The Impact of a Salesperson's Smile on Perceptions of Trustworthiness

By John "Andy" Wood

This series of experiments, using a scenario of the introduction exchange between a buyer and a salesperson as the treatment, provides evidence for the existence of a human communication system based upon autonomic and reliable nonverbal signals. This proposed system is found as facilitating the trustworthiness assessments of the receiver in that the cue indicates the intentions of the sender. The results highlight the necessity of salespeople's' belief and commitment of the sales message. The automatic nature of nonverbal signals argues against the long-term success of deceit.

"Interest in trust extends across many different disciplines, including sociology, political science, economics, psychology, history, political theory and philosophy, management and organization studies, and anthropology"(Newton 2010 p1.)

Emerging from this breadth of social science is a perspective that the intertwined concepts of trust and trustworthiness underlay most human cooperation including the buyer-seller exchange. However, the explanations about the relationship between trust and trustworthiness are as varied as the disciplines mentioned in the opening quote. Currently most scientists rely upon a paradigm that says conscious cognitive evaluations and judgments explain how humans reach conclusions about the trustworthiness of others which then drives their subsequent trusting behaviors. However, some researchers have begun to look to neuroscience for insights about human decision making in general as well as trust and trustworthiness in particular. This emerging neurological research focuses on the automatic nature our trust-based behavioral choices. Emerging from this research in neuroscience is the concept that during interpersonal communications deception is non-consciously detect and the lack of sincerity will negatively influence trustworthiness assessment.

This line of research seems particularly important to the buyer-seller exchange. This is because while there are extensive findings from cognitive marketing research suggesting the positive consequences of trust and trustworthiness such as cooperation (Anderson and Narus 1990; Heide 1994), commitment (Geyskens et al. 1999; Morgan and Hunt 1994), loyalty and even increased purchase intentions (Kennedy et al. 2001; Sirdeshmukh et al. 2002) there remains a crucial gap in understanding the steps salespeople can take to engender trust and trustworthiness assessments. We suggest this shortfall in suggestions for specific actions and behaviors develops from failing to recognize the automatic nature of the salesperson's nonverbal signals during interpersonal buyer-seller communications. The automatic or without conscious control generation of nonverbal signals means not only that salespeople cannot consciously hide or conceal insincere or deceitful intent (Ekman 2003) but also that buyers are looking for sincere reliable signals to indicate positive intent. Buyers may miss the nonverbal cue, fail to process the signal, or consciously chose to ignore the intent but the signal will exist and be transmitted.

Additionally, the presence of these signals can directly influence buyer's assessment of the trustworthiness of a salesperson. So for salespeople, the capability to project reliable and sincere signal may be the key to initiating positive trustworthiness assessments. Further there is the implication deceit is impractical over the long run. Verbal distortions, lies, or misdirection are betrayed by incongruent nonverbal signals. Buyers may not be able to articulate their discomfort (Gladwell 2005) but are aware of the inconsistency of verbal and nonverbal signals as well as the arousal caused by unreliable signals. The customer may exhibit the modern day equivalent of 'flight' and quickly exit an encounter with a salesperson that they judge as having unreliable signals. For sales managers and salespeople alike the

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implication is that the salesperson must believe in the value propositions of their firm in order to generate positive displays.

We provide some evidence of these effects in buyer-seller exchanges through three experiments designed to demonstrate that the nonverbal cue of a smile influences cognitive and affect responses. In these three experiments when extend the generalizability of the finding by testing written scenarios in both salesperson to consumer and salesperson to business settings. In the third experiment we use video displays of 'genuine' smiles (Ekman et al. 1991) while simultaneously recording the response time of subject's trustworthiness assessment as well as their cognitive responses as dependent variables. The paper concludes with a discussion of the experimental results and the implications of the outcomes for salespeople and sales managers.

