Thin slices of infidelity: Determining whether observers can pick out cheaters from a video clip interaction and what tips them off

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Abstract

The viability of using brief observations of behavior (thin slicing) to identify infidelity in romantic relationships was examined. Two studies supported the hypothesis that observers can accurately identify people who are cheating on their romantic dating partner based on thin slices of observed behavior. In Study 1, raters were able to accurately identify people who were cheating on their romantic dating partner after viewing a short 3- to 4-min video of the couple interacting. Study 2 replicated this finding and identified possible variables that may mediate the relation between coder’s ratings and participants’ actual reported infidelity. Commitment and trustworthiness were found to be mediators of this relation. These results are discussed in terms of application and future research.

People can make remarkably accurate judgments about others in a variety of situations after just a brief exposure to their behavior. Ambady and Rosenthal (1992) referred to this brief observation as a “thin slice.” For example, students could accurately predict personality traits of an instructor after watching a 30-s video clip (Tom, Tong, & Hesse, 2010), while Stillman, Maner, and Baumeister (2010) showed that a 2-s look at a picture of a face was enough to accurately determine a violent or nonviolent past. Other research has demonstrated the predictive accuracy of short observations regarding social status (Anderson, John, Keltner, & Kring, 2001), psychopathy (Fowler, Lilienfield, & Patrick, 2009), and socioeconomic status (Kraus & Keltner, 2009).

Emerging research indicates the functionality of utilizing thin-slice observations in ascertaining deception in social situations (Albrechtsen, Meissner, & Susa, 2009; Verplaeste, Vanneste, & Braeckman, 2007), determining sociosexual orientation (Stillman & Maner, 2009), and instigating mate-search and mate-guard behaviors (Maner, Gailliot, Rouby, & Miller, 2007). The data indicate that this ability to predict outcomes from brief observations is more intuitive than deliberatively cognitive, leading scholars to believe that the ability to accurately predict is “hard-wired and occur[s] relatively automatically” (Ambady, 2010, p. 271). What role do such intuitive judgments play in intimate relationships?

Evolutionary perspective

An evolutionary perspective suggests that infidelity may be adaptive as it could allow individuals the opportunity to assess prospective long-term mates (Buss & Schmitt, 1993), refine long-term mate preferences (Greiling & Buss, 2000), or even find a better mate (Symons, 1979). Conversely, given some of the adverse consequences of infidelity, it could...
be adaptive to be able to detect infidelity from brief interactions. Is it possible that people can accurately predict, after observing a thin slice of behavior, the infidelity of another individual? The primary objective of this study is to determine whether thin slices of behavior can be used to identify the presence of infidelity in romantic relationships. If this is possible, a second objective is to identify what might account for this phenomenon.

Prevalence of infidelity

Most people look forward to marriage with the belief that they will find that special person meant just for them, a “soul mate” (Whitehead & Popenoe, 2001). Faithfulness to one’s chosen partner is a strongly inferred cultural norm and social expectation. There is a widespread disdain for infidelity in relationships, with most people indicating it is almost always, if not always, wrong (Smith, 1994). Yet, infidelity occurs in committed relationships at a high rate. Wiederman and Hurd (1999) found that 75% of men and 68% of women in dating relationships had participated in extradyadic behaviors. Other research also leads us to estimate that at least one fourth of all marriages may be affected by extramarital sex (Balswick & Balswick, 1999; Lauman, Gagnon, Michael, & Michaels, 1994; Wiederman, 1997). Contrasting the prevalence of relationship infidelity with the expectations we take into new relationships, we may gain a greater understanding of the acute, and sometimes chronic, adverse outcomes associated with infidelity.

Consequences of infidelity

Infidelity ranks among the most damaging problems in relationships (Whisman, Dixon, & Johnson, 1997). Predictably, infidelity is cited as a chief cause of marriage termination (Amato & Previti, 2003). A study of 160 societies found infidelity to be the number one cause of marriage dissolution (Betzig, 1989). Infidelity is a predictor of numerous psychological and physiological repercussions for both the cheaters and the cheated. Those who participate in acts of infidelity suffer from lower self-esteem (Sheppard, Nelson, & Andreoli-Mathie, 1995) and feelings of guilt (Fisher, Voracek, Rekkas, & Cox, 2008), while the faithful partners experience anxiety (Cano & O’Leary, 2000), anger, disappointment, and self-doubt (Buunk, 1995). Both participants and their partners experience depression (Schneider, Irons, & Corley, 1999), and there is evidence that they both are exposed to an increased potential for the transmission of physical illness via sexually transmitted infections (Hall, Fals-Stewart, & Fincham, 2008; Hirsch, Higgins, Bentley, & Nathanson, 2002). Not surprisingly, therapists indicate that infidelity is the third most difficult problem to treat (Whisman et al., 1997).

