eindruck.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

[93] Participants were randomly assigned to one experimental condition.

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Bitte lesen Sie sich nun den folgenden Text durch. Versuchen Sie dabei, sich ein Bild von der beschriebenen Person zu machen, sodass Sie die Person im Anschluss einschätzen können.

> Christian ist Bachelorstudent an der Uni Würzburg. Er ist noch am Anfang seines Studiums. Zu seinen Seminaren und Vorlesungen geht er regelmäßig. Außerdem ist er Mitglied der Fachschaftsinitiative seines Studiengangs. Der unsichere Student weiß häufig nicht, was er will und kann sich auch oft nur schlecht in seine Mitmenschen hineinversetzen. Meistens wartet er darauf, dass andere die Initiative ergreifen und Entscheidungen für ihn treffen. Insgesamt verhält er sich lieber gruppenkonform und kann Menschen nur schlecht überzeugen. Für gewöhnlich hält er sich auf Partys lieber im Hintergrund auf.

Bitte schätzen Sie diese Person ein.

Um die Fragen zu beantworten, klicken Sie auf die graue Linie. Das schwarze Kreuz kann durch ziehen oder klicken beliebig verschoben werden.

	trifft überhaupt nicht zu	trifft voll und ganz zu
Dieser Person ist durchsetzungsfähig.		
Dieser Person ist sozial kompetent.		
Dieser Person ist dominant.		
Dieser Person ist extrovertiert.		
Dieser Person ist selbstbewusst.		
Dieser Person ist einflussreich.		
Dieser Person ist hat gute Menschenkenntnis.		

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Wenn Sie möchten, geben Sie nun bitte ein sog. Codewort ein, und zwar nach folgendem Schema:

1. Erster Buchstabe des eigenen Geburtsortes
2. Zweiter Buchstabe des Vornamens des Vaters
3. Dritter Buchstabe des Mädchennamens der Mutter
4. Letzte Ziffer des Geburtsjahres

Allgemein gilt, dass eine Identifizierung Ihrer Person anhand eines solchen Codeworts ausgeschlossen ist. Es wäre sinnvoll, wenn Sie sich das Codewort zusätzlich auf einem Blatt Papier notieren würden (nach Möglichkeit zusammen mit dem Titel dieser Studie).

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Vielen Dank für Ihre Unterstützung!

Ihre Anonymität ist gewährleistet, da die E-Mail-Adresse getrennt von Ihren Angaben aus dem Fragebogen gespeichert wird.

Die E-Mail-Adresse kann nachher nicht mehr mit den Befragungsdaten in Verbindung gebracht werden, auch nicht damit, welchen Fragebogen Sie ausgefüllt haben.

☐ Ich interessiere mich für die Ergebnisse dieser Studie und hätte gern eine Zusammenfassung per E-Mail.

Weiter

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Wir bedanken uns ganz herzlich für Ihre Mithilfe.

Sie können das Browser-Fenster nun schließen.

Fenster schließen

Johanna Bähr & Janina Renk, Institut für Mensch-Computer-Medien, Julius-Maximilians-Universität Würzburg - 2015

Appendix O: Questionnaire, Study 3

For the sake of brevity, the online questionnaire of Study 3 is only presented for one experimental condition (conspicuous smartphone, higher social dominance). Moreover, photographs and images in the Appendix are displayed in smaller size and resolution than in the original online questionnaire. In addition, due to copyright concerns, product images of the smartphones have been blurred for publication. Page changes of the original online questionnaire are indicated by headlines and the emblem of the department of Media Psychology, University of Würzburg. The pre-rating was carried out in the context of two bachelor theses. The presented questionnaire displays the version for male participants. Differences between questionnaires for male and female participants are indicated by footnotes. See electronic storage medium for the original version of the online questionnaire as .pdf file.

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Herzlich Willkommen!

Vielen Dank, dass Sie an dieser Studie zur Einschätzung eines Mannes im Rahmen unserer Bachelorarbeit an der Universität Würzburg am Lehrstuhl für Medienpsychologie teilnehmen.

Ihre Teilnahme erfolgt vollkommen **freiwillig**. Sie haben jederzeit die Möglichkeit, Ihr Einverständnis (siehe nächste Seite) ohne Angabe von Gründen zurückzuziehen und die Teilnahme an dieser Studie abzubrechen. Dadurch entsteht Ihnen kein Nachteil. Ihre Teilnahme wird ca. **8 Minuten** in Anspruch nehmen.

Die Umfrage ist **anonym** und **vertraulich**. Die gespeicherten Daten können nicht auf Ihre Person zurückgeführt werden. Ihre Daten werden in elektronischer Form streng anonymisiert in Anlehnung an die ethischen Richtlinien der Deutschen Gesellschaft für Psychologie (DGPs) mind. 10 Jahre lang gespeichert. Wenn Sie im Nachhinein nicht mehr mit der Teilnahme einverstanden sein sollten, löschen wir auf Ihren Wunsch hin die Daten. Am Ende des Fragebogens haben Sie die Möglichkeit für diesen Zweck ein individuelles Codewort zu generieren.

