

The Effects of a Counselor Smiling on Perceivers

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The Duchenne smile has been suggested to be a signaler of altruistic intentions. Other nonverbal cues of altruistic intentions have also been found. The current study controlled for other nonverbal cues of altruism in investigating the Duchenne smile in a counseling setting. Participants, using the “zero-acquaintance video presentation paradigm” viewed actual counselors genuinely smiling (Duchenne) and posing a smile (Non-Duchenne). The zero-acquaintance video presentation paradigm entails presenting perceivers video clips depicting target individuals performing a particular task and then assessing the videotaped individuals. A 2 (Counselor Gender) X 2 (Smile) multivariate analysis of variance on perceived altruism levels of counselors revealed a significant main effect for smiling condition. Genuine smiling counselors were rated significantly higher on perceived altruism levels than posed smiling counselors.

Much research has been conducted on functions and uses of smiling (Brown et al., 2003; Burt & Perrett, 1997; D’Augelli, 1974; Dooley, 1978; Ekman et al., 1985; Ekman & Freisen, 1982; Frank, 1988; Gazzaniga & Smylie, 1990; Giudice & Colle, 2007; Mehu, Grammer, & Dunbar, 2007; Mehu, Little, & Dunbar, 2007; Wylie & Goodale, 1988). It is known that there are different types of smiles. One can force a smile, or pose a smile. A genuine smile, in contrast, is known as a Duchenne smile.

The Duchenne marker is the contraction of the orbicularis oculi muscle (Ekman & Freisen, 1982). The Duchenne marker is named after Duchenne de Boulogne who first discussed the contraction of the orbicularis oculi muscle in relation to smiling in 1862 (Giudice & Colle, 2007). The contraction of the orbicularis oculi, or change in the muscle by shortening or tensing of the muscle, has multiple effects. Its effects on the face are the narrowing of the eye aperture, or reduction in the amount of the eye exposed, “crow’s feet” on the external side of the eye, raising of the cheek, and lowering of the eye cover fold (Giudice & Colle, 2007). The Duchenne (felt) smile is a spontaneous expression of positive emotion (Ekman & Freisen, 1982). A spontaneous emotion-based smile has greater displacement of the left-hand corner of the mouth than a posed smile due to right-hemisphere involvement (Wylie & Goodale, 1988). Posed smiles (smiles without an underlying emotional basis) are less intense on the left side (Gazzaniga & Smylie, 1990). For this reason, humans scrutinize the left side of the face more than the right side when assessing facial expressions (Burt & Perrett, 1997). Also, genuine smiles have extremely short durations, whereas posed smiles are significantly longer in duration (Ekman & Freisen, 1982).

The current study examined smiling in a “mock” counseling context, in that the counseling sessions used volunteers as the clients and not the counselors’ actual clients. Filming of these simulated sessions occurred in the counseling rooms of a local clinic. Two doctoral students (one male, one female) in Counseling Psychology served as counselors and were filmed (as is their training program’s procedure for counselor evaluation) during the simulated counseling sessions. The primary research question focused on the extent to which the client interprets altruism from a genuine-smiling counselor.

Eldakar, Wilson, and O’Gorman (2006) defined an altruist as an individual who helps others as an end in itself. Altruism is scientifically defined as instinctive behavior that is detrimental to the individual, but favors the survival or spread of that individual’s genes, as by benefiting its relatives (Altruism, n.d.). By definition, altruism is identified in an individual’s behavior, or the act of helping. Therefore, to be quantified as an altruist is dependent on behavior. This study, however, continued investigation in the signaling of altruistic dispositions (Brown et al., 2003; Frank, 1988; Mehu et al., 2007). Trivers (1971, as cited in Mehu et al., 2007, p. 135) suggested the role of pro-social emotions as a solution to commitment issues between unrelated individuals. Frank (1988) predicted that the cues to altruism should be under involuntary control, and that humans have cognitive architecture designed by natural selection to assess altruism and selfishness in others. According to both models, the nonverbal cues related to positive emotions are seen as genuine signals of altruistic dispositions because they are not easy to fake because of their contingency with physiological processes (Mehu et al., 2007). Also, since the Duchenne smile is believed to be a spontaneous emotional expression (Ekman & Friesen, 1982; Gazzaniga & Smylie, 1990), it is reasonable to expect that the Duchenne smile is an indicator of altruism. Research does suggest that the Duchenne smile could be a reliable

EFFECTS OF COUNSELOR SMILING

indicator of altruistic dispositions (Brown et al., 2003; Mehu et al., 2007).

