Social Referencing: Defining and Delineating a Basic Process of Emotion

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Abstract

Social referencing informs and regulates one's relation with the environment as a function of the perceived appraisals of social partners. Increased emphasis on relational and social contexts in the study of emotion makes this interpersonal process particularly relevant to the field. However, theoretical conceptualizations and empirical operationalizations of social referencing are disjointed across domains and populations of study. This article seeks to unite and refine the study of this construct by providing a clear and comprehensive definition of social referencing. Our perspective presents social referencing and social appraisal as coterminous processes and emphasizes the importance of a relational and interpersonal approach to the study of emotion. We conclude by outlining possible lines of research on this construct.

Keywords

social appraisal, social referencing

Emotions regulate the self and others in relation to aspects of the environment appraised as significant to one's goals. Appreciating and utilizing others' emotional communication is essential for adaptive social functioning. This ability, commonly referred to as social referencing in the developmental literature and social appraisal in adult research, allows the individual to navigate complex and often ambiguous situations. A recent resurgence of emphasis on interpersonal aspects of emotion (e.g., Campos, Walle, Dahl, & Main, 2011; Netzer, van Kleef, & Tamir, 2015; Zaki & Williams, 2013) highlights the relevance of this process for empirical study. Social referencing develops across the lifespan and may be distinctly manifested at different ages. Although social referencing is a critical process for the study of emotion and emotional development, there is inconsistency in defining and operationalizing this construct. Specifically, what is commonly considered social referencing in the young child is termed social appraisal in the adult. Theoretical and empirical research on these terms has often failed to convincingly integrate or distinguish these processes, thus generating disagreement in conceptualizations of both. In the present article we utilize a functionalist framework to argue that social referencing and social appraisal are functionally equivalent in the individual's engagement in interpersonal contexts and are thus representative of the same construct—a conclusion contrary to that of Clément and Dukes

(2017). In doing so, we delineate and clarify the definition of social referencing and identify candidate areas for future research on this fundamental, yet understudied, topic.

Defining and Disambiguating Social Referencing

Defining Social Referencing

Social referencing occurs when an individual's appreciation of a social partner's emotional communication toward a shared referent functions to disambiguate the relational significance of the individual with the referent and regulate the individual's subsequent behavior in relation to the referent. Stimuli of maximal ambiguity are most likely to elicit social referencing (Klinnert, Campos, Sorce, Emde, & Svejda, 1983), though even slightly novel stimuli or known stimuli may result in the individual seeking additional information from others. As such, it is often the case that social referencing results in the changing of an individual's existing appraisal (e.g., Hornik, Risenhoover, & Gunnar, 1987; Parkinson & Simons, 2009). However, the communicated information need not necessarily change one's appraisal if the social partner is deemed uninformative or unreliable (Pasquini, Corriveau, Koenig, & Harris, 2007; Walle &

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Campos, 2014) or if the communicated information confirms an existing appraisal. Because ambiguities in the environment exist across the lifespan, so too does social referencing functionally manifest itself at any age (Feinman, 1982; Klinnert et al., 1983). Thus, the social referencing behavior of the infant may take distinctive forms from that of the adult, as the infant likely engages in more rudimentary and effortful manifestations of the behavior. However, the common linkage of the process across the lifespan is its shared function for both the infant and the adult. For example, one can imagine both the infant and adult attempting to ascertain whether a novel food is delicious. The infant may look directly at the social partner's face and even push the suspicious food into her face, whereas the adult is more likely to subtly observe others' emotional responses toward the food so as to not create a scene.

One population for whom everyday environments are fraught with ambiguity is children, and particularly infants. Two prime examples in the developmental literature highlight the central features of the aforementioned definition. The first illustration is that of the visual cliff. In this paradigm, the infant is placed on a large Plexiglas surface with an apparent 4-foot drop-off in the middle (e.g., Sorce, Emde, Campos, & Klinnert, 1985). When the infant approaches the drop-off, the caregiver, who is situated on the other side of the chasm, poses either a fearful or positive emotional expression. Infants reliably look to the caregiver upon approaching the precipice and regulate their behavioral response (i.e., crossing or avoiding the drop-off) as a function of the caregiver's emotional display. A second example of social referencing is found in work investigating infant stranger anxiety. Boccia and Campos (1989) instructed caregivers to use either a stern or cheery voice when greeting a stranger who entered the room. Infants were affected by the quality of the caregiver's vocalization in their interaction with the stranger and proximity-seeking behaviors toward the parent. Each of these paradigms incorporated an ambiguous context (i.e., an apparent drop-off, a stranger) to elicit information seeking and regulation of responding as a function of this information.