Given (a) the severity of negative emotional and physical outcomes associated with infidelity, and (b) the psychological, cultural, and historical motivation to engage in successful monogamous relationships, the potential for identifying individuals who may be more prone to infidelity should be adaptive. If it were possible to identify people who were cheating on their partners through thin slicing, what might be subtle cues that would inform this impression? We predict that judgments of commitment and trustworthiness will mediate the relation between coder ratings of infidelity and participant self-reports of infidelity.

Commitment as a predictor of infidelity

Research has demonstrated that commitment, which could be defined as the feeling of psychological attachment toward a relationship, is a central factor in predicting important relationship outcomes, including marital quality (Clements & Swensen, 2000), better communication (Stanley, 2005), and long-term stability (Fenell, 1993). Commitment also serves as a mediator between stay/leave decisions in romantic relationships (Drigotas & Bart, 2001; Rusbult, 1983). Indeed, Drigotas, Safstrom, and Gentilia (1999), working from an investment model framework and incorporating a longitudinal design, demonstrated that commitment is a strong predictor of emotional and physical infidelity in romantic relationships. Commitment also acts as a partial mediator in the relation between sociosexual orientation (a measure of the level of openness and the speed
at which one is comfortable with engaging in
sexual contact) and infidelity (Mattingly et al.,
2011). Thus, we suspect that observers’ rat-
ings of commitment should mediate the rela-
tion between perceived likelihood of infidelity
and actual reported infidelity.

**Trustworthiness as a predictor of infidelity**

In most committed relationships, there is an
expectation of fidelity (Treas & Giesen, 2000).
An act of infidelity is a clear “breach of trust”
that subverts the foundations upon which the
superstructure of the relationship rests (Blow
& Hartnett, 2005, p. 192) and undermines
the relationship (Williams & Payne, 2002).
Secrecy and deception are often concomitant
with partner infidelity (Bitter, 2011; Hoyt,
2011; Lusterman, 2001; Williams & Payne,
2002). Persons disposed to a more unrestricted
sociosexual orientation are more likely to
commit infidelity (Seal, Agostinelli, & Han-
nett, 1994), and have been rated by unrelated
observers as being less trustworthy (Campbell
et al., 2009). Thus, another potential mediator
of the relation between perceived infidelity
and reported infidelity should be perceived
trustworthiness.

The literature indicates that both commit-
ment and trustworthiness are negatively related
to infidelity. However, it remains to be exam-
in whether objective coders can pick up on
these factors after watching a brief interac-
tion between partners and whether impressions
of commitment and trustworthiness may be
related to both coders’ perception of infidelity
and actual reported infidelity.

**Overview of studies**

The aim of this research was to extend our
understanding of thin slicing in identifying
unfaithful intimate partners. In Study 1, we
examined whether observers can accurately
predict reported infidelity from observation of
a thin slice of interaction between romantic
partners. Study 2 extended these findings by
examining whether coder ratings of partici-
pants’ infidelity and participants’ reported in-
delity would be mediated by observers’ ratings
of perceived commitment and trustworthiness.

**Study 1**

Our aim in Study 1 was to test the hypothe-
sis that there would be a correlation between
observer’s ratings of participants’ perceived
infidelity and actual infidelity as self-reported
by participants of the study. Observations were
limited to a short 3- to 4-min audiovisual clip
(thin slice) in which the participant interacted
with their romantic partner.

**Method**

**Participants**

Participants were 51 undergraduates (16 men
and 35 women) from a public university in the
Southeast United States, who participated in
the study for partial course credit with a roman-
tic partner. Participants ranged in age from 18
to 23 with a median age of 19. Only one indi-
vidual (the class participant) in each partner-
ship completed the self-report measures and
were included in the analyses, the romantic
partner completed only the video-taped inter-
action and were not included in the analyses.