Brown et al. (2003) found significant nonverbal differences between altruists and non-altruists. After completing an altruism scale, 10 altruists comprising the top 10% of the altruism scale and 10 non-altruists comprising the bottom 10% of the altruism scale were video-taped giving a self-presentation (e.g. stating name, likes and dislikes). "Concern for others" was then assessed on a six-point Likert-type scale by a group of thirty perceivers viewing the videotapes (Brown et al., 2003). Four nonverbal differences between altruists and non-altruists were of particular theoretical interest, including felt smiling (orbicularis oculi muscle activity or Duchenne smile), concern furrows (Corrugator supercilii muscle activity drawing the eyebrow downward and medialward, producing the vertical wrinkles of the forehead), smile duration, and smile symmetry. These four nonverbal behaviors are particularly difficult to fake since they are linked to spontaneous emotional expression (Ekman & Freisen, 1982; Gazzaniga & Smylie, 1990). Results indicated that these cues corresponded to increased "concern for others" ratings by the separate group of perceivers. This suggests that likelihood to cooperate [i.e., altruism as defined by Brown et al. (2003)] is signaled nonverbally, and the putative cues may be under involuntary control as predicted by Frank's (1988) theory of altruism signaling (Brown et al., 2003). These findings show that components of the Duchenne smile (orbicularis oculi activity, smile duration and symmetry) are a form of altruism signaling.

While investigating whether a link can be drawn between Duchenne smiling and the five major personality dimensions, Mehu et al. (2007) found Duchenne smiles produced a much greater impact on generosity ratings than non-Duchenne smiles. This finding is believed to support the assertion that the Duchenne marker is involved in the detection of altruism (Brown et al., 2003; Mehu et al., 2007). Fifty individuals were photographed and their pictures were used as stimuli in a face perception experiment. Two pictures were taken for each individual: a picture showing a neutral face and a picture showing a smiling face. Each smiling face was coded by two certified Facial Action Coding System (FACS; Ekman, Freisen, & Hager, 2002) coders and smiles were classified into Duchenne and non-Duchenne. Participants were asked to rate neutral (control condition) and smiling (experimental condition) stimulus faces on ten attributes: attractiveness, generosity, trustworthiness, competitiveness, health, agreeableness, conscientiousness, extroversion, neuroticism, and openness to experience. Results showed differences between neutral and smiling faces were larger when stimulus faces displayed a Duchenne rather than a non-Duchenne smile, with the strongest impact ratings on generosity and extroversion. The effect of smile type on attributions of generosity appeared to be restricted to male faces though (Mehu et al., 2007). A principal component analysis indicated that the effect of Duchenne smiles does

not necessarily generalize to a range of positive attributes (e.g., attractiveness, agreeableness, etc.), but could be specific to sociability (extroversion) and altruism (generosity). Mehu et al. (2007) suggest that these findings emphasize the importance of the Duchenne smile in the evaluation of sociability and altruism.

The association between generosity and altruism draws from Robert's (1998, as cited in Mehu et al., 2007, p. 143) study in which he found positive judgments of generosity by receivers could lead them to invest resources in a coalition. Mehu et al.'s (2007) finding that the Duchenne smile had a strong impact on attributions of generosity suggests that Duchenne smiling could provide an important advantage in cooperative interactions. The association between Duchenne smiles and generosity received support in Mehu et al.'s (2007) study showing a connection between self-reported altruism toward a friend and the frequency of Duchenne smiles during an interaction involving the sharing of material resources with that friend. Similar findings have been found, but also show that smiling is not the only nonverbal cue for helping or altruism. For example, Dooley (1978) found that independent judgments of what he referred to as empathic helping skills were moderately associated with several nonverbal behaviors, including head nodding, facial expressivity, smiling, and hand and arm movements.