Bei Fragen, Anmerkungen und Anregungen können Sie sich jederzeit an folgende Ansprechpartnerin wenden:

Dipl.-Psych. Christine Hennighausen, Universität Würzburg, Institut Mensch-Computer-Medien, Lehrstuhl für Medienpsychologie, Oswald-Külpe Weg 82, 97074 Würzburg

Telefon: 0931 31 89828, Email: christine.hennighausen@uni-wuerzburg.de

Vielen Dank für Ihre Unterstützung!

Klicken Sie nun auf „Weiter“ um zu beginnen.

Weiter

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Einverständniserklärung

Mit meiner Zustimmung erkläre ich mich zur Teilnahme an der Studie bereit. Ich erkläre, dass ich die Informationsschrift und Einverständniserklärung gelesen habe und bei meinerseits geäußertem Bedarf zusätzlich per Mail über die Studie aufgeklärt wurde.

Hiermit stimme ich der freiwilligen Teilnahme an der Studie sowie der Speicherung und Auswertung meiner Daten zu.

- ◯ Ja
- ◯ Nein

Weiter

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

1. Welches Geschlecht haben Sie?

- ◯ weiblich
- ◯ männlich

Weiter

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Zunächst bitten wir Sie um einige Angaben zu Ihrer Person.

1. Wie alt sind Sie?

Ich bin _____ Jahre.

2. Welchen Bildungsabschluss haben Sie?

Bitte wählen Sie den höchsten Bildungsabschluss, den Sie bisher erreicht haben.

- ◯ Schule beendet ohne Abschluss
- ◯ noch Schüler
- ◯ Volks-, Hauptschulabschluss, Quali
- ◯ Mittlere Reife, Realschul- oder gleichwertiger Abschluss
- ◯ Abgeschlossene Lehre
- ◯ Fachabitur, Fachhochschulreife
- ◯ Abitur, Hochschulreife
- ◯ Fachhochschul-/Hochschulabschluss
- ◯ anderer Abschluss, und zwar: _____

3. Wie hoch ist ungefähr Ihr monatliches Nettoeinkommen?

Gemeint ist der Betrag, der sich aus allen Einkünften zusammensetzt und nach Abzug der Steuern und Sozialversicherungen übrig bleibt**.**

- ◯ bis unter 250 €
- ◯ 250 € bis unter 500 €
- ◯ 500 € bis unter 1000 €
- ◯ 1000 € bis unter 1500 €
- ◯ 1500 € bis unter 2000 €
- ◯ 2000 € bis unter 2500 €
- ◯ 2500 € bis unter 3000 €
- ◯ 3000 € bis unter 3500 €
- ◯ 3500 € bis unter 4000 €
- ◯ mehr als 4000 €
- ◯ darauf möchte ich nicht antworten

4. Was machen Sie beruflich?

- ◯ Schüler/in
- ◯ in Ausbildung zum/zur _____
- ◯ Student/in im Studienfach _____
- ◯ Angestellte/r
- ◯ Beamter
- ◯ Selbstständig
- ◯ arbeitslos/arbeitssuchend
- ◯ sonstiges: _____

5. Bitte geben Sie Ihre sexuelle Orientierung an.

- ◯ heterosexuell
- ◯ homosexuell
- ◯ bisexuell
- ◯ darauf möchte ich nicht antworten

6. Bitte geben Sie Ihren Beziehungsstatus an.

- ◯ Single
- ◯ Kurzzeitpartnerschaft (Affäre, Liebschaft, One-Night-Stand, unverbindlicher sexueller Kontakt o.ä)
- ◯ feste Partnerschaft
- ◯ Lebenspartnerschaft/verheiratet
- ◯ darauf möchte ich nicht antworten

7. Bitte geben Sie die Marke ihres aktuellen Smartphones an.

- ◯ Apple
- ◯ Archos
- ◯ Blackberry
- ◯ HTC
- ◯ Huawei
- ◯ LG
- ◯ Motorola
- ◯ Samsung
- ◯ Sony Ericsson
- ◯ Wiko
- ◯ Windows
- ◯ Sonstiges: _____
- ◯ Ich habe kein Smartphone, sondern ein Handy der Marke: _____
- ◯ Ich habe kein Handy.

Weiter

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

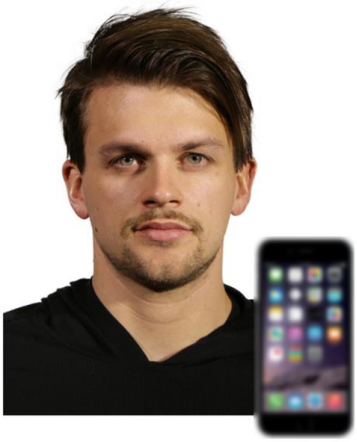
Im ersten Teil der Untersuchung wird Ihnen auf den folgenden Seiten ein Mann mit seinem Smartphone präsentiert[94].

Uns interessiert a) wie der Mann auf Sie wirkt und b) wie Sie diesen einschätzen.
Bitte schauen Sie sich dafür das Foto des Mannes an und lesen Sie die Beschreibung aufmerksam[95].

Antworten Sie spontan und intuitiv. Uns interessieren Ihre ehrlichen Antworten.