**Design and measures**

The class participant partners independently
completed a set of measures detailing their
romantic relationship. To measure infidelity,
we used a nine-item scale that assesses emo-
tional and physically infidelity developed by
Drigotas and colleagues (1999; e.g., “How
emotionally intimate were you with this per-
son?” and “How physically intimate were you
with this person?”). The alpha for the measure
was .90.

Couples were then instructed to complete
drawing task in which one of the partners
was blindfolded and the other partner gave
instructions to the blindfolded participant
regarding what to draw. Six trained coders
then watched the 3- to 5-min videotaped con-
vversations and rated participants on how likely
he or she was engaged in extradyadic involve-
ment using a three-item measure including
the following questions: “How likely is it
that this person has shown interest in an
alternative to his/her partner?” (intraclass
correlation [ICC] = .84), “How likely is it that
the person flirted or made other advances on someone other than the partner?” (ICC = .85), and “How likely do you think this person has had sexual intercourse with someone other than his/her partner?” (ICC = .85). Each question was answered based on a 5-point Likert-type scale, where 1 = not at all likely, 3 = somewhat likely, and 5 = extremely likely, and the three questions were averaged to create an index of perception of cheating (α = .72). Coders were instructed not to code the interaction if they knew either of the participants.

Given that social dominance is related to infidelity (Egan & Angus, 2004), we also rated how dominant the class participant was during the interaction by asking the question: “Who was most dominant in making these decisions?” 1 = the class participant was the dominator, 3 = it was pretty equal, 5 = the class participant’s partner was the dominator (ICC = .58).

Results and discussion

We found a significant and moderate effect size in the correlation between rater’s judgments of infidelity likelihood and participant’s actual infidelity (β = .32, p = .05). An alternate explanation is that as men are more likely to commit infidelity (Michael, Gagnon, Laumann, & Kolata, 1995; Smith, 1994), coders simply rated men as more likely to cheat. However, this was not the case in our sample as we did not find a gender difference in infidelity between men and women (t = .05, p = .96). Nonetheless, we reran the analysis controlling for participant gender. The effect remained significant (β = .31, p = .03). To ensure that dominance during the activity was not an alternative explanation for our findings, we reran the analyses, this time controlling for dominance and the effect remained significant (β = .30, p = .04).

The results from Study 1 support our hypothesis that humans may have an intuitive sense of the infidelity of others that can be activated after even brief exposures, or thin slices, of observation. However, more data were needed to examine potential mechanisms for this relation.

Study 2

The objective of Study 2 was to further our investigation of infidelity and to replicate the findings that demonstrate that observers could accurately identify, after viewing only a brief audiovisual clip, participants who were cheating on their current romantic partner. We also sought to extend the findings from Study 1 by examining whether coder ratings of participants’ infidelity and participants’ reported infidelity were mediated by coders’ ratings of commitment and trustworthiness.

Method

Participants

Participants were 43 undergraduates (21 men, 22 women) from a public university in the Southeast United States, who participated in the study for partial course credit. Participants’ ages ranged from 18 to 33 with a median of 20. Participants were all in a current romantic relationship and participated in the study with the assistance of their partner.

Design and measures

Participants and their partner each individually completed a set of measures including details about their romantic relationship and potential infidelity. Infidelity was measured again using the same nine-item measure used in Study 1 (Drigotas et al., 1999; α = .92). Data from this measure were summed and averaged to create an infidelity mean score for each participant. As in Study 1, after completing the measures, participants and their partners were invited to participate in a blindfolded drawing task for 3–4 min. These conversations were videorecorded and later viewed by five trained coders who rated them using a single-item measure to assess the rater’s overall impression of the participant’s commitment (“How committed is the participant to the relationship?” ICC = .83) and trustworthiness (“How trustworthy did you perceive this person to be?” ICC = .70), and a three-item measure of the rater’s impression of the participant’s emotional and physical infidelity. Questions from this infidelity measure included the following:
“How likely is it that this person has shown interest in alternative to his/her partner?” (ICC = .91), “How likely is it that the person flirted or made other advances on someone other than the partner?” (ICC = .86), and “How likely do you think this person has had sexual intercourse with someone other than his/her partner?” (ICC = .76). Raters answered each question based on a 5-point Likert-type scale where 1 = not at all likely, 3 = somewhat likely, and 5 = extremely likely, and were averaged to create an index of perception of cheating (α = .87).