These findings are related to D'Augelli's (1974) results with the Group Assessment of Interpersonal Traits (GAIT). The GAIT was a group activity which entailed asking participants to individually present a meaningful personal concern to the group. Another group member was then expected to engage the subject in a four-minute helping interaction. Each subject was required to engage in both disclosing and understanding. During the GAIT, two trained observers recorded the frequency of nonverbal behaviors of the helper. These subject interactions were the basis of evaluations of the helper's nonverbal behavior and his helping. D'Augelli (1974) found that nodding and smiling frequencies were positively related to peer and observer ratings of empathy and warmth. Product-moment correlations were calculated between nonverbal behaviors and ratings of the helper made by the observers, by other participants, and by the person receiving help. However, no more than 10% of the common variance was accounted for in any of the obtained correlations; therefore, the impact of nonverbal behavior is questionable (D'Augelli, 1974). Dooley (1978) found larger empathic helping skills variance accounted for by nonverbal variables, and thus attributed a somewhat more important contribution of nonverbal behaviors to empathy ratings than D'Augelli (1974). Brown et al. (2003) also found head nodding to be unexpectedly correlated with altruism level, but suggested a possible Type I error.

The D'Augelli (1974) and Dooley (1978) studies make suggestions for future research, which is addressed in the current study. Specifically, D'Augelli (1974) suggested that more research needs to be conducted on extended

interactions of actual counselors and clients and focus on the impact of nonverbal behaviors on clients. In addition, Dooley (1978) questioned if his findings could generalize to counselors in professional and paraprofessional roles. He also suggested further research to find discrepancies, particularly in language, between his study and D'Augelli's (1974). To the knowledge of this researcher, the Duchenne smile has not been researched in a counseling context. The present study investigates the Duchenne smile as an altruism signaler in a profession designed to help individuals.

The hypothesis is that Duchenne activity by two counselors (one male, one female) will affect perceived altruistic levels of counselors by perceivers. It is also predicted that the female counselor will have higher ratings of altruism levels in the Duchenne and non-Duchenne smiling conditions. Females are known to be more expressive of their feelings (Elkin, 1979) and are quicker to relate interpersonally (Feldman, Crouch, & Rodriquez, 1994), on average, relative to men. Women are also generally better at sending and interpreting nonverbal cues (Mayo & Henley, 1981; Rosenthal & DePaulo, 1979). The independent variables were form of smiling, including Duchenne and non-Duchenne smiles, and the counselor's gender. The dependent variables were perceivers' ratings of altruism in the counselor as measured by the Counselor Effectiveness Rating Scale (CERS) and the Counselor Effectiveness Rating Scale, Revised (CERSR). Both scales were used because the CERS used language appropriate to altruism assessment, but lacked psychometric estimates, whereas the CERSR has available reliability and validity estimates.

Method

Participants

Seventy introductory psychology students comprised this study's perceivers. Eighteen males and fifty-two females participated. Participants enrolled in this study to fulfill activity points as required by the introductory psychology course at Colorado State University. Fifteen participants viewed the video clip from the "male counselor/Duchenne smile" condition. Twenty-one participants viewed the video clip from the "male counselor/non-Duchenne" condition. Sixteen participants viewed the video clip from the "female counselor/Duchenne" condition. Eighteen participants viewed the video clip from the "female counselor/non-Duchenne" condition. All four conditions were conducted in succession in one evening. Participants enrolled in the study through the online portion of their introductory psychology course for one of four available study time slots.

Stimulus Materials

Two doctoral students (one male, one female) in Counseling Psychology served as counselors, under their program's Psychological Services Center, and were filmed during simulated counseling sessions. Film was obtained from one female counselor for a Duchenne condition and non-Duchenne condition. Film was also obtained from one male counselor for a Duchenne condition and non-Duchenne condition. Both sexes were used to assess potential gender interactions.