BACKGROUND

Though the use of neurological and physiological measurements in marketing contexts has seen the adoption of its own label – neuro-marketing (Sullivan 2008), many of the techniques and theoretical underpinnings are directly related to neuroscience. One such underlying premise of neuroscience is the assumption that humans automatically and unconsciously use cues to judge others. In particular, a proposition that is emerging in neuro-marketing is the concept that the veracity and through extension the trustworthiness of sellers (Lindstrom 2008) is judged during exposure to subtle cues. Several neurological studies have found that trustworthiness judgments (Chaplin et al. 2000; Kosfeld et al. 2005; Puce et al. 2003) can occur with little or no progressive interaction. This growing body of evidence emphasizes the complexity of human judgments about trust and trustworthiness especially those based on 'thin slices' of perceptual cues (Gladwell 2005).

Within this framework, trustworthiness assessments as precursors to trust are judgments about the reliability and sincerity of the signaler. These judgments are informed by the non-conscious perceptions of the signal as well as affective responses to signals. So for salespeople, positive trustworthiness assessments by buyers means a developing belief that the salesperson is concerned about the buyers interests and will act in the buyers interest (Hardin 2002). Judgments about trustworthiness will influence the likelihood the buyer will engage in a trust-based exchange where trust is the willingness to place a valued resource at risk of loss in the control of the salesperson without recourse or certainty of outcome.

In neuroscience there is a growing body of evidence showing that these nonverbal cues exist and that they influence trustworthiness assessments. Much of the research that forms the foundation of this framework began by identifying that nonverbal signals activate various areas of the brain (Rilling et al. 2002; Tomlin et al. 2007). Progress continued with establishment that some of these specific nonverbal signals such as body movements (Bonda et al. 1996) or facial expressions (Puce et al. 2003) activate areas of the brain associated with automatic or non-conscious processing. Other studies conclude that such activations coincide with trustworthiness assessments (Engell et al. 2007; Winston et al. 2002). All of this research points towards a conclusion that exposure even at the millisecond level leads to brain activation in areas associated with trustworthiness assessments (Todorov et al. 2009). It appears humans may be 'hardwired' to detect and instantaneously interpret nonverbal signals displayed in an encounter.

In such a nonverbal communications system, reliability of the signal means an elimination of deceit such that the recipient of the signal can rely on the signal indicating the true intent of the sender. That humans produce such reliable nonverbal signals seems indicated by autonomic (without conscious control) production and processing of these displays (Ekman et al. 1991; Puce et al. 1998). Evidence indicates for some human nonverbal facial expressions; deceit is not possible as the generation of these cues is automatic and autonomic or beyond the conscious control of the sender (Ekman 2003). In any of these systems, the generation of reliable nonverbal displays suggests corresponding attention and processing in receivers – otherwise without an attending response from the observer there is no compelling reason for the displays (Searcy and Nowicki 2005).

The reliable smile seems particularly appropriate to the study of interpersonal communications between buyers and sellers. It is one facial cue that evidence suggests is inherent and not learned. Infants smile as expressions of recognition often before any learning (Bowlby 1982) and athletes blind from birth express happiness and joy with a smile even though they would never have learned to do so through observation (Matsumoto and Willingham 2009). The facial display of genuine or reliable smile has also been demonstrated to transcend country and cultural boundaries (Ekman 1994). Smiles have also been found to signal deceit when expressed without genuine intent (Ekman and O'Sullivan 2006).

The concept that salespeople's nonverbal displays will influence buyers during first time meetings is not new to the personal sales literature. However, there is conflicting evidence about the efficacy of these nonverbal signals (Leigh and Summers 2002; Wood et al. 2008a). We suggest that these inconsistent results develop out of the unreliability of the stimulus and not from a lack of an ability of the receiver to perceive and interpret signal intent. For instance, it is quite possible that the use of video recordings if not properly vetted could lead to a significant confound such that actors or participants that are asked to consciously create the nonverbal stimuli may instead create feigned displays. Such feigned displays would automatically be interpreted by subjects as unreliable. To overcome the unreliability of such displays, we follow the suggestion of Winston et al. (2002 p. 281) and rely upon written scenarios. Allowing subjects to read and then non-consciously match manipulated cues to embedded memory recall of 'genuine' smiles.