Weiter

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG



Das ist Christian. Sie sehen ihn abends in einer Bar. Ihnen fällt auf, dass er ein **Apple iPhone 6s** *(Erscheinungsdatum: September 2015, Preis: ab 943€, Quelle: chip.de)* besitzt.

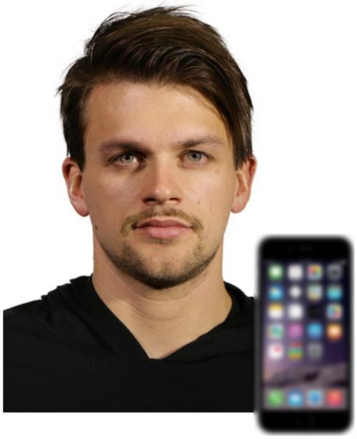
Christian ist Masterstudent an der Julius-Maximilians Universität Würzburg. Er befindet sich in der Endphase seines Studiums. Neben seinem Studium arbeitet er als Tutor und gibt Seminare für Bachelorstudierende. Außerdem ist er im Vorstand einer großen studentischen Unternehmensberatung tätig, welche 600 Mitglieder hat. Der zielstrebige Student weiß ganz genau was er im Leben will und verfügt über eine sehr gute Menschenkenntnis. Christian ist ein offener und aktiver Mensch, der häufig die Initiative ergreift, für seine Mitmenschen Entscheidungen trifft und einen großen Einfluss auf andere Menschen ausübt. Er bringt jede Party in Schwung.

Weiter

Bachelorarbeit Medienpsychologie, Universität Würzburg – 2015

[94] Participants were randomly assigned to one experimental condition.
[95] The questionnaire for female participants further included the following instruction: „Für die Studie ist es wichtig, dass Sie die folgenden Fragen unabhängig von Ihrem persönlichen Beziehungsstatus beantworten."

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG



Christian ist Masterstudent an der Julius-Maximilians Universität Würzburg. Er befindet sich in der Endphase seines Studiums. Neben seinem Studium arbeitet er als Tutor und gibt Seminare für Bachelorstudierende. Außerdem ist er im Vorstand einer großen studentischen Unternehmensberatung tätig, welche 600 Mitglieder hat. Der zielstrebige Student weiß ganz genau was er im Leben will und verfügt über eine sehr gute Menschenkenntnis. Christian ist ein offener und aktiver Mensch, der häufig die Initiative ergreift, für seine Mitmenschen Entscheidungen trifft und einen großen Einfluss auf andere Menschen ausübt. Er bringt jede Party in Schwung.

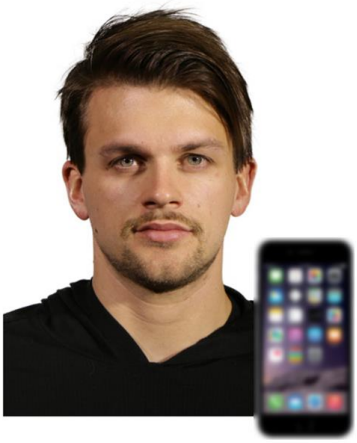
Wie schätzen Sie diesen Mann hinsichtlich folgender Eigenschaften an?

Um die Fragen zu beantworten, klicken Sie auf die graue Linie. Das schwarze Kreuz kann durch ziehen oder klicken beliebig verschoben werden.

	trifft überhaupt nicht zu	trifft voll und ganz zu
verträglich		
jung		
treu		
reich		
kokett/flirty		
sexy		
ehrgeizig		
Reif		
leidenschaftlich		
wohlhabend		
klug		
attraktiv		
talentiert		
durchsetzungsfähig		
dominant		
sozial kompetent		
extrovertiert		
selbstbewusst		
einflussreich		
hat gute Menschenkenntnis		

Weiter

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG



Christian ist Masterstudent an der Julius-Maximilians Universität Würzburg. Er befindet sich in der Endphase seines Studiums. Neben seinem Studium arbeitet er als Tutor und gibt Seminare für Bachelorstudierende. Außerdem ist er im Vorstand einer großen studentischen Unternehmensberatung tätig, welche 600 Mitglieder hat. Der zielstrebige Student weiß ganz genau was er im Leben will und verfügt über eine sehr gute Menschenkenntnis. Christian ist ein offener und aktiver Mensch, der häufig die Initiative ergreift, für seine Mitmenschen Entscheidungen trifft und einen großen Einfluss auf andere Menschen ausübt. Er bringt jede Party in Schwung.