Illustrations of social referencing are also found in the social psychology literature. In a classic study, Latané and Darley (1968) demonstrated the powerful effect of social referencing in an emergency setting, finding that participants were less likely to seek help when confederates in the room appeared unconcerned by smoke filling the room. Although this study is often considered an example of conformity and the bystander effect, the authors describe a process of "social influence" in which the subject, confronted by the ambiguous event, referenced the reactions of other individuals in the environment to inform their own appreciation of the context. We believe that this study and others like it highlight the process of social referencing in adults.

Uniting developmental and adult definitions of the construct. The previously mentioned perspective of social referencing supports an argument that social referencing is similar, if not the same, as the term social appraisal investigated in the adult emotion literature. Manstead and Fischer (2001) describe social appraisal as one's evaluation of the responses of another

individual to a shared referent, which in turn affects one's own appraisal of the referent. Although at first glance this definition may seem more inclusive than definitions of social referencing in the literature, we contend that they are functionally equivalent. Both definitions involve a means to disambiguate a referent by seeking out (overtly or subtly) and appreciating a social partner's response to that referent (i.e., the relational significance), thereby informing one's own appraisal and response towards the referent as a function of the perceived information.

Research on social appraisal in the adult literature instantiates the mentioned functional similarities. One's expression and experience of emotion varies as a function of a peer's presence and emotional expression (e.g., Jakobs, Manstead, & Fischer, 1999, 2001; Yamamoto & Suzuki, 2006). Additionally, one's perception of emotionally relevant stimuli (e.g., faces) is also influenced by a social partner's facial expression and gaze direction. Mumenthaler and Sander (2012) demonstrated that participants' recognition of a target fear face was facilitated by the presence of a second face looking toward the target face while expressing anger. A key element for discriminating or uniting the terms social referencing and social appraisal lies in the outcome for the individual, specifically whether one's own emotional experience, be it operationalized as appraisal or behavior, is affected by the emotional communication of the social other. Both social referencing and social appraisal involve the individual observing the (intentional or unintentional) affective communication of another individual in relation to a referent, appreciating the quality of the emotional signal, and using this information to inform his or her own emotional response, irrespective of how this response is indexed by the researcher (a point elaborated upon in a subsequent section).

The effect of others' emotional communication on individuals' appraisals *and* behaviors was demonstrated by Parkinson, Phiri, and Simons (2012). In this study, individuals pressed a button to inflate a virtual balloon. Participants were not provided direct information regarding when the balloon would burst, but did have access to a video feed of another person's face expressing either an anxious or neutral expression as the balloon was inflated. Individuals who referenced an anxious face decreased or stopped inflation of the balloon whereas participants viewing a neutral face were more likely to continue to inflate the balloon. This study exemplifies the similarities of social referencing and social appraisal by using a behavioral measure of adults' appreciation and use of a social partner's emotional communication.

Additionally, comparison of widely used definitions of social referencing (e.g., Klinnert et al., 1983) and social appraisal (Manstead & Fischer, 2001) highlights the similarity of these terms. Definitions of social referencing commonly emphasize appraisal on the part of the perceiver. An early article on social referencing by Campos and Stenberg (1981), which interestingly includes "appraisal" in its title, describes social referencing as the individual's "social appraisal of how another individual is reacting emotionally to [an] event" (p. 275), and goes on to elaborate on how this process develops across infancy. Similarly, Hornik et al. (1987) describe "the infant form[ing] an appraisal of novel events based on the mother's