To reiterate, the scenarios in this research use an initial buyer-salesperson introduction as the setting as it is felt that this modern context emulates many of the ecological conditions found during the development of the proposed communications system. Personal selling situations have the risk and reward component, the need for rapid assessment of intent, and an overlay of caution. Using four sequential independent experiments with subjects from a variety of populations, we examine the possibility of trustworthiness assessments being related to learned expectancies while examining the efficacy of the manipulated stimulus. The studies rely upon the manipulation of the nonverbal signal of a smile to examine buyers' trustworthiness assessments of salespeople. We begin by testing a scenario with this subtle nonverbal signal to establish that subject responses follow the predicted patterns of arousal. Study two is a further manipulation check as results will indicate if subjects as customers make trustworthiness assessments based on the nonverbal signal. The third study extends the generalizability of the overall conclusions by manipulating the smile but in an organizational context and using a population of business people as the subject pool. The last study, using the validated treatments from studies one and two, examines the signaling system's evolutionary nature by testing response latencies after exposure to nonverbal displays as well as subject's trustworthiness assessment responses.

RESEARCH DESIGN, OUTCOMES, AND DISCUSSION

Study One

Overview

Neurological studies have strongly implicated both the amygdala and a neurotransmitter, oxytocin, in trustworthiness assessments. The amygdala has also been found important in the regulation of affect in appraisal models in the marketing literature (Bagozzi et al. 1999). In addition, there is evidence that a person's perceptions of trustworthy signals suppress negative affect and that acting upon trustworthy signals of another can lead to positive affect (King-Casas et al. 2007). Though it is impossible to determine if trustworthy signals automatically evoke changes in affect (Shiv and Fedorikhin 1999), it seems likely given previous results which indicate the active release of the neurotransmitters dopamine and oxytocin as part of the trustworthiness assessment process. If the sequence of neurological events occurs as outlined above occurs then the presence or absence of the smile cue should create a testable pattern of self-report affective response.

Testing for this pattern in this experiment represents the first step in providing support for the proposed communications system by providing evidence that the perception of a smile leads to the anticipated

affective response. We build upon written scenarios from the personal sales context that have previously demonstrated their efficacy in measuring subject's trustworthiness assessments (Wood 2006; Wood et al. 2008a). However, even though findings from multiple studies seem to indicate that a diverse set of displays will influence trustworthiness assessments (Puce et al. 2003; Winston et al. 2002), we adapt the written scenarios to only manipulate a smile. The written scenario is detailed in Appendix A.

We further suggest as has been found in previous research that for subjects their base state when informed they are dealing with a stranger, such as an unknown salesperson, is one of anxiety and inhibition (Duranto et al. 2005; Tops et al. 2007). However, also according to previous research, when the subject perceives a cue, such as a reliable smile, that indicates positive intentions on the part of the salesperson, the neurotransmitter oxytocin is released (Kirsch et al. 2005; Zak et al. 2005). Oxytocin release results in lower levels of anxiety and in some instances has increased feelings of comfort. If the release of oxytocin is accompanied by the subsequent release of dopamine, then feelings of happiness and pleasure also rise. The changes in affective states are tested in the following hypothesis.

> H1: Subjects reading the scenario without mention of the smile will have higher levels of self-reported anxiety compared to subjects reading the scenario with the mention of a smile.
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> H2: Subjects reading the scenario with mention of the smile will have higher levels of self-reported pleasantness compared to subjects reading the scenario without the mention of a smile.