Wie würden Sie diesen Mann einschätzen?[96]

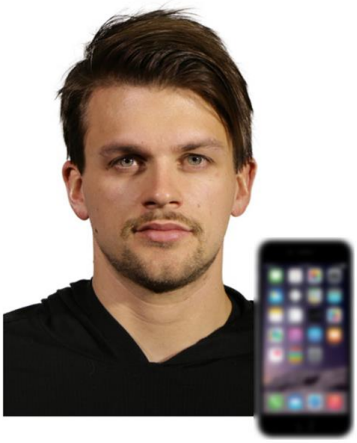
	trifft überhaupt nicht zu						trifft voll und ganz zu
	1	2	3	4	5	6	7
Ich könnte mir vorstellen, dass dieser Mann ein Rivale für mich ist.	○	○	○	○	○	○	○
Ich würde, meiner Partnerin erlauben mit diesem Mann alleine Zeit zu verbringen.	○	○	○	○	○	○	○
Ich könnte mir vorstellen, mit diesem Mann befreundet zu sein.	○	○	○	○	○	○	○
Ich könnte mir vorstellen, diesen Mann meiner Partnerin vorzustellen.	○	○	○	○	○	○	○

Weiter

Bachelorarbeit Medienpsychologie, Universität Würzburg – 2015

[96] Items measuring perceptions as a rival, friend, and mate poacher were not included in the questionnaire for female participants.

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG



Christian ist Masterstudent an der Julius-Maximilians Universität Würzburg. Er befindet sich in der Endphase seines Studiums. Neben seinem Studium arbeitet er als Tutor und gibt Seminare für Bachelorstudierende. Außerdem ist er im Vorstand einer großen studentischen Unternehmensberatung tätig, welche 600 Mitglieder hat. Der zielstrebige Student weiß ganz genau was er im Leben will und verfügt über eine sehr gute Menschenkenntnis. Christian ist ein offener und aktiver Mensch, der häufig die Initiative ergreift, für seine Mitmenschen Entscheidungen trifft und einen großen Einfluss auf andere Menschen ausübt. Er bringt jede Party in Schwung.

Wie schätzen Sie diesen Mann hinsichtlich folgender Eigenschaften an?

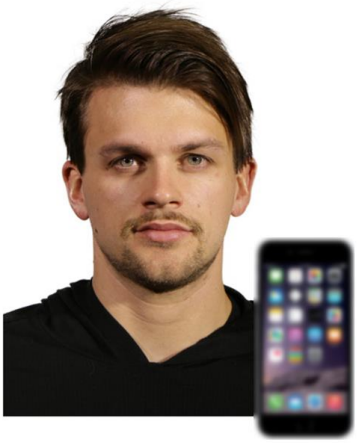
Um die Fragen zu beantworten, klicken Sie auf die graue Linie. Das schwarze Kreuz kann durch ziehen oder klicken beliebig verschoben werden.

	trifft überhaupt nicht zu	trifft voll und ganz zu
Frauen könnten sich eine **unverbindliche sexuelle Begegnung** mit diesem Mann vorstellen.[97]		
Frauen könnten sich eine **feste und dauerhafte Beziehung** mit diesem Mann vorstellen.		

Weiter

[97] In the questionnaire for female participants the items were: "Ich könnte mir eine unverbindliche sexuelle Begegnung mit diesem Mann vorstellen" and „Ich könnte mir eine feste und dauerhafte Beziehung mit diesem Mann vorstellen."

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG



Christian ist Masterstudent an der Julius-Maximilians Universität Würzburg. Er befindet sich in der Endphase seines Studiums. Neben seinem Studium arbeitet er als Tutor und gibt Seminare für Bachelorstudierende. Außerdem ist er im Vorstand einer großen studentischen Unternehmensberatung tätig, welche 600 Mitglieder hat. Der zielstrebige Student weiß ganz genau was er im Leben will und verfügt über eine sehr gute Menschenkenntnis. Christian ist ein offener und aktiver Mensch, der häufig die Initiative ergreift, für seine Mitmenschen Entscheidungen trifft und einen großen Einfluss auf andere Menschen ausübt. Er bringt jede Party in Schwung.

Wie schätzen Sie die Sexualität dieses Mannes ein?

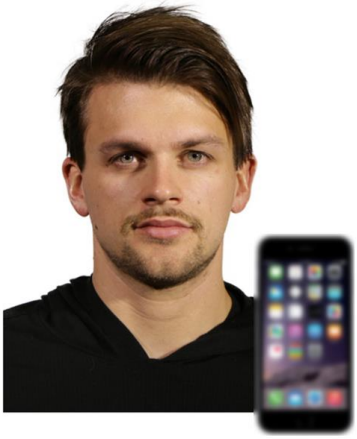
	0	1	2-3	4-7	8 oder mehr
Mit wie vielen verschiedenen Personen hat dieser Mann in den letzten 12 Monaten Geschlechtsverkehr gehabt?	○	○	○	○	○
Mit wie vielen verschiedenen Personen hat dieser Mann in seinem Leben nur einmal Geschlechtsverkehr gehabt?	○	○	○	○	○
Mit wie vielen verschiedenen Personen hat dieser Mann schon Geschlechtsverkehr, ohne dabei ein Interesse an einer längerfristigen Beziehung mit dieser Person zu haben?	○	○	○	○	○