affective reaction" (p. 943). Furthermore, studies of both terms indicate that the communication of the social partner may be ostensive (e.g., Parkinson et al., 2012; Sorce et al., 1985), but that this is not criterial (e.g., Boccia & Campos, 1989; de Rosnay, Cooper, Tsigaras, & Murray, 2006; Mumenthaler & Sander, 2012). Rather, the processes are characterized by the motivation of the individual seeking emotional information, not the motivation of the individual being referenced. Thus, while ostensive communication may be present, it is not criterial for social referencing to occur (for an alternative argument, see Clément & Dukes, 2017). In sum, we believe that the apparent discrepancy between social referencing and social appraisal in the literature is the result of studying the same construct in two different fields, and thus represents a difference in semantics rather than the existence of two distinct constructs.

The previous review defines, contextualizes, and begins to disambiguate social referencing in the emotion literature. Additionally, we contend that social referencing and social appraisal are the same psychological process. Next we lay out criterial elements of social referencing to further illustrate this construct and differentiate it from other emotion communication processes. Of principal importance for our conceptualization of social referencing is that this process involves: (a) emotional contexts, (b) active seeking of information, (c) the appreciation of the quality and significance of emotional communication, and (d) an effect on the emotional process of the individual.

Social Referencing is Emotional

First and foremost, social referencing is emotional. Emotions serve as motivators and regulators of behavior with regard to significant person–environment relations (see Campos, Mumme, Kermoian, & Campos, 1994). By its nature, the process of social referencing involves a context perceived to be of possible significance to the individual, but for which a fully accurate appreciation is lacking. The individual thus references others in the environment in order to gain information about the relational relevance of the context, which informs the individual's own emotional response (e.g., cognition, arousal, behavior) in relation to the environment.

The emphasis on emotional contexts is imperative because one might conclude that any instance involving the transmission of information between two individuals could instantiate an episode of social referencing (see Feinman, 1982, 1983). For example, a mentor instructing an apprentice on how to weave a basket is a context in which the individual (i.e., the apprentice) encounters a situation wherein information is lacking, receives instruction from a source in the environment (i.e., the mentor), and then alters his or her behavior accordingly. This illustration lacks the relational significance required to be social referencing. However, if the apprentice looked to the mentor for an evaluation of the quality of the basket being woven, social referencing would have occurred.

Of central importance to the study of social referencing is the perception of emotional information, which functions to inform

one's own appraisals and responses to the emotional context (see Campos, 1983). While both instructional and emotional contexts include the communication of information, *what* is communicated is markedly different. Social referencing involves observing another's relation with the emotional context, permitting the observer insight into the appraisals of the social partner, and thereby informing the appraisals of the self so that an adaptive emotional response can be deployed. For example, one may communicate relevant information to an individual through a matter-of-fact tone ("There is smoke filling the room") or say the same information encapsulated within an emotional envelope of fear. In the case of the former, the social partner has provided factual information, but not a clear indication of the information's relational significance for the individual. Conversely, the latter communicates the information *and* the significance of this information in relation to the individual, thereby signaling the functional value of the communication and informing a corresponding response ("Let's get out of here!"). Communication devoid of relational significance lacks the transmission of appraisal elements necessary to inform the individual about an adaptive emotional response.

Social Referencing is Active

It is important to acknowledge that the individual engaging in social referencing, even the infant, is *active* in the seeking and processing of emotional information and in responding to the environment (Campos, 1983). We use the term "active" to signify that the behavior is, consciously or unconsciously, goal-directed and distinct from emotional contagion or conditioning. Inclusion of an active component in social referencing has been stressed in the developmental literature, in which researchers generally necessitate that the infant overtly looks to an adult in order to demonstrate social referencing. However, studies with adults allow for greater subtlety in referencing, such as casually observing another individual (e.g., Bruder, Dosmukhambetova, Nerb, & Manstead, 2012; Jakobs, Fischer, & Manstead, 1997) or referencing unconsciously (Mumenthaler & Sander, 2012, 2015). While differences in the behavioral manifestations indicative of social referencing vary across these populations, we believe that the function underlying these processes is shared. The seemingly unconscious processes observed in the adult are likely rooted in more effortful processes in the infant. Referential skills can be expected to develop across the lifespan to allow for greater flexibility in information seeking and perceptive behaviors.