Webcams already installed in the counseling rooms in the Psychology Department were used to obtain video clips. Two simulated counseling sessions were filmed of each counselor. Filming of the counseling sessions occurred in the Psychological Services Center's counseling rooms using a volunteer for the client, not the counselors' actual clients. Counselors were simply asked to conduct themselves during the simulated counseling session as is protocol during their actual counseling. The simulated counseling sessions involved the volunteer client telling a comical anecdote to elicit smiling from the counselor. Duchenne and non-Duchenne activity were attained from each counselor during filming. The film was edited into four video clips approximately a minute long each in duration. Each video clip contained a single level of each of the two factors (Male/Female counselor and non-Duchenne/Duchenne smile) per condition for a total of four conditions. Video clips were solely of the counselors from the waist up and did not contain the audio portion. Video clips were edited so head nodding and arm movements were minimal to control for other nonverbal cues of altruism. Thus, efforts to control for a single, nonverbal altruistic behavior were implemented. These extraneous variables were all controlled for except occasional head nodding in the "female counselor/ non-Duchenne" condition. Head nodding in this condition could not be controlled for due to concurrent occurrence with posed smiles throughout the video clip. Aside from dialogue not being of interest, silent video clips also controlled for dialogue as a possible confound to nonverbal altruism ratings by using the "zero-acquaintance video presentation paradigm" (Brown et al., 2003), which is described below.

Procedure

Study participants engaged in the "zero-acquaintance video presentation paradigm." The "zero-acquaintance video presentation paradigm" in nonverbal behavior experiments (see Ekman, 1985) entails presenting participants with video clips depicting target individuals performing a particular task. Participants then assess the videotaped individuals (Brown et al., 2003).

A 2 (Counselor gender: male or female) X 2 (Type of smile: Duchenne or non-Duchenne) between-subjects research design was used. Participants were randomly assigned to one of the four conditions. Participants entered a

EFFECTS OF COUNSELOR SMILING

seminar room with a twenty-five person capacity, containing a 48-inch flat screen television and viewed the video clip with the researcher present. Participants were made aware before viewing that the person on the video clip was an actual counselor during a counseling session. Participants in each condition viewed their condition's video clip and then were administered the Counselor Effectiveness Rating Scale, Revised (CERSR) and the Counselor Effectiveness Rating Scale (CERS).

Instrument

The original CERS was developed by Atkinson and Carskaddon (1975) to assess perceived counselor credibility as a composite of several concepts. The scale consisted of five concepts; each rated on three, seven-point bipolar, semantic differential scales (Atkinson & Carskaddon, 1975). The three scales consisted of: good-bad, valuable-worthless, meaningful-meaningless (Atkinson & Carskaddon, 1975). The five concepts included in the scale were (a) the counselor's knowledge of psychology, (b) the counselor's ability to help the client, (c) the counselor's willingness to help the client, (d) the counselor's comprehension of the client's problem, and (e) the counselor on the videotape as someone I would go to see if I had a problem to discuss (Atkinson & Carskaddon, 1975). The first revision to the CERS was conducted by Furlong, Atkinson, and Casas (1979), whose modifications included adjectives related to counselor attractiveness (Ponterotto & Furlong, 1985). Participants in this study rated a counselor in a condition corresponding to the condition of Atkinson and Carskaddon (1975) on the concepts of expertness, trustworthiness, understanding, sincerity, and utility (e.g., the counselor on the videotape as someone I would go to see) (Ponterotto & Furlong, 1985). The next revision (CERSR) and first reliability and validity estimates (prior CERS use was presumably based off face validity) were conducted by Atkinson and Wampold (1982), who developed three semantic differential items for the expertness, attractiveness, and trustworthiness dimensions, plus one semantic differential item for counselor utility (someone I would see for counseling). All concepts were subsequently rated on a single, 7-point bipolar scale (1 = *bad*, 7 = *good*) (Ponterotto & Furlong, 1985).

Internal consistency reliability coefficients (coefficient alpha) across the expertness, attractiveness, trustworthiness, and total score dimensions were .88, .78, .75, and .90, respectively, and intercorrelations among subscales ranged from .54 to .76 (Ponterotto & Furlong, 1985). The CERS scores were also correlated with Counselor Rating Form

(CRF) ratings, yielding a concurrent validity coefficient of .80 for the CERS (Ponterotto & Furlong, 1985).

In the current study, CERS and CERSR items were analyzed independently and as a global measure of altruism. An inter-item analysis of reliability yielded a Cronbach's alpha of .91 of the eight CERS and CERSR items used.