	Ich stimme überhaupt nicht zu				Ich stimme völlig zu
	1	2	3	4	5
Dieser Mann vertritt die Absicht: “Sex ohne Liebe ist OK.”	○	○	○	○	○
Dieser Mann könnte sich vorstellen, dass er “unverbindlich” Sex mit verschiedenen Personen genießt und sich dabei wohl fühlt.	○	○	○	○	○
Dieser Mann möchte nicht eher Sex mit jemandem haben, solange er sich nicht sicher ist, dass es sich um eine ernste Langzeit-beziehung handelt.	○	○	○	○	○

	niemals	sehr selten	ca. 1 mal im Monat	ca. 1 mal/ Woche	fast jeden Tag
	1	2	3	4	5
Wie oft hat dieser Mann Fantasievorstellungen, Sex mit einer Person zu haben, mit der er zur Zeit keine feste Beziehung führt?	○	○	○	○	○
Wie oft empfindet dieser Mann sexuelle Erregung im Kontakt mit Personen, mit denen er zur Zeit keine feste Beziehung führt?	○	○	○	○	○
Wie oft hat dieser Mann im Alltag spontan Fantasievorstellungen, Sex mit einer fremden Person zu haben, die er irgendwo zufällig gesehen hat?	○	○	○	○	○

Weiter

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG



Christian ist Masterstudent an der Julius-Maximilians Universität Würzburg. Er befindet sich in der Endphase seines Studiums. Neben seinem Studium arbeitet er als Tutor und gibt Seminare für Bachelorstudierende. Außerdem ist er im Vorstand einer großen studentischen Unternehmensberatung tätig, welche 600 Mitglieder hat. Der zielstrebige Student weiß ganz genau was er im Leben will und verfügt über eine sehr gute Menschenkenntnis. Christian ist ein offener und aktiver Mensch, der häufig die Initiative ergreift, für seine Mitmenschen Entscheidungen trifft und einen großen Einfluss auf andere Menschen ausübt. Er bringt jede Party in Schwung.

Stellen Sie sich jetzt bitte folgendes Szenario vor:[98]

Sie sind mit Ihrer Partnerin zusammen in einer Bar und Sie unterhalten sich mit Ihren Freunden. Dabei bemerken Sie, dass sich Ihre Partnerin am anderen Ende des Raumes mit Christian (dem Mann auf dem Foto) unterhält. Sie kennen Christian aber nicht persönlich. An seinem Gesicht können Sie ablesen, dass er sehr an Ihrer Partnerin interessiert ist. Er hört genau zu, was sie sagt und Sie sehen, dass er beiläufig ihre Hand berührt. Es ist eindeutig: Er flirtet mir ihr. Nach einer kurzen Weile beginnt nun auch Ihre Partnerin mit ihm zu flirten. An ihrem Blick erkennen Sie, dass auch sie ihn sehr mag. Es scheint, als hätten die beiden in diesem Moment alles um sich herum ausgeblendet.

Bitte bewerten Sie mit den nachfolgenden Adjektiven, wie Sie sich fühlen würden.

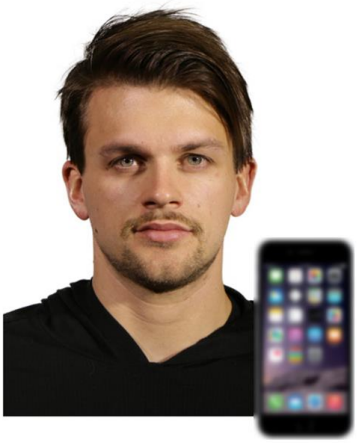
	trifft überhaupt nicht zu						trifft voll und ganz zu
	1	2	3	4	5	6	7
verdächtig	○	○	○	○	○	○	○
verraten	○	○	○	○	○	○	○
beunruhigt	○	○	○	○	○	○	○
misstrauisch	○	○	○	○	○	○	○
eifersüchtig	○	○	○	○	○	○	○
zurückgewiesen	○	○	○	○	○	○	○
verletzt	○	○	○	○	○	○	○
besorgt	○	○	○	○	○	○	○
verärgert	○	○	○	○	○	○	○
bedroht	○	○	○	○	○	○	○
traurig	○	○	○	○	○	○	○

Weiter

Bachelorarbeit Medienpsychologie, Universität Würzburg – 2015

[98] The second scenario was omitted in the questionnaire for female participants. This scenario was added at the end of the questionnaire for male participants, as data for Study 3 were gathered in the context of two bachelor theses that also focused on jealousy and conspicuous consumption. As exploring the relationship between jealousy and conspicuous consumption would go beyond the scope of this doctoral dissertation, responses to this scenario were not analyzed.

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG



Kennen Sie diesen Mann?

- ○ Nein, ich habe diesen Mann noch nie gesehen.
- ○ Ja, ich habe diesen Mann schon ein paar Mal gesehen, aber ich kenne ihn nicht näher.
- ○ Ja, der Mann ist ein Bekannter von mir.
- ○ Ja, der Mann ist ein guter Freund von mir.

Weiter

Bachelorarbeit Medienpsychologie, Universität Würzburg – 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Bitte beantworten Sie nun im zweiten Teil der Untersuchung die folgenden Fragen zum **Apple iPhone 6s**.

Weiter

Bachelorarbeit Medienpsychologie, Universität Würzburg – 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Apple iPhone 6s
Erscheinungsdatum: September 2015, Preis: ab 943€ (Quelle: chip.de)

Bitte bewerten Sie das abgebildete Smartphone.