Debate also arises from identifying the temporal starting point of the social referencing episode. For example, one may encounter an ambiguous stimulus and subsequently look to social partner for affective information in relation to the stimulus. Conversely, one may encounter another's affective signaling and subsequently seek out the referent of the communication. Both instances are functionally similar: the individual seeks to appreciate the significance of the other's relation with the environment (i.e., the emotion). The emotion is not merely the affective signal that elicits one's attention and the stimulus is not

simply the elicitor of the emotional expression (see Lazarus, 1995). What is sought by the individual is the relational significance of the context.

Independent of the manifestation of the information-seeking behavior, what is essential in social referencing is one's motivation (even unconscious) to disambiguate the significance of the person–environment relation. This criterion differentiates social referencing from other processes, such as emotion contagion and operant conditioning.

Emotional contagion. An alternative explanation for individuals experiencing the same emotion within a given context is emotional contagion. Emotion contagion involves the automatic mimicry of another person's physical actions associated with emotion experience, which may lead to the matching of the other person's emotion through feedback (see Hatfield, Cacioppo, & Rapson, 1994; Parkinson, 2011). For example, a distressed newborn infant in a nursery with other newborns often leads to a contagious wave of crying (Martin & Clark, 1982). In this instance, the other infants' crying does not represent an appreciation of the instigating neonate's relation to the environment (i.e., social referencing), but rather imitation of the crying (i.e., emotion contagion or mimicry) or a response to the crying in and of itself (i.e., personal distress; see Batson, Fultz, & Schoenrade, 1987). Similarly, adults who talked by phone with a clinically depressed individual reported increased depression, anxiety, and hostility following the conversation (Coyne, 1976). This diffuse level of emotional responding following the unappraised emotional communication of others is distinct from social referencing in which emotion is regulated with regard to the specific referent of the communication rather than all aspects of the environment (e.g., Hornik et al., 1987; Walden & Ogan, 1988). A lack of contagion or mimicry is also evident on the visual cliff (see Sorce et al., 1985). Rather than displaying a facial expression of fear in response to the parent's fear expression, infants may smile (see Saarni, Campos, Camras, & Witherington, 2006). Infants' nonmatching facial expressions on the cliff argue against an explanation of contagion or mimicry, whereas effective social referencing is clear in the behavioral response by the infant to not cross the cliff, indicating accurate inference of the caregiver's appraisal pattern of fear in relation to the precipice.

Operant conditioning. An alternative explanation of social referencing contends that the process may be the result of contingency learning by the infant that results in a behavioral chain associated with environmental stimuli (see Gewirtz & Pelaez-Nogueras, 1992). In this view, the infant is conditioned to associate the parent's affective signal with positive or negative outcomes, thereby regulating the infant's subsequent approach or avoidance of various stimuli. Pelaez, Virues-Ortega, and Gewirtz (2012) used an elaborate process of operant conditioning to elicit social-referencing-type behaviors in a small sample of 5-month-old infants. We do not dispute that successful operant conditioning likely occurred in this study. However, we disagree with the conclusion that such conditioning is the same

process as that observed in studies of infant social referencing cited before. The operant conditioning perspective likens the infant to a relatively unintentional vessel into which the caregiver deposits information and for whom environmental contingencies are reinforced or punished. Studies in developmental psychology clearly demonstrate that this is not the case. Infants appreciate intentionality (see Meltzoff, Gopnik, & Repacholi, 1999), understand referential specificity (see Repacholi, 1998) and the reciprocal contingencies of social interactions (e.g., Repacholi, Meltzoff, & Olsen, 2008), and play an active role in generating experiences to understand their environment (e.g., Sommerville, Woodward, & Needham, 2005). Additionally, similar stimulus–response perspectives have also failed to explain related aspects of social development, such as joint attention (Corkum & Moore, 1998). Explaining such findings through learning of environmental contingencies severely underestimates the abilities of the infant. Furthermore, such a behaviorist account could be equally true of adult behaviors of social referencing, which, given theoretical and empirical research on this construct from the adult literature, it is not.