Method

Subjects were presented with a two-part instrument. Subjects read a written scenario adapted from previous studies from the personal sales literature. They then responded to an inventory of affect measures that has seen previous use in the marketing literature in anxiety inducing scenarios (Babin and Babin 1996). Presence of the cue should release oxytocin and create an affective liking and trusting response which is supported by the pleasure of dopamine. We record subjects' affective dimension of PLEASANTNESS based upon responses to likert-type questions on feelings of contentment, satisfaction, warmth, and joy. In the absence of the cue we do not anticipate a affective response that is the exact opposite of the PLEASANTNESS felt in the presence of a smile but rather as in the Watson and Tellegen's circumplex model of affect (Bagozzi et al. 1999) a different dimension of affect. The uncertainty in the presence of the stranger will yield ANXIETY which is measured by responses to the likert-type questions on anxiety, fear, powerlessness, pressure, and control (Duranto et al. 2005). Two manipulation checks are conducted to examine the validity of the experimental treatment. First, there is no indication that subjects found one description as more typical of salesperson than the other depicting the $F_{(1, 85)} = .014$. However, the description of the salesperson with a smile elicited a mean response that the salesperson had more product knowledge $F_{(1, 85)} = 4.55$, $p < .05$ than the treatment without mention of the smile. Product knowledge was uncorrelated with affect constructs.

Results

In this study subjects are undergraduate and graduate students from a university in the mid-atlantic United States. Participants are volunteers and did not receive any compensation. Females comprise forty five percent of this sample and subjects' average age was 28.2 years. The 88 subjects were randomly assigned into one of the two treatments. Cronbach α for Rotter's predisposition to trust was .74. The four items indicating PLEASANTNESS had an α of .932. ANXIETY as indicated by the five items had .822 as the calculated alpha. (See Table 1) Tests of predisposition to trust as a covariate to either of the affect constructs are not statistically significant. Between subjects differences in mean measures are significant and in the predicted directions with $F_{(1, 85)} = 8.91$; $p < .05$ for hypothesis 2 and hypothesis 3 with $F_{(1, 85)} = 62.78$; $p < .05$. Results are in Table 2.

Discussion of Study One

Study one's results suggest that the presence of a smile which has been shown as related to positive trustworthiness appraisals also influences affective states. As predicted, it appears that the presence of this cue reduces affect state of ANXIETY and, either simultaneously or subsequently, raises positive affect state of PLEASANTNESS. These outcomes match closely with findings from neurological studies.

TABLE 1
CONSTRUCT'S DESCRIPTIVE STATISTICS AND RELIABILITIES FOR STUDIES 1 THRU 4

	Mean	Standard Deviation	Reliabilities
Study One			
Pleasantness	2.97	1.60	.932
Anxiety	2.86	1.44	.822
Study Two			
Salesperson Trustworthiness	3.97	1.64	.906
Study Three			
Salesperson Trustworthiness	4.06	.93	.917
Study Four			
Salesperson Trustworthiness	3.52	.85	.95
Response Times (in milliseconds)	3.86	1.60	.76

Study Two

Overview

In this study we seek to establish the relevance of modern purchasing situations to the nonverbal communications system by demonstrating that the smile cue in the written scenario will influence subject's trustworthiness assessments. For this experiment we continue with the exact same automobile purchase scenario. We continue the manipulation of only the smile as work in physiological psychology indicates individuals make assessments about a person's honesty based on the presence of a smile (Blum 1998). Smiles are common behaviors during introductions, but their significance may extend beyond custom and formality. It appears smiles may inherently influence trustworthiness assessments. In this study we test the following hypothesis.

H3: Subjects reading the scenario with mention of the smile will have higher levels of positive trustworthiness assessment of the salesperson compared to subjects reading the scenario without the mention of a smile.

Method and Results

As in the first study, the subjects completed a two-part instrument. They read the written scenario. The subjects were in the buyer's role and presented only the briefest of salesperson introductions with minimal and un-manipulated, verbal interaction. Manipulation is accomplished by including the specified cue about a smile in the text or omitting any mention of the cue in the null condition. Trustworthiness assessments are measured by interpersonal trustworthiness measures (Ramsey and Sohi 1997). Each item uses a seven-point likert-type response measure anchored by 'strongly disagree' to 'strongly agree'.