Bitte bewerten Sie diese bezüglich verschiedener Aussagen auf einer Skala von 1(„trifft überhaupt nicht zu“) bis 7 („trifft voll und ganz zu“).

	trifft überhaupt nicht zu						trifft voll und ganz zu
	1	2	3	4	5	6	7
Ich betrachte den Kauf des **Apple iPhone 6s** als **Geltungskonsum***.	○	○	○	○	○	○	○
Ich würde das **Apple iPhone 6s** gerne besitzen	○	○	○	○	○	○	○
Ich verbinde das **Apple iPhone 6s** mit **Status**.	○	○	○	○	○	○	○

*Als „demonstrativer Konsum“ oder „Geltungskonsum“ zielt das öffentliche Konsumieren darauf ab, sein Geld mit dem Ziel auszugeben, anderen zu zeigen, was man sich alles leisten kann. Besonders auffällige Produkte und Serviceleistungen werden erworben, um seinen (sozialen) Status zu erhöhen und seine Mitmenschen zu beeindrucken. Es kann daher als eine Form von Imponierverhalten durch Statussymbole angesehen werden.

Weiter

Bachelorarbeit Medienpsychologie, Universität Würzburg – 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Abschließend haben Sie die Möglichkeit an der Verlosung eines Amazon-Gutscheins im Wert von 20 Euro teilzunehmen sowie über den Zweck der Untersuchung informiert zu werden.

Bitte kreuzen Sie dafür das entsprechende Feld an und geben Sie Ihre E-Mail-Adresse ein.

☐ Ich möchte am Gewinnspiel teilnehmen.
☐ Ich möchte über den Zweck der Untersuchung informiert werden.

Weiter

Bachelorarbeit Medienpsychologie, Universität Würzburg – 2015

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Damit Sie die Möglichkeit haben, Ihre Daten nach Teilnahme an der Studie löschen lassen zu können, können Sie an dieser Stelle ein individuelles Codewort erstellen. Das Codewort ist nur Ihnen bekannt. Wenn Sie nach Teilnahme an der Studie Ihre Daten löschen lassen möchten, senden Sie uns eine E-Mail mit diesem Codewort. Die Erstellung des Codeworts ist optional.

Möchten Sie ein Codewort erstellen?

- ja
- nein

Weiter

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Wenn Sie möchten, geben Sie nun bitte ein sog. Codewort ein, und zwar nach folgendem Schema:

1. Erster Buchstabe des eigenen Geburtsortes
2. Zweiter Buchstabe des Vornamens des Vaters
3. Dritter Buchstabe des Mädchennamens der Mutter
4. Letzte Ziffer des Geburtsjahres

Allgemein gilt, dass eine Identifizierung Ihrer Person anhand eines solchen Codeworts ausgeschlossen ist. Es wäre sinnvoll, wenn Sie sich das Codewort zusätzlich auf einem Blatt Papier notieren würden (nach Möglichkeit zusammen mit dem Titel dieser Studie).

Weiter

MEDIENPSYCHOLOGIE
UNIVERSITÄT WÜRZBURG

Vielen Dank für Ihre Teilnahme!

Wir möchten uns ganz herzlich für Ihre Mithilfe bedanken.
Ihre Antworten wurden gespeichert, Sie können das Browser-Fenster nun schließen.

Fenster schließen

Appendix P: Descriptive statistics, Study 3

Table P1. Descriptive Statistics for Perceptions of Smartphone Conspicuousness by Smartphone Type, Social Dominance, and Participant Sex (Manipulation Check)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	5.15	1.72	52		Higher	1.53	0.99	45
Lower	4.87	1.73	54		Lower	1.71	1.25	48
				Male participants				
Higher	4.85	1.98	46		Higher	1.80	0.91	49
Lower	4.94	1.94	48		Lower	1.63	1.20	46

Table P2. Descriptive Statistics for Perceptions of Smartphone Status by Smartphone Type, Social Dominance, and Participant Sex (Manipulation Check)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	3.65	2.05	52		Higher	1.53	0.89	45
Lower	4.02	1.96	54		Lower	1.69	1.09	48
				Male participants				
Higher	3.89	2.01	46		Higher	1.69	0.82	49
Lower	3.63	2.30	48		Lower	1.41	0.72	46

Table P3. Descriptive Statistics for Perceptions of Smartphone Desirability by Smartphone Type, Social Dominance, and Participant Sex (Manipulation Check)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	3.29	2.22	52		Higher	–	–	–
Lower	3.22	1.95	54		Lower	–	–	–
				Male participants				
Higher	3.33	2.24	46		Higher	1.88	1.15	49
Lower	3.42	2.13	48		Lower	1.91	1.23	46

Appendix P – Continued

Table P4. Descriptive Statistics for Perceptions of Male Social Dominance by Smartphone Type, Social Dominance, and Participant Sex (Manipulation Check)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	67.77	16.57	52		Higher	69.01	16.43	45
Lower	34.39	15.35	54		Lower	32.95	15.29	48
				Male participants				
Higher	65.01	15.79	46		Higher	61.55	16.78	49
Lower	33.50	16.42	48		Lower	32.22	12.09	46