(At Least) Two Additional Issues to Be Resolved

Having clarified that social referencing is a process in which the individual actively seeks out, appreciates, and utilizes emotional communication to inform their own appraisals, two thorny conceptual issues remain. These issues are relevant to both theoretical and empirical research using infant/child and adult populations. First, what does the individual reference in social referencing? And second, what is regulated in social referencing?

What is Referenced in Social Referencing?

We believe that the process of social referencing involves more than the recognition of emotional expressions. Instead, we posit that what is appreciated by the referencing individual is the relational significance of the communication, specifically the inferred appraisals of the social partner *in relation to* the referent of interest (for similar arguments, see Bandura, 1992; Manstead & Fischer, 2001). Social referencing is a triangulated process that involves one's appreciation of the social partner's relation with the stimulus, as well as the relational significance of the stimulus and the affective signal with the self. For example, if one views a face communicating an affective signal of fear, one may label the face as fear, but one would not necessarily be said to have perceived the fear emotion, only the affective signal of fear. One would need to perceive the affective signal of fear *and* appreciate the relational elements of the signal with the environment to be said to have appreciated the emotion of fear.

Our conceptualization of emotion communication and perception may vary from canonical researchers of emotion expression. For example, research by Ekman and colleagues (e.g., Ekman, 1992; Ekman & Friesen, 1976) describe emotion expressions as signifying information of one's emotional state.

However, merely witnessing another's emotional display is insufficient to guide one's response to the display; what is needed is the connection of the display with some form of "predictive value" (Bandura, 1992). But here again, the prediction or observance of another individual's behavioral response is also likely insufficient for the organization of an adaptive response, as one does not always imitate others' actions (e.g., Meltzoff, 1995; Walden & Ogan, 1988), nor are relevant actions necessarily communicated by the social partner (e.g., Lagattuta & Wellman, 2002). Thus, neither view fully captures instances of social referencing.

Interestingly, these viewpoints are amenable to a functionalist perspective of emotion because emotions and social motives can be coterminous (see Parkinson, 2005). An emotional display of an internal state communicates both the individual's relation with the environment and the functional behaviors that may follow. For example, the infant approaching the drop-off on the visual cliff may see the caregiver's fearful expression while evaluating the precipice. However, we propose that what is appreciated and utilized by the social referencing infant is the perceived relational significance derived from the inference of the other's appraisal of the drop-off as unpleasant, goal incongruent, out of his or her control, and so forth, *and* the corresponding functional consequences of these appraisals for the self. Support for this line of thinking is evident in the adult literature. Hareli and Hess (2010) found that participants' perceptions of a social partner were mediated by their inferred appraisals of the individual's corresponding emotional response, suggesting that the perceiver may have "reverse engineered" the emotion by inferring the associated appraisal pattern. Similarly, de Melo, Carnevale, Read, and Gratch (2013) found that observers used another individual's relation with a given context to infer that individual's appraisals and thereby appreciate the observed individual's emotional expression and likely intentions. Siemer and Reisenzein (2007) tested the validity of such real-time processing by examining the role of appraisal inference in adult emotion identification. The authors found that judgments of appraisal took longer than judgments of emotions, but that one's previous experience judging both, particularly appraisals, facilitated more rapid processing of subsequent emotional communication for both emotion and appraisal judgments. While we agree with Parkinson (2007) that such inferential processes may not *always* be utilized when appreciating others' emotional signals, we believe that in the context of social referencing one likely appreciates not only the quality of another's emotional signal, but also the relational and functional consequences of that signal.

Such an interpretation may seem feasible for an adult, but one might wonder if it is reasonable to presume these abilities in a 12-month-old infant. Infants can discriminate emotion displays at 4–5 months (see Flom & Bahrick, 2007; Walker-Andrews & Lennon, 1991), well before they exhibit social referencing. This discriminatory ability is undoubtedly a necessary developmental precursor for inferring others' appraisals from emotional signals. Infants' expectation and experience of emotion should be in accordance with the development of

appraisal processes used to evaluate emotion-eliciting situations, and these same appraisal processes are also likely to be used when interpreting the emotions of others (Thompson, 1991). Thus, infants' own cognitive abilities may limit both the variety and complexity of appraisals when observing emotional contexts. As such, it may be the case that infants utilize only a subset of appraisal-related information to accurately respond to the environment. For example, inferring the valence or level of arousal may develop earlier than appreciating the controllability of the stimulus. Thus, the infant would gradually develop the capacity to appreciate aspects relevant for interpreting the significance of a social partner's relation with the environment. Furthermore, the cognitive resources available to the infant may limit quick and accurate inference for such an array of complex information.