In study two, 112 university students from the southeastern United States were randomly assigned to one of the two treatments. Subjects did not receive compensation or course credit for their participation. Fifty-one percent of the subjects were female, and their average age was 20.5. Random assignment placed 56 subjects into each of the two conditions. The Cronbach α for the trustworthiness measures was .906, and .70 for Rotter's (1967) predisposition to trust scale. Again the manipulation check does not indicate that subjects found one description as more typical of salespeople than the other depiction with the $F_{(1,109)} = 3.03$. The manipulation check does indicate that the presence of the cue created a positive impression of the product knowledge of the salesperson $F_{(1,109)} = 5.50$, $p < .05$. There is a significant difference between subjects' trustworthiness assessments across treatments, $F_{(1,109)} = 129.29$; $p < .05$.

Discussion of Study Two

Results of study two indicates buyers use signals during initial sales encounters to assess trustworthiness. As noted earlier, the smile is a significant activator of brain activity during initial encounters. From Ekman's (Ekman 1985) work on nonverbal signals we suggest that this facial displays is autonomic and beyond the salesperson's conscious control. The results of this study, the results of study one, and the previous neurological studies in the literature appear to indicate that humans do seem to attend to nonverbal signals that are autonomic displays.

Study Three: Extending Generalizability

Overview

Results of the first two studies support the possibility that a communications system consisting of nonverbal cue displays, specifically the smile, may exist during initial marketing encounters. The purpose of study three is to extend these findings into a different marketing setting and thus increase the generalizability of the conclusions. Study three uses the same cue of smile but in a written scenario utilizing an organizational context. Subjects for the scenarios of this study are major purchase decision-makers of organizations from five U. S. metropolitan areas.

Method

The previous nonverbal cue of smile is incorporated into an organizational scenario where the salesperson represents a wireless communication provider. As in the previous version, the scenario is brief and does not include any verbal communication. The treatment is manipulated by including the mention of a cue or leaving it out of the scenario.

Subjects came from a random sample of 375 organizational buyers from a mailing list covering five metropolitan areas. Completed responses came from 57 subjects – a response rate of 15.2 %. Regional firms represent 32% of the sample while local and national firms are 30% and 16% respectively, with the balance indicating they were global or a "combination". Service firms represent the largest category at 53%. Retail and government are 14% and 13%. Manufacturing and distribution combined for the rest of the respondents. Average time in business for the organization is more than 16 years. Number of employees ranged from one to over one thousand with a mean of 12. Personal demographic data on subjects is not available.

Respondents received a questionnaire along with a cover letter, set of instructions, and a stamped return envelope. The cover letter requested that person, or someone else with frequent salesperson contact in a purchasing situation, complete the instrument. Packet instructions requested that respondents complete some demographic items. They were then asked to read the scenario and respond with evaluations of the salesperson. Each scenario was randomly assigned. Responses were returned over a four-week period. Analysis between responses arriving during the first three weeks and those from the fourth week did not indicate any pattern of late or early response bias. Construct measures are the same as in studies one and two. See Table 1 for Cronbach α, means, and standard deviations.

Results

This scenario, as in the previous two experiments, tests the hypothesis that the mention of the smile will increase trustworthiness assessments. The treatment with mention of the smile had twenty seven responses and the treatment without mention of the smile had thirty responses. The Cronbach alpha is .917 for

trustworthiness. The manipulation check indicates that the salesperson with a smile was marginally viewed as more typical than the salesperson in the scenario without mention of the smile with the subjects' mean response different at $p < .10$ with an $F_{(1, 54)} = 3.51$. The scenario with a smile had subjects rating the salesperson with more product knowledge $F_{(1, 54)} = 3.75$, $p < .05$. Subject's mean responses are statistically different with the smile treatment having higher trustworthiness assessments ($F_{(1, 54)} = 10.99$; $p < .05$).