Table P5. Descriptive Statistics for Perceptions of the Mail Target's Desirability as a Short-Term Mate by Smartphone Type, Social Dominance, and Participant Sex (H_1)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	28.54	28.56	52		Higher	37.76	29.62	45
Lower	28.70	22.53	54		Lower	27.40	29.73	48
				Male participants				
Higher	69.07	20.51	46		Higher	60.65	20.66	49
Lower	54.96	26.10	48		Lower	45.50	22.29	46

Table P6. Descriptive Statistics for Perceptions of the Male Target's Desirability as a Long-Term Mate by Smartphone Type, Social Dominance, and Participant Sex (H_2)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	30.87	27.60	52		Higher	36.78	28.26	45
Lower	27.70	25.30	54		Lower	34.85	28.79	48
				Male participants				
Higher	56.57	24.38	46		Higher	61.59	21.11	49
Lower	60.29	22.27	48		Lower	57.28	18.29	46

Appendix P – Continued

Table P7. Descriptive Statistics for Perceptions of the Male Target's Inclination Toward Short-term Mating (SOI-R) by Smartphone Type, Social Dominance, and Participant Sex (H_3)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	3.45	0.65	52		Higher	3.46	0.72	45
Lower	3.01	0.60	54		Lower	2.84	0.44	48
				Male participants				
Higher	3.59	0.70	46		Higher	3.50	0.75	49
Lower	3.19	0.60	48		Lower	3.10	0.58	46

Appendix P –Continued

Table P8. Correlations Between Variables Measuring Components of Mate Value (H_4)

Variables Listed by Mate Value Dimension		*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
Agreeableness	1. Agreeable	—											
Attractiveness	2. Sexy	.23***	—										
	3. Attractive	.24***	.75***	—									
	4. Youthful	.24***	.10*	.19**	—								
Sexual Willingness	5. Flirty	-.01	.44***	.36***	.06	—							
	6. Loyal	.38***	.05	.15**	.21***	-.28***	—						
Intelligence	7. Mature	.23***	.29***	.34***	.10*	.30***	.15**	—					
	8. Smart	.28***	.27***	.39***	.28***	.16**	.36***	.56***	—				
	9. Talented	.23***	.39***	.46***	.26***	.35***	.20***	.51***	.65***	—			
Ambition	10. Ambitious	.05	.30***	.28***	.16**	.46***	-.04	.52***	.54***	.52***	—		
	11. Passionate	.08	.34***	.35***	.14**	.38***	.11*	.42***	.37***	.40***	.37***	—	
Status	12. Rich	.06	.18***	.18**	.05	.30***	-.05	.28***	.19***	.25***	.22***	.20***	—
	13. Wealthy	.01	.24***	.19***	.10	.32***	-.08	.30***	.24***	.25***	.30***	.29***	.79***

Note. $N = 388$. *$p < .05$; **$p < .01$; ***$p < .001$, two-tailed.

Appendix P – Continued

Table P9. Descriptive Statistics for Perceptions of the Male Target's Mate Value Characteristics (Agreeableness) by Smartphone Type, Social Dominance, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	56.65	23.00	52		Higher	65.93	23.06	36
Lower	61.69	23.71	54		Lower	73.33	18.99	46
				Male participants				
Higher	56.26	19.02	46		Higher	61.02	19.86	35
Lower	61.13	20.95	48		Lower	65.09	22.10	35

Table P10. Descriptive Statistics for Perceptions of the Male Target Model's Mate Value Characteristics (Sexiness) by Smartphone Type, Social Dominance, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	40.23	23.18	52		Higher	47.09	24.54	36
Lower	38.63	20.52	54		Lower	39.92	22.51	46
				Male participants				
Higher	40.89	24.93	46		Higher	40.49	23.36	35
Lower	35.10	21.25	48		Lower	32.87	18.60	35

Table P11. Descriptive Statistics for Perceptions of the Male Target's Mate Value Characteristics (Attractiveness) by Smartphone Type, Social Dominance, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	43.67	23.83	52		Higher	54.80	23.60	45
Lower	45.41	22.70	54		Lower	51.96	25.71	48
				Male participants				
Higher	48.20	24.33	46		Higher	50.67	25.06	49
Lower	39.46	21.00	48		Lower	38.59	21.20	46

Appendix P – Continued

Table P12. Descriptive Statistics for Perceptions of the Male Target's Mate Value Characteristics (Youthfulness) by Smartphone Type, Social Dominance, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	63.96	20.94	52		Higher	63.49	22.73	45
Lower	60.52	22.46	54		Lower	66.69	26.36	48
				Male participants				
Higher	65.98	19.76	46		Higher	65.73	18.78	49
Lower	65.54	21.96	48		Lower	63.28	23.80	46

Table P13. Descriptive Statistics for Perceptions of the Male Target's Mate Value Characteristics (Willingness to Flirt) by Smartphone Type, Social Dominance, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	60.06	21.27	52		Higher	61.42	22.05	45
Lower	33.04	22.48	54		Lower	30.48	23.38	48
				Male participants				
Higher	65.26	21.95	46		Higher	54.35	21.91	49
Lower	37.81	23.95	48		Lower	33.00	18.87	46