Results

A 2 (Counselor Gender) X 2 (Smile) MANOVA on perceived altruism levels of counselors revealed a significant main effect for smiling condition, $F(8, 58) = 3.083, p < .05$ (see Table 1). The main effect for counselor gender was not significant, $F(8, 58) = 1.933, p > .05$, nor was the effect for the interaction of gender and smiling condition, $F(8, 58) = 1.044, p > .05$. Therefore, the hypotheses that male and female counselors would differ in perceived altruism ratings, and that female counselors would have higher ratings of altruism levels in both smiling conditions were not supported. However, as hypothesized, genuine smiling counselors were rated significantly higher on altruism ratings than non-genuine smiling counselors. Refer to Table 2 for means and standard deviations of the ratings.

Univariate ANOVAs assessing the effect of each of the eight altruism dependent variables revealed significant effects for every item ($p < .05$) except for item 4 (counselor's sincerity), $F(1, 65) = 1.733, p > .05$ (see Table 1). A genuine smiling counselor's ability to help the client and willingness to help the client were rated significantly better, more valuable, and more meaningful, as compared to that of a non-genuine smiling counselor. Participants also rated genuine smiling counselors higher on the item, "counselor as someone I would see for counseling, than non-genuine smiling counselors. No significant difference was found in ratings of the counselor's sincerity between genuine and non-genuine smiling counselors.

The items from the CERS and CERSR were then combined into a single, global altruistic variable, and a Univariate ANOVA was performed, resulting in a significant main effect of smiling condition on altruism, $F(1, 65) = 11.994, p < .05$. Genuine smiling counselors were rated higher on altruism than were non-genuine smiling counselors. These results contribute to an overall, more robust measure of the significant effect of smiling condition on ratings of altruism.

DUFFIELD

Table 1
Multivariate Effects by Gender and Smiling Condition and Univariate Effects by Smiling Condition on Altruism Items (CERS)

Multivariate Tests	F	df	η^2	Univariate Tests (dependent measures)			
				F	df	η^2	
Gender	1.93	8, 58	.21	CERS2A	12.53*	1, 65	.16
Smiling Condition	3.08*	8, 58	.30	CERS2B	10.03*	1, 65	.13
Gender X Smiling	1.04	8, 58	.13	CERS2C	4.73*	1, 65	.07
				CERS3A	10.87*	1, 65	.14
				CERS3B	4.22*	1, 65	.06
				CERS3C	8.71*	1, 65	.12
				CERS4	1.73	1, 65	.03
				CERS10	9.04*	1, 65	.12

Note. CERS2A = Gender Counselor’s Ability to Help Client, Good/Bad. CERS2B = Counselor’s Ability to Help Client, Valuable/Worthless. CERS2C = Counselor’s Ability to Help Client, Meaningful/Meaningless. CERS3A = Counselor’s Willingness to Help Client, Good/Bad. CERS3B = Counselor’s Willingness to Help Client, Valuable/Worthless. CERS3C = Counselor’s Willingness to Help Client, Meaningful/Meaningless. CERSR4 = Counselor’s Sincerity. CERSR10 = Counselor as Someone I would See for Counseling.
 *p < .05.

Table 2
Means and Standard Deviations for Altruism Ratings of Counselors

Measure	Condition							
	<u>Male</u>				<u>Female</u>			
	<u>Non-Duchenne</u>		<u>Duchenne</u>		<u>Non-Duchenne</u>		<u>Duchenne</u>	
	M	SD	M	SD	M	SD	M	SD
CERS2A	4.86	1.46	5.57	1.22	3.61	1.61	5.31	1.20
CERS2B	5.00	1.45	5.43	1.22	3.78	1.80	5.13	.885
CERS2C	4.90	1.26	5.00	1.30	3.78	1.80	5.13	.885
CERS3A	4.57	1.57	5.71	1.44	4.66	1.75	5.94	1.12
CERS3B	4.95	1.40	5.50	1.40	4.56	1.50	5.44	1.41
CERS3C	4.71	1.42	5.50	1.51	4.28	1.71	5.63	1.26
CERS4	4.67	1.71	4.43	2.03	3.83	1.25	5.19	1.97
CERS10	4.09	1.79	5.14	1.99	2.94	1.39	4.38	1.59