TABLE 2 MEAN ASSESSMENTS AND DIFFERENCES IN STUDIES 1 THRU 4

		Mean Response	Difference in Means	F-statistic
Study 1: Affect				
	Without Smile	3.30 (44)		
Anxiety			0.89	8.91*
	With Smile	2.41 (44)		
	Without Smile	1.90 (44)		
Pleasantness			2.13	62.78*
	With Smile	4.03 (44)		
Study 2: Consumer Trustworthiness Assessments				
	Without Smile	3.01 (56)		
Trustworthiness			1.93	129.30*
	With Smile	4.94 (56)		
Study 3: Organizational Buyers Trustworthiness Assessments				
	Without Smile	3.69 (30)		
Trustworthiness			0.77	10.99*
	With Smile	4.46 (27)		
Study 4: Response Times				
	Without Smile	3.31 (32)		
Trustworthiness			0.42	4.03*
	With Smile	3.73 (32)		
	Without Smile	4.38 (32)		
Response Times (in milliseconds)			1.04	7.37*
	With Smile	3.34 (32)		

*$p < .05$; subjects per cell in ( )

Discussion of Study Three

Main effect of the nonverbal cue of a smile is significant for organizational buyers' assessments of salesperson trustworthiness. This extension of previous outcomes is important because the context varied between consumer and organizational purchases – while the signal, a smile, remained identical in all three studies. In study three, subjects were experienced organizational purchasers who likely have more interactions with salespeople and a greater exposure to first time introductions. Though their decision making may be more objective, the same signals as in consumer settings seem to activate trustworthiness assessments. Organizational buyers, in the absence of other inputs, rely upon salesperson nonverbal displays. These nonverbal signals lead to the categorization of a salesperson as trustworthy.

Study Four: Tests of Ecological Validity

While many neurological studies maintain written scenarios are ecologically valid stimuli (Tomlin et al. 2007), one of the goals of this paper was to establish the generalizability and validity of the interpersonal marketing context as ecologically relevant. Beyond the empirical evidence developed in this study, the validity of written scenarios is also indicated by noting that setting is stripped to the most essential elements of social exchange. This sparse stimulus seems to provide an appropriate surrogate to ancestral humans' social exchanges. Written scenarios can control confounding elements often present in modern society. The treatments of this experiment attempt to control for confounding elements while demonstrating that accurate interpretation of nonverbal cues increases survivability through resource gain.

For example, in animal studies researchers find that correct assessment of signals leads to increases in food supply for both parties in the exchange – thus enhancing survivability of both receiver and signaler (Searcy and Nowicki 2005). Speed of response is another resource that likely influenced survival during early human encounters. Most neurological studies find the overall time from stimulus exposure, through brain activity, to behavior (response latency) is very rapid, ranging from less than a second to no more than three seconds when reliable signals are sent (Ambler et al. 2004; Grezes et al. 2004; Rilling et al. 2002). When uncertain signals are sent, there is evidence that processing takes longer (King-Casas 2007). As a resource, response time matches well with the survivability imperative as lower costs (quicker response) are associated when signals are reliable.

We propose that reliable signals lead to more rapid assessments of trustworthiness than situations that do not have signals. Cues that do not match anticipated patterns of 'self' display require more elaboration and increase processing time. In this final study we return to the written scenario of experiments one and two to use as the treatment. As in experiments two and three we measure subject's trustworthiness assessment. Additionally, we compare and test subjects' mean response times. More rapid response times should correspond to trustworthy signals as quicker responses are associated with lower resource utilization.

> H4: Subjects reading the scenario with mention of the smile will have higher levels of positive trustworthiness assessment of the salesperson compared to subjects reading the scenario without the mention of a smile.
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> H5: Subjects reading the scenario with mention of the smile will lower (quicker) response times to trustworthiness questions compared to subjects reading the scenario without the mention of a smile.

Method

Using the nonverbal cue of a smile a between-subjects experiments is utilized. As in the previous studies, a short scenario that does not include any verbal communication and manipulates the nonverbal cue as either present or absent is used as the treatment. This written scenario and trustworthiness measures are designed for display on a personal computer monitor. Responses are entered on the attached keyboard.

Sixty four subjects from the undergraduate student body of a mid-atlantic university were randomly assigned to one of the two treatments. After completing the informed consent, subjects were escorted to a private room, seated at a desk, and asked to follow instructions on the computer monitor. Each subject used the same computer and monitor which was outfitted with DirectRT (2006) response time measurement software. DirectRT uses ActiveX control to eliminate random response error typically associated with other measurement software and measures responses to the nearest millisecond.