Table P14. Descriptive Statistics for Perceptions of the Male Target's Mate Value Characteristics (Loyalty) by Smartphone Type, Social Dominance, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	50.83	20.34	52		Higher	52.00	0.00	45
Lower	67.06	22.18	54		Lower	54.00	0.00	48
				Male participants				
Higher	39.91	19.84	46		Higher	50.02	20.13	49
Lower	60.63	22.14	48		Lower	66.20	19.40	46

Appendix P – Continued

Table P15. Descriptive Statistics for Perceptions of the Male Target's Mate Value Characteristics (Maturity) by Smartphone Type, Social Dominance, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	57.13	25.39	52		Higher	64.07	21.07	45
Lower	47.69	18.24	54		Lower	49.23	22.55	48
				Male participants				
Higher	57.02	21.82	46		Higher	61.69	19.46	49
Lower	47.38	23.43	48		Lower	49.11	19.77	46

Table P16. Descriptive Statistics for Perceptions of the Male Target's Mate Value Characteristics (Smartness) by Smartphone Type, Social Dominance, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	66.65	22.22	52		Higher	73.29	20.33	45
Lower	61.78	17.25	54		Lower	69.02	15.93	48
				Male participants				
Higher	63.63	21.56	46		Higher	66.76	15.91	49
Lower	53.35	21.71	48		Lower	58.96	14.63	46

Table P17. Descriptive Statistics for Perceptions of the Male Target's Mate Value Characteristics (Talent) by Smartphone Type, Social Dominance, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	57.94	21.19	52		Higher	66.76	19.36	45
Lower	48.56	18.71	54		Lower	56.40	17.01	48
				Male participants				
Higher	60.78	21.02	46		Higher	59.29	16.84	49
Lower	47.75	20.10	48		Lower	49.33	15.74	46

Appendix P – Continued

Table P18. Descriptive Statistics for Perceptions of the Male Target's Mate Value Characteristics (Ambition) by Smartphone Type, Social Dominance, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	76.02	23.55	52		Higher	80.38	19.88	45
Lower	56.09	23.70	54		Lower	56.73	22.98	48
				Male participants				
Higher	76.37	19.13	46		Higher	68.35	21.02	49
Lower	47.94	19.98	48		Lower	52.61	20.47	46

Table P19. Descriptive Statistics for Perceptions of the Male Target's Mate Value Characteristics (Passion) by Smartphone Type, Social Dominance, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	48.88	19.06	52		Higher	53.27	20.02	45
Lower	36.43	19.80	54		Lower	49.13	24.30	48
				Male participants				
Higher	50.46	23.12	46		Higher	51.31	24.16	49
Lower	39.71	17.84	48		Lower	40.85	13.81	46

Table P20. Descriptive Statistics for Perceptions of the Male Target's Mate Value Characteristics (Richness) by Smartphone Type, Social Dominance, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	54.67	22.58	52		Higher	26.61	25.00	45
Lower	52.19	18.89	54		Lower	26.35	20.01	48
				Male participants				
Higher	52.24	19.36	46		Higher	40.69	20.00	49
Lower	52.33	23.45	48		Lower	32.96	18.72	46

Appendix P – Continued

Table P21. Descriptive Statistics for Perceptions of the Male Target's Mate Value Characteristics (Wealth) by Smartphone Type, Social Dominance, and Participant Sex (H_4)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Female participants				
Higher	60.12	22.74	52		Higher	44.56	21.98	45
Lower	50.87	20.30	54		Lower	34.10	18.69	48
				Male participants				
Higher	57.63	18.08	46		Higher	42.88	22.60	49
Lower	54.67	22.50	48		Lower	35.26	17.08	46

Table P22. Descriptive Statistics for Perceptions of the Male Target's as a Rival by Smartphone Type, and Social Dominance (H_5)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Male participants				
Higher	3.96	1.65	46		Higher	3.06	1.74	49
Lower	3.17	1.73	48		Lower	2.37	1.25	46

Table P23. Descriptive Statistics for Perceptions of the Male Target's as a Friend by Smartphone Type, and Social Dominance (H_6)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Male participants				
Higher	4.46	1.30	46		Higher	4.27	1.44	49
Lower	4.17	1.58	48		Lower	4.54	1.44	46

Table P24. Descriptive Statistics for Perceptions of the Male Target's as a Mate Poacher (Willingness to Introduce Girlfriend to Man) by Smartphone Type, and Social Dominance (H_7)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Male participants				
Higher	4.11	1.87	46		Higher	4.47	1.39	49
Lower	4.21	1.58	48		Lower	4.35	1.35	46

Appendix P – Continued

Table P25. Descriptive Statistics for Perceptions of the Male Target's as a Mate Poacher (Willingness to Let Girlfriend Spend Time With Man) by Smartphone Type, and Social Dominance (H_7)

Conspicuous smartphone					Nonconspicuous smartphone			
Social dominance	*M*	*SD*	*n*		Social dominance	*M*	*SD*	*n*
				Male participants				
Higher	4.41	1.86	46		Higher	4.69	1.66	49
Lower	4.17	1.79	48		Lower	4.74	1.74	46