Note. CERS2A = Gender Counselor’s Ability to Help Client, Good/Bad. CERS2B = Counselor’s Ability to Help Client, Valuable/Worthless. CERS2C = Counselor’s Ability to Help Client, Meaningful/Meaningless. CERS3A = Counselor’s Willingness to Help Client, Good/Bad. CERS3B = Counselor’s Willingness to Help Client, Valuable/Worthless. CERS3C = Counselor’s Willingness to Help Client, Meaningful/Meaningless. CERSR4 = Counselor’s Sincerity. CERSR10 = Counselor as Someone I would See for Counseling.

EFFECTS OF COUNSELOR SMILING

Discussion

Counselors displaying Duchenne (genuine) smiles were rated significantly higher on altruism ratings than Non-Duchenne (posed) smiling counselors. These results emulate Brown et al.'s (2003) findings that suggest that the likelihood to cooperate is signaled nonverbally. This finding also is congruent with Brown et al.'s (2003) evidence, suggesting that the Duchenne smile contains the involuntary components to be a form of altruism signaling. Results are in accordance with Mehu et al.'s (2007) findings that the Duchenne smile could have specificity to judgments of altruism as well. This study used the utility question of the CERSR (Counselor as Someone I would See for Counseling) to exemplify the Duchenne smile as an altruism signaler. Participants indicated that these counselors were someone they would see for counseling; ratings of genuine smiling counselors were higher than non-genuine smiling counselors.

Slightly larger levels of altruism were expected in the female counselor condition, based on studies addressing interpersonal aspects across gender (Elkin, 1979; Feldman, Crouch, & Rodriguez, 1994; Mayo & Henley, 1981; Rosenthal & DePaulo, 1979). Gender was used as a factor to increase internal and external validity, and also to eliminate a possible confound of participants perceiving the counselors differently based on gender. However, in this study, counselor gender was not found to differentially influence participants' ratings of the counselors' altruism.

These findings contradict Dooley's (1978) belief that his findings would not generalize to counselors in professional and paraprofessional roles. Although not sufficient evidence to disprove Dooley (1978), findings would suggest that the nonverbal behavior of smiling would generalize to a counseling setting. This study addressed D'Augelli's (1974) suggestions to focus on the impact of nonverbal behaviors on clients. Although not clients, participants' ratings suggest that the nonverbal behavior of Duchenne smiling may impact actual client's perception of whether the counselor wants to help him or her.

The results have implications for the client-counselor relationship. Therapeutic intervention would likely be more effective, or improved, if a counselor nonverbally displayed altruistic intentions dually with counseling protocol and techniques. It would possibly increase the counselor's value as a social partner by enhancing the client's judgment of altruistic intent in the counselor (Mehu et al., 2007). Logically, a counselor who nonverbally communicates altruistic intent throughout therapy will have a better relationship with his or her client, and could possibly increase the likelihood of positive outcome. The difficulty of these findings is that counselors cannot be trained to incorporate into their counseling a behavior that is a spontaneous emotional expression (Ekman & Freisen, 1982; Gazzaniga & Smylie, 1990). Counseling programs, however, can begin to consider incorporating genuine smiling, an

advantageous nonverbal expression, into their counseling techniques.

Furthermore, this study provides evidence that a Duchenne smile functions as an altruism signaler in a context not yet investigated, a simulated counseling setting. Additionally, this research suggests this function might have possible implications for improving therapeutic intervention. A limitation of this study was that the distinction between Duchenne/non-Duchenne smiles was not assessed by an expert; rather, it was differentiated by the author. Also, this study was only a reflection of the effects of a counselor smiling on clients as rated by non-client perceivers. It cannot be assumed that a client in the counseling dyad will react in the same way that an outside perceiver viewing a simulated counseling session would to a genuine smiling counselor. Clients are in a different context, have a relationship with the counselor, and are presumably in counseling because they are experiencing some level of distress. Thus, attempts to generalize to an actual counseling context must be tentative. However, these significant results do warrant further investigation. A more in depth technique is needed to investigate these findings in an actual counseling dyad. A longitudinal study examining a longer duration of therapy would also be an appropriate next step.

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