Response times were recorded for: reading time of instructions, practice questions, length of time spent reading the scenario, and answering the five items measuring trust. The influence of reading comprehension on subjects' responses times is not significant. Manipulation checks indicate subjects' awareness of the presence or absence of the nonverbal cue.

Results

As in the other experiments, manipulation check indicates that subjects found the salesperson had more product knowledge in the treatment with the smile $F_{(1,62)} = 5.03$, $p < .05$. As proposed in hypothesis six, subjects' mean response times when answering the five items about trustworthiness is lower in the treatments containing mention of the smile. Using MANCOVA, the calculated F-statistic for the difference in mean response time is ($F_{(1, 62)} = 7.37$; $p < .05$). Additionally as in experiments two and three, the trustworthiness assessments were higher from subjects reading the scenario containing the nonverbal cue of smile, ($F_{(1, 62)} = 4.03$; $p < .05$). Hypotheses four and five are supported by experimental results. (See Table 2)

Discussion of Study 4

To the best of our knowledge this is the first experiment to simultaneously measure cognitive trustworthiness judgments while recording automatic neurological indications through response times. The use of the scenario allows for a modern context while indicating that a survival characteristic, rapid response is influenced by the cue. Given the extensive literature indicating that a reliable smile is part of an automatic signaling system and that this experiment's results indicate the important use of this cue, it seems likely that the suggested communication system exists. Further, it appears that the marketing scenario does provide an excellent context for investigating this system.

MANEGRIAL IMPLICATIONS

This series of experiments provides strong indications that a trust based system may underlie the relationship between nonverbal displays and trustworthiness assessments. Additionally, the fact that these outcomes were obtained in a personal selling context suggests the appropriateness of the marketing context during investigations of this system. Overall this study appears to underscore the usefulness of the personal sales scenario in the investigation of trustworthiness in both the neurosciences and marketing. And finally as well as most importantly to salespeople, the automatic nature of this system underscores the need for sincere belief in the sales message.

As proposed in the description of the communication system, responses in affect are changed as subjects read about the salesperson with a smile. These responses follow the pattern expected with the release of oxytocin and dopamine. Thus for salespeople during the initiation and approach phase of a conversation with a customer, the belief in the message about to be conveyed will support sincere nonverbal signals. These reliable signals such as the genuine smile will lower customer anxiety and increase their positive feelings. Further, our results suggest the reliable display of this nonverbal signal corresponds in the buyer's judgment of trustworthiness. So beyond producing positive feelings, these nonverbal displays can increase trustworthiness assessments which likely leads to trusting behavior by the buyer.

For the salesperson, the implication of the automatic nature of their nonverbal displays is that deceit is impractical over the long run. Verbal distortions, lies, or misdirection are betrayed by incongruent nonverbal signals. Buyers may not be able to articulate their discomfort (Gladwell 2005) but are aware of the inconsistency of verbal and nonverbal signals as well as the negative feelings caused by unreliable signals. The customer may exhibit the modern day equivalent of 'flight' and quickly exit an encounter with a salesperson that they judge as having unreliable signals. For sales managers and salespeople alike the implication is that there are no manipulative shortcuts to engendering trust. The salesperson must believe in the value propositions of their firm in order to generate positive displays. Unreliable nonverbal displays will automatically convey doubts about the selling firm's offerings despite verbal influence efforts.

A further implication of the results of these experiments is the indication that buyers begin their trustworthiness assessments based on salesperson characteristics that they can judge during an initial encounter. It may be that the saliency of these judgments endures throughout

the exchange relationship. Assessments about traits such as credibility, similarity, and expertise, which have been found to be critical components of trust and trustworthiness in interpersonal sales relationships (Doney and Cannon 1997; Wood et al. 2008b), may also be influenced by the nonverbal communication system during initial introductions. A salesperson must not only make a good first impression but must manage the introduction to include the initiation of positive trustworthiness characteristics so that a foundation for future interactions is established.