What is Regulated in Social Referencing?

As stated before, social referencing results in some form of regulation of an individual's emotional response to the context. Conceptually, we propose that the social referencing process regulates the emotional response of the individual. Study of the "emotional response" depends on (a) the measures at one's disposal when designing empirical investigations, and (b) one's theoretical perspective of the nature of emotion.

Variability in dependent measures. Let us first consider the methods at the disposal of researchers investigating emotion in children and adults. Adult participants are able to focus on standardized paper or computer tasks, introspect on current or past emotional and social experiences, maintain attention on repeated trials, and tolerate being stationary in a scanner. As such, researchers of social appraisal often utilize measures of self-report (e.g., Jakobs et al., 1999), as well as implicit cognition (e.g., Mumenthaler & Sander, 2012) and neural activation (e.g., Vrtička, Andersson, Grandjean, Sander, & Vuilleumier, 2008). Infants, on the other hand, have limited attentional abilities, minimal (if any) verbal capabilities, and very poor penmanship. As a result of these constraints, studies on infant social referencing commonly use the behavioral response of the infant in order to infer the significance gained from the emotional communication of a referenced individual. This differential emphasis on what is measured has been used by researchers to distinguish between social referencing and social appraisal, with the latter assumed to result in a cognitive change in the observers' appraisal pattern rather than the overt behavioral manifestation observed in infants (see Clément & Dukes, 2013). However, we view this distinction as a paradigmatic artifact. Measures of behavior, be they with infants or adults, are commonly used to infer the cognitive processes accounting for its manifestation. Social referencing functions to regulate the individual's emotion process, be it indexed as cognition, physiology, self-reported experience, or behavior.

Variability in conceptualizing emotion. At a greater level of abstraction, how one defines and conceptualizes emotion,

the central component of social referencing, impacts how one utilizes and interprets the measures described before (see Frijda & Zeelenberg, 2001). Researchers of emotion generally concur that emotion is a multicomponent process, likely consisting of physiological, communicative, cognitive, experiential, behavioral, and relational elements. However, researchers inevitably differ in which components are emphasized in their theoretical or empirical investigations. For example, an emphasis on studying facial affect might lead one to conclude that the infant on the visual cliff who smiles, but avoids the drop-off, demonstrates no indication of fear (Adolph, Kretch, & LoBue, 2014). However, from a functionalist perspective the infant could not be clearer in demonstrating fear, evident in the goal-directedness of the avoidant behavior (Sorce et al., 1985). Likewise, researchers who emphasize cognitive or neurological aspects of emotion undoubtedly seek to understand how social referencing impacts one's appraisals (e.g., Manstead & Fischer, 2001) and neural activation (e.g., Vrtička et al., 2008). This is not to say that one approach is necessarily more correct than another, but rather that one's theoretical perspective on emotion likely leads to differing conceptualizations and interpretations of social referencing research. The resulting variability in terminology and measurement of the construct may lead researchers astray from productive discussions of what is, as we argue, the same psychological process of interest.

Avenues for Future Research

The previous conceptualization of social referencing brings to the forefront a number of distinct, yet un(der)studied topics for empirical inquiry. Although the scope of this article prevents elaboration of all possible areas, some candidate research opportunities are described next.