Results and discussion

Similar to the results from Study 1, we found a significant and moderate effect size in the correlation between rater’s judgments of infidelity likelihood and participant’s actual infidelity (β = .41, p = .01). Again, there were no gender differences in infidelity rates in the sample (t = −.08, p = .93). We ran a regression analysis controlling for participant gender and found that the results remained significant (β = .41, p < .01). Given the dyadic nature of our data, we reran the analyses controlling for the nested structure in the data and our results remained significant (t = 3.13, p < .05).

Commitment and trustworthiness as mediators

To assess mediation, we used Preacher and Hayes’s (2008) bias-corrected bootstrapping procedure. Bootstrapping involves the repeated extraction of samples from the data set (in this case, 1,000 samples were taken) and the estimation of the indirect effect in each resampled data set. The totality of all the estimated indirect effects permits the construction of a 95% confidence interval for the effect size of each indirect effect. If the values of the estimated effect sizes within the confidence interval include zero, this indicates a nonsignificant effect. The 95% confidence intervals (tested simultaneously) for the indirect effect through commitment and trustworthiness were .02 to .90 and .42 to 1.38, respectively. Neither of the intervals included zero, indicating statistically significant mediation. Neither effect was stronger than the other. Thus, coders’ view of participants’ trustworthiness and commitment both significantly mediated the relation between perceived and reported infidelity.

General Discussion

Previous research has demonstrated the viability and accuracy of thin-slice judgments across a broad spectrum of human characteristics and in varied social situations. We extended the previous research by examining the application of thin slicing in predicting infidelity in romantic relationships. In Study 1, we found strong support for our initial prediction that the presence of infidelity may be among the characteristics that observers can intuitively surmise after brief exposure to a participant’s behavior. In Study 2, we replicated the findings from Study 1 while broadening our understanding of mediating factors in the observers’ experience. We found that observer’s ratings of the participant’s commitment and trustworthiness served as strong mediators between the observer ratings of infidelity and the participant self-reports of their actual infidelity.

Our findings showing the mediating effects of commitment and trustworthiness were supported by prior theory and empirical literature; however, this study is among the first to explore mediation using thin slices of behavior. This research is perhaps the first to combine the two mediators and the thin-slice methodology to extend our understanding of infidelity in romantic relationships.

Limitations and future directions

We should note that while our findings are congruent with previous research both in thin slicing and relationship infidelity, caution is needed in generalizing these findings to marriage relationships as our data were restricted to couples in romantic dating relationships. We believe that future research under similar conditions but with married couples would serve to increase our understanding and extend the current application of this research. Furthermore, the results of this study indicate that objective coders were able
to accurately identify (better than chance) who had recently cheated on their partner; however, it is unclear whether individuals possess the ability to predict who will cheat in the future, which could be an interesting avenue for future research.

An additional potential mechanism for our observed effect could be the physical attractiveness of participants in the video, which could influence the opportunity for infidelity. Although attractiveness has not been a widely cited reason for infidelity, it does have evolutionary reasons why it could be important, and future research should rule out attractiveness as an additional potential mediator for the relationship. Something else that may have guided raters in being able to pick out those who had cheated on their partner could be voice pitch. We did not mute the audio on the video and voice pitch is known to influence perceptions of sexual infidelity (O’Connor, Re, & Feinberg, 2011) and ought to be examined by future studies.

Andrews and colleagues (2008) examined gender differences regarding inferences made about a romantic partner’s infidelity. They found that men made more accurate inferences than did women and that the ratio of positive to negative errors was higher for men than for women. Our coders were almost all female (only one coder was male); however, it could be fruitful to examine whether there would be gender differences in identifying extradyadic behavior in strangers. Another interesting direction would be to further determine what distinguishes those who engage in extradyadic behavior and get caught versus those who cheat and get away with it.

**Conclusion**

This research extends the application of thin slicing as it applies to the judgment of infidelity in a romantic partner. Many people are interested in forming meaningful long-term romantic relationships, and our research indicates that people may be internally programmed to identify inclinations that could be devastating to their relationship. Specifically, objective coders identified cheaters and thus individuals seeking a committed relationship may be well advised to listen to their intuition or at least think twice before committing to someone they suspect may be inclined to cheat.

**References**