Another potentially important study finding involves the possibility that this instinctive desire for inputs or cues that initiate trust may transfer to assessments of the selling firm. While firms cannot display nonverbal cues, they can project appearance. The buyer may use appearance cues to categorize and assess a firm's trustworthiness. Some research provides indications of this effect (Bitner 1992). E-commerce might take particular note of this potential non-conscious process, as frequently the first interactions with a customer are website appearance cues.

LIMITATIONS AND FUTURE DIRECTIONS

As with any experiment, study results are limited by the delicate balance between controlling error and achieving generalizability. This study's use of several subject pools is an attempt to achieve that balance. However, the use of multiple experiments while providing some degree of replication does increase the possibility of a Type I error.

A goal of studies two and three was to recruit subjects from diverse populations to increase generalizability. While the use of a survey in study three introduces the potential for non-response bias, the benefit of increased generalizability seems to outweigh this shortcoming. In study three only 15% of the study questionnaires were mailed back. After analysis, non-response does not appear to create a bias in either though that is always a possibility.

While the perceptual cue manipulated in each experiment did have its basis in existing literature, the smile does represent a subset of possible perceptual cues that may influence trustworthiness assessment. The literature mentions several additional factors, such as likability or similarity that may trigger trustworthiness assessment. Additionally, other nonverbal displays that might invoke the categorization process in initial exchanges need investigation.

Though the use of written scenarios can be viewed as a limitation, their use is an integral part of this investigation. Using written scenario limits some error by controlling for unequal displays by salespeople. Subjects formed mental images and perceptions of the manipulated cues.

Since it is likely a signaling system exists between buyers and sellers during initial marketing exchanges, a series of experiments using reliable video-taped displays might enhance our understanding of such a system. Developing such a recording would be challenging and would need substantial verification that the displays recorded were objectively reliable. A first step could involve recording senders' attempts to conceal displays of dishonest and/or manipulative intent. These recordings of facial displays could be examined by using the facial action coding system (FACS) (Ekman and Friesen 1978). A similar recording effort could attempt to capture reliable and trustworthy displays. Such stimuli would be invaluable in future research.

Future research should also further examine physiological responses to trustworthiness signals. For example, will subjects exposed to positive signals demonstrate increases in oxytocin as opposed to those exposed to deceptive signals? Examining areas of the brain that activate during exposure to positive and negative signals may provide additional insight. It appears that this is a new and interesting topic for marketing with many additional research avenues.

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APPENDIX A: SCENARIOS

Studies 1, 2, and 4: Consumer Purchasing an Automobile

You have decided to begin shopping for a new car. The model you are most interested in is the 2006 Concept. Because you have the afternoon free, you decide to go to a dealer and take a close look at the Concept.

On arriving at the dealer, you follow their signs to the customer parking area. As you get out of your car, an employee approaches you. He walks over to you and (***with a smile***) introduces himself. He hands you a business card. He is of average height and weight.

Manipulations are in parenthesis, the null condition reads □He walks over to you and introduces himself.

Study 4: Business to Business using Wireless Communications

You have decided to begin accepting proposals for a new wireless communications provider for your organization. You have an existing service provider but are interested in what the other companies have to offer. Because you have some free time in the afternoon, you decide to meet with a salesperson for a wireless company. You have never met the salesperson.

As you are hanging up the phone, the salesperson enters your office. He walks over to you and (***with a smile***) introduces himself. He hands you a business card and a fact sheet about his company. He is of average height and weight.

Manipulations are in parenthesis, the null condition reads □He walks over to you and introduces himself.

APPENDIX B: MEASURES

All items are on a seven point scale with low numbers anchored by strongly disagree and strongly agree anchoring the higher numbers.

Disposition to Trust (McKnight et al. 2002)

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Trustworthiness (Liu and Leach 2001)

This salesperson is friendly.
This salesperson is approachable.
This salesperson is sincere.
This salesperson is honest.
I feel very little risk is involved, if I deal with this salesperson.

Measures of Affect

Pleasantness	Anxiety
Joyful	Anxious
Content	Skeptical
Satisfied	Suspicious
Warm	Anxious