Social Referencing and Memory

Of primary importance to social referencing is how emotional communication observed by the individual may have a lasting impact on his or her evaluation of future emotional contexts. Research by Hertenstein and Campos (2004) found that 14-month-old infants retained positive and negative emotional messages directed toward a toy for 1 hour, and 11-month-old infants were able to retain the emotional communication when the delay was shortened to 3 minutes. This study is useful in demonstrating possible consequences of the retention of emotional information. For example, studies of moral development may consider the types of stimuli and situations that elicit social referencing and emotional communication (e.g., Dahl, Sherlock, Campos, & Theunissen, 2014) and the transference and internalization of emotional information (e.g., Kochanksa, 1994). Additionally, differential allocation of attention to the environment as a function of discrete emotions may lead to the internalization of specific aspects of the emotional context (e.g., remembering the fear-inducing referent over the frightened person).

Appreciating and Responding to Discrete Emotions

Differences in personality relate to how one appraises various situations, particularly whether the situation is personally relevant (see Lazarus, 2001; Malatesta & Wilson, 1988). Developmental studies have reported links between infant temperament and infant social referencing behavior (Feinman & Lewis, 1983; Hornik & Gunnar, 1988). Exposure to emotions may also affect individuals' social referencing. For example, children from physically abusive homes recognize more subtle expressions of anger than children from nonabusive homes (Pollak, Messner, Kistler, & Cohn, 2009; Pollak & Sinha, 2002). Differences in exposure and sensitivity to emotional communication could account for differences in social referencing tasks, particularly for those exposing the participant to emotional communication at an unconscious level (e.g., Mumenthaler & Sander, 2012, 2015). Furthermore, research is sorely needed to examine how the individual is affected by emotions of varying quality (e.g., anger, disgust, awe, contentment, contempt). The study of various emotions will likely necessitate that researchers include multiple converging research operations to assess subtle variations in individuals' responses to each emotion (see Walle & Campos, 2012). Bruder et al. (2012) employed such an approach in an interpersonal context to reveal that emotion contagion and social appraisal (i.e., social referencing) are differentially observable across discrete emotions and measures. Studies of social referencing including self- (or other-) conscious emotions (e.g., shame, guilt, pride) would be of particular interest given the importance of a social partner communicating an emotion in reference to the self.

Development of Appraisal Dimensions of Emotion

Appraisal features prominently in many modern theories of emotion (see Scherer, Schorr, & Johnstone, 2001). However, research investigating the ontogeny of appraisal is surprisingly lacking in the developmental literature—a gap similarly noted by Campos and Stenberg (1981). If one accepts that the individual engaging in social referencing seeks out and appreciates others' appraisals, then researchers must consider the cognitive factors involved in the perception, comprehension, and use of emotional signals in regulating emotion and behavior (Bandura, 1992). How would one experience an emotion if an appreciation for the corresponding appraisal processes of that emotion were not fully developed (see Lewis, 2001; Mascolo & Fischer, 1995)? For example, Graham, Doubleday, and Guarino (1984) found that 6- to 7-year-olds associated feelings of guilt with both personally controllable and uncontrollable failures, whereas older children only reported guilt in response to personally controllable situations. It is possible that the younger children's underdeveloped understanding of responsibility for outcomes resulted in their discrepant emotional outcome in comparison with the older children. Such variability may indicate qualitatively different interpretations of the emotional context, or even different types of

appraisals, which result in very rational, albeit distinct, emotional outcomes (Thompson, 1991).

Conclusion

Social referencing involves one's seeking of emotional information from social partners with regard to a shared referent in order to inform one's own appraisals of and relation with that referent. This review is intended to refocus theoretical and empirical interest on the construct of social referencing, an important psychological phenomenon with wide relevance for the field that is deserving of increased attention. Although the term social referencing may have its roots in developmental research, it is only through the coordination of developmental and adult research that a full appreciation of this topic can be achieved. Research in emotional development provides a foundation for how social referencing is manifested in children and helps to elucidate its component processes by tracing their ontogenetic unfolding. Likewise, social referencing (i.e., social appraisal) research with adult populations will further our appreciation of the social complexities and influences of emotion. The inherently interpersonal aspects of emotion in social referencing contexts provide a means for placing emotion back "in context," a critical call from many researchers (e.g., Hassin, Aviezer, & Bentin, 2013; Parkinson, 2001; Parkinson & Manstead, 2015; Walle & Campos, 2012) and a theme gradually gaining traction in the field of emotion research